



# WEST PIEDMONT *Regional Bicycle Plan*

Danville • Franklin County • Henry County • Martinsville • Patrick County • Pittsylvania County • Rocky Mount



Prepared for:  
Danville-Pittsylvania Urban Area  
Metropolitan Planning Organization  
and the West Piedmont Planning  
District Commission

Danville • Franklin County • Henry County • Martinsville • Patrick County • Pittsylvania County • Rocky Mount



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The Contents of this guide do not necessarily reflect the current official views or policies of the West Piedmont Planning District Commission, the Danville-Pittsylvania Metropolitan Planning Organization, the Virginia Department of Transportation, the Commonwealth Transportation Board, or the Federal Highway Administration. This guide does not constitute a standard, specification, or regulation.

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## EXECUTIVE SUMMARY

The West Piedmont Regional Bicycle Plan was developed to identify a coordinated network of local and regional bicycle routes to guide the future of bicycle transportation in the West Piedmont Region. The plan identifies priority projects at the regional and local level and includes recommendations for support programs and policies as well as implementation. Project funding was provided through the Virginia Department of Transportation (VDOT) and was administered by the West Piedmont Planning District Commission (WPPDC) and the West Piedmont Metropolitan Planning Organization (MPO). The project was guided by a Bicycle Advisory Committee (BAC) which included stakeholders from local government planning agencies, VDOT, the Virginia Department of Health, and active members of the bicycling community.

During the course of the study, the BAC developed a series of six goals to guide this regional planning process (listed below in no particular order):

- ✓ Promote bicycling in the community as an alternate mode of travel.
- ✓ Develop a prioritized regional network of bicycle routes which provide connectivity between residential areas and activity centers such as business and commercial districts, historical and cultural destinations, and public facilities.
- ✓ Increase public awareness of bicycling safety by providing additional education opportunities for cyclists, drivers, and property owners.
- ✓ Promote improved health and mental wellness among present and future generations of the region's citizens and enhance the quality of life by increasing the availability of recreational opportunities in the region.

- ✓ Emphasize the development of bicycle infrastructure to leverage the economic development potential of the region's existing commercial and natural resources.
- ✓ Provide guidance for the creation of bicycle-oriented policies, programs, and standards that will promote the development and maintenance of full-service bicycle facilities.

Citizens of the region provided substantial input to the study process through their participation at five public outreach meetings conducted around the region and through comments submitted through a project website which was active for the duration of the seven month planning process ([www.bikepiedmontva.com](http://www.bikepiedmontva.com)).

The recommendations outlined below include suggested steps for creating a regional bicycle network and for guiding the future of bicycle transportation planning in Virginia's West Piedmont region.

### **Regional Bicycle Network**

The overall recommended regional bicycle network includes over 800 miles of on-road routes and shared-use trails shown on Figures 4.1 through 4.7 in the full report. Recommended routes are denoted in three separate colors to delineate planning-level costs (year 2005 dollars) that could be expected along each corridor in order to provide bicycle accommodations. Recommendations for bicycle accommodations were divided into three categories as follows:

- ✓ Low cost routes (green) - \$15,000/mile - includes minimal amount of investment to provide signing and striping for bicycles (both directions)
- ✓ Medium cost routes (purple) - \$200,000/mile - includes routes requiring a modest level of investment, which could entail the addition of paved shoulders, along with full signing and striping for bicycles



- ✓ High cost routes (red) - \$500,000/mile - includes significant improvements to accommodate bicycles, such as the construction of a parallel, off-road shared-use path to keep bicycle traffic physically separated from automobile traffic

Typical sections for various types of bicycle facilities are included in the Appendix of the full report. These facilities are consistent with guidelines established by the *Virginia Bicycle Facility Resource Guide* and include on-street bicycle lanes, on-street bicycle lanes with adjacent vehicular parking (urban areas), wide outside (curb) lane, and paved shoulders.

### **Prioritized Projects**

One logical strategy is to build on successful local projects, such as the Dan River Trail. Extension of this trail west from the “Crossing at the Dan” complex to the Union Street Bridge and northward to the North Main Street area is planned and \$250,000 in federal transportation enhancement funds are programmed. Other interested agencies and organizations in the region could organize group rides by traveling to the Dan River Trail now to evaluate the possibilities for their area.

Another logical strategy is to accentuate the positive and promote outstanding community assets. Much of the region is scenic and popular with outdoor enthusiasts who come to the region to explore and ride the roads. In particular, the world-class Blue Ridge Parkway lies on the very western edge of this region and represents an untapped potential to boost tourism. Ecotourism was cited by several citizens as the potential to increase the number of visitors to the West Piedmont region to ride trails and roads that connect with the Blue Ridge Parkway.

In urbanized areas (Danville and Martinsville), funds to upgrade existing signalized intersections could be earmarked to upgrade vehicle detectors (in-pavement or video) to improve the sensitivity

for bicyclists. Often, the lighter metal weight of a bicycle is undetected until a motor vehicle arrives, typically frustrating bicyclists to the point of passing through the signal illegally. Changing the sensitivity to recognize bicycles would improve bicycling conditions and obedience of traffic laws.

Another strategy is to including the addition of bicycle accommodations (striping, signing, pavement widening) with upcoming roadway improvement projects that have not yet been designed. The construction of bicycle facilities can occur with reduced costs and improved planning if projects are “piggy-backed” with upcoming roadway projects.

Planning for the future Interstate 73 through this region and elsewhere in Virginia should include consideration of a separated shared-use trail at the edge of the freeway right-of-way. Treatments at interchanges should take advantage of the grade separation so that “through bicyclists” would not be required to travel through at-grade intersections with cross-roads. Alignment planning should also consider reasonable grades for basic-level bicyclists.

Improvements to Route 58 in the region should consider the potential for a major east-west bikeway or shared-use path connecting the region. This is the only continuous roadway corridor linking east and west. Much of the central and eastern sections are not presently suitable except for the most advanced bicyclists. Similar consideration should be given to Route 29 (through Danville and Pittsylvania County) and to Route 40, which traverses the northern portion of the region and connects Chatham (Pittsylvania) with the Town of Rocky Mount in Franklin County.

Following are recommended short-term and medium-term projects, by locality.

#### City of Danville

- ✓ Program bicycle facilities into the scope of future services and construction



improvements to US Routes 29 (north-south) and 58 (east-west) as well as Business 29/293 and the Route 58 Bypass.

- ✓ Install bicycle racks on the Danville Transit System buses to facilitate more commuter bicycling and provide options for more long range bicycling.
- ✓ Encourage the Dan River Basin Association to coordinate with Henry County to develop a long term/long distance route to connect the Cities of Danville and Martinsville as well as connect the Dan River Trails to the proposed Smith River trails.
- ✓ Use annual traffic signal funding to construct a demonstration signal to use advance signal detection system (loop detection) to include cyclists in phases. It is recommended that the city choose a heavily traveling intersection along a proposed bike route to be considered for the demonstration. (River Road or Route 293)
- ✓ Widen Route 51 for bike lanes and provide striping and signing.
- ✓ Utilize annual roadway maintenance funds to improve poor pavement conditions along the recommended bicycle routes.
- ✓ Identify key locations to install bicycle racks downtown as well as other frequented destinations.
- ✓ Coordinate with Pittsylvania County to construct a bicycle facility to connect the Angler's Park area to the Ringgold Rail Trail.
- ✓ Construct additional phases of the Dan River Trail system and provide maintenance for existing phases.

#### Pittsylvania County

- ✓ Program bicycling facilities into the future improvements for US Route 29

(north-south) and US Route 58 (east-west) to provide regional access routes.

- ✓ Identify spot locations for shoulder improvements along US Route 58 to allow for bike lane, striping, and signing.
- ✓ Pursue the extension of the Ringgold Rail Trail west to the City of Danville. Coordinate with the City of Danville to construct a north/south bike route to connect Angler's Park Trails to the Ringgold Rail Trail.
- ✓ Encourage the installation of bike racks on main street areas of the Towns of Gretna, Chatham, and Hurt. Bike racks combined with the existing wide pavements found in the areas will create a great avenue for bicyclists, locally and regionally.

#### City of Martinsville

- ✓ Extend the Uptown Rail Trail to connect the central business district to the downtown/Church Street area.
- ✓ Construct facilities to connect the Martinsville Speedway to US Route 220 and US Route 58 Bypass. This will provide a local alternate to traffic congestion when entering and exiting the Speedway.
- ✓ Develop a plan and construct facilities to include bicycle route access and bicycle racks to make the downtown central business district (Church Street) bicycle "friendly".
- ✓ Coordinate with Henry County to provide a route to connect the central business district to the proposed Smith River Trail.
- ✓ Provide a route to connect the central business district to the proposed mountain bike trails around the Martinsville Reservoir #1 and to provide connectivity to the Patrick Henry Community College.



### Henry County

- ✓ Construct a 1-mile demonstration trail along the Smith River to the south of the City of Martinsville.
- ✓ Construct facilities to connect the Martinsville Speedway to US Route 220 and US Route 58 Bypass. This will provide a local alternate to traffic congestion when entering and exiting the Speedway.
- ✓ Construct a bicycle facility along the Smith River from Philpott Lake Dam south to the Virginia/North Carolina state line. Connect to the proposed Smith River demonstration project to the south of the City of Martinsville.
- ✓ Construct mountain biking trails around the Martinsville Reservoir just to the north of the City of Martinsville. Provide a route from the City of Martinsville to connect to the reservoir and Patrick Henry Community College.
- ✓ Identify spot locations on recommended bicycle routes for road widening opportunities to provide bike lanes to cyclists.

### Patrick County

- ✓ Coordinate with the Blue Ridge Parkway Foundation to provide access and facilities to and along the Blue Ridge Parkway for cyclists.
- ✓ Develop a local bike network system in the Town of Stuart building off of Business Route 58. The route should include connections to the elementary school. The plan should also include the installation of bicycle racks along Main Street and other community activity centers.
- ✓ Program bicycle facilities into future Route 58 planning. Pavement widening, striping and signing are recommended.

- ✓ Elected officials should endorse and support the development of a stand alone bicycle facility along the future I-73 within the right-of-way.

### Franklin County

- ✓ Construct a shared-use path or mountain bike trail through the Grassy Hill Nature Preserve to provide access and connectivity between the north and south sides of the preserve.
- ✓ Promote the development and connectivity of bicycling facilities in the Westlake area, which currently lies within the Westlake Corridor Overlay District.
- ✓ Elected officials should endorse and support the development of a stand alone bicycle facility along the future I-73 within the right-of-way.
- ✓ Coordinate with the Blue Ridge Parkway Foundation to provide access and facilities to and along the Blue Ridge Parkway for cyclists.
- ✓ Continue extension of Philpott Lake trails to the west, with ultimate goal of connecting to the Blue Ridge Parkway.

### ***Support Programs and Policies***

While physical obstacles such as rivers, bridges, and railroads are more visible, additional obstacles to bicycling have existed in more subtle, but equally significant institutional forms. If traditional ways of administering transportation programs at the local, regional, and state levels have been slow to change in the past, the Commonwealth's transportation leaders are now recognizing the importance of using "out-of-the-box" thinking to move people from one place to another in more efficient and cost-effective manners. During the recent formation of the *VTrans 2025* initiative, for example, Virginia's Secretary of Transportation, Mr. Whittington Clement, called attention to the need for (highway) management to "think differently" and



“to be innovative”. As a result, VDOT’s *Policy for Integrating Bicycle and Pedestrian Accommodations*” is strong evidence of the department’s new effort to take a leadership role in providing more equitable consideration of bicyclists and pedestrians on Virginia’s roadways.

Regional and local public safety awareness programs / campaigns should be considered to offer practical, effective advice to help with common obstacles such as dogs running off leash. Dogs off leash was identified consistently across the region as an obstacle to bicycling, particularly in rural areas.

A “Bike Smart” safety-oriented program could be considered using the City of Rockville Maryland as a resource. The program is making its way in to Virginia and includes funding to educate teachers and students alike on bicycle basics and bicycle safety.

Maintenance of facilities is a critical element to a sustained bicycle program. Many agencies rely on the use of volunteers to “adopt a trail” to maintain off-road trails and greenways. On-street bicycle lanes are used more when monthly street sweepers remove debris.

To achieve the goals stated in Chapter One, a concerted effort will be necessary to retrofit corridors that have few, if any, bicycle-friendly facilities. This effort will take time and resources. A concurrent effort is equally vital; that is, for all seven local governments to adopt policies that will ensure that all future corridor projects and all new developments include facilities that provide for safe and convenient travel for bicyclists. Following are lists, in somewhat chronological order, of the recommended policies and programs that regional governments and all seven local governments should consider:

### ***Policies – Regional Level***

- ✓ Adopt the *West Piedmont Regional Bicycle Plan* as an element of the Danville-Pittsylvania Urban Area Long-

Range Transportation Plan (2026) and of the West Piedmont PDC regional transportation plan.

- ✓ Establish a regional bicycle advisory committee to guide future planning and development efforts for bicycle facilities. It is recommended that the committee consist of representatives of each of the PDC member jurisdictions, including planners, engineers, landscape architects, economic development staff, citizens, and active bicyclists.
- ✓ Environmental justice is a term coined by the US Justice Department by way of Executive Order signed by President Clinton in 1993. It requires consideration for the potential disproportionate impact of a federally-funded transportation project on communities with a majority of low-income or minority population. Alternatives must be considered that do not have disproportionate impacts on these groups. If alternatives are not reasonable and feasible, then mitigation measures such as enhanced pedestrian and bicycle facilities should be considered.

### ***Policies – Local Level***

- ✓ Update Comprehensive Plan language stating support for improvements to bicycle mobility. The update should also consider statements of support for bicycle-friendly improvements including greenways, trails, share-use paths, and mixed (land) use districts to facilitate short bicycle trips between different land uses. Adoption of this plan as an element of the local Comprehensive Plan is strongly encouraged.
- ✓ Adopt capital improvement programs and annual budgets that include funds for bicycle-related improvements.



- ✓ Adopt residential land development ordinances which address street design standards and cross-sections that accommodate bicyclists.
- ✓ Adopt commercial land development ordinances requiring bicycle racks (for parking) on-site.
- ✓ Adopt commercial and residential land development ordinances to encourage use of multi-use paths and allow for their inclusion toward meeting open space requirements.
- ✓ Review and strengthen animal-restraint (dogs) ordinance language and enforcement policies to encourage protection of cyclists from dogs off-leash.
- ✓ Provide protection to regional corridors (i.e.: Route 122 corridor from Smith Mountain Lake to the Town of Rocky Mount) through the creation of a highway corridor overlay district or through amendments to current zoning ordinances to require the provision for bicycle facilities to any new construction along the corridor.
- ✓ Recruit a major regional bicycle race (similar to past Tour DuPont) to come to the West Piedmont Region (by local or regional jurisdictions).
- ✓ Advertise the plan through area colleges and universities and other institutions and organizations likely to have an interest in bicycling. Consideration should be given to continuing the use of a program website. (by MPO).
- ✓ Obtain funds to conduct a regional rails-to-trails inventory and action plan (by PDC).
- ✓ Conduct alignment study to identify feasible route to connect the Dan River trail with the Smith River trail. Such a study would involve multiple agencies, including some in the state of North Carolina if the confluence of the Dan and Smith Rivers is to be considered. (by MPO). Also evaluate feasibility of providing future connection to the Mayo River.
- ✓ Protect the route 122 corridor in Franklin County. (by VDOT).
- ✓ In the city of Danville, and elsewhere as public mass transit is initiated, consider installing racks to hold bicycles. Such measures have been effective nationwide in boosting transit ridership and extending the use of bicycles. (by Danville Transit System).

### **Implementation**

- ✓ Adopt the plan (by MPO. Local agencies can hear a presentation and “receive” the document).
- ✓ Organize a one-hour long on-street bicycle ride in each community, using local enthusiasts as leaders and local law enforcement to ensure safety. Advertise the event extensively as a “fun family ride” and use it to build a mailing list of interested citizens. Consider monthly rides and continually ask participants to suggest the name of one or more friends to build interest. (by local agencies).
- ✓ Designate rural road maintenance funds to re-stripe routes identified in this plan to “create” bicycle lanes, where safe and feasible. (by Counties and VDOT).
- ✓ Consider conducting a focused level-of-service (LOS) study on the recommended network of bicycle routes identified in Figures 4.1 through 4.7. The LOS study would evaluate the factors most important to bicyclists and



assign a letter grade (LOS) to each recommended route that corresponds to how well bicyclists would feel safe and enjoy the route (by VDOT).

- ✓ Consider implementing a demonstration project of the safe routes to schools program.

### ***Funding Sources***

There are various means through which bicycle strategies can be implemented, including

- ✓ Highway construction funds
- ✓ Transportation Enhancement Program
- ✓ Recreation Access Program
- ✓ Bicycle and Pedestrian Safety Program
- ✓ Hazard Elimination Safety Program
- ✓ Revenue Sharing Program
- ✓ National Scenic Byways Program
- ✓ Public Lands Highways Program
- ✓ Transportation and Community System Preservation Program
- ✓ State Aid Transit Grants
- ✓ Virginia Recreational Trails Fund Program (RTP)
- ✓ 402 Highway Safety Program

Additional information for the programs listed above can also be found on VDOT's web site ([www.virginiadot.org](http://www.virginiadot.org)).

Appendix H in the full report contains a matrix which identifies 15 sources of federal funding along with the respective bicycle-related areas toward which each funding source can be applied. [It is important to note that because the West Piedmont Planning District Commission lies within an attainment area as defined by the Environmental Protection Agency's National Ambient Air Quality Standards (NAAQS), the

region does *not* qualify for Congestion Mitigation Air Quality (CMAQ) funding.]

Other funding opportunities include:

- ✓ Small grants such as International Mountain Biking Association (IMBA) grants and CLIF Bar grants
- ✓ Gifts from local businesses
- ✓ Donations from churches, community groups, etc.
- ✓ Cost-sharing with other agencies and volunteer groups



## 1.0 INTRODUCTION

### *Background and Purpose*

There are trends that make bicycling an attractive transportation option today. The suburbanization of many of America's cities has increased volumes of commuter traffic traveling longer and longer distances to and from the workplace. The rising cost of gasoline is encouraging commuters to consider alternatives to the automobile. As transportation planners and agencies consider the implications of building additional pavement and acquiring rights-of-way to keep up with the demands of increasing vehicular traffic, a gradual paradigm shift is including bicycle lanes and sidewalks in the mix of design factors. Also, "new urbanism" describes the trend of smaller, more pedestrian- and bicycle-scale developments which seek to build residential, commercial, and office buildings closer to each other. Furthermore, health trends indicate many Americans do not exercise often enough.

The purpose of this plan is to identify how these factors affect the West Piedmont region and to describe strategies and actions to prepare for the future. This project is being conducted for both the Danville-Pittsylvania Metropolitan Planning Organization (MPO) and the West Piedmont Planning District Commission (PDC). Project funding has been provided jointly by Federal Highway Administration (FHWA) planning (PL) funds dedicated to urban (MPO) areas and by federal state planning and research (SPR) funds dedicated to rural planning. The project is administered jointly by the PDC/MPO and the Virginia Department of Transportation (VDOT).

### *Study Area*

The scenic West Piedmont region lies at the foothills of the Appalachian Mountains and is located centrally along Virginia's southern border with North Carolina. The region includes the following seven jurisdictions and is illustrated in Figure 1.1:

- ✓ City of Danville
- ✓ City of Martinsville
- ✓ Pittsylvania County
- ✓ Henry County
- ✓ Patrick County
- ✓ Franklin County
- ✓ Town of Rocky Mount

The West Piedmont Planning District, shown in Figure 1.1, encompasses the jurisdictions listed above. Over 90 percent of the 2,582 square miles is rural in character. Topography varies from infrequent flat areas in the eastern and southern reaches to a predominance of rolling hills throughout the majority of the region and more significant, mountainous terrain in the region's western portions (Patrick County and Franklin County). Elevations range from 340 feet to 3,400 feet above sea level (in Patrick County).



*The West Piedmont region includes mountainous topography, as shown above (taken along the Blue Ridge Parkway in Franklin County).*

The region includes one federally classified urbanized area, which includes the City of Danville and adjacent portions of Pittsylvania County (Danville-Pittsylvania Urban Area). This delineation is shown in Figure 1.1.



Figure 1.1 Study Area Map



The region possesses several important bodies of water which currently serve as significant recreational attractions for both residents of the West Piedmont Region as well for many of the region's visitors.

The most prominent rivers are the Roanoke, the Mayo, the Smith, and the Dan. Each of the latter three rivers flow generally from west to east, finding its respective origin along the eastern face of the mountains in western Patrick County. The Mayo and Smith Rivers ultimately converge into the Dan River in the southeastern portion of the region. The Dan River and the Smith River, in particular, each possess the potential to play a significant role in the development of future bicycling facilities because of their strategic location through and connecting the region's significant population centers.



*The Smith River in particular, possesses the potential to play a significant role in the development of future bicycling facilities.*

The Roanoke River, meanwhile, forms a portion of the northern border of the planning district.

The region also contains several important lakes and reservoirs, including Fairy Stone Lake, Lake Philpott, and Smith Mountain Lake.

### ***Bicyclist Skill Levels***

The skill levels of bicyclists vary widely with age and ability. One of the goals of this plan is to provide recommendations to address bicyclists of all skill levels. Generally, bicyclists are defined as falling into one of three categories:

- ✓ Group A - Advanced bicyclists who are comfortable riding a bicycle under most traffic conditions. They operate a bicycle like a motor vehicle, and desire convenient and direct access to their destinations. They are comfortable riding with courteous vehicular traffic.
- ✓ Group B - Basic bicyclists who are casual riders or who may be teenage or young adult riders that do not have the same confidence in their ability to operate in traffic as the Group A cyclists. They tend to seek routes with lower vehicular volumes and speeds as well as with protective bicycle facilities.
- ✓ Group C - children and young (pre-teen) riders who generally ride under adult supervision. They often travel more slowly and less directly than others, and require designated right-of-way and calm, attentive traffic. Where possible, these riders should use off-road facilities to maximize safety.



### Types of Bicycle Facilities

Several types of facilities can accommodate bicycles on a roadway network. The most common types of facilities are illustrated below:



Designated bicycle lane



Shared lane



Wide outside lane



Paved shoulder



Shared-use path

The *Virginia Bicycle Facility Resource Guide* identifies suggested typical cross-sections for the facilities shown above (with the exception of the shared lane). These suggested cross-sections are included in Appendix I for reference.



### **Study Approach**

The West Piedmont Regional Bicycle Plan was developed with a strong emphasis on public involvement and input received from the region's citizens, leaders, and bicycling enthusiasts. The public involvement process included the formation of a Bicycle Advisory Committee (BAC), stakeholder outreach meetings, five public outreach meetings, the creation of a project website with virtual public workshops, and four public presentations. The study team gathered citizens' input primarily through the following forums:

- ✓ Group discussions and map-making exercises at public meetings
- ✓ Survey forms distributed at public meetings
- ✓ On-line comment forms located on the project website

The study team performed research of existing literature and documentation provided by the BAC and the study's stakeholders in order to develop an understanding of the state of bicycling facilities, programs, and policies in the region today.

Field data collection was conducted using input received from the regional public outreach meetings along with further input from the study's BAC. This field data collection included the driving and visual inventory of over 800 miles of on-road routes. In addition, research was performed on several hundred additional miles of on-road routes along with numerous off-road trails.

### **Study Goals**

During the course of the study, the study team worked with the Bicycle Advisory Committee to develop a series of goals to guide this regional planning process. The goals were developed in order to address the collective needs of the region as a whole. Dialogue among the BAC

members revealed that not all jurisdictions would likely prioritize the goals in the same order of importance. This discovery was not surprising considering the varied character among the region's urban and rural areas and considering the differing needs and demands of each of the region's jurisdictions.

The six study goals are presented below in bulleted format and are listed in no particular order:

- ✓ Promote bicycling in the community as an alternate mode of travel.
- ✓ Develop a prioritized regional network of bicycle routes which provide connectivity between residential areas and activity centers such as business and commercial districts, historical and cultural destinations, and public facilities.
- ✓ Increase public awareness of bicycling safety by providing additional education opportunities for cyclists, drivers, and property owners.
- ✓ Promote improved health and mental wellness among present and future generations of the region's citizens and enhance the quality of life by increasing the availability of recreational opportunities in the region.
- ✓ Emphasize the development of bicycle infrastructure to leverage the economic development potential of the region's existing commercial and natural resources.
- ✓ Provide guidance for the creation of bicycle-oriented policies, programs, and standards that will promote the development and maintenance of full-service bicycle facilities.



## 2.0 EXISTING CONDITIONS

The existing transportation facilities in the West Piedmont Region are representative of a network predominantly focused on serving the motorized vehicle, as most of the jurisdictions in the study area have built few bicycle facilities to date. The West Piedmont region's existing transportation network consists of several major highways and limited access facilities, numerous urban roads with wide cross-sections, an abundance of rural, two-lane primary and secondary roads, and several active rail lines.

Several regional facilities of note are described below to highlight the critical role they currently play in linking the region together and serving as potential future regional bicycling corridors.

- ✓ Route 58 - the only continuous east-west roadway linking Danville, Martinsville, and the Town of Stuart (Patrick County). Provides access to Halifax County to the east and Carroll County to the west.
- ✓ Route 29 - Has a north-south orientation and serves the eastern areas of the region including Danville and the towns of Chatham, Gretna, and Hurt (all in Pittsylvania County). Continues north into the Lynchburg region and south into North Carolina.
- ✓ Route 220 - Has a north-south orientation and serves the region's central and northwestern areas, including the City of Martinsville, Henry County (including the Town of Ridgeway), Franklin County, and Rocky Mount. Continues north to the city of Roanoke and south to North Carolina.
- ✓ Future Interstate 73 Corridor - Presently, the region does not possess an interstate highway. However, long-range planning efforts have identified a corridor for the future Interstate 73, which has a north-south orientation

through the central portion of the region as illustrated in Figure 1.1. This interstate will ultimately skirt to the east of Rocky Mount and Martinsville and will connect the region with Greensboro, NC and Myrtle Beach, SC (to the south) and the City of Roanoke, VA (to the north). Much of the proposed I-73 alignment parallels Route 220, with portions of the southern corridor directly overlapping the existing Route 220 right-of-way.

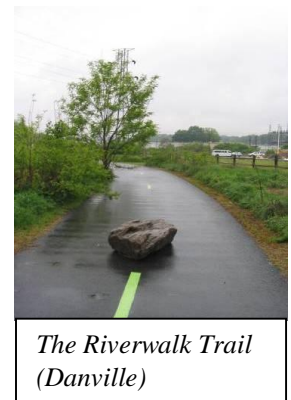
### *Existing Bicycle Facilities*

Based on input received from the Bicycle Advisory Committee (BAC), study stakeholders, public meeting attendees, and the study team's data collection efforts, no on-road bicycle facilities were identified in the West Piedmont region. Existing bicycle infrastructure is limited to mountain bike paths, several off-road shared-use paths and trails, along with a few bicycle racks located in some of the region's parks and recreation facilities.

A summary of the major off-road bicycle-compatible facilities is mapped on Figure 2.1 and is listed below by jurisdiction:

#### City of Danville

- ✓ Dan River Trail System - Riverwalk Trail (Dan Daniel Memorial Park) consists of 4 miles of shared-use trails along the Dan River (will be up to 6 miles by July 2005) and also has 1 mile of mountain bike paths.
- ✓ Angler's Ridge Mountain Bike Trail System - is located at the eastern terminus of the Riverwalk Trail and contains 8 miles of mountain bike trails





City of Martinsville

- ✓ Uptown Rail-Trail - 1-mile long shared-use trail extending east from Uptown Martinsville along an abandoned spur of the Danville & Western Railway

Pittsylvania County

- ✓ Richmond-Danville Rail Trail (Ringgold Trail) - 5.8 mile, 8' wide fine stone ballast trail along converted Richmond & Danville Railroad bed stretching east from Ringgold to the Halifax County line



*The Richmond-Danville Rail Trail (a.k.a. the Ringgold Trail), Ringgold, VA (Pittsylvania County)*

- ✓ Game reserve mountain bike trails
- ✓ Smith Mountain Lake area mountain bike trails

Henry County

- ✓ Chestnut Knob mountain bike trails
- ✓ Fairy Stone State Park area mountain bike trails

Patrick County

- ✓ A 3-mile section of Route 346 (paved) inside Fairy Stone State Park is barricaded for use as the Mountain View Hiking and Bicycle Trail. Other

mountain bike trails exist inside the park.



*Route 346, Mountain View Bicycle and Hiking Trail – Fairy Stone State Park (Patrick County)*

Franklin County

- ✓ Mountain biking trails in following areas:
  - i Smith Mountain Lake area
  - i Ferrum College campus (6 mi. ±)
  - i Rec Park and Wade Park

Town of Rocky Mount

- ✓ Mountain bike trails behind existing YMCA

**Existing Transit Facilities**

Danville Transit System (DTS) is currently the region's only transit provider. The DTS operates entirely within the Danville city limits and includes 5 different routes. Presently, the DTS system operates *without* bicycle accommodations such as bus-mounted bicycle racks or bike racks located at bus stops, and no plans currently exist to install bicycle accommodations due to a very low anticipated demand.



Figure 2.1 Existing Conditions Map



### Current Planning Efforts

This study represents the region's first effort to develop a regional bicycle plan. Although no prior bicycle planning has been performed at a regional level in the West Piedmont region, the West Piedmont PDC member jurisdictions have performed varying degrees of bicycle planning on their own.

As part of the regional bicycle planning process, the study team performed a review of existing bicycle-related planning efforts and documents for each of the study jurisdictions. A summary of documented planning efforts is provided below for each of the jurisdictions:

#### City of Danville

- ✓ Existing 2020 Comprehensive Plan's transportation element includes the following:
  - i recognition of citizen concern that "the community is too reliant on the automobile"
  - i supports the development of a bicycle master plan in order to help "enhance the City's viability as an inviting center for tourism and to better integrate its existing and planned neighborhoods"
  - i encourages the development of additional bicycle facilities which build upon existing bike paths in the downtown area and expand into surrounding neighborhoods in order to create a functional network
  - i recommends taking advantage of momentum generated by recent successful transportation improvement projects (i.e.: "The Crossing of the Dan" project ) to improve the intermodal transportation network in Danville

- i recommends adding priority bike path projects to the 5-year Capital Improvement Plan
- i Danville-Pittsylvania Area Long-Range Transportation Plan - Year 2030 (May 2004 Draft)
- i recommends the extension of the Ringgold multi-use trail into the City of Danville (currently lies entirely within Pittsylvania County)
- i recommends construction of a multi-use trail along Pumpkin Creek (City of Danville)
- i Existing Dan River Trail System Master Plan (January 2002) includes following:
  - i recommendations for 14 new trail segments (totaling over 11.5± miles) to extend existing Dan River Trail System; construction of new segments is scheduled in 6 phases at a projected cost of slightly over \$3,000,000 (2002 dollars)
  - i recommendations for typical trail sections and locations for trailheads and new bike racks
  - i proposed routes providing connectivity to Danville's downtown area, local parks, school facilities, Dan River access points, and historic/cultural sites
  - i identification of potential transportation, economic, health, and safety benefits of greenways

#### City of Martinsville

- ✓ Martinsville Comprehensive Plan (completed 1996) includes following:
  - i notes that there are no designated bikeways in the City of Martinsville
  - i In response to a study conducted in 1984, which determined that bicycles were not a significant mode of



transportation in the City, the plan recommends that a survey be conducted to assess the desire and need for bikeways in the City of Martinsville.

- i data from Martin Research Inc.'s April 1994 telephone survey on what citizens would like to see made available in a long range parks and recreation plan indicated that bicycling was included among numerous activities which were desired by more than 50% of those surveyed
- ✓ Martinsville-Henry County Area Transportation Study (MHATS) - Year 2020 (adopted Jan. 27, 2004)
  - i contains numerous recommendations for transportation improvements, but does not contain any bicycle access recommendations
- ✓ Uptown Rail Trail and Welcome Center
  - i City has completed 3 out of 4 phases of rail trail project extending from the Uptown area eastward approximately ¾ mile along the former Danville & Western Railway line
  - i Phase IV of the project has been funded and is awaiting construction to connect the existing phases of the trail to Church Street (at Oakdale Street) near the YMCA
- ✓ Martinsville-Henry County Rivers and Trails Group (see text under Henry County for additional discussion)

#### Pittsylvania County

- ✓ Existing Comprehensive Plan (completed in 1986) will be updated in the next 12-18 months with a new horizon year of 2025, and is anticipated to include recreation and transportation plans, each with a bicycle component. The current Comprehensive Plan does not contain a bicycle planning element.

#### Henry County

- ✓ Existing 1995-2010 Comprehensive Plan notes the following:
  - i the existing county transportation system "could be described as 'pedestrian and bicyclist unfriendly'"
  - i states the following transportation objective and strategy:
    - Objective – "Encourage the use of alternative modes of transportation whenever appropriate."
    - Strategy – "Capitalize on opportunities to convert abandoned railroad rights-of-way into pedestrian and bicycle trails."
  - i secondary roads are generally too narrow and developed to allow for safe bicycling
  - i trails which exist in county are for recreational use only, and do not function as transportation corridors
  - i references a Department of Conservation and Recreation report which rates the county's demand for bike trails as "High"
- ✓ With assistance from the Southern Environmental Law Center, the Martinsville-Henry County Rivers and Trails Group (which is a part of the Dan River Basin Association) is working with other entities, including Martinsville and Henry County government officials, to plan a network of multi-use trails along the Smith and Mayo Rivers and connecting these to other trails and bike paths at public spaces throughout the community. The group seeks to fund, design, and construct a 1 to 2 mile multi-use trail demonstration project along the south side of the Smith River from Fieldale Bridge to the Henry County Service Authority Treatment Plant and



perhaps beyond. The group is currently in the preliminary mapping and grant application phase and hopes to see the trail become a reality and eventually to expand the trail to:

- i extend upstream all the way to the Philpott Lake Dam recreation area and connecting to trails and paths in Franklin County
- i the east to connect with the Dan River Trail system in Danville and with available trail/bike path connections in North Carolina
- i west to connect to the Mayo River corridor
- i south to connect with the Mayo River linear park planned in North Carolina

#### Patrick County

- ✓ Most recent Comprehensive Plan (1998) contains following information:
  - i notes that ongoing improvements to Routes 58 and 220 along with the potential future construction of Interstate 73 could bolster tourism in the County
  - i only mention of bicycle facilities or planning in the parks and recreation element and transportation element is the portion of Route 346 inside the Fairy Stone State Park, which is barricaded for use as the Mountain View Hiking and Bicycle Trail

#### Franklin County

- ✓ 1995 Comprehensive Plan (which is currently undergoing an update) does not specifically address bicycling or bicycle planning in its transportation section. However, plan's Community Facilities component calls for a pedestrian-oriented plan to be developed including *"greenways and trails that use river corridors, abandoned railways, and other linear routes to link*

*selected County towns, park sites, schools, and other community facilities."*

- ✓ County staff developed a county-wide bicycle plan, which was adopted in December 2004. Existing routes are mapped on Figure 2.2. Plan includes:
  - i 22 recommended routes, including routes for cyclists of all skill levels
  - i recommendations for shared lanes on portions of Routes 640, 602, 676, 616, 663, and 40E
  - i recommendations for parallel off-road facilities along Route 122 and a short portion of Route 640 near the Grassy Hill Nature Preserve
- ✓ County is encouraging the development of bicycle facilities in the Westlake Corner area near Smith Mountain Lake, where an existing overlay district has already been established to encourage pedestrian connectivity.

#### Town of Rocky Mount

- ✓ There is currently no bikeway network in the Town. The 2002 Comprehensive Plan contains a 2020 Rocky Mount Transportation Plan, which identifies the following issues:
  - i the existing transportation system of the Town is predominantly automobile-based
  - i existing streets are often too narrow to support bicycle lanes or additional sidewalks
- ✓ 2002 Comprehensive Plan includes the following objectives:
  - i encourage new development to provide for bicycle lanes and additional sidewalks
  - i increase public awareness of the benefits of alternative modes of transportation



Figure 2.2 Franklin County Adopted  
Bicycle Routes



- i support the implementation of a town-wide bike and walkway system
- i consider alternative modes of transportation when planning new roads or improving existing roads

#### Blue Ridge Parkway Association

- i currently performing a bicycle planning process to evaluate possibilities of developing bicycle facilities along the parkway, with an emphasis on facilities near urban areas
- i website ([www.blueridgeparkway.org](http://www.blueridgeparkway.org)) promotes bicycling and bicycle safety on the Blue Ridge Parkway

In addition to existing planning efforts in the West Piedmont Region, it is important to identify bicycle and greenway planning efforts by jurisdictions in Virginia and North Carolina which lie adjacent to the West Piedmont region. Where possible, the recommended routes of this plan connect to existing or planned routes in adjacent jurisdictions. The following is a list of adjacent jurisdiction agencies and plans which were consulted or researched to coordinate bicycle planning efforts (*existing bicycle planning documents noted in parentheses*):

#### Virginia

- ✓ Region 2000 PDC - Bedford and Campbell Counties (*Regional 2000 Greenways & Blueways Plan*)
- ✓ Roanoke County (*Roanoke Valley Greenways Plan*)
- ✓ Southside PDC (*Halifax County Bike Plan and Multi-Use Trail Map*)

#### North Carolina

- ✓ Piedmont Triad Council of Governments - Rockingham County and Caswell County (*Rural Planning Organization (RPO) Regional Bicycle Study currently under development*)

- ✓ Northwest Piedmont Council of Governments - Surry County and Stokes County (*at the time of this study, no current bicycle had been developed*)

#### Obstacles for Bicyclists

The identification and mapping of obstacles for bicyclists serves as a key step in understanding the factors which currently hinder bicycle travel; this step also assists in developing the roadway alignments of the recommended bicycle network links. Because of the cost to eliminate bicycle obstacles (e.g. narrow bridges and busy highway interchanges) and the limited funding available for bicycle-related projects, the obstacle map is used to route the bicycle network so as to avoid using these routes, where possible. Typically, in areas with a more dense street network, there are parallel routes that bicyclists could use (in lieu of routes containing obstacles) in order to minimize potential conflicts with vehicular traffic. Because the vast majority of the West Piedmont Region is rural in nature (2-lane roadways with low traffic volumes, typically), parallel alternate routes are infrequent if they exist at all. For this reason, many of the routes shown on the maps contain identified obstacles along them. The highlighting of these obstacles on the attached jurisdiction mapping (see Figures 4.2 through 4.7) is included in order to assist planners in identifying strategic locations for future

The study team began its obstacle-mapping exercise by soliciting input from the BAC, study stakeholders, and citizens who attended public outreach meetings. During group discussions, study participants were asked to identify obstacles to bicycling in their localities. In addition, public outreach meeting attendees used sticky dots to identify the locations of physical obstacles on jurisdiction mapping.

The obstacles which were identified by the groups surveyed included the following:

- ✓ Dogs off-leash



- ✓ Lack of driver education for the cyclists' rights and practices
- ✓ Lack of driver awareness of cyclists
- ✓ Difficult terrain / topography
- ✓ Heavy vehicular traffic
- ✓ Limited-access highways
- ✓ Bridges
- ✓ Lack of convenient places to ride
- ✓ Poor pavement conditions

Of the obstacles mentioned above, the one which study participants identified most frequently was dogs running off-leash. Cyclists expressed consistent concerns about dogs charging them or chasing them while riding, with their fear of running into a dog or taking aggressive action to avoid a dog often being greater than their fear of actually being bitten. While cyclists noted that the problem of encountering dogs off-leash exists in the region's urbanized areas, their greater concerns were in the region's expansive rural areas, where lower-volume, scenic roads offer some of the region's best cycling.

Lack of driver education/awareness, natural obstacles of terrain/topography, and man-made obstacles (vehicular traffic, limited access highways, and bridges) all were named almost as frequently as off-leash dogs. For the most part, study participants agreed that cyclists are sometimes at fault for not being aware enough of the presence of vehicular traffic; however, the general consensus among the groups surveyed was that many drivers do not acknowledge the bicyclist's legal right to use the road, and therefore often drive in a manner which endangers the cyclist.

In addition to the public input on obstacles, the study team performed an independent obstacle mapping exercise by identifying limited access facilities, major rivers, bridges, active railroad lines, and interchanges not already named by study participants. The combination of physical obstacles identified by the public and the study

team was overlaid on the proposed bicycle network. These obstacles are mapped in each jurisdiction later in this report (Figures 4.2 through 4.7) in order to illustrate their locations with respect to the proposed bicycle route network.



*This intersection along Route 57 in Bassett (Henry County) features a number of obstacles to bicyclists, including: on-street parking, a railroad crossing, a dog-leg bend in the road, and heavy truck traffic.*

### **Bicycle Crash Data**

Accurate reporting and cataloging of bicycle crashes can provide valuable information in identifying high-crash locations. The identification of such locations is critical to prioritizing available funding for spot safety improvements for bicycle traffic. As part of this study, local sheriffs departments and VDOT residencies in the study area were contacted to collect available bicycle data; however, as is the case in many jurisdictions around the country, specific and detailed documentation of historical bicycle accident data was unavailable.

The Virginia Department of Motor Vehicles (DMV) publishes annual statewide vehicular crash information, including reported bicycle crash data. A review of the DMV bicycle crash data for 2002 and 2003 indicated that bicyclist fatalities represented about 1.0% of all traffic fatalities and about 1.5% of all personal injury



crashes in the state of Virginia. In addition, at the statewide level bicyclists between the ages of 10 and 14 made up the largest group of bicyclists involved in crashes for any 5-year age range.

**Community Interest in Bicycling**

A number of bicycle clubs and programs currently exist in the West Piedmont Region. Collectively, these bicycle-related groups and activities point to a significant latent interest in cycling within the study area.

In spite of limited facilities for bicycling, several active bicycling clubs exist in the West Piedmont Region. Typically, members of bicycle riding clubs form the backbone of advocacy groups promoting better bicycling facilities and public awareness of the rights and responsibilities of bicyclists. These clubs provide evidence of the region's latent cycling demand, and their names are listed below (including their primary base of operation and their approximate 2005 membership):

- ✓ Cyclists of Danville (Danville, 30+ members)
- ✓ Franklin Freewheelers (Franklin County, 40 members)
- ✓ Southern Virginia Mountain Biking Association (SVMBA - Danville, 55 members)

Several local agencies in the West Piedmont Region have participated in bicycle programs related to safety. A brief description of two of these programs is given below:

- ✓ the Virginia Department of Health (Pittsylvania County division) has distributed free bicycle helmets in the Danville/Pittsylvania County area with funding from cardiovascular grants
- ✓ State Farm insurance recently conducted a bike rodeo for 50 children to teach them bicycle safety

fundamentals, including how to control a bicycle, what to look for while out on the road, and the need for helmets.

The citizens of the West Piedmont Region further displayed their interest in bicycling as evidenced by the attendance of over 70 individuals at the five public outreach meetings held as part of this study.



Citizens discuss project mapping at a public outreach meeting in Martinsville (Jan. 2005).

Bicycling surveys were distributed at these meetings and made available on the project website. It is specifically noted that the surveys were not designed to provide objective results, but were

instead intended to learn more about the habits and opinions of meeting attendees. The results of the 61 completed surveys showed that:

- ✓ over 90 percent indicated that adding "bike lanes or trails in the community would encourage them to make short trips" by bicycle
- ✓ 44 percent rated existing bicycling conditions as "poor" in their community
- ✓ 37 percent rated conditions as only "fair"
- ✓ Nearly everyone indicated support for increased spending on walkways and bikeways with a preponderance of those surveyed indicating the monies should come from federal, state and local transportation funds.

(Note: The complete survey results are included in Appendix D.)



### 3.0 STUDY APPROACH

With the bicycle program in its infancy in the West Piedmont region, the most important initial activity was to garner public interest and support to build a program. To sustain a meaningful dialogue and explore the depth of leadership potential, a bicycle advisory committee was formed.

#### *Bicycle Advisory Committee*

Formation of the Bicycle Advisory Committee (BAC) was a joint effort of the Planning District Commission, VDOT and the study consultant. The committee included representatives from the following entities

- ✓ planning, parks and recreation, and engineering staff from member jurisdictions
- ✓ members of the local business communities
- ✓ area cycling enthusiasts
- ✓ VDOT central office (Richmond, VA)
- ✓ VDOT Salem & Lynchburg districts
- ✓ local VDOT Residencies
- ✓ Virginia Department of Health

The diverse perspectives represented by the committee members benefited the project by insuring that input was received from the critical viewpoints of state and local transportation planning officials, local community planning and parks/recreation staff, community business leaders, and experienced cyclists.

Three committee meetings were held during the course of the study. At the project kickoff meeting in November 2004, the Bicycle Advisory Committee participated in a collaborative goal-setting process for this study. The process began with the consultant suggesting different themes and concepts, followed by a roundtable committee comment and discussion. The consultant then synthesized the committee

comments into brief goal statements. After further review and discussion between the committee members, the consultant team made final revisions for acceptance by the committee.

Committee members helped considerably with outreach to the greater community by telling colleagues, friends, and neighbors about the project and its public outreach forums. In addition, they added valuable guidance to the study process through their extensive local knowledge and understanding of the study area and the current economic and political climate.

Lastly, the bicycle advisory committee reviewed the draft final plan, providing comments to guide this document to its final form.

#### *Stakeholder Input*

The consultant team conducted five stakeholder outreach meetings to initiate small group dialogues with members of the advisory committee as well as with stakeholders from other groups and agencies with an interest in bicycling. The purpose of conducting the stakeholder interviews was to gather and discuss pertinent information otherwise not readily available through the study team's review of documentation and existing data. The stakeholder interviews also facilitated more personal and focused communication on topics specific to each of the study area's jurisdictions.

Stakeholder meetings were conducted around the region as follows:

- ✓ Danville/Pittsylvania (2 meetings)  
November 18 & 19, 2004
- ✓ Martinsville/Henry County  
November 18, 2004
- ✓ Patrick County  
November 19, 2004
- ✓ Franklin County/Rocky Mount  
January 27, 2005

The stakeholder interview process extended beyond the Bicycle Advisory Committee



membership by including the following additional agencies, either through face-to-face meetings or phone calls:

- ✓ Danville police
- ✓ Danville transit authority
- ✓ Blue Ridge Parkway staff
- ✓ Patrick County Chamber of Commerce
- ✓ West Piedmont Planning District Commission staff

### **Public Outreach and Citizen Input**

In addition to emphasizing committee and stakeholder input, the study approach also focused heavily on public outreach and providing forums for receiving local citizen input on bicycling. The study process included three primary channels for interaction with the area's citizens:

- ✓ Temporary project website: [www.bikepedmontva.com](http://www.bikepedmontva.com)
- ✓ Public outreach workshops
- ✓ E-mail and "snail-mail" lists

At the Bicycle Advisory Committee kickoff meeting, a brainstorming session was conducted to select a unique domain name for the creation of a temporary project website. A series of candidate names were developed, and the name [www.bikepedmontva.com](http://www.bikepedmontva.com) was chosen by majority vote. The consultant team purchased the domain name and developed a functional website for use by the public. During the course of the project, the website hosted important information about the project, including:

- ✓ General project overview
- ✓ Project goals
- ✓ Project calendar
- ✓ Temporary virtual public workshop page (including user survey)
- ✓ Frequently Asked Questions (FAQ)

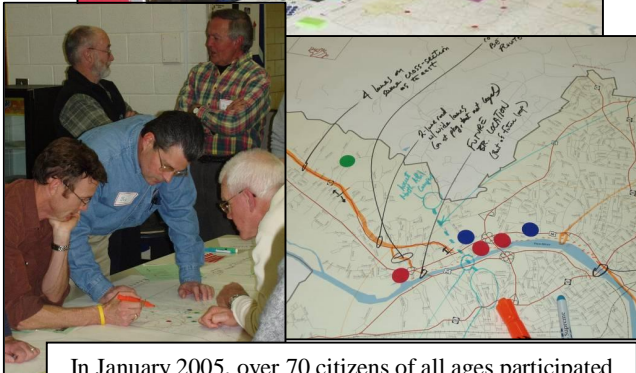
- ✓ Downloads page (for file review)
- ✓ Links to other bicycle-related sites
- ✓ Project electronic newsletters

Throughout the course of the project, the website received over 500 unique visitors (with over 200 visiting more than once) and served as a useful file-sharing tool with the Bicycle Advisory Committee and with the general public, particularly during the review of the draft final plan. Upon completion of the project, the website was deactivated.

Approximately 70 people attended the public outreach workshops, which were held during the week of January 24, 2005 at the following five locations around the region:

- ✓ Martinsville/Henry County Workshop  
Monday, January 24, 2005  
(Martinsville High School)
- ✓ Pittsylvania County Workshop  
Tuesday, January 25, 2005  
(Chatham Middle School)
- ✓ Patrick County Workshop  
Wednesday, January 26, 2005  
(Patrick County Community Center)
- ✓ Franklin County/Rocky Mt. Workshop  
Thursday, January 27, 2005  
(Rocky Mount Depot)
- ✓ Danville Area Workshop  
Saturday, January 29, 2005  
(Pepsi Building)

The objective of the workshops was to take the planning process to the citizens as much as possible and to hear their thoughts on bicycle mobility. The format for each workshop was the same, and included a brief introductory slide show, a group discussion of obstacles to bicycling in the region, and map-making sessions. During the map-making sessions, workshop participants highlighted routes on local jurisdiction mapping to indicate their preferences for bicycle routes.



In January 2005, over 70 citizens of all ages participated in public outreach workshops around the region to discuss their ideas about bicycling and to mark up maps with suggestions for proposed bicycle routes.

During the week of the public workshops, a “virtual public workshop” was available on the project website to replicate the “live” workshop content for any citizens who were unable to attend. Visitors to the public workshop could view the same presentation materials, which included speaking text for the PowerPoint presentation, along with directions on commenting on bicycle routes and filling out a bicycling survey.

All public workshop attendees and all virtual workshop visitors were also invited to provide their responses to a brief survey (17 questions) about bicycling. A total of 61 attendees submitted responses to the survey (see detailed results in Appendix D). Key findings from the survey indicate an equivalent split between advanced and basic-level bicycling skill. This is important in order to draw widespread support and avoid “branding” this study into niche markets. Other studies conducted by the consultant in the Richmond region and elsewhere

suggest that advanced and basic-level cyclists tend to request different types of accommodations; that is, advanced cyclists spend more time on rural roads and prefer wider travel lanes they can share with vehicles. On the other hand, basic-level cyclists prefer striped bicycle lanes and spend more time in urban areas and steer toward off-road trails and greenways when riding with their families. Thus, a “one size fits all” approach is not sustainable.

In response to Question 17, the following statements were provided by citizens as the “most important message to send to the study team” (similar comments have been synthesized, and a complete listing of the comments submitted is provided in the Appendix):

- ✓ “I think this is an important program for the future of [this region] and its young people.”
- ✓ “Bicycling is healthy and should be safe and convenient for all levels of bikers.”
- ✓ “Encourage biking as a way of transportation as important as automobiles by making safe bikeways available.”
- ✓ “Educate the motoring public. Most people seem to think that bicycles are toys and do not belong on the streets and roads.”
- ✓ “Don’t waste tax dollars.” “Design something realistic and workable or doable.”
- ✓ “We need governmental support for trails for funding.”
- ✓ “Economic Benefits. Health to community.”
- ✓ “I used to bike a lot when I lived in Greensboro; to work, the store, and for fitness. Since I moved to Henry County, I don’t ride anymore.”
- ✓ “Do this as an economic development tool.”



- ✓ "I have wanted to see biking here for years, but if the big wheels ... don't want it, you don't get it. Maybe now that tourism is on the agenda, they can see the light for this."
- ✓ "Relieve race traffic by providing bike trails. Get more spectators willing to come here and not have to sit in traffic (spectators could park a mile or so away and walk to race track)."
- ✓ "We would like to be a hub for bicycle paths and trails (long distance)."
- ✓ "Require sidewalk or bikeway in subdivisions or four lane residential roads."
- ✓ "I have biked in the VA Beach area & I am impressed with all of the bike lanes in the city. It would be great to have something like that here."
- ✓ "Kids biking to and from school won't work. Kids will ride on trails only; not on highway." "We need 6 foot wide paved bicycle paths off busy highways. Paths could be used in 2 directions."
- ✓ "Safety and scenery are the two most important things I consider for bike riding."
- ✓ "County dog control enforcement."
- ✓ "Hurry."
- ✓ "Thank You!!!!"

In order to maintain periodic contact with the interested public, the consultant team created an e-mail distribution list using contact information submitted by interested citizens during the study process. A "snail-mail" mailing list was also established for those who preferred not to use the Internet.

The study team created and distributed two electronic newsletters (E-newsletters) during the course of the project. E-newsletter # 1 was distributed to the Bicycle Advisory Committee at the beginning of the project for circulation among

committee contact lists. The primary purpose of E-newsletter # 1 was to provide interested citizens with key information about the purpose of the project as well as to inform them of the times, dates, and locations of the public outreach workshops. E-newsletter # 2 was distributed directly to the project e-mail and "snail-mail" lists during the final month of the study process. This final E-newsletter announced the completion of the draft final report and provided information about the final public presentation series where the public could hear about and submit comments on the draft final plan. Copies of the two E-newsletters are included in the Appendix G for reference.

A final round of public presentations was made in May 2005 to present the draft plan and solicit feedback. Citizens who participated earlier in the study by providing contact information to the study team were invited to the final round of presentations. In addition, the meetings were advertised in local newspapers through a press release.

### **Research Documentation**

The study team reviewed available comprehensive plans, long-range transportation plans, capital and transportation improvement programs (TIPs and CIPs), and a host of other bicycle- and trail-related documents from the West Piedmont Region. The team used the results of this literature review to identify existing, planned, and programmed bicycle-related projects as well as to gain a better sense of the current state of bicycle planning in the region. In addition, the team sought out future CIP and TIP projects not directly related to bicycling which might afford the opportunity to have a bicycle facility "piggy-backed" onto the proposed project with minimal additional cost. A complete list of the relevant documents reviewed as part of this plan is included in Appendix J.



### ***Field Data Collection***

More than 800 roadway miles were driven by the study consultant to log information useful in identifying and establishing a regional bicycle network. This was supplemented with data provided by VDOT from a roadway inventory database. Together, the information collected consisted of:

- ✓ Roadway name and route number
- ✓ Outside lane width (estimate)
- ✓ Presence and width of paved shoulder
- ✓ Potential to construct a paved shoulder
- ✓ Presence of curb and gutter
- ✓ General pavement condition (estimated)
- ✓ Presence of on-street parking (percent of segment)
- ✓ General terrain
- ✓ General observations

Based on the field data collected, the study team employed the Bicycle Compatibility Index (BCI) equation to evaluate the level of service of each of the roadways segments which were driven. This index is similar to a system used in Roanoke to help prioritize routes by decision-makers. The BCI values were used to aid in deciding upon what level of improvements might be warranted along particular roadway segments. [A more detailed description of the BCI methodology is contained in Appendix E.]

As part of the data collection exercise, the study team collected a sample photographic inventory of existing bicycling conditions, noting the region's positives and negatives with respect to bicycling. Positives included the presence of wide paved shoulders and outside lanes (more typical in some of the region's urbanized and town areas), existing off-road multi-use trails, and bicycle racks. Negatives included localized poor

pavement conditions, lack of paved shoulder width, hazardous drainage inlet grates (with slots oriented in the direction of the bicycle tire travel), and other conditions which make bicycling difficult (on-street parking, railroad crossings, and heavy truck traffic).

### ***Bicycle Route Selection and Planning-Level Cost Estimates***

The process of choosing bicycle routes and developing planning-level costs estimates (on a per-mile basis) are described in further detail in Chapter 4.



## 4.0 RECOMMENDATIONS

### *Regional Bicycle Network*

The overall recommended regional bicycle network shown in Figure 4.1 is based on the consultants synthesis of information gathered from stakeholders, the general public, the Bicycle Advisory Committee, field data and research. More specific detail on proposed routes and locations for spot improvements are shown for each jurisdiction on the attached fold-out plan sheets as follows:

- ✓ Figure 4.2 Bicycle Plan - City of Danville
- ✓ Figure 4.3 Bicycle Plan - Pittsylvania County
- ✓ Figure 4.4 Bicycle Plan - City of Martinsville
- ✓ Figure 4.5 Bicycle Plan - Henry County
- ✓ Figure 4.6 Bicycle Plan - Patrick County
- ✓ Figure 4.7 Bicycle Plan - Franklin County

The recommended network was developed with the following primary goals in mind:

- ✓ Provide local connectivity between activity centers such as schools, colleges, universities, parks, shopping centers and office parks.
- ✓ Provide regional connectivity for recreational and touring riders.
- ✓ Provide connectivity to neighboring regions (outside the study area) having existing bicycle plans in place.
- ✓ Provide for appropriate crossings or alternate routes at obstacles such as interchanges, bridges and railroads.

- ✓ Provide for on- and off-road recreational routes.
- ✓ Identify and label locations for spot safety improvements.

Further detail is shown in Figures 4.2 through 4.7 for each of the seven jurisdictions engaged in this study.

The overall recommended regional bicycle network includes over 800 miles of on-road routes and shared-use trails shown on Figures 4.1 through 4.7 in the full report. Recommended routes are denoted in three separate colors to delineate planning-level costs (year 2005 dollars) that could be expected along each corridor in order to provide bicycle accommodations. Recommendations for bicycle accommodations were divided into three general categories as follows:

- ✓ Low cost routes (green) - \$15,000/mile - includes minimal amount of investment to provide signing and striping for bicycles (both directions)
- ✓ Medium cost routes (purple) - \$200,000/mile - includes routes requiring a modest level of investment, which could entail the addition of paved shoulders, along with full signing and striping for bicycles
- ✓ High cost routes (red) - \$500,000/mile - includes significant improvements to accommodate bicycles, such as the construction of a parallel, off-road shared-use path to keep bicycle traffic physically separated from automobile traffic

Estimates were developed using planning-level cost guidelines provided by VDOT with an escalation factor applied to account for recent increases in construction costs. Typical sections for various types of bicycle facilities are included in Appendix I. These facilities are consistent with guidelines established by the *Virginia*



*Bicycle Facility Resource Guide* and include on-street bicycle lanes, on-street bicycle lanes with adjacent vehicular parking (urban areas), wide outside (curb) lane, and paved shoulders.

### **Prioritized Projects**

One logical strategy is to build on successful local projects, such as the Dan River Trail. Extension of this trail west from the “Crossing at the Dan” complex to the Union Street Bridge and northward to the North Main Street area is planned and \$250,000 in federal transportation enhancement funds are programmed. Other interested agencies and organizations in the region could organize group rides by traveling to the Dan River Trail now to evaluate the possibilities for their area.

Another logical strategy is to accentuate the positive and promote outstanding community assets. Much of the region is scenic and popular with outdoor enthusiasts who come to the region to explore and ride the roads. In particular, the world-class Blue Ridge Parkway lies on the very western edge of this region and represents an untapped potential to boost tourism. Ecotourism was cited by several citizens as the potential to increase the number of visitors to West Piedmont to ride trails and roads that connect with the Blue Ridge Parkway. The National Park Service is currently studying their policies related to bicycle use along the Parkway. Hopefully, the study will address the need for restrooms and traffic calming along the Parkway; both of which would be issues of concern for many bicyclists. The existing truck restrictions and sparse number of driveways and intersections create a good environment for bicycling.

In urbanized areas, funds to upgrade in-pavement vehicle-detectors at signalized intersections could be earmarked to improve the sensitivity for bicyclists. Often, the lighter metal weight of a bicycle is undetected until a motor vehicle arrives, typically frustrating bicyclists to the point of crossing the signal illegally. Changing the sensitivity to recognize bicycles

would improve bicycling conditions and obedience of traffic laws.

Another strategy is to piggy-back with upcoming roadway improvement projects that have not yet been designed. Building bicycle (and pedestrian) friendly accommodations into the upcoming design is not only smart, it's now the law in Virginia. For example, the roadway improvement program includes projects led by VDOT as well as some of the local governmental agencies. Total spending for 2006 is anticipated at nearly \$6.5 million within the Danville - Pittsylvania urban area.

Planning for the future Interstate 73 through this region and elsewhere in Virginia should include consideration of a separated shared-use trail at the edge of the freeway right-of-way. Treatments at interchanges should take advantage of the grade separation so that “through bicyclists” would not be required to travel through at-grade intersections with cross-roads. Alignment planning should also consider reasonable grades for basic-level bicyclists.

Improvements to Route 58 in the region should consider the potential for a major east-west bikeway or shared-use path connecting the region. This is the only continuous roadway corridor linking east and west. Much of the central and eastern sections are not presently suitable except for the most advanced bicyclists.

### **City of Danville**

- ✓ Program bicycle facilities into the scope of future services and construction improvements to US Routes 29 (north-south) and 58 (east-west) as well as Business 29/293 and the Route 58 Bypass.
- ✓ Install bicycle racks on the Danville Transit System buses to facilitate more commuter bicycling and provide options for more long range bicycling.
- ✓ Encourage the Dan River Basin Association to coordinate with Henry



- County to develop a long term/long distance route to connect the Cities of Danville and Martinsville as well as connect the Dan River Trails to the proposed Smith River trails.
- ✓ Use annual traffic signal funding to construct a demonstration signal to use advance signal detection system (loop detection) to include cyclists in phases. It is recommended that the city choose a heavily traveling intersection along a proposed bike route to be considered for the demonstration. (River Road or Route 293)
- ✓ Widen Route 51 for bike lanes and provide striping and signing.
- ✓ Utilize annual roadway maintenance funds to improve poor pavement conditions along the recommended bicycle routes.
- ✓ Identify key locations to install bicycle racks downtown as well as other frequented destinations.
- ✓ Coordinate with Pittsylvania County to construct a bicycle facility to connect Angler's Park to the Ringgold Rail Trail.
- ✓ Construct additional phases of the Dan River Trail system and provide maintenance for existing phases.

#### Pittsylvania County

- ✓ Program bicycling facilities into the future improvements for US Route 29 (north-south) and US Route 58 (east-west) to provide regional access routes.
- ✓ Identify spot locations for shoulder improvements along US Route 58 to allow for bike lane, striping, and signing.
- ✓ Pursue the extension of the Ringgold Rail Trail west to the City of Danville. Coordinate with the City of Danville to construct a north/south bike route to connect Angler's Park Trails to the Ringgold Rail Trail.

- ✓ Encourage the installation of bike racks on main street areas of the Towns of Gretna, Chatham, and Hurt. Bike racks combined with the existing wide pavements found in the areas will create a great avenue for bicyclists, locally and regionally.

#### City of Martinsville

- ✓ Extend the Uptown Rail Trail to connect the Central Business District to the downtown/Church Street area.
- ✓ Construct facilities to connect the Martinsville Speedway to US Route 220 and US Route 58 Bypass. This will provide a local alternate to traffic congestion when entering and exiting the Speedway.
- ✓ Develop a plan and construct facilities to include bicycle route access and bicycle racks to make the downtown central business district (Church Street) bicycle "friendly".
- ✓ Coordinate with Henry County to provide a route to connect the central business district to the proposed Smith River Trail.
- ✓ Provide a route to connect the central business district to the proposed mountain bike trails around the Martinsville Reservoir #1 and to provide connectivity to the Patrick Henry Community College.

#### Henry County

- ✓ Construct and 1-mile demonstration trail along the Smith River to the south of the City of Martinsville.
- ✓ Construct facilities to connect the Martinsville Speedway to US Route 220 and US Route 58 Bypass. This will provide a local alternate to traffic congestion when entering and exiting the Speedway.



- ✓ Construct a bicycle facility along the Smith River from Philpott Lake Dam south to the North Carolina state line. Connect to the proposed Smith River demonstration project to the South of the City of Martinsville.
- ✓ Construct mountain biking trails around the Martinsville Reservoir just to the north of the City of Martinsville. Provide a route from the City of Martinsville to connect to the reservoir and Patrick Henry Community College.
- ✓ Identify spot locations on recommended bicycle routes for road widening opportunities to provide bike lanes to cyclists.
- ✓ Promote the development and connectivity of bicycling facilities in the Westlake area, which currently lies within the Westlake Corridor Overlay District.
- ✓ Elected officials should endorse and support the development of a stand alone bicycle facility along the future I-73 within the right-of-way.
- ✓ Coordinate with the Blue Ridge Parkway Foundation to provide access and facilities to and along the Blue Ridge Parkway for cyclists.
- ✓ Continue extension of Philpott Lake trails to the west, with ultimate goal of connecting to the Blue Ridge Parkway.

#### Patrick County

- ✓ Coordinate with the Blue Ridge Parkway Foundation to provide access and facilities to and along the Blue Ridge Parkway for cyclists.
- ✓ Develop a local bike network system in the Town of Stuart building off of Business Route 58. The route should include connections to the elementary school. The plan should also include the installation of bicycle racks along Main Street and other identified locations.
- ✓ Program bicycle facilities into the Route 58 planning. Pavement widening, striping and signing are recommended.
- ✓ Elected officials should endorse and support the development of a stand alone bicycle facility along the future I-73 within the right-of-way.

#### Franklin County

- ✓ Construct a shared-use path or mountain bike trail through the Grassy Hill Nature Preserve to provide access and connectivity between the north and south sides of the preserve.

#### ***Support Programs and Policies***

While physical obstacles such as rivers, bridges, and railroads are more visible, additional obstacles to bicycling have existed in more subtle, but equally significant institutional forms. If traditional ways of administering transportation programs at the local, regional, and state levels have been slow to change in the past, the Commonwealth's transportation leaders are now recognizing the importance of using "out-of-the-box" thinking to move people from one place to another in more efficient and cost-effective manners. During the recent formation of the VTRANS 2025 initiative, for example, Virginia's Secretary of Transportation, Mr. Whittington Clement, called attention to the need for (highway) management to "think differently" and "to be innovative". As a result, VDOT's *Policy for Integrating Bicycle and Pedestrian Accommodations* is strong evidence of the department's new effort to take a leadership role in providing more equitable consideration of bicyclists and pedestrians on Virginia's roadways.

A public safety awareness program / campaign should be considered to offer practical, effective advice to help with common obstacles such as dogs running off leash. Many experienced



bicyclists suggest carrying and using a spray bottle with water that squirts a direct shot on the dog.

A "Bike Smart" safety-oriented program could be considered using the City of Rockville Maryland as a resource. Following is an overview of the Rockville program:

The Maryland Highway Safety Office awarded Rockville over \$200,000 in grant funding between 2001 and 2004 to develop and implement the Maryland Pedestrian and Bicycle Safety Education Program for elementary school children. The City of Rockville created an Administrator's Guide, Teacher's Guide, and Lesson Handbook for the program between 2001 and 2002. From initial roll-out in the fall of 2002 to the end of the 2003-04 school year, the program has reached over 7,000 Rockville students at 10 different elementary schools. During the 2003-04 school year alone, over 250 students learned how to ride a bike for the first time.

The Maryland Pedestrian and Bicycle Safety Education Program has been made available to public and private schools, law enforcement agencies and community organizations throughout Maryland. The Washington Area Bicyclist Association has begun to extend the reach of the program into other schools in Montgomery County and Prince George's County.

The Maryland Pedestrian and Bicycle Safety Education Program takes an exciting and innovative approach to teaching bicycle and pedestrian safety. It includes a series of hands-on lesson plans uniquely designed for each age group. The bicycle component of the safety program is geared toward 3rd through 5th grade students, who will learn safety fundamentals such as fitting a bicycle helmet, rules of the road, laws pertaining to bicyclists, and bicycle handling.

As the Program is taught in the schools, Rockville staff work with teachers and schools to

revise and implement the program. Bicycle safety experts have worked in unison with participating schools to train teachers how to teach the program while the City provides a constant stream of support and evaluation. Participating schools are given an Administrator's Guide, a Teacher's Guide, and a Lesson Handbook with a variety of lesson plans from which to choose.

To develop the program, the City of Rockville has been working in cooperation with officials from the State Highway Safety Administration, school administrators and teachers, county and state Board of Education members, consultants with expertise in bicycle/pedestrian safety and local police.

Maintenance of facilities is a critical element to a sustained program. Many agencies rely on the use of volunteers to "adopt a trail" to maintain off-road trails and greenways. On-street bicycle lanes are used more when monthly street sweepers remove debris.

To achieve the goals stated in Chapter One, a concerted effort will be necessary to retrofit corridors that have few, if any, bicycle-friendly facilities. This effort will take time and resources. A concurrent effort is equally vital; that is, for all seven local governments to adopt policies that will ensure that all future corridor projects and all new developments include facilities that provide for safe and convenient travel for bicyclists. Following are lists, in somewhat chronological order, of the recommended policies and programs that regional governments and all seven local governments should consider:

### ***Policies – Regional Level***

- ✓ Adopt the *West Piedmont Regional Bicycle Plan* as an element of the Danville-Pittsylvania Urban Area Long-Range Transportation Plan (2026) and of the West Piedmont PDC regional transportation plan.
- ✓ Establish a regional bicycle advisory committee to guide future planning and



- development efforts for bicycle facilities. It is recommended that the committee consist of representatives of each of the PDC member jurisdictions, including planners, engineers, landscape architects, economic development staff, citizens, and active bicyclists.
- ✓ Environmental justice is a term coined by the US Justice Department by way of Executive Order signed by President Clinton in 1993. It requires consideration for the potential disproportionate impact of a federally-funded transportation project on communities with a majority of low-income or minority population. Alternatives must be considered that do not have disproportionate impacts on these groups. If alternatives are not reasonable and feasible, then mitigation measures such as enhanced pedestrian and bicycle facilities should be considered.
- ✓ Adopt commercial land development ordinances requiring bicycle racks (for parking) on-site.
- ✓ Adopt commercial and residential land development ordinances to encourage use of multi-use paths and allow for their inclusion toward meeting open space requirements.
- ✓ Review and strengthen animal-restraint (dogs) ordinance language and enforcement policies to encourage protection of cyclists from dogs off-leash.
- ✓ Provide protection to regional corridors (i.e.: Route 122 corridor from Smith Mountain Lake to the Town of Rocky Mount) through the creation of a highway corridor overlay district or through amendments to current zoning ordinances to require the provision for bicycle facilities to any new construction along the corridor.

### ***Policies – Local Level***

- ✓ Updated Comprehensive Plan language stating support for improvements to bicycle mobility. The update should also consider statements of support for bicycle-friendly improvements including greenways, trails, shared-use paths, and mixed (land) use districts to facilitate short bicycle trips between different land uses. Adoption of this plan as an element of the local Comprehensive Plan is strongly encouraged.
- ✓ Adopt capital improvement programs and annual budgets that include funds for bicycle-related improvements.
- ✓ Adopt residential land development ordinances which address street design standards and cross-sections that accommodate bicyclists.

### ***Implementation***

- ✓ Adopt the plan (by MPO. Local agencies can hear a presentation and “receive” the document).
- ✓ Organize a one-hour long on-street bicycle ride in each community, using local enthusiasts as leaders and local law enforcement to ensure safety. Advertise the event extensively as a “fun family ride” and use it to build a mailing list of interested citizens. Consider monthly rides and continually ask participants to suggest the name of one or more friends to build interest. (by local agencies).
- ✓ Recruit a major regional bicycle race (similar to past Tour DuPont) to come to the West Piedmont Region (by local or regional jurisdictions).



- ✓ Advertise the plan through area colleges and universities and other institutions and organizations likely to have an interest in bicycling. Consideration should be given to continuing the use of a program website. (by MPO).
- ✓ Obtain funds to conduct a regional rails-to-trails inventory and action plan (by PDC).
- ✓ Conduct alignment study to identify feasible route to connect the Dan River trail with the Smith River trail. Such a study would involve multiple agencies, including some in the state of North Carolina if the confluence of the Dan and Smith Rivers is to be considered. (by MPO). Also evaluate feasibility of providing future connection to the Mayo River.
- ✓ Protect the route 122 corridor in Franklin County. (by VDOT).
- ✓ In the city of Danville, and elsewhere as public mass transit is initiated, consider installing racks to hold bicycles. Such measures have been effective nationwide in boosting transit ridership and extending the use of bicycles. (by Danville Transit System).
- ✓ Designate rural road maintenance funds to re-stripe routes identified in this plan to “create” bicycle lanes, where safe and feasible. (by Counties and VDOT).
- ✓ Consider conducting a focused level-of-service (LOS) study on the recommended network of bicycle routes identified in Figures 4.1 through 4.7. The LOS study would evaluate the factors most important to bicyclists and assign a letter grade (LOS) to each recommended route that corresponds to how well bicyclists would feel safe and enjoy the route (by VDOT).

- ✓ Consider implementing a demonstration project of the safe routes to schools program.

### ***Funding Sources***

There are various means through which bicycle strategies can be implemented, including

- ✓ Highway construction funds
- ✓ Transportation Enhancement Program
- ✓ Recreation Access Program
- ✓ Bicycle and Pedestrian Safety Program
- ✓ Hazard Elimination Safety Program
- ✓ Revenue Sharing Program
- ✓ National Scenic Byways Program
- ✓ Public Lands Highways Program
- ✓ Transportation and Community System Preservation Program
- ✓ State Aid Transit Grants
- ✓ Virginia Recreational Trails Fund Program (RTP)
- ✓ 402 Highway Safety Program

Additional information for the programs listed above can also be found on VDOT’s web site ([www.virginiadot.org](http://www.virginiadot.org)).

Appendix H contains a matrix which identifies 15 sources of federal funding along with the respective bicycle-related areas toward which each funding source can be applied. [It is important to note that because the West Piedmont Planning District Commission lies within an attainment area as defined by the Environmental Protection Agency’s National Ambient Air Quality Standards (NAAQS), the region does *not* qualify for Congestion Mitigation Air Quality (CMAQ) funding.]

Other funding opportunities include:



- ✓ Small grants such as International Mountain Biking Association (IMBA) grants and CLIF Bar grants
- ✓ Gifts from local businesses
- ✓ Donations from churches, community groups, etc.
- ✓ Cost-sharing with other agencies and volunteer groups



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## **APPENDIX A – LIST OF ACRONYMS**

AASHTO – American Association of State Highway and Transportation Officials  
ADT – Average Daily Traffic  
CIP – Capital Improvement Program  
CTB – Virginia Commonwealth Transportation Board  
DCR – Virginia Department of Conservation and Recreation  
FHWA – Federal Highway Administration  
IMBA – International Mountain Biking Association  
ISTEA – Intermodal Surface Transportation Efficiency Act  
MPO – Metropolitan Planning Organization  
MUTCD – Manual on Uniform Traffic Control Devices  
SVMBA – Southern Virginia Mountain Biking Association  
TIP – Transportation Improvement Program  
VDOT – Virginia Department of Transportation  
WPPDC – West Piedmont Planning District Commission



## APPENDIX B – GLOSSARY OF TERMS

[Adapted from Jefferson Area Bicycle, Pedestrian, and Greenways Plan (July 24, 2001) and the Northern Virginia Regional Bikeway and Trail Network Study Final Report (11/19/03).]

**Activity Centers** - Neighborhoods, commercial areas, and employment sites which attract or generate travel.

**Arterial (street)** – A street designated to carry traffic, mostly uninterrupted, through an urban area, or to different neighborhoods within an urban area.

**Bicycle** – (Code of VA) A device propelled solely by human power having pedals, two or more wheels, and a seat height of at least 25 inches from the ground when adjusted to its maximum height. A bicycle shall be a vehicle while operated on the highway.

**Bicycle Facility** – A general term denoting improvements and other provisions made by public agencies to accommodate or encourage bicycling, including roadway improvements, signage, bicycle parking and storage facilities, and shared roadways not specifically designated for bicycle use.

**Bike Lane** – A portion of a roadway which has been designated by striping and pavement markings for the preferential or exclusive use of bicyclists.

**Bikeway** – A generic term for any road, street, path, or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

**Grade** - A measure of the steepness of a roadway, bikeway, or walkway, expressed in a ratio of vertical rise per horizontal distance, usually in percent; e.g. a 5% grade equals 5 m of rise over a 100 m horizontal distance.

**Grade Separation** – The vertical separation of conflicting travel ways with a structure.

**Greenway** – Natural corridor often used for bicycle and pedestrian trails.

**Highway** – A general term denoting a public way for purposes of travel, including the entire area within the right-of-way.

**Local (street)** – A street designated to provide access to and from residences or businesses.

**Local jurisdictions** – Local jurisdictions in the West Piedmont Planning District Commission include: the cities of Danville and Martinsville; the counties of Franklin, Henry, Patrick, and Pittsylvania; and the Town of Rocky Mount.



**Motor Vehicle** – A vehicle that is self-propelled or designed for self-propulsion.

**Multi-use Path** – A path physically separated from motor vehicle traffic by an open space or barrier and either within a highway right-of-way or within an independent right-of-way, used by bicyclists, pedestrians, joggers, skaters and other non-motorized travelers.

**Multi-Modal** – Including more than one mode of transportation (road, transit, bicycle, pedestrian, water, air, rail.)

**Pavement Markings** – Painted or applied lines of legends planed on a roadway surface for regulating, guiding or warning traffic.

**Recreational Bicyclist** – This bicyclist’s objective is not necessarily reaching a specific destination, but instead to exercise and enjoy the scenery. Scenic roadways with meanders, overlooks, and points of interest are usually desirable features.

**Regional bikeway network** – A system of high-quality bicycle facilities, including shared use paths that are a minimum of 10 feet, paved shoulders that are four feet or wider, and bike lanes (see acceptable widths under the definition for bike lanes.) In constrained situations, wide curb lanes, with a minimum of 14 feet usable width, can also be used to accommodate bicyclists.

**Right-Of-Way** – A general term denoting publicly owned land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

**Right of Way** – The right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian.

**Roadway** – The paved portion of the highway.

**Shared roadway** – A roadway that is open to both bicycle and motor vehicle travel. This may be an existing roadway, street with wide curb lanes of 14-feet to 15-feet, or road with paved shoulders.

**Shared use path** – A bikeway physically separated from motorized vehicular traffic by an open space or barrier and located either within the highway right-of-way (often termed “parallel shared use path”) or within an independent right-of-way. Shared use paths may also be used by pedestrians, skates, wheelchair users, joggers, and other non-motorized users. In some cases, such as the W&OD Trail, shared use paths also accommodate equestrians.

**Shoulder** – The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of sub-base, base, and surface courses. Paved shoulders can be used for bicycle travel as well.



**Shoulder bikeway** – A type of bikeway where bicyclists travel on a paved shoulder.

**Signed shared roadway (signed bike route)** - A shared roadway that has been designated by signing as a preferred route for bicycle use with either a “Share the Road” or “Bike Route” sign.

**TEA-21** – (Transportation Equity Act for the 21<sup>st</sup> Century) the most recent federal transportation legislation. TEA-21 updates planning regulations implemented initially by ISTEA.

**Traffic Volume** – The given number of vehicles that pass a given point for a given amount of time (hour, day, year.) See ADT.

**VDOT Six-year Improvement Program** – Updated every June, shows funding allocations and timelines for transportation improvements throughout the state.

**Vehicle** - Any device in, upon or by which any person or property is or may be transported or drawn upon a highway, including vehicles that are self-propelled or powered by any means.



## APPENDIX C – POLICY FOR INTEGRATING BICYCLE AND PEDESTRIAN ACCOMMODATIONS (VDOT)

### 1. Introduction

Bicycling and walking are fundamental travel modes and integral components of an efficient transportation network. Appropriate bicycle and pedestrian accommodations provide the public, including the disabled community, with access to the transportation network; connectivity with other modes of transportation; and independent mobility regardless of age, physical constraints, or income. Effective bicycle and pedestrian accommodations enhance the quality of life and health, strengthen communities, increase safety for all highway users, reduce congestion, and can benefit the environment. Bicycling and walking are successfully accommodated when travel by these modes is efficient, safe, and comfortable for the public. A strategic approach will consistently incorporate the consideration and provision of bicycling and walking accommodations into the decision-making process for Virginia's transportation network.

### 2. Purpose

This policy provides the framework through which the Virginia Department of Transportation will accommodate bicyclists and pedestrians, including pedestrians with disabilities, along with motorized transportation modes in the planning, funding, design, construction, operation, and maintenance of Virginia's transportation network to achieve a safe, effective, and balanced multimodal transportation system.

For the purposes of this policy, an accommodation is defined as any facility, design feature, operational change, or maintenance activity that improves the environment in which bicyclists and pedestrians travel. Examples of such accommodations include the provision of bike lanes, sidewalks, and signs; the installation of curb extensions for traffic calming; and the addition of paved shoulders.

### 3. Project Development

The Virginia Department of Transportation (VDOT) will initiate all highway construction projects with the presumption that the projects shall accommodate bicycling and walking. Factors that support the need to provide bicycle and pedestrian accommodations include, but are not limited to, the following:

- project is identified in an adopted transportation or related plan
- project accommodates existing and future bicycle and pedestrian use
- project improves or maintains safety for all users
- project provides a connection to public transportation services and facilities



- project serves areas or population groups with limited transportation options
- project provides a connection to bicycling and walking trip generators such as employment, education, retail, recreation, and residential centers and public facilities
- project is identified in a Safe Routes to School program or provides a connection to a school
- project provides a regional connection or is of regional or state significance
- project provides a link to other bicycle and pedestrian accommodations
- project provides a connection to traverse natural or man-made barriers
- project provides a tourism or economic development opportunity

Project development for bicycle and pedestrian accommodations will follow VDOT's project programming and scheduling process and concurrent engineering process. VDOT will encourage the participation of localities in concurrent engineering activities that guide the project development.

### **3.1 Accommodations Built as Independent Construction Projects**

Bicycle and pedestrian accommodations can be developed through projects that are independent of highway construction, either within the highway right-of-way or on an independent right-of-way. Independent construction projects can be utilized to retrofit accommodations along existing roadways, improve existing accommodations to better serve users, and install facilities to provide continuity and accessibility within the bicycle and pedestrian network. These projects will follow the same procedures as those for other construction projects for planning, funding, design, and construction. Localities and metropolitan planning organizations will be instrumental in identifying and prioritizing these independent construction projects.

### **3.2 Access-Controlled Corridors**

Access-controlled corridors can create barriers to bicycle and pedestrian travel. Bicycling and walking may be accommodated within or adjacent to access-controlled corridors through the provision of facilities on parallel roadways or physically separated parallel facilities within the right-of-way. Crossings of such corridors must be provided to establish or maintain connectivity of bicycle and pedestrian accommodations.

### **3.3 Additional Improvement Opportunities**

Bicycle and pedestrian accommodations will be considered in other types of projects. Non-construction activities can be used to improve accommodations for bicycling and walking. In addition, any project that affects or could affect the usability of an existing bicycle or pedestrian accommodation within the highway system must be consistent with state and federal laws.

#### **3.3.1 Operation and Maintenance Activities**

Bicycling and walking should be considered in operational improvements, including hazard



elimination projects and signal installation. Independent operational improvements for bicycling and walking, such as the installation of pedestrian signals, should be coordinated with local transportation and safety offices. The maintenance program will consider bicycling and walking so that completed activities will not hinder the movement of those choosing to use these travel modes. The maintenance program may produce facility changes that will enhance the environment for bicycling and walking, such as the addition of paved shoulders.

### 3.3.2 Long Distance Bicycle Routes

Long distance bicycle routes facilitate travel for bicyclists through the use of shared lanes, bike lanes, and shared use paths, as well as signage. All projects along a long distance route meeting the criteria for an American Association of State Highway and Transportation Officials (AASHTO) or *Manual on Uniform Traffic Control Devices* (MUTCD) approved numbered bicycle route system should provide the necessary design features to facilitate bicycle travel. Independent construction projects and other activities can be utilized to make improvements for existing numbered bicycle routes. Consideration should be given to facilitating the development of other types of long distance routes.

### 3.3.3 Tourism and Economic Development

Bicycling and walking accommodations can serve as unique transportation links between historic, cultural, scenic, and recreational sites, providing support to tourism activities and resulting economic development. Projects along existing or planned tourism and recreation corridors should include bicycle and pedestrian accommodations. In addition, the development of independent projects to serve this type of tourism and economic development function should be considered and coordinated with economic development organizations at local, regional, and state levels, as well as with other related agencies. Projects must also address the need to provide safety and connectivity for existing and planned recreational trails, such as the Appalachian Trail, that intersect with the state's highway system.

## 3.4 Exceptions to the Provision of Accommodations

Bicycle and pedestrian accommodations should be provided except where one or more of the following conditions exist:

- . • scarcity of population, travel, and attractors, both existing and future, indicate an absence of need for such accommodations
- . • environmental or social impacts outweigh the need for these accommodations
- . • safety would be compromised
- . • total cost of bicycle and pedestrian accommodations to the appropriate system (i.e., interstate, primary, secondary, or urban system) would be excessively disproportionate to the need for the facility
- purpose and scope of the specific project do not facilitate the provision of such accommodations (e.g., projects for the Rural Rustic Road Program)
- bicycle and pedestrian travel is prohibited by state or federal laws



### 3.5 Decision Process

The project manager and local representatives will, based on the factors listed previously in this section, develop a recommendation on how and whether to accommodate bicyclists and pedestrians in a construction project prior to the public hearing. The district administrator should confirm this recommendation prior to the public hearing. Public involvement comments will be reviewed and incorporated into project development prior to the preparation of the design approval recommendation. When a locality is not in agreement with VDOT's position on how bicyclists and pedestrians will or will not be accommodated in a construction project, the locality can introduce a formal appeal by means of a resolution adopted by the local governing body. The resolution must be submitted to the district administrator to be reviewed and considered prior to the submission of the design approval recommendation to the chief engineer for program development. Local resolutions must be forwarded to the chief engineer for program development for consideration during the project design approval or to the Commonwealth Transportation Board for consideration during location and design approval, if needed for a project. The resolution and supporting information related to the recommendation must be included in the project documentation.

The decisions made by VDOT and localities for the provision of bicycle and pedestrian travel must be consistent with state and federal laws regarding accommodations and access for bicycling and walking.

## 4. Discipline Participation in Project Development

VDOT will provide the leadership to implement this policy. Those involved in the planning, funding, design, construction, operation, and maintenance of the state's highways are responsible for effecting the guidance set forth in this policy. VDOT recognizes the need for interdisciplinary coordination to efficiently develop, operate, and maintain bicycle and pedestrian accommodations.

Procedures, guidelines, and best practices will be developed or revised to implement the provisions set forth in this policy. For example, objective criteria will be prepared to guide decisions on the restriction of bicycle and pedestrian use of access-controlled facilities. VDOT will work with localities, regional planning agencies, advisory committees, and other stakeholders to facilitate implementation and will offer training or other resource tools on planning, designing, operating, and maintaining bicycle and pedestrian accommodations.

### 4.1 Planning

VDOT will promote the inclusion of bicycle and pedestrian accommodations in transportation planning activities at local, regional, and statewide levels. These planning activities include, but



are not limited to, corridor studies, small urban studies, regional plans, and the statewide multimodal long-range transportation plan. To carry out this task, VDOT will coordinate with local government agencies, regional planning agencies, and community stakeholder groups. In addition, VDOT will coordinate with the Virginia Department of Rail and Public Transportation (VDRPT) and local and regional transit providers to identify needs for bicycle and pedestrian access to public transportation services and facilities.

## 4.2 Funding

Highway construction funds can be used to build bicycle and pedestrian accommodations either concurrently with highway construction projects or as independent transportation projects. Both types of bicycle and pedestrian accommodation projects will be funded in the same manner as other highway construction projects for each system (i.e., interstate, primary, secondary, or urban). VDOT's participation in the development and construction of an independent project that is not associated with the interstate, primary, secondary, or urban systems will be determined through a negotiated agreement with the locality or localities involved.

Other state and federal funding sources eligible for the development of bicycle and pedestrian accommodations may be used, following program requirements established for these sources. These sources include, but are not limited to, programs for highway safety, enhancement, air quality, congestion relief, and special access.

VDOT may enter into agreements with localities or other entities in order to pursue alternate funding to develop bicycle and pedestrian accommodations, so long as the agreements are consistent with state and federal laws.

## 4.3 Design and Construction

VDOT will work with localities to select and design accommodations, taking into consideration community needs, safety, and unique environmental and aesthetic characteristics as they relate to specific projects. The selection of the specific accommodations to be used for a project will be based on the application of appropriate planning, design, and engineering principles. The accommodations will be designed and built, or installed, using guidance from VDOT and AASHTO publications, the MUTCD, and the *Americans with Disabilities Act Accessibility Guidelines (ADAAG)*. Methods for providing flexibility within safe design parameters, such as context sensitive solutions and design, will be considered.

During the preparation of an environmental impact statement (EIS), VDOT will consider the current and anticipated future use of the affected facilities by bicyclists and pedestrians, the potential impacts of the alternatives on bicycle and pedestrian travel, and proposed measures, if any, to avoid or reduce adverse impacts to the use of these facilities by bicyclists and pedestrians.

During project design VDOT will coordinate with VDRPT to address bicyclist and pedestrian access to existing and planned transit connections.



Requests for exceptions to design criteria must be submitted in accordance with VDOT's design exception review process. The approval of exceptions will be decided by the Federal Highway Administration or VDOT's Chief Engineer for Program Development.

VDOT will ensure that accommodations for bicycling and walking are built in accordance with design plans and VDOT's construction standards and specifications.

#### **4.4 Operations**

VDOT will consider methods of accommodating bicycling and walking along existing roads through operational changes, such as traffic calming and crosswalk marking, where appropriate and feasible.

VDOT will work with VDRPT and local and regional transit providers to identify the need for ancillary facilities, such as shelters and bike racks on buses, that support bicycling and walking to transit connections.

VDOT will enforce the requirements for the continuance of bicycle and pedestrian traffic in work zones, especially in areas at or leading to transit stops, and in facility replacements in accordance with the MUTCD, *VDOT Work Area Protection Manual*, and *VDOT Land Use Permit Manual* when construction, utility, or maintenance work, either by VDOT or other entities, affects bicycle and pedestrian accommodations.

VDOT will continue to research and implement technologies that could be used to improve the safety and mobility of bicyclists and pedestrians in Virginia's transportation network, such as signal detection systems for bicycles and in-pavement crosswalk lights.

#### **4.5 Maintenance**

VDOT will maintain bicycle and pedestrian accommodations as necessary to keep the accommodations usable and accessible in accordance with state and federal laws and VDOT's asset management policy. Maintenance of bike lanes and paved shoulders will include repair, replacement, and clearance of debris. As these facilities are an integral part of the pavement structure, snow and ice control will be performed on these facilities.

For sidewalks, shared use paths, and bicycle paths built within department right-of-way, built to department standards, and accepted for maintenance, VDOT will maintain these bicycle and pedestrian accommodations through replacement and repair. VDOT will not provide snow or ice removal for sidewalks and shared use paths. The execution of agreements between VDOT and localities for maintenance of such facilities shall not be precluded under this policy.



## **5. Effective Date**

This policy becomes effect upon its adoption by the Commonwealth Transportation Board on March 18, 2004, and will apply to projects that reach the scoping phase after its adoption. This policy shall supersede all current department policies and procedures related to bicycle and pedestrian accommodations. VDOT will develop or revise procedures, guidelines, and best practices to support and implement the provisions set forth in this policy, and future departmental policies and procedural documents shall comply with the provisions set forth in this policy.



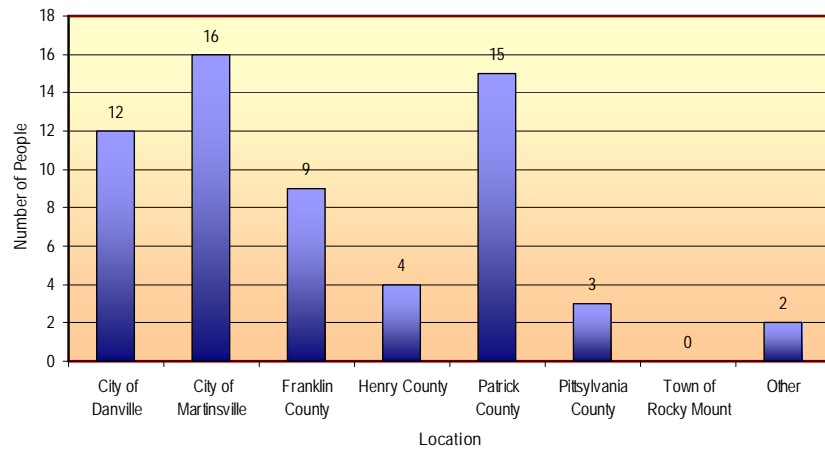
## APPENDIX D – WEST PIEDMONT REGIONAL BICYCLE PLAN USER SURVEY

[Results of 61 Total Surveys Submitted]

1. Please select the jurisdiction in which you live:

- 12 City of Danville
- 16 City of Martinsville
- 9 Franklin County
- 4 Henry County
- 15 Patrick County
- 3 Pittsylvania County
- 0 Town of Rocky Mount
- 2 Other:
  - § WPPD
  - § Halifax, Co.

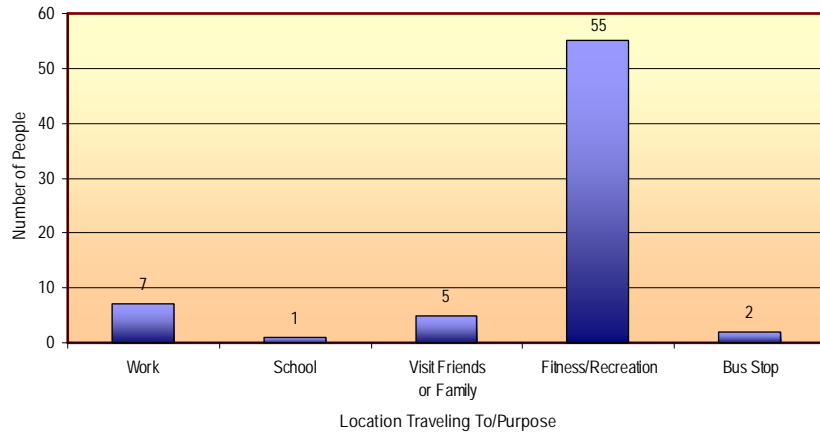
**Jurisdiction**



2. What kind of bicycling do you do? (check all that apply)

- 7 To work
- 1 To school
- 5 To visit friends or family
- 55 For fitness/recreation
- 2 To the bus stop

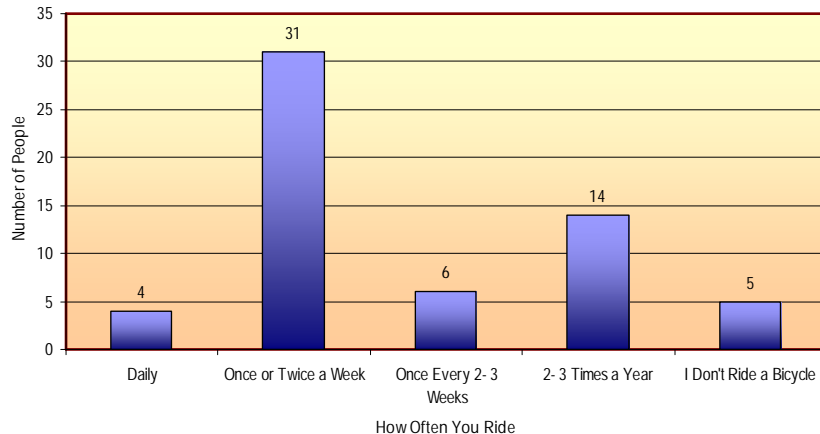
**Kind of Bicycling**



3. How often do you ride a bicycle?

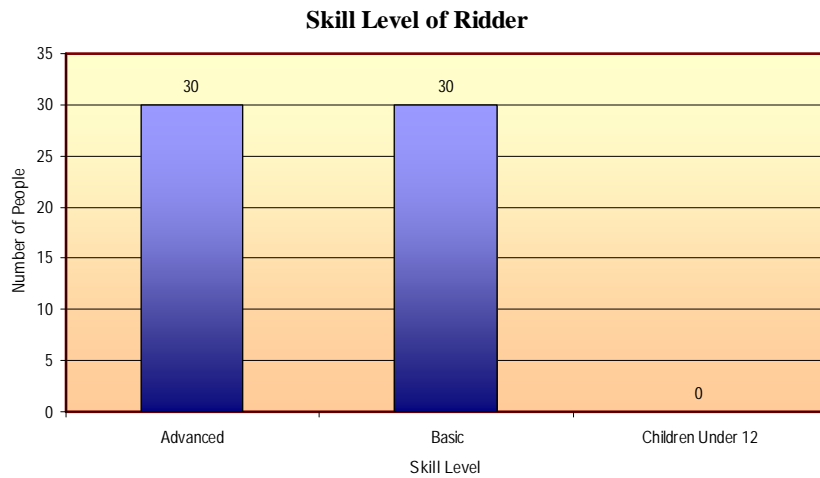
- 4 Daily
- 31 Once or twice a week
- 6 Once every 2-3 weeks
- 14 2-3 times a year
- 5 I don't ride a bicycle

**Frequency of Bicycle Ridding**

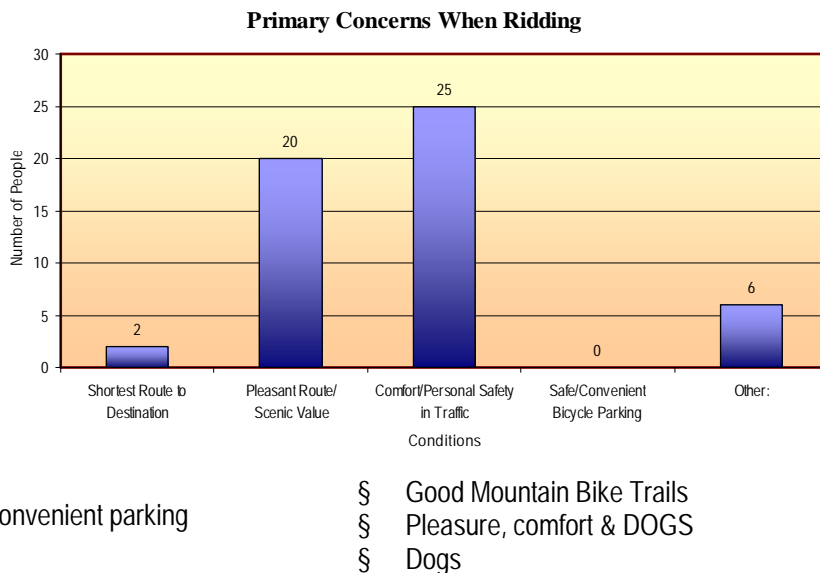




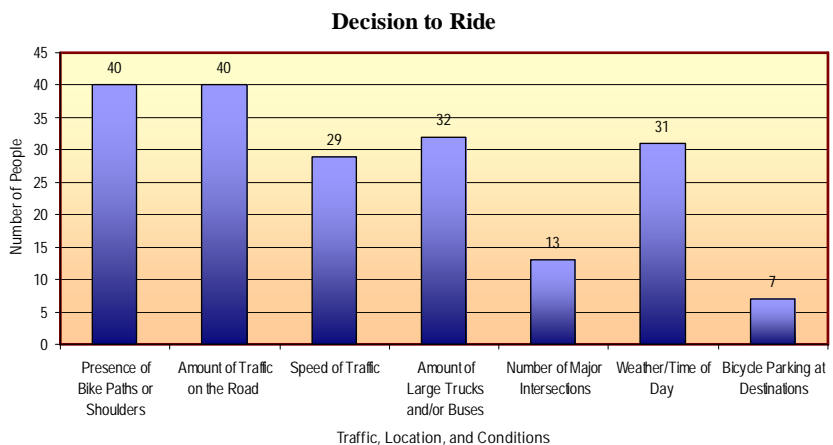
4. What is your general skill level?
- 30 advanced
  - 30 basic
  - 0 child (under 12)



5. What is your primary concern when deciding where to ride? (check one)
- 2 Shortest route to destination
  - 26 Pleasant route/ scenic value
  - 25 Comfort/personal safety in traffic
  - 0 Safe/convenient bicycle parking
  - 6 Other:
    - § Trail riding
    - § Personal safety and convenient parking
    - § Dogs



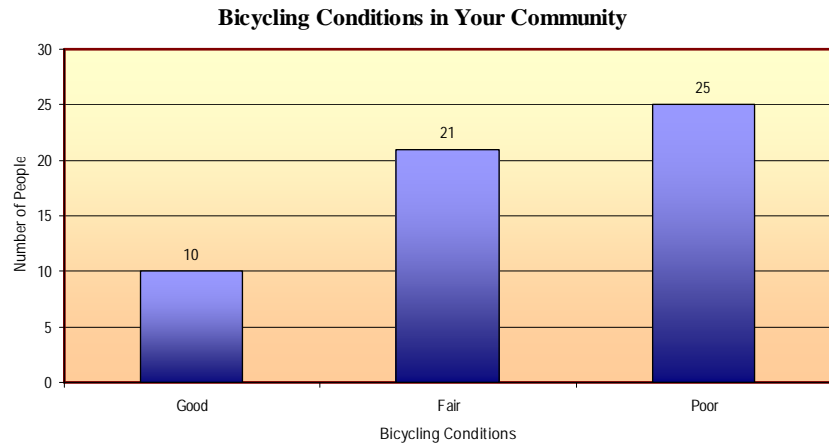
6. What affects your decision to ride? (check all that apply)
- 40 Presence of bike paths or shoulders
  - 40 Amount of traffic on the road
  - 29 Speed of traffic
  - 32 Amount of large trucks and/or buses
  - 13 Number of major intersections
  - 31 Weather/time of day
  - 7 Bicycle parking at destinations





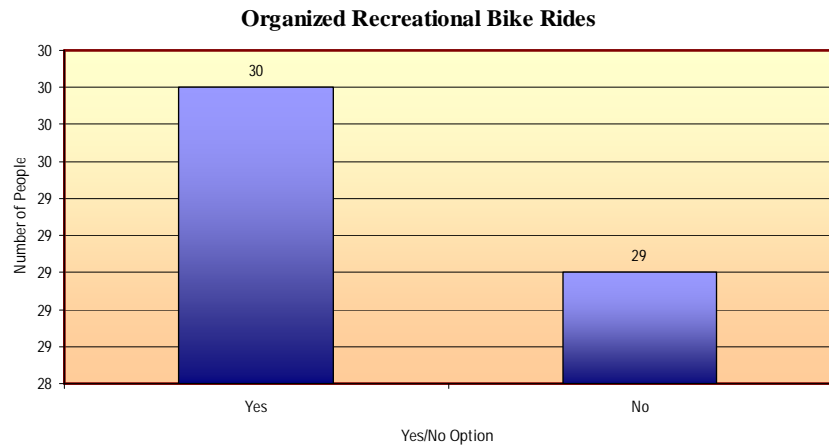
7. What are the bicycling conditions in your community:

- 10 Good
- 21 Fair
- 25 Poor



8. Do you go on organized recreational bike rides?

- 30 Yes
- 29 No



9. Would bike lanes or trails in your community encourage you to make more short trips?

- 53 Yes
- 4 No

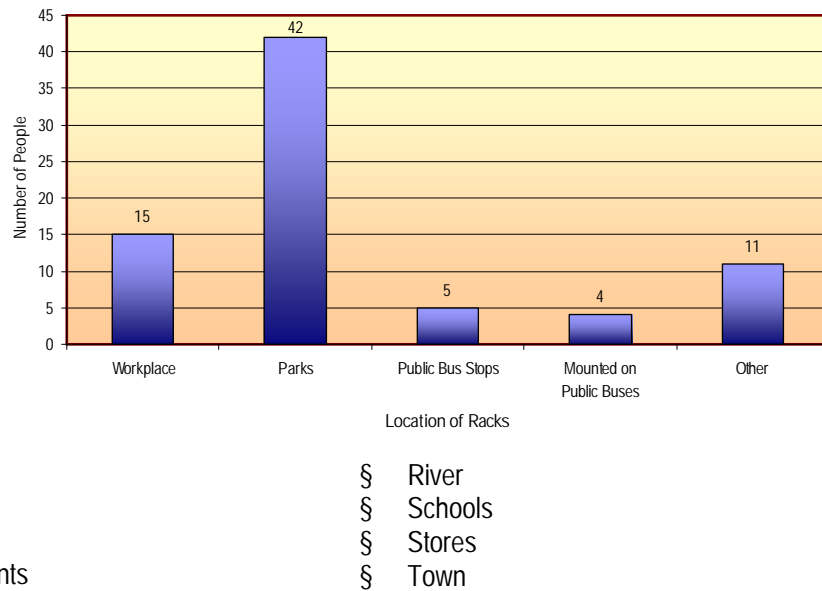




10. Where would you like to see bicycle racks installed? (check all that apply)

- 15 Workplace
- 42 Parks
- 5 Public bus stops
- 4 Mounted on public buses
- 11 Other:
  - § Businesses
  - § Don't use them
  - § Downtown areas
  - § Everywhere
  - § Local Businesses
  - § Malls
  - § Restaurants
  - § Restaurants
  - § Restrooms, Restaurants

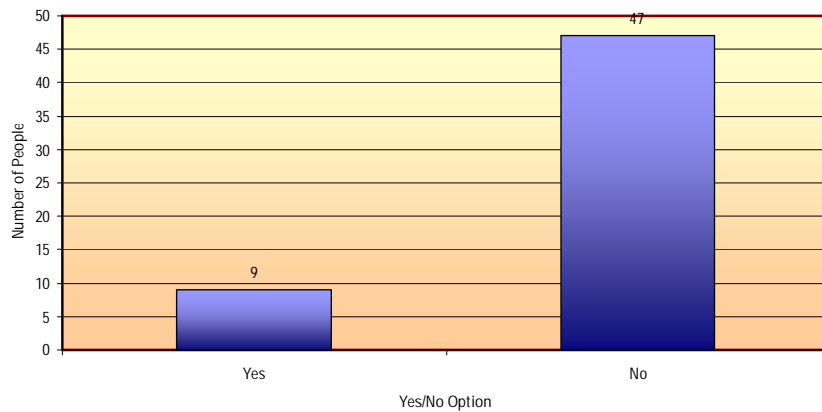
**Bicycle Racks Installed**



11. Do you have children under the age of 16 in your household that ride bicycles?

- 9 Yes
- 47 No

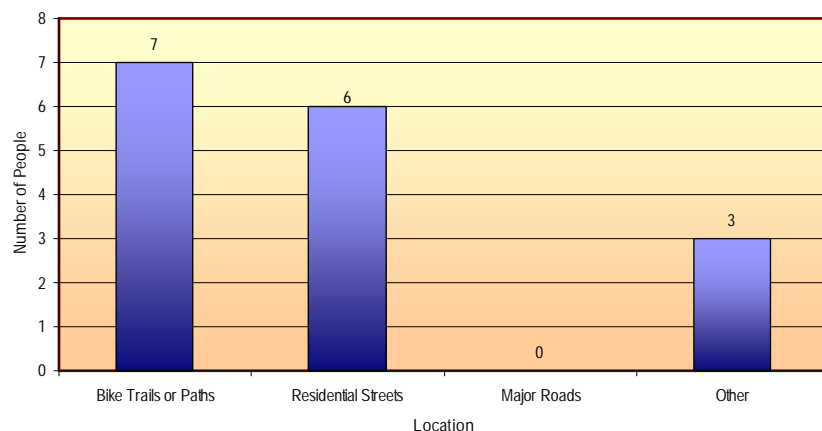
**Children Under the Age of 16**



12. (If the answer to Question 11 is Yes) where do you allow them to ride (either supervised or unsupervised)?

- 7 Bike trails or paths
- 6 Residential streets
- 0 Major roads
- 3 Other:
  - § Parks
  - § Country roads
  - § Backroads

**Where You Allow Children to Ride (Ref. Question 11)**





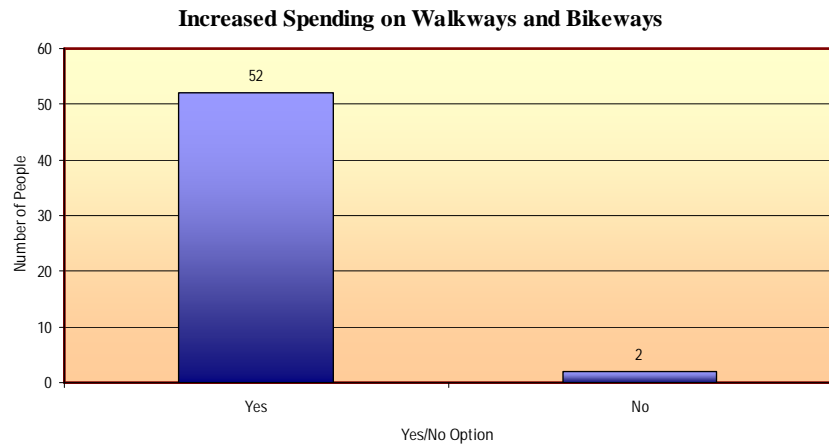
13. Where would you like to see new or improved bikeways?

- § Urban and rural areas. Riverside
- § Squirrel Spur Road, Mountain View Rd., Willis Rd., and Belcher Mountain Rd.
- § Smith River connector from Martinsville to Danville, Fairystone Park and Philpott Lake
- § Smith River
- § Smith Mountain Lake area, Blue Ridge Parkway access, Rocky Mount to Waid Park, maybe to Ferrum
- § See Map
- § Scenic areas. From Ferrum to Smith Mountain Lake. Historical Access.
- § Riverside Drive Piedmont Drive
- § Ringgold, Va. area.
- § Parkway, Community Park (Stuart)
- § Parallel to Smith River South of City of Martinsville Hydroelectric Dam to Martinsville Speedway.
- § On highways when construction is done (new & old) and scenic areas.
- § North to South; East to West.
- § Near or included in local parks
- § Mulberry Road
- § Mainly from Stuart to Floyd, from Stuart to Fairystone, and Stuart to Winston-Salem. Facilities for daily commuting into Stuart is the main need.
- § King's Mountain Road, Chatham Road Rt. 40
- § I'd like to see long distance marked routes to interesting stopping points.
- § Following the old D & W Railroad.
- § Fairystone State Park, Blue Ridge Parkway, Old Dicksville Railroad
- § Everywhere Possible.
- § Everywhere
- § Danville Area - More rails to trails.
- § Danville
- § Connect Dan Daniel Memorial Park Riverwalk Trail to Ringgold Rail to trail.
- § City routes need to have some sort of marking for bicycles.
- § Blue Ridge Parkway Fairystone Park
- § Between Danville and Chatham, South Boston, Martinsville and Reidsville, NC.
- § Anywhere! Mainly paralleling the Blue Ridge Parkway
- § Anywhere where people can ride.
- § Anywhere
- § Any new trails in the area would be great.
- § Any new road should have wide shoulders (4 ft.)
- § Along the Smith River to the Community College (Patrick County), from Martinsville to Philpott Dam
- § Along roadways to make it possible to go to work. In natural places for scenery .
- § Along major interior Road Rt. 51 and Rt. 41 in Pittsylvania County.
- § Along all the main highways.



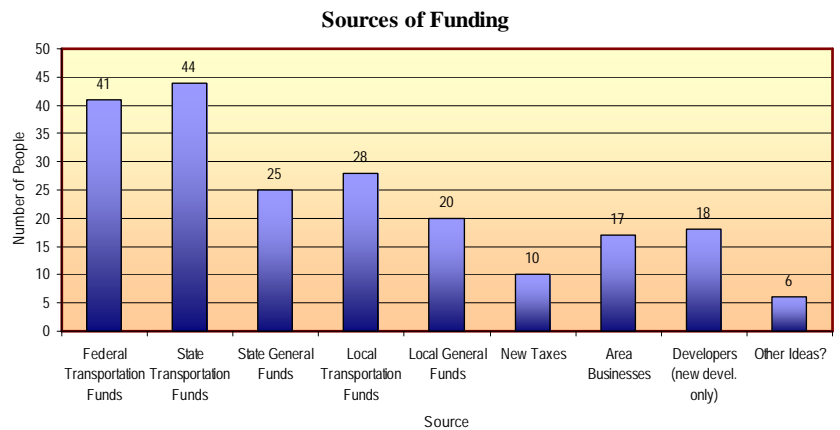
14. Are you in favor of increased spending on walkways and bikeways?

- 52 Yes
- 2 No



15. Which sources of funding for bicycle improvements would you support (check all that apply)?

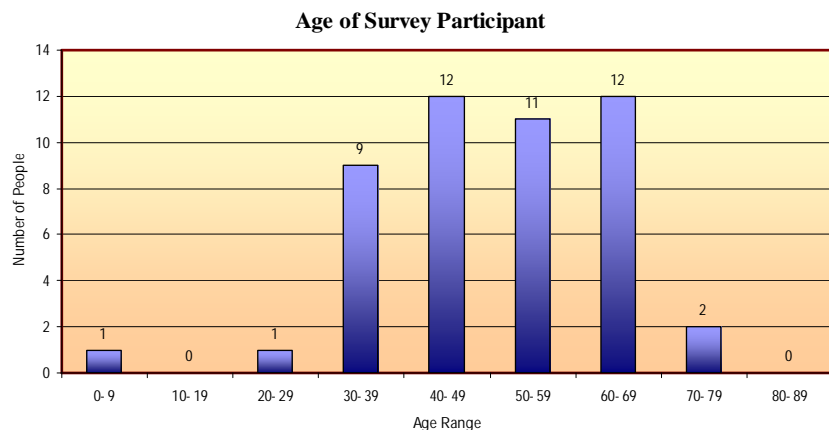
- 41 Federal transportation funds
- 44 State transportation funds
- 25 State general funds
- 28 Local transportation funds
- 20 Local general funds
- 10 New taxes
- 17 Area businesses
- 18 Developers (new developments only)
- 6 Other ideas?
  - § Regional Community Foundations for grants
  - § Rails to Trails
  - § Private grants; Fund Raisers, Donations



- § Private grants, fund raisers, and donations
- § Fund Raisers
- § Donations"
- § A tax levied on autos that get <30 mpg.

16. What is your age? (optional):

- 1 0- 9
- 0 10- 19
- 1 20- 29
- 9 30- 39
- 12 40- 49
- 11 50- 59
- 12 60- 69
- 2 70- 79
- 0 80- 89





17. What is the most important message you would like to send to the study team?

- § We need governmental support for trails for funding.
- § We need 6 foot wide paved bicycle paths off busy highways. Paths could be used in 2 directions.
- § We can accommodate bike paths that are separate from the main road. That is what we prefer. We would like to be a hub for bicycle paths/trails (long distance).
- § Trails that are safe for children are needed in Martinsville and Henry County.
- § This needs to be done asap.
- § Thank You!!!!
- § Safety is a major issue in creating bicycle paths. (Also mentioned biting dogs as an issue along trails and in making the decision to ride.)
- § Safety and scenery are the two most important things I consider for bike riding
- § Safety
- § Safe riding areas should be everywhere. Biking should be a mode of transportation not just fitness and recreation.
- § Require sidewalk or bikeway in subdivisions or four lane residential roads.
- § Relieve race traffic by providing bike trails. Get more spectators willing to come here and not have to sit in traffic (spectators could park a mile or so away and walk to race track)
- § Mountain Bike
- § I used to bike a lot when I lived in Greensboro; to work, the store, and for fitness. Since I moved to Henry County, I don't ride anymore.
- § I think this is an important program for the future of Franklin County and its young people.
- § I have wanted to see biking here for years, but if the big wheels [...] don't want it, you don't get it. Maybe now that tourism is on the agenda, they can see the light for this.
- § I have biked in the VA Beach area & I am impressed with all of the bike lanes in the city. It would be great to have something like that here.
- § Hurry
- § Encourage biking as a way of transportation as important as automobiles by making safe bikeways available.
- § Education of motorists and cyclists to encourage mutual consideration and safety for all
- § Educating the public about biking, safety and health benefits.
- § Educate the motoring public. Most people seem to think that bicycles are toys and do not belong on the streets and roads.
- § Educate the general non-biking public as to laws regarding bikers.
- § Educate motorists about cyclists .
- § Economic Benefits. Health to community.
- § Don't waste tax dollars.
- § Do this as an economic development tool.
- § Do it now!
- § Design something realistic and workable or "doable"
- § Danville kids biking to and from school won't work. Kids will ride on trails only; not on highway.
- § County dog control enforcement.
- § Change the total general attitude toward biking.
- § Biking is great exercise and benefits your physical well-being.
- § Bike Trails for recreation.
- § Bike path/trail similar to the VA Creeper Trail.
- § Bicycling is healthy and should be safe and convenient for all levels of bikers.
- § Awareness; signage



## APPENDIX E – BICYCLE COMPATIBILITY INDEX (BCI) METHODOLOGY

(source: Federal Highway Administration - Pedestrian and Bicycle Safety Research Page, <http://www.fhrc.gov/safety/pedbike/research/current.htm>, 5/14/2005)

### **The Bicycle Compatibility Index: A Level of Service Concept**

The University of North Carolina Highway Safety Research Center, under the sponsorship of the Federal Highway Administration (FHWA), has developed a tool for practitioners to use in assessing the bicycle compatibility of their roadways. The Bicycle Compatibility Index (BCI) can be used by bicycle coordinators, transportation planners, traffic engineers, and others to evaluate existing facilities in order to determine what improvements may be required as well as determine the geometric and operational requirements for new facilities to achieve the desired level of bicycle service.

### **Bicyclists' perceptions are the key to determining compatibility.**

Presently, there is no methodology widely accepted by engineers, planners, or bicycle coordinators that helps them to determine how compatible a roadway is for allowing comfortable and efficient operation of both bicycles and motor vehicles. Determining how existing traffic operations and geometric conditions impact a bicyclist's decision to use or not use a specific roadway is the first step in assessing the bicycle compatibility of the roadway.

The BCI methodology was developed for urban and suburban roadway segments (i.e., midblock locations that are exclusive of intersections). The resulting model incorporates variables bicyclists typically use to assess the "bicycle friendliness" of a roadway (e.g., curb lane width, traffic volume, and vehicle speeds). The model was developed using the perceptions of adult bicyclists (aged 19 and older) and thus, may not be appropriate for assessing conditions with respect to youth bicyclists. The index values produced by the model indicate bicyclists' comfort levels.

### **The BCI can be used to establish level of service for bicycling.**

Currently, the *Highway Capacity Manual* provides no level of service (LOS) criteria for bicycles. However, the definition of the LOS according to the manual is founded on the concept of users' perceptions of qualitative measures that characterize the operational conditions of the roadway. Two of the terms used in the manual to describe LOS are comfort/convenience and freedom to maneuver. Both terms are applicable to bicyclists and are directly reflected in the BCI since the rating scale used by the study participants was an indication of comfort level.

Using the BCI values based on data collected at various locations in the U.S., LOS designations were established for LOS A through LOS F. As shown in table 1, LOS A (represented by an index < 1.50) indicates that a roadway is extremely compatible (or comfortable) for the average adult bicyclist while LOS F (represented by an index > 5.30) is an indicator that the roadway is extremely incompatible (or uncomfortable) for the average adult bicyclist.



### The BCI model can be used in a variety of applications.

The bicycle compatibility index (BCI) model in table 2 and LOS designations provide bicycle coordinators, transportation planners, traffic engineers, and others the capability to better plan and design bicycle compatible roadways. Specifically, the BCI model can be used for the following applications:

- **Operational Evaluation** - Existing roadways can be evaluated using the BCI model to determine the bicycle LOS present on all segments. This operational evaluation is useful in several ways. First, a bicycle compatibility map can be produced for the bicycling public to show them the LOS they can expect on each roadway segment. Second, roadway segments or "links" being considered for inclusion in the bicycle network system can be evaluated to determine which segments are the most compatible for bicyclists. In addition, "weak links" in the bicycle network system can be targeted, and prioritization of sites needing improvements can be established based on the index values. Finally, alternative treatments (e.g., addition of a bicycle lane vs. removal of parking) for improving the bicycle compatibility of a roadway can be evaluated using the BCI model.
- **Design** - Designers can assess new roadways or roadways which are being re-designed or retrofitted to ascertain if they are bicycle compatible. Planned geometric parameters and predicted or known operational parameters can be used as inputs to the model to produce the BCI value and determine the bicycle LOS that can be expected on the roadway. If the roadway does not meet the desired LOS, the model can be used to evaluate changes in the design necessary to improve the bicycle LOS.
- **Planning** - The model provides the user with a mechanism to quantitatively define and assess long-range bicycle transportation plans. Data from long-range planning forecasts can be used to assess the bicycle compatibility of roadways in the future using projected volumes and planned roadway improvements.

**Table 1. Bicycle Compatibility Index (BCI) ranges associated with level of service (LOS) designations and compatibility level qualifiers.**

LOS	BCI Range	Compatibility Level <sup>1</sup>
A	≤ 1.50	Extremely High
B	1.51 - 2.30	Very High
C	2.31 - 3.40	Moderately High
D	3.41 - 4.40	Moderately Low
E	4.41 - 5.30	Very Low
F	> 5.30	Extremely Low

<sup>1</sup> Qualifiers for compatibility level pertain to the average adult bicyclist.



Adjustment Factors			
Hourly Curb Lane Large Truck Volume <sup>1</sup>	$f_t$	Parking Time Limit (min)	$f_p$
≥ 120	0.5	≤ 15	0.6
60 - 119	0.4	16 - 30	0.5
30-59	0.3	31 - 60	0.4
20-29	0.2	61 - 120	0.3
10-19	0.1	121 - 240	0.2
< 10	0.0	241 - 480	0.1
		> 480	0.0
Hourly Right Turn Volume <sup>2</sup>	$f_r$		
> 270	0.1		
< 270	0.0		

<sup>1</sup> Large trucks are defined as all vehicles with 6 or more tires.

<sup>2</sup> Includes total number of right turns into driveways or minor intersections along a roadway segment.

The results of this research effort are documented in two FHWA documents. *The Bicycle Compatibility Index: A Level of Service Concept, Implementation Manual (FHWA-RD-98-095)* provides practitioners with a guide to using the BCI methodology along with several real-world examples. *Development of the Bicycle Compatibility Index: A Level of Service Concept, Final Report (FHWA-RD-98-72)* documents the research project including validation of the video data collection technique, field data collection procedures, and results of the data analysis.



APPENDIX F – STAKEHOLDER MEETING AGENDA

West Piedmont Regional Bicycle Plan

Stakeholder Meeting Agenda
Thursday and Friday, November 18-19, 2004
Anticipated Meeting Duration: 60-90 minutes

- 1) Introductions, Purpose, Recap of Kickoff Meeting
a. Project purpose: To develop a bicycle planning document...
b. Purpose of today's meeting: To gather and discuss pertinent information...
2) Identify Key Issues & Desires of Stakeholders
a. Bicycle linkages? Regional or local?
b. Increase education and awareness?
c. Increased safety?
d. Funding for design and construction?
e. Other?
f. What is the biggest challenge this plan must address?
3) Receive Available Documentation from Stakeholder
a. Jurisdiction mapping (hard copy)
b. GIS map layers (electronic, CD format)
c. Maps of parks and recreation facilities...
d. Maps of known or planned/programmed bicycle paths...
e. Prior bicycle route (inc. trails and/or greenways) planning studies
f. Other relevant transportation planning data...
4) Discuss Public Outreach Strategy
a. Links to agency websites
b. E-mail groups for E-newsletters
c. Distribution for public workshop announcements
d. Community newsletters, local papers, etc.
5) Additional Discussion & Next Steps

Project Contact Information

Table with 2 columns: Name/Title and Contact Information (Phone/Email). Rows include John Riley (Project Manager) and Bob Dowd (MPO Executive Director).



### APPENDIX G – ELECTRONIC NEWSLETTERS

## SPECIAL ANNOUNCEMENT!

# West Piedmont Regional Bicycle Plan

[www.bikepiedmontva.com](http://www.bikepiedmontva.com)

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Danville • Martinsville • Pittsylvania County • Henry County • Patrick County • Franklin County • Rocky Mount

### Now announcing the kickoff of the West Piedmont Regional Bicycle Plan!

*If you have an interest in bicycling and in helping to plan the future of bicycle transportation in your region, your help is requested! Please continue reading to learn more about this project and how you can participate in the project's on-line survey and upcoming public workshops...*

**WILL MY NEIGHBORHOOD BE INCLUDED IN THIS PLAN?**  
The plan will develop recommended bicycle routes within Danville, Martinsville, Pittsylvania County, Henry County, Patrick County, Franklin County, and the Town of Rocky Mount.

**WHO IS DEVELOPING THIS PLAN?**  
The West Piedmont Planning District Commission and the Danville-Pittsylvania Metropolitan Planning Organization are taking a joint role to facilitate the plan's development. The consulting firm of Kimley-Horn and Associates is guiding a Bicycle Advisory Committee (BAC) that has been established for this project. The BAC consists of public and private leaders and citizens from around the region.

**HOW IS THIS PROJECT BEING FUNDED?**  
This project is sponsored by funding from the Virginia Department of Transportation and the Federal Highway Administration.

**WHEN WILL THE FINAL PLAN BE COMPLETED?**  
The final plan is scheduled to be finished by May 31, 2005.

**HOW CAN I PARTICIPATE?**  
We would love to hear your feedback about bicycle-related topics such as where you like to ride, health/safety, and education. To tell us your thoughts, please visit our project web site ([www.bikepiedmontva.com](http://www.bikepiedmontva.com)) or plan to participate in a community workshop near you (see schedule at right).

To stay informed of ongoing project updates, please add your contact information through the project web site or send an e-mail to [John.Riley@Kimley-Horn.com](mailto:John.Riley@Kimley-Horn.com), for regular mail, please use:

**Kimley-Horn and Associates, Inc.**  
*Attn: John Riley*  
1500 Forest Avenue  
Suite 115  
Richmond, VA 23229

### Community Workshop Schedule

**Saturday, January 22, 2005**  
*Danville Area Workshop*  
Location: "The Crossing at the Dan", Pepsi Building  
Time: Noon - 2pm  
Address: 677 Craghead Street, Danville, Virginia 24541

**Monday, January 24, 2005**  
*Martinsville/Henry County Area Workshop*  
Location: Martinsville High School Cafeteria  
Time: 5pm - 7pm  
Address: 351 Commonwealth Blvd., Martinsville, Virginia 24112

**Tuesday, January 25, 2005**  
*Pittsylvania County Area Workshop*  
Location: Chatham Middle School  
Time: 5pm - 7pm  
Address: 11650 US HWY 29 North Chatham, Virginia 24531

**Wednesday, January 26, 2005**  
*Patrick County Area Workshop*  
Location: Patrick County Community Center - Community Room  
Time: 5pm - 7pm  
Address: 420 Woodland Drive, Stuart, Virginia, 24171

**Thursday, January 27, 2005**  
*Franklin County/Rocky Mount Area Workshop*  
Location: Rocky Mount Depot  
Time: 5pm - 7pm  
Address: 52 Franklin Street, Rocky Mount, VA 24151

*All workshops are FREE and will include a brief presentation, small group discussions, and map making sessions. This is your opportunity to influence a very important study of bicycling in your region!*

[www.bikepiedmontva.com](http://www.bikepiedmontva.com)

Photographer: Dan Burden

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Danville • Martinsville • Pittsylvania County • Henry County • Patrick County • Franklin County • Rocky Mount



# E-Newsletter #2 West Piedmont Regional Bicycle Plan

www.bikepiedmontva.com  
May 2005

Danville • Martinsville • Pittsylvania County • Henry County • Patrick County • Franklin County • Rocky Mount

## Now announcing the schedule for final public presentations on the West Piedmont Regional Bicycle Plan!

Development of the region's first bicycle plan is nearly complete. Without question, the plan has benefited tremendously thanks in large part to the involvement of people like you in the community. We now invite you to continue your support by attending one of the four upcoming final presentations to hear and respond to the plan's draft recommendations.

### Here is a quick overview of our recent progress on the plan...

Over 70 citizens turned out at the five community workshops held around the region in January, and our team has been able to use the public's suggestions, recommendations, and comments to establish a baseline for our study. We have reviewed existing maps and planning documents to develop a better understanding of the region's current status and needs with respect to bicycling.

With the help of West Piedmont Planning District Commission staff, we were able to spend three days in April driving over 800 miles of potential bike routes in the West Piedmont area, including many of the routes that were recommended to us by attendees at our January workshops. An array of data was collected during our field trip for use in analyzing and selecting recommended routes. By using the collected data, project research, and community involvement in our analysis, it is our

goal to provide a bicycle plan which meets the needs and expectations of the region. We thank you for your involvement and support during this project and look forward to your further participation and comments.

### The project completion date is drawing near...

The final report is schedule to be completed by May 31, 2005. Shortly we will be posting the draft final report for public review and comment on the project website ([www.bikepiedmontva.com](http://www.bikepiedmontva.com)) and at approximately 10 different locations around the region. Stay tuned for a future email to announce that the final draft is ready for review.

If you cannot attend a meeting, we would still love to hear any final comments or suggestions you might have for this plan! Comments may be submitted by:

- Filling out a form on the project website ([www.bikepiedmontva.com](http://www.bikepiedmontva.com))
- E-mailing the consultant team's project manager: [John.Riley@kimley-horn.com](mailto:John.Riley@kimley-horn.com)
- Mailing your comments to: Kimley-Horn and Associates, Inc. Attn: John Riley 1500 Forest Avenue, Ste. 115 Richmond, VA 23229

## Community Workshop Schedule

**Wednesday, May 18, 2005**  
**Martinsville/Henry County Area Presentation**  
 Location: Martinsville Middle School (cafeteria)  
 Time: 4:00 pm  
 Address: 201 Brown Street Martinsville, VA 24112

**Wednesday, May 18, 2005**  
**Danville/Pittsylvania County Area Presentation**  
 Location: "The Crossing at the Dan", Pepsi Building  
 Time: 7:30 pm  
 Address: 661 Craghead Street Danville, VA 24541

**Thursday, May 19, 2005**  
**Patrick County Presentation**  
 Location: Patrick Henry Community Center - Community Room  
 Time: 4:00 pm  
 Address: 212 Johnson Street Stuart, VA 24171

**Thursday, May 19, 2005**  
**Franklin County Presentation**  
 Location: Franklin County Courthouse - Board of Supervisors Meeting Room  
 Time: 7:30 pm  
 Address: 40 East Court Street Rocky Mount, VA 24151



Photographer: Dan Burden

Danville • Martinsville • Pittsylvania County • Henry County • Patrick County • Franklin County • Rocky Mount



APPENDIX H – FEDERAL FUNDING OPPORTUNITIES

[Adapted from the Jefferson Area Bicycle, Pedestrian, and Greenways Plan (July 24, 2001) ]

Table with 16 columns (NHS, STP, HEP, RHC, TEA, RTP, FTA, TE, BRI, 402, PLA, TCSP, JOBS, FLH, BYW) and 25 rows of funding opportunities.

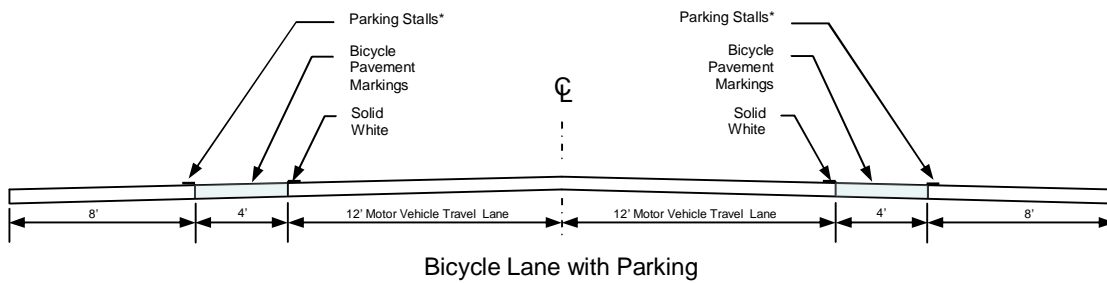
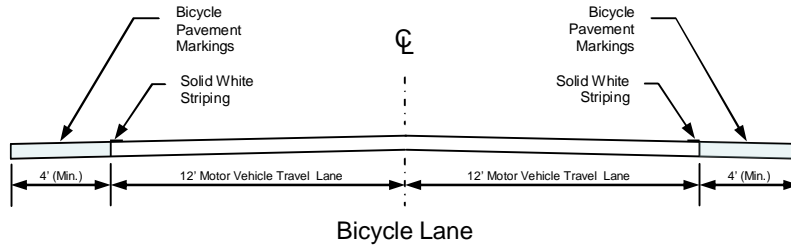
KEY table with 2 columns listing funding sources and their descriptions: NHS, STP, HEP, RHC, TEA, FLH, BYW, BRI, 402, PLA, TCSP, JOBS, RTP, FTA, TE.

Note: Because the West Piedmont Planning District Commission lies within an attainment area as defined by the Environmental Protection Agency's National Ambient Air Quality Standards (NAAQS), the region does not qualify for Congestion Mitigation Air Quality (CMAQ) funding.

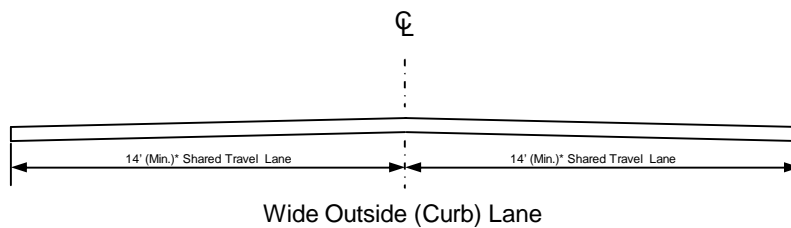


## APPENDIX I – SAMPLE BICYCLE FACILITY CROSS-SECTIONS

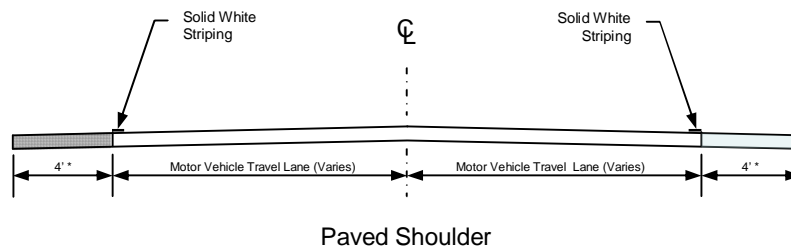
(Note: Cross-sections shown below have been adapted from those shown in the *Virginia Bicycle Facility Resource Guide*, 2002. Sections are not to scale. It is recommended that the designer consult the most current VDOT and AASHTO standards prior to initiating design of typical sections.)



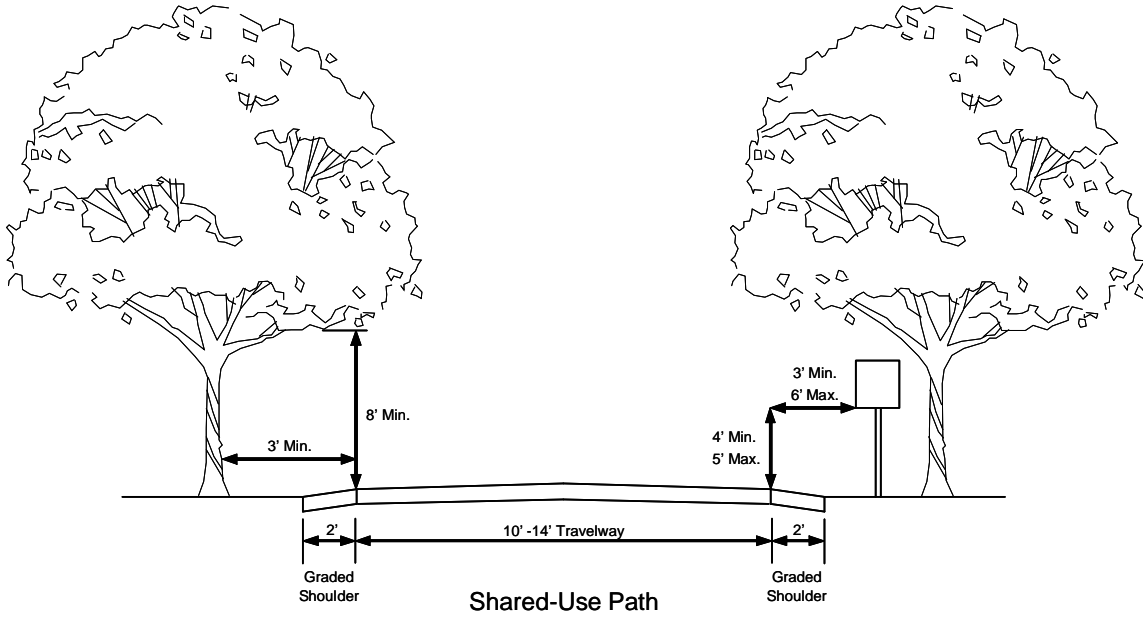
\* Solid white striping may be advisable as parking stall pavement markings are not



\* Additional width may be needed due to traffic flow/cross-section characteristics.



\* Width may vary depending on a combination of potential widening impacts and traffic flow/cross-section characteristics.



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## APPENDIX J – REFERENCES

- 2002 Virginia Traffic Crash Facts - Virginia Department of Motor Vehicles, August 2003.
- 2003 Virginia Traffic Crash Facts - Virginia Department of Motor Vehicles, August 2004.
- Application for the Uptown Rail Trail and Welcome Center Phase IV - Trail Connection - Transportation Enhancement Program; Commonwealth of Virginia, Virginia Department of Transportation (January 31, 2000).
- Caswell Bike Route Map - 2005 - Caswell County, NC and Piedmont Triad Council of Governments.
- City of Danville F/Y 2004/05 Adopted Budget 5-Year Capital Improvements Plan - City of Danville, July 1, 2004.
- Comprehensive Plan - 2020 - City of Danville (Adopted May 15, 2001).
- Comprehensive Plan - Patrick County, Virginia, 1998 - West Piedmont Planning District Commission, 1998.
- County of Henry - Comprehensive Plan (1995-2010) - County of Henry, 1995.
- County of Pittsylvania - 1986 Comprehensive Plan - Pittsylvania County Economic Development Organization; West Piedmont Planning District Commission; William C. Overman Associates, P.C.; 1986.
- Crooked Road Music Trail Map - Courtesy of Patrick County Dept. of Economic Development.
- Dan River Trail System - Master Plan - City of Danville; Anderson & Associates, Inc. (January 23, 2002).
- Danville-Pittsylvania Long-Range Transportation Plan (Draft 2004) - by Parsons, courtesy of West Piedmont Planning District Commission.
- Franklin County Bikeways and Scenic Byways (Map) - GIS files by County of Franklin staff.
- Franklin County Bikeway Routes - West Piedmont Planning District Commission (Revised July 18, 2000).
- Halifax County: Bike Routes & Multi-use Trails (Map) - Andy K. Wells, Southside Planning District Commission (April 3, 2004).
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- Jefferson Area Bicycle, Pedestrian, and Greenways Plan - Jefferson Area Bicycling and Walking Advisory Committee (Adopted July 24, 2001).
- Martinsville-Henry County Area Transportation Study (MHATS) - 2020 - Transportation and Mobility Planning Division of VDOT, January 2004.
- Northern Virginia Regional Bikeway and Trail Network Study Final Report - 11/19/2003 - by Toole Design Group, LLC; Commonwealth of Virginia, 2003.
- Region 2000 Greenways & Blueways Plan - Region 2000 Regional Commission - 2003.
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- Roanoke Greenways Plan - Roanoke Greenways (<http://www.greenways.org/>).



The Bicycle Compatibility Index: A Level of Service Concept, Implementation Manual - U.S. Department of Transportation, 1998. <http://www.hsrc.unc.edu/research/pedbike/98095/index.html>

The Comprehensive Plan - The Town of Rocky Mount - Meadow Spring Realty; Retail Merchant Association; Town of Rocky Mount; Virginia Department of Transportation; West Piedmont Planning District Commission (Adopted August 12, 2002).

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Vantage: Taking Control of the Future - Comprehensive Plan (1996 Update) - Martinsville City Council (Adopted November 26, 1996).

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Virginia Birding and Wildlife Trail Guides - Virginia Department of Game and Inland Fisheries.

Virginia Outdoors Plan: Our Commonwealth - Technical Advisory Committee, Virginia Department of Conservation and Recreation, Commonwealth of Virginia, 2002.

Virginia's West Piedmont Attractions - West Piedmont Planning District Commission, 2002.