



# Virginia Department of Transportation State Bicycle Policy Plan





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\*List reflects positions held by Committee members at the time of plan development.



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## Chapter 1 Executive Summary

Bicycling is a popular activity for both transportation and recreation in Virginia. Residents and visitors to the Commonwealth travel by bicycle in all parts of the state. They ride on urban streets and along rural roads; they use bike lanes, shared use paths, and bike routes. People who ride bicycles on a regular basis can improve their health and quality of life. In addition, bicycling is a mode of travel that creates no emissions and has minimal impact on transportation infrastructure. The Virginia Department of Transportation (VDOT) supports the provision of a multimodal transportation system that addresses the needs of non-motorized users. In 2004, the Commonwealth Transportation Board (CTB) adopted the Policy for Integrating Bicycle and Pedestrian Accommodations (hereafter called the Policy). The Policy provides the framework through which VDOT accommodates bicyclists and pedestrians in the funding, planning, design, construction, operation, and maintenance of Virginia's transportation network.



### Vision For The Plan:

Virginia is for bicyclists . . .

*The Commonwealth is a place where people can safely ride bicycles for transportation and recreation along roadways, trails, rural roads, downtown streets, and in urban activity centers. Virginia's transportation system accommodates and encourages bicycling by providing facilities for bicyclists of all ages and abilities, as well as policies, procedures, and programs that support bicycling as one of Virginia's multimodal options.*

This Plan is the first of three plans. The purpose of this Plan is to establish a vision for the future of bicycling in the Commonwealth and to advance the bicycle element of the Policy consistently, appropriately, and cost-effectively. Future plans will address the pedestrian element, as well as implementation of the bicycle and pedestrian policy plans. The recommendations in this Plan will advance the Policy more effectively and will involve a wide variety of partners within various divisions of VDOT, as well as stakeholders throughout the Commonwealth. This Plan focuses on policies, procedures, and programs within VDOT's authority.

The planning process for the State Bicycle Policy Plan involved coordination with key stakeholders and agency staff within VDOT as well as other agencies. The effort was led by a Policy Implementation Team. In addition, a Bicycle Advisory Committee provided guidance throughout the planning process. This committee was composed of local government agencies, advocacy organizations, and other state agencies. Public meetings for the Plan were held in the summer of 2009, in conjunction with the VTRANS 2035 and the 2035 Virginia Surface Transportation Plan (VSTP) public planning meetings.



# Virginia Department of Transportation State Bicycle Policy Plan



The VDOT State Bicycle Policy Plan was created to achieve two goals:

- **Goal 1:** Increase the use of bicycling in Virginia to include a full and diverse range of the population for all trip purposes
- **Goal 2:** Improve safety and comfort of bicyclists throughout Virginia, reduce bicycle crashes

## Existing Conditions

Virginia has a mix of opportunities and constraints to bicycling as well as a wide variety of conditions that impact bicyclist safety and comfort. In some parts of Virginia, bicycling is a pleasant and enjoyable mode of travel, while in other locations bicycling is difficult. There are many opportunities to improve bicycling conditions and many local jurisdictions throughout the Commonwealth are eager to make bicycling a more viable option for their residents and visitors.

Virginia is home to outstanding long-distance trails and bikeways, including U.S. Bike Routes 1 and 76, which criss-cross the Commonwealth from north to south, and east to west respectively. With support from VDOT, many localities throughout Virginia are building a growing network of both on and off-road bikeways that link residential areas, shopping areas, recreation facilities, places of work, and schools. While there are many miles of bikeways on the ground today, there are many more gaps in these networks that need attention. The Commonwealth Transportation Board's Policy will continue to serve a very important role in filling these gaps.

## Plan Recommendations

The recommendations of this Plan are organized under four core elements, as discussed below. More detail and specific actions are provided in Chapter 5.

## Element 1:

### Clarify policies with regard to bicycle accommodations.

VDOT should provide additional guidance on the planning, design, operation, and maintenance of bicycle facilities. In some cases, this will involve clarifying or revising existing policies and procedures. In other cases, it will involve developing new resources to guide the implementation of the Policy across all disciplines of the department. For example, additional design policies and procedures are needed to clarify the appropriate type or level of bicycle accommodations in different roadway environments. Guidance is also needed to clarify conditions under which standard travel lanes may be narrowed. This guidance is essential for the department's ability to retrofit roadways to accommodate bicyclists.



Washington and Old Dominion Trail near Purcellville, VA



## **Element 2:**

### **Provide staff training and guidance to integrate the Policy requirements in projects and programs.**

VDOT has made tremendous strides in establishing policies that address the needs of bicyclists. However, these policies are still fairly new and are being incorporated into the daily operating procedures of the department. The Bicycle and Pedestrian Program provides guidance for this process. VDOT staff should receive training and guidance on their job responsibilities in order to ensure they are able to design, construct, operate, and maintain roadways that safely and appropriately accommodate bicycling as a multimodal option.

## **Element 3:**

### **Improve outreach and coordination on bicycle opportunities.**

In addition to VDOT, there are many other agencies and organizations in the Commonwealth responsible for implementing bicycle projects and programs. A high level of coordination among these entities will benefit stakeholders and the general public. Where appropriate, VDOT should continue to coordinate bicycle efforts among local government staff, Metropolitan Planning Organizations, parks and recreation departments, Planning District Commissions, other state agencies, and non-profit organizations including advocacy groups.

## **Element 4:**

### **Measure and evaluate progress.**

Regular monitoring and evaluation of bicycle performance measures will help ensure that the bicycle mode is included in the everyday operations of VDOT, so Virginia can continue moving toward a truly multimodal transportation network. Established bicycle performance measures will help document improvements in bicycle use, safety, and convenience throughout Virginia. VDOT

should establish benchmarks that will enable tracking of future bicycle-related implementation efforts and changes in ridership over time. Data collection methods that are needed to support these benchmarks should also be established.

The final chapter of this Plan sets forward priorities for the recommendations of the Plan, classifying them into 0-3 years, 3-5 years, and ongoing categories. The actions identified above will establish means to continue integrating the Policy in everyday business practices. Also, the recommendations establish means to enable the department to continue to serve in a coordination role with other agencies and organizations throughout Virginia that are involved in promoting safe bicycling.



## Chapter 2 Introduction, Vision, and Goals

### Overview and Purpose

The VDOT State Bicycle Policy Plan establishes a vision for the future of bicycling in the Commonwealth. It builds upon past initiatives that VDOT has taken to ensure that bicyclists are an integral component of the multimodal transportation system. The Plan is focused primarily on VDOT policies, programs, and procedures. It also addresses partnerships that are needed to achieve the vision. This Plan specifically addresses bicycling issues by doing the following:

- Provides strategies for enhancing the implementation of the Policy for *Integrating Bicycle and Pedestrian Accommodations* approved by the Commonwealth Transportation Board (CTB) on March 18, 2004.
- Recommends policies that will guide the planning, design, construction, operation, and maintenance of bicycle facilities.
- Identifies opportunities for enhancing coordination within VDOT, as well as with stakeholders outside of the organization.

### Vision and Goals

The following statement provides the vision for the future of bicycling in the Commonwealth of Virginia:

Virginia is for bicyclists . . .

*The Commonwealth is a place where people can safely ride bicycles for transportation and recreation along roadways, trails, rural roads, downtown streets, and in urban activity centers. Virginia's transportation system accommodates and encourages bicycling by providing facilities for bicyclists of all ages and abilities, as well as policies, procedures, and programs that support bicycling as one of Virginia's multimodal options.*



Warrenton, VA

The VDOT State Bicycle Policy Plan has two primary goals:

- **Goal 1:** Increase the use of bicycling in Virginia to include a full and diverse range of the population for all trip purposes
- **Goal 2:** Improve safety and comfort of bicyclists throughout Virginia, reduce bicycle crashes

### Outcomes and Benefits

The goals above are important in order to achieve the following outcomes:

- **Transportation Options** — Virginia's multimodal transportation system will enable people of all ages and abilities to use bicycles to reach destinations. This is especially important for short trips, less than three miles in length, which account for nearly half of all trips.<sup>1</sup>
- **Improve Public Health and Safety, and Reduce Emissions** — By increasing the number of trips made by bicycle, this Plan aims to improve public health and safety while reducing traffic congestion and emissions contributing to air pollution. Increasing the number of bicycle trips will also create opportunities to incorporate physical activity in the daily lives of Commonwealth residents; further improving public health.



- **Economic Development** — By supporting bicycle-friendly neighborhood design, shopping districts will provide expanded opportunities for bicycling. This will in turn support livable and sustainable communities and reduce adverse traffic impacts resulting from development. Increased bicycle tourism and recreational opportunities will result from this as well.

## Opportunities and Challenges

In response to citizen support for bicycling throughout Virginia, as well as federal funding opportunities that became available in the early 1990's, VDOT has worked with communities throughout the Commonwealth to improve bicycling conditions. Shared-use paths, bike lanes, paved shoulders, and bicycle routes have been constructed and measures have been taken to improve bicycle access to transit. Several communities have implemented bicycle parking ordinances and have developed a variety of programs to encourage and support bicycling as a multimodal option. However, in many parts of the Commonwealth, a lack of bicycle facilities in locations with heavy, higher speed traffic makes bicycling difficult for all but the most confident riders. These conditions discourage people from riding bicycles because routes are discontinuous. Despite the efforts that have been made, bicycling is still not a viable transportation option for many of the Commonwealth's residents and visitors.

Bicycle facility planning, design, operation, and maintenance are still relatively new areas of focus in the transportation field. More guidance is needed to ensure that project planners and engineers are able to anticipate the needs of bicyclists in a wide variety of projects. Bicycle accommodations must continue to progress as an integral part of the transportation improvement process, from simple repaving projects, to capacity improvement projects, to new roadway design. This Plan establishes a policy framework that capitalizes on these opportunities.

## How this Plan was Developed

The planning process for the State Bicycle Policy Plan involved a great deal of coordination with stakeholders and agency staff within VDOT, as well as other agencies. This included the following:

- **Bicycle Advisory Committee** — The Bicycle Advisory Committee provided guidance during the development of this Plan. This committee was composed of local government agencies, advocacy organizations, other state agencies, and affected divisions of VDOT.
- **Policy Implementation Team** — This team was composed of staff representing various divisions and District offices within VDOT. These individuals provided guidance during the planning process.



*Bike Route in Remington, VA*



- **VTrans 2035 Public Meetings** — The development of this Plan occurred simultaneously with the public comment period of the development of Virginia's Long-Range Multimodal Transportation Plan (VTrans 2035). Public outreach for the State Bicycle Policy Plan was incorporated in the VTrans 2035 Public Open Houses that occurred in the summer of 2009. In addition to providing comments on bicycling conditions, meeting participants were invited to complete opinion surveys regarding bicycle issues in the Commonwealth, which are summarized below.



Arlington, VA

- **Stakeholder Interviews** — Interviews were conducted with individuals within VDOT who are ultimately responsible for implementing bicycle policies, specifically regarding opportunities and challenges with implementation of the Policy.
- **Best Practice Interviews** — Other model State DOT's were interviewed in order to understand their bicycle policy efforts and to learn how they have dealt with planning and policy challenges.

## Summary of Feedback from Surveys

As described above, VDOT conducted public meetings in Falls Church, Richmond, Hampton Roads, and Roanoke in June and July of 2009 as part of the VTrans2035 and 2035 Virginia Surface Transportation Plan (VSTP) development. During these meetings, VDOT representatives provided information on bicycling in Virginia and on the goals and objectives of the State Bicycle Policy Plan. Information on the CTB's Policy for Integrating Bicycle and Pedestrian Accommodations and Bicycle and Pedestrian Program was also provided. A brief questionnaire focusing on

bicycle-related issues and opportunities in Virginia was distributed to meeting attendees.

Based on the responses to the questionnaires, participants were in favor of bicycling improvements such as bike lanes and shared-use paths. Participants also suggested that one of the most important roles of the VDOT Bicycle and Pedestrian Program should be the development of regional and statewide bicycle networks. Respondents indicated that VDOT's bicycle planning activities could be improved by ensuring that programs and policies within VDOT and other agencies are better coordinated.

## Conclusion

The research and outreach described above generated a great deal of valuable information and formed the basis of the recommendations contained within this Plan. The State Bicycle Policy Plan identifies recommendations to further the integration of bicycling into the policies, procedures, and actions of VDOT. It also provides strategies for coordination with other stakeholders throughout the Commonwealth.



## Chapter 3 Existing Conditions

### Bicycling Conditions

Bicycling accommodations vary significantly throughout Virginia. Conditions range from poor to good on both rural roadways with lower traffic volumes and congested and/or higher-speed roadways. In many areas of the Commonwealth, outstanding country scenery; quaint towns; and various historic, natural, and cultural resources provide an ideal setting for bicycling. In combination, these traits offer cyclists some of the best places to ride in the country.



*Bicycle Touring in the Central Shenandoah Region*

In contrast, in many areas of the Commonwealth, new residential and commercial development has spurred an increase in motor vehicle traffic and has raised concerns about the safety of bicyclists. Roadways often do not include paved shoulders; therefore, bicyclists must share travel lanes with motor vehicles. On some roadways, travel lane widths are narrow and traffic speeds are high. Different types of road designs throughout the Commonwealth influence riding rates and participation in different communities. Some communities are faced with common barriers, such as ramps associated with highways. Similarly, features in suburban communities can have a major impact on local bicycling. Examples of these features are high speeds, large turning radii at intersections, and the channeling of much of the

community traffic onto arterials with heavy traffic volumes. These conditions exist on roads throughout Virginia—in rural as well as more urbanized areas.

Many jurisdictions have worked diligently to improve their bicycle infrastructure, for example by building trails, shared-use paths, and on-street bicycle networks. Many communities have also implemented bicycle-friendly policies and education, encouragement, and enforcement programs. However, multi-lane intersections, freeway interchanges, and poor conditions on roadways with higher traffic volumes continue to make bicycling difficult.

VDOT is supporting the accommodation of bicycling throughout the Commonwealth through the implementation of the *2004 Policy for Integrating Bicycle and Pedestrian Accommodations*. This Policy established the framework for accommodating bicycle and pedestrian facilities during funding, planning, design, construction, operation, and maintenance of Virginia's transportation network. Also, VDOT supports local bicycle planning efforts through the Local Assistance Division. As a result, bicycle planning efforts are regularly undertaken throughout the state, from the most rural areas to the most urban.

### Current Levels of Bicycling

Throughout Virginia there are households that can't afford an automobile, or have chosen to live in an area with a well-developed multimodal transportation system and thus are able to avoid automobile ownership. Others choose to leave the car at home and travel by bicycle for health, environmental, financial, or other reasons. The 2000 U.S. Census data show that of the 2.7 million occupied households in Virginia, approximately 207,000 (7.7 percent) do not have a motor vehicle. There are pockets of the state where the percentage of households without a motor vehicle is even higher. For example, according to the 2000 U.S. Census, in Arlington County, 12.4 percent of households have no motor vehicle. In many other households with access to a motor vehicle, the Census reports two workers and just a single motor vehicle. For



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many of these households, the ability to walk, bicycle, or take transit is essential to get to their jobs and to be able to access services, shopping, and recreational opportunities.

Bicycling is already a popular activity for many Virginians. A recent statewide survey showed that approximately 20 percent of the Commonwealth's residents ride bicycles.<sup>3</sup> Despite the popularity of cycling, only a small percentage of commuting trips are currently made by bicycle (less than two percent by most estimates). However, there is tremendous opportunity to increase the number of trips and a growing body of evidence that more people ride bicycles in communities with well-developed bicycle networks. Nearly half of all travel trips taken in the U.S. are three miles or less in length, and 28 percent are less than one mile. Short trips offer ideal opportunities to convert automobile trips to bicycle trips. Surveys show higher levels of bicycle commuting in cities that have invested in bicycle infrastructure, and 49 percent of active bicyclists who do not currently commute by bicycle said they would sometimes commute by bicycle if there were safe bike facilities.<sup>4,5</sup>

## Bicycle Planning

In 2007, BikeWalk Virginia conducted research to determine which Commonwealth localities had a bicycle plan, pedestrian plan, bicycle advisory committee, and/or pedestrian advisory committee. The results indicate

*Table 1: Percentage of Jurisdictions with Plans and Committees*

Locality Type	Bicycle Plan	Pedestrian Plan	Bicycle Advisory Committee	Pedestrian Advisory Committee
Cities	36%	10%	15%	8%
Counties	27%	9%	9%	5%
Incorporated Towns	8%	8%	3%	2%

*Note:* Only 40% of jurisdictions responded to the study. The remaining jurisdictions were assumed to be without plans or committees.

that, of those that responded to the survey, 36 percent of cities have a bicycle plan and 15 percent have a bicycle advisory committee. In Virginia's counties, 27 percent have a bicycle plan and nine percent have a bicycle advisory committee. In incorporated towns, eight percent have a bicycle plan and three percent have a bicycle advisory committee. A detailed breakdown of the percentage of localities that have bicycle and pedestrian plans and committees is included in Table 1.

## Trips by Bicycle

Many of the areas in Virginia with the highest percentage of bicycle commuters are the smaller towns and cities that are the homes to Virginia's colleges and universities. For example, Charlottesville - home to the University of Virginia, Williamsburg - home to the College of William and Mary, Blacksburg - home to Virginia Tech, and Harrisonburg - home to James Madison University, are among the areas with the greatest percent of bicycle commuters. Table 2 summarizes bicycle usage and percent of work trips for the top six bicycling communities in Virginia based on U.S. Census Journey to Work data and the 2007/2008 Northern Virginia Transportation Planning Board's Household Travel Survey.

*Table 2: Virginia Jurisdictions with the Highest Percentage of Bike Commute Trips<sup>6</sup>*

Location	Percent of Work Trips
Alexandria	2.7%
Charlottesville	2.1%
Williamsburg	2.0%
Blacksburg	1.8%
Arlington	1.4%
Harrisonburg	1.3%

*Note:* The statistics above most likely undercount bicycle commuters because they do not capture split commutes, for example when a commuter rides part of the way to work on a bicycle and then transfers to a transit vehicle, because census questions ask only for the primary mode of travel. In addition, the percentages above only apply to the commute trip and are not an accurate assessment of other trip types such as shopping trips, school trips, and social/recreational trips, some of which have higher percentages.



Map of US Bike Routes 1 and 76 in Virginia

## U.S. Bicycle Routes 1 and 76

The U.S. Bicycle Route (USBR) system is a network of bicycle routes of international, national, and regional significance and approved by the American Association of State Highway and Transportation Officials (AASHTO). The routes were established officially by the federal government in 1982. No other designations of U.S. Bicycle Routes have been made since these first two routes were established.

With 838 miles of the USBR system, Virginia has more official USBR miles approved by AASHTO than any other state. U.S. Bicycle Route 1 (USBR 1) is a cross-country bicycle route that runs the length of the eastern seaboard from Florida to Maine. In Virginia, USBR 1 is a 274-mile north-south route, from Arlington to the North Carolina border in Mecklenburg County. USBR 76 runs east-west for 564 miles, from Yorktown in Virginia's Historic Triangle to the Kentucky state line in Dickenson County.

## Other Long Distance Bikeways

In addition to USBR's 1 and 76, Virginia is home to a number of other significant long distance bike routes; both existing and under development. Existing long distance bike routes and trails include the Washington and Old Dominion (W&OD) Trail, extending 45 miles from Purcellville to Arlington; the New River Trail, extending 39 miles along the New River from Galax to Pulaski; the Virginia Creeper Trail, extending 39 miles from White Top to Abingdon along a former railroad corridor; and the Heart of Appalachia Bike Route, extending along 128 miles of roadways through southwest Virginia. The Potomac Heritage National Scenic Trail, spreading across five geographic regions, creates a network of over 830 miles of planned and existing trails. In addition, both the Blue Ridge Parkway and Skyline Drive in western Virginia are popular among bicyclists for their outstanding scenery and low traffic volumes (except for certain weekends in the fall), despite the fact that neither is a formally designated bike route.



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Bikeways under development include the Virginia Capital Trail, extending 50 miles from Williamsburg to Richmond; the East Coast Greenway, extending from Maine to Florida and passing through Virginia; the Tobacco Heritage Trail, which will eventually stretch over 170 miles in Southern Virginia from Virginia Beach to South Boston; and the High Bridge Trail State Park, which will extend 39 miles from Burkeville in Nottoway County to Pamplin City in Appomattox County.

## Bicycling and Transit

There is an important relationship between the bicycle and transit modes of transportation. Comfortable and convenient access to transit increases the viability of bicycling as a transportation choice. Likewise, transit systems benefit by being accessible to multiple modes. Many transit agencies in Virginia encourage bicycle access

by providing bike racks on the front of buses and providing bicycle parking at transit stations and park and ride lots.

In the Northern Virginia area, many people combine bicycling with transit to access workplaces, schools, and other destinations throughout the region. Virginia Railway Express' (VRE) former policy was to allow riders to bring only collapsible bicycles on trains. Bicycle access became easier when VRE amended the policy in May 2009 and began allowing riders on the Fredericksburg and Manassas lines to bring full size bicycles on the last three northbound trains in the morning, the midday train, and the last three southbound trains in the evening. There are still limitations to this policy; only a few bicycles can be accommodated on each train.

VDOT's Northern Virginia division provides more than 100 bike lockers at Park and Ride lots. Similarly, the



*Huntington Metro Station, Alexandria, VA*



Washington Metropolitan Area Transit Authority's (WMATA) Bike 'N Ride program includes bicycle racks and rental lockers at stations and stops throughout the system, and allows full size bicycles to be taken on METRO during off-peak hours and weekends (folding bicycles are required during weekday peak hours). As of May 2009, there were 1,600 bicycle racks and an additional 1,300 bicycle lockers available to the public. Bike racks at Virginia Metro stations are heavily utilized, as seven stations that have racks are 100 percent full or are overflowing. Due to the racks being full, bikes are being locked to other structures. Even at suburban stations, such as East Falls Church and Franconia-Springfield, racks are 88 and 92 percent full, respectively. Bike lockers are fairly well utilized at most Virginia Metro stations as well. At stations such as Braddock Road, 92 percent of the available lockers have been rented.

From 2002 to 2007, bicyclists commuting to Metro stations during the morning rush hours increased by 60 percent to a total of approximately 1,550 daily riders in the Washington, D.C. area.<sup>7</sup> The increase in bike to transit travel has led to bicycle and pedestrian improvements along streets leading to and from Metro stations in Fairfax County, Arlington, and Alexandria.

## Bicycle Crash Data

The Virginia Department of Motor Vehicles' (DMV) Highway Safety Office and National Highway Traffic Safety Administration (NHTSA) regularly release data on reported crashes involving bicycles. It is important to note that the data maintained by the DMV includes only reported crashes. Similar to crash data for other modes of transportation, many bicycle crashes are likely to go unreported and are not reflected in the following summary. In addition, studies have shown that 70 to 90 percent of bicycle injuries do not involve a motor vehicle.<sup>8</sup>

Based on data from the DMV Crash Facts, injury crashes have remained relatively consistent from 2001 to 2008 ranging from 807 in 2003 to a seven-year high of 873 in 2005. DMV and NHTSA data show that bicycle fatalities have fluctuated in the past eight years, with a low of

seven fatalities reported in 2007 and a high of 21 fatalities reported in 2005. In general, areas with higher populations appear to experience more frequent crashes involving bicycles. Since the number of crashes correlates with the areas having a higher number of overall bicycle trips, this does not mean that the crash rate is higher.

While crashes are one measure of safety, it is important to also note that they are relatively random events. Based on national bicycle crash data studies, we know the majority of bike crashes in urban areas occur at intersections and driveways. Overtaking or being struck from behind represents a small portion of crashes in urban areas, but a larger portion of crashes on rural roads. We also know that bicyclists under the age of 15, particularly ages 10 to 14, are overrepresented in crashes with motor vehicles, compared to their representation in the overall population.

Bicyclists and motorists are each responsible for about 50 percent of crashes that are reported. The likelihood



<sup>7</sup>WMATA press release, May 12, 2009

<sup>8</sup>Stutts and Hunter, *Injuries to Pedestrians and Bicyclists: An Analysis Based on Hospital Emergency Department Data*, 1997.



of a bicyclist being responsible for a crash is greater for young bicyclists while the likelihood of a motor vehicle driver being responsible is greater for crashes involving adult bicyclists. For motorists, failure to yield is the most common cause while for bicyclists, failure to yield, stop sign violations, and riding against traffic are the most common causes.<sup>9</sup>

Future changes in crash data will need to be evaluated with respect to any changes in the level of bicycling in Virginia, as relying on the number of crashes alone may be misleading as a measurement of safety and comfort.

Crash studies in communities that have implemented bicycle networks report a decrease in the rate of crashes, despite an increase in the volume of bicyclists.<sup>10</sup>

## Summary

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Virginia has a mix of opportunities and constraints to bicycling and a wide variety of conditions that impact bicyclist safety and comfort. In some parts of Virginia, bicycling is a pleasant and enjoyable mode of travel, while in other locations bicycling is difficult. There are many opportunities to improve bicycling conditions and create additional multimodal options. Many local jurisdictions throughout the Commonwealth are eager to make bicycling a more viable option for their residents. It is becoming increasingly important to provide an institutional framework that supports the provision of bicycle facilities as a standard component of transportation projects and to establish policies and procedures that ensure that roadways are systematically designed and/or retrofitted to accommodate bicyclists.



## Chapter 4 Current Programs and Policies

As previously mentioned, the VDOT State Bicycle Policy Plan builds on the foundation established by the *Policy for Integrating Bicycle and Pedestrian Accommodations*; the Policy was adopted by the Commonwealth Transportation Board in March 2004. This chapter provides information on the Policy and other existing programs, policies, and guidelines at the national and state level that relate to bicycling in Virginia.

### Documents Reviewed for This Plan

The following documents, listed by date of publication, were reviewed as part of the development of this Plan:

- VDOT Road Design Manual, VDOT, Updated 2009
- Bicycle and Pedestrian Accommodation Decision Process For Construction Projects, VDOT, 2008
- Traffic Calming Guide for Local Residential Streets, VDOT, Revised 2008
- Implementation of Bicycle and Pedestrian Accommodations Policy Exception Standard Report, VDOT, 2008
- Virginia Outdoors Plan, Virginia Department of Conservation and Recreation, 2007
- Maintenance Best Practices Manual, VDOT, 2007
- VDOT Department Policy Memoranda (DPM) Manual, DPM Number 2-12: Implementation of the CTB Policy for Integrating Bicycle and Pedestrian Accommodations, VDOT, 2007
- Bike and Pedestrian Implementation Guide for Locality Involvement, VDOT, 2006
- Implementation of Bicycle and Pedestrian Accommodations Policy Exception Standard Report, VDOT, 2005
- VTrans 2025 Statewide Multimodal Long-Range Transportation Plan, Office of Intermodal Planning and Investment, 2005

- 2035 Virginia Surface Transportation Plan, VDOT and Department of Rail and Public Transportation, 2010
- Policy for Integrating Bicycle and Pedestrian Accommodations, Commonwealth Transportation Board, 2004
- Virginia Bicycle Facility Resource Guide, VDOT, 2001

### National Policies

Federal policies clearly state that the needs of bicyclists should be considered in every transportation project. Statements on accommodating bicycles can be found in the most recent transportation law, *Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU)*, and in policies issued by the United States Department of Transportation (USDOT).

#### SAFETEA-LU

SAFETEA-LU became law on August 10, 2005. This bill added new language to the existing body of non-motorized transportation guidance contained in previous transportation legislation, beginning with the *Intermodal Surface Transportation Efficiency Act of 1991*. The bicycle and pedestrian provisions of SAFETEA-LU include the following policies:

- "Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction and transportation facilities, except where bicycle and pedestrian use are not permitted." (23 U.S.C. Section 217(g))
- "In any case where a highway bridge deck is being replaced or rehabilitated with Federal financial participation, and bicyclists are permitted on facilities at or near each end of such bridge, and the safe accommodation of bicyclists can be provided at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations." (23 U.S.C. Section 217(e))



# Virginia Department of Transportation State Bicycle Policy Plan



## United States Department Of Transportation (USDOT)

The USDOT's policy on bicycling and walking was recently clarified in a March 11, 2010 memorandum issued by the Secretary of Transportation. The memorandum states that "Every transportation agency . . . has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems." The policy further states that "transportation agencies and local communities should go beyond minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks." This directive includes the following summarized actions:

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

A full description of Federal policies with respect to bicycling can be found at [www.fhwa.dot.gov/environment/bikeped/policy\\_accom.htm](http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm).

## Existing VDOT Programs That Support Bicycling

VDOT has developed and implemented many programs to support bicycling. Most importantly, it created the State Bicycle and Pedestrian Program to support the consideration and inclusion of bicycling in VDOT's transportation planning, design, construction, operations, and maintenance activities. This section will review the significant role bicycles play in the following programs:

- State Bicycle and Pedestrian Program
- Transportation Enhancement Program
- Safe Routes to School Program
- Highway Safety Improvement Program
- Recreational Trails Program
- Neighborhood Traffic Programs
- Strategically Targeted Affordable Roadway Solutions Program (STARS)
- Local Technical Assistance Program
- Shoulder Pavement Program

## State Bicycle and Pedestrian Program

VDOT's State Bicycle and Pedestrian Program was established in the late 1970's and began to provide planning assistance to state and local transportation planners. The Bicycle and Pedestrian Program plays a leadership role in advancing bicycle and pedestrian accommodations as routine practices. It seeks to maximize the utility and safety of non-motorized modes for both transportation and recreation. The program is led by the state Bicycle and Pedestrian Planner who is part of VDOT's Transportation and Mobility Planning Division. The state Bicycle and Pedestrian Planner oversees and coordinates intradepartmental efforts to shape bicycling and walking policies and practices and ensure consistency statewide. The state Bicycle and Pedestrian Planner provides training and education and serves as a liaison to other agencies, organizations, advocacy groups, and the general public.

## Transportation Enhancement Program

The 1991 Federal Intermodal Surface Transportation Efficiency Act (ISTEA) introduced the Transportation Enhancement Program (TE). The purpose of the TE program is to provide a funding source for 12 categories of eligible project types, including the provision of bicycle facilities.

VDOT's Transportation Enhancement Program provides funding for local bicycle facility design and construction efforts, along with projects in other categories. Up to a maximum 80 percent of eligible project costs can be



# Virginia Department of Transportation State Bicycle Policy Plan



reimbursed with federal funds. A minimum 20 percent match must come from other public or private sources. In 2009, VDOT's Transportation Enhancement Program allocated around \$19 million to support multimodal projects throughout the state.



Ashland, VA

### *Safe Routes to School Program*

The Safe Routes to School (SRTS) Program was established in August 2005 through the federal transportation reauthorization bill, SAFETEA-LU. The bill provided multi-year funding from 2005 to 2009 for each state to establish a SRTS Program. The purpose of the program is to increase the number of children who walk and bike to school, while simultaneously improving the health and safety of bicyclists and pedestrians. There are two types of eligible activities; infrastructure activities which involve the built environment surrounding a school and non-infrastructure activities which include education, encouragement, and enforcement activities.

Virginia's SRTS Program received a total funding allocation of \$13.4 million and began providing grants to local agencies and school districts in 2006. The program has funded activities that promote walking and bicycling to school, enforce traffic laws around schools, and educate students regarding safe walking and bicycling behaviors. In addition, grants have been used to build new sidewalks, bikeways, and to improve school crossings.

### *Highway Safety Improvement Program*

The Highway Safety Improvement Program (HSIP) is a Federal Highway Administration (FHWA) program that funds highway safety projects aimed at reducing highway deaths and injuries on public transportation facilities. HSIP was made a core program as a part of SAFETEA-LU. Through the program, VDOT and localities identify areas with potential safety issues and analyze any deficiencies to develop potential countermeasures. Using statewide and site specific analysis, design, and cost estimates, VDOT prioritizes and schedules improvement projects. The HSIP includes the Highway Safety Program (HSP), Bicycle and Pedestrian Safety Program (BPSP), High Risk Rural Road Program (HRRRP), and Highway-Rail Grade Crossing Safety Program (H-RGCP). The Bicycle and Pedestrian Safety Program provides funding to localities via a competitive project proposal process for low-cost bicycle and pedestrian safety treatments. These projects are implemented either by VDOT or the localities

### *Recreational Trails Program*

The Recreational Trails Program supports the creation and maintenance of trails and trail facilities in Virginia. It provides grants for projects with primarily recreational value rather than those with more utilitarian transportation value. The program is funded through the Federal Highway Administration (FHWA) and administered by the Virginia Department of Conservation and Recreation (DCR). It requires that 30 percent of trail program funds be used for motorized recreational trail uses, 30 percent for non-motorized recreational trails uses, and 40 percent for multiple-use trails that serve compatible recreational purposes and provide for innovative recreational trail corridor sharing. The program can provide up to 80 percent of a project's total eligible costs.

### *Neighborhood Traffic Programs*

VDOT offers many programs under the umbrella of the Residential Traffic Management Program to help localities address traffic issues at the neighborhood and subdivision level. For example, the Traffic Calming Program provides tools to slow traffic on local streets without restricting access to subdivisions or residential neighborhoods. Reduced motor vehicle travel speeds make it safer and



# Virginia Department of Transportation State Bicycle Policy Plan



more comfortable to bike on local streets, especially for less experienced riders. Traffic calming measures may be funded at the local level, through a partnership between the local and state government or through secondary road construction funds.

### *Strategically Targeted Affordable Roadway Solutions Program (STARS)*

VDOT's Transportation and Mobility Planning Division has implemented the Strategically Targeted Affordable Roadway Solutions (STARS) program. STARS is a safety and operational analysis program that utilizes Road Safety Assessments (RSAs) to identify high crash locations and provide targeted engineering countermeasures. VDOT is using the RSA process in an effort to decrease the number of severe crashes by identifying existing and potential safety issues and providing recommended physical improvements. The RSA process can also be used to identify areas with high bicycle crash rates and to identify potential bicycle-specific countermeasures.

### *Local Technical Assistance Program (LTAP)*

The Local Technical Assistance Program provides technical workshops, seminars, and short courses on various topics. This program has provided workshops on bicycle planning and design issues in the past, including technical design workshops and Safe Routes to Schools workshops. The program also coordinates funding and provides administrative and technical assistance to localities on locally administered projects.

### *Pavement Rehabilitation Program*

Paving shoulders is a strategy used by VDOT during resurfacing projects to improve safety of all road users, including cyclists. The program considers placement of a minimum of a 2-foot wide paved shoulder during resurfacing schedules for routes with non-hard surfaced shoulders that are part of adopted bike plans, where there are safety hazards for bicyclists, or where a local jurisdiction requests the inclusion of a paved shoulder for bicycle use. This additional 2 feet, combined with narrowing travel lanes as appropriate (see Appendix C) can improve conditions for bicyclists.

## Complementary Statewide Planning Efforts

The importance of planning and designing for bicyclists has been highlighted in many of VDOT's strategic planning efforts. It has also been noted in plans developed by other state agencies such as the Department of Conservation and Recreation (DCR). This section will review the significant role bicycles play in the following plans:

- VTrans 2035 (2009)
- Surface Transportation Plan (Draft)
- Strategic Highway Safety Plan (2006-2010)
- Virginia Outdoors Plan (2007)

### *VTRANS 2035*

VTrans2035 is Virginia's statewide long-range multimodal transportation plan. The plan, developed by the Office of Intermodal Planning and Investment within the Office of the Secretary of Transportation, in partnership with VDOT and other state agencies, was provided to former Governor Kaine in December of 2009. The plan identifies a goal of mobility, connectivity, and accessibility to "facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers and provide access to different modes of transportation." It also considers adding bicycle-related performance measures such as the percentage of the roadway system with bike lanes and the total mileage of bike trails.

As a part of the VTRANS 2035 Plan, eleven corridors of statewide significance were identified, and general strategies were developed to guide future improvements to these corridors. Several of the strategies will benefit bicyclists along these corridors and in general this program offers opportunities to improve bicycle access.

### *Surface Transportation Plan*

Virginia's Surface Transportation Plan (STP) is currently under revision. While VTrans 2035 provides an overall vision, the purpose of the STP is to provide more specific recommendations for achieving the vision. The STP strongly supports the implementation of this State Bicycle Policy Plan and the continued integration of the CTB's Policy.



# Virginia Department of Transportation State Bicycle Policy Plan



## Strategic Highway Safety Plan

Virginia's Strategic Highway Safety Plan identifies and addresses long-standing safety issues on Virginia's highways. The plan focuses on a goal of reducing annual deaths by 100 and annual injuries by 4,000 from motor vehicle crashes statewide within a five year time horizon. It includes a strategy to "identify areas and locations with the potential for, or actually having a disproportionately high number of bike and pedestrian crashes." It also recommends programs to "educate non-motorized users, with programs such as BikeSmart Virginia," and also addresses the need to educate motorists on safer driving behaviors."

## Virginia Outdoors Plan

DCR adopted the Virginia Outdoors Plan in 2007 as the state's official document regarding land conservation, outdoor recreation, and open space planning. The Virginia Outdoors Plan provides a vision for conservation and recreation in Virginia and includes detailed information on topics such as green infrastructure and grant opportunities for open space preservation. It provides an evaluation of outdoor recreation needs in the 21 recreational regions in Virginia. The plan also includes information from the 2006 Virginia Outdoors Survey, which found that the two highest outdoor recreation needs in Virginia were additional public access to Virginia's waters and trails for walking and bicycling.

## Existing Policies and Guidance in Virginia

The bicycle mode of transportation is supported by numerous existing VDOT policies. This section will review the role bicycles play in the following policies:

- Policy for Integrating Bicycle and Pedestrian Accommodations
- Context Sensitive Solutions Policy
- Secondary Streets Acceptance Requirements
- Urban Development Areas

## Policy For Integrating Bicycle And Pedestrian Accommodations

In March 2004, the Commonwealth Transportation Board adopted the Policy for Integrating Bicycle and Pedestrian

Accommodations. The Policy identifies bicycling and walking as fundamental travel modes and states that all transportation projects will start with the assumption that an accommodation will be provided. The intent of the Policy is to integrate bicycle and pedestrian accommodations into all of VDOT's procedures and projects, therefore increasing multimodal options for Virginians.

Following the adoption of the Policy, a VDOT interdisciplinary team was formed to promote the funding, development, operation, and maintenance of bicycle and pedestrian accommodations. The team developed updated procedures and best practices for VDOT including guidelines for coordinating with localities, planning level cost estimates, and updated construction and maintenance scoping forms to ensure inclusion of bicycle and pedestrian accommodations.

The new procedures identified by the team include:

- Guidelines for coordinating with localities that encourage the development and use of bicycle and pedestrian plans as the primary resource for discussions regarding accommodations
- Spending two percent of the paving budget in each VDOT Construction District to provide paved shoulders
- Clarification and guidance for when the Policy's six exceptions might be warranted. Those exceptions are: (1) absence of need for accommodations, (2) environmental or social impacts that outweigh the need for accommodations, (3) evidence that safety would be compromised, (4) costs excessively disproportionate to the need, (5) project purpose and scope that do not facilitate the provision of accommodations, and (6) locations where bicycle and pedestrian travel is prohibited by state or federal law
- A decision process tree to evaluate and document how bicycle and pedestrian accommodations are provided during the scoping of VDOT managed projects
- Revision and updates to numerous design and maintenance forms and instructional memos

The Policy is discussed in more detail later in this chapter in the section titled "Project Development Process."



# Virginia Department of Transportation State Bicycle Policy Plan



**Note:** In May 2007, VDOT issued a Department Policy Memoranda (DPM) on Implementation of the CTB *Policy for Integrating Bicycle and Pedestrian Accommodations*. This DPM provides definitions, procedures, and exceptions and identifies reference materials to clarify and supplement the Policy, to the extent necessary for operational effectiveness and compliance.

### Context Sensitive Solutions Policy

VDOT's Context Sensitive Solutions (CSS) policy promotes transportation facilities that provide transportation safety and mobility, while also fitting the physical setting and reflecting concerns regarding scenic, aesthetic, historic, and environmental resources. The CSS policy seeks a realistic and practical balance between transportation goals and community values and needs. It encourages enhanced stakeholder engagement and consensus on clearly defined project goals before proceeding to the design phase of a project. The CSS policy requires VDOT to consider that motorists, pedestrians, bicyclists, and public transit vehicles jointly use transportation systems for both transportation and recreational purposes.

### Secondary Streets Acceptance Requirements

The Commonwealth Transportation Board approved the Secondary Street Acceptance Requirements (SSAR) in February 2009. The SSARs establish requirements that newly constructed streets must meet in order to be accepted into the secondary system of state highways and as a result to qualify for ongoing VDOT maintenance. One of the most important goals of the SSARs is "Ensuring the connectivity of road and pedestrian networks with the existing and future transportation network." While it does not directly mention bicycling, the requirements address connectivity and the need for slower speeds on neighborhood streets, both of which will benefit bicyclists.

### Urban Development Areas

In 2007, the General Assembly required high growth localities to designate Urban Development Areas (UDAs) in their comprehensive plans by 2011. UDAs are intended to improve the coordination between transportation and land use. They include locations with reasonably compact existing development that can accommodate projected additional growth. Encouraging development and growth in appropriate areas can help reduce transportation needs,

encourage bicycling by reducing trip lengths, foster more sustainable development patterns, and manage costs in the future.

### Virginia Design Manuals And Guidance

VDOT has a duty to provide for the safety and comfort all modes of travel, including bicyclists. Bicycle facilities are less expensive when they are integrated into larger projects at the time of initial construction as opposed to being retrofitted after a project's completion. Integrating bicycle facilities or accommodations into all projects, where applicable, also can help ensure that roadways do not become barriers to bicycling. Design guidance is provided at the federal and state level. For example, FHWA's policy on bicycling and walking is included in its 2000 publication "Design Guidance Accommodating Bicycle and Pedestrian Travel." The document states that "bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist."

To ensure the highest standard of care for all travelers, projects should be designed and constructed using the most current appropriate national standards. Consulting current guidelines is especially critical for bicycling transportation as the safety of these modes has benefited from a growing body of research and study. This section will outline VDOT design references that address bicycling, in addition to national references such as the *AASHTO Guide for the Development of Bicycle Facilities*:

- Road Design Manual
- Locally Administered Projects Manual
- Maintenance Best Practices Manual
- Manual of the Structure and Bridge Division – Volume V – Part 2, Chapter 6 Geometrics

### Road Design Manual

VDOT's Road Design Manual (RDM) is used to promote uniformity in design procedures for designers involved in the development of VDOT plans. The RDM outlines general design specifications for all VDOT projects and therefore has an important impact on bicycling conditions throughout the state. It notes the importance of planning and designing for bicycles throughout the



# Virginia Department of Transportation State Bicycle Policy Plan



project development process. For example, it highlights the importance of evaluating the need for bicycle facilities as part of the initial roadway investigation and preliminary field inspections. It also includes detailed bicycle facility guidelines in the Appendix.

### *Locally Administered Projects Manual*

The purpose of this VDOT manual is to assist local public agencies with the administration of locally managed transportation projects by providing consistency on a statewide basis. The manual describes the processes, procedures, documents, authorizations, approvals, and certifications that are required in order to receive federal aid and/or state funds for many types of local transportation projects. The manual discusses the incorporation of bicycle facilities in local projects and also refers to the Policy regarding the inclusion of bikeways in all project activities.

### *Maintenance Best Practices Manual*

This VDOT manual includes information that details the methods, procedures, and policies for managing and maintaining bicycle facilities in the Commonwealth. It was revised in accordance with the Policy for Integrating

Bicycle and Pedestrian Accommodations. Background information on roadway and bikeway maintenance is provided in the textbox on this page.

### *Manual of the Structure and Bridge Division – Volume V – Part 2, Chapter 6 Geometrics*

VDOT's Structure and Bridge Geometric Design Aids and Typical Details manual is used to promote uniformity in design procedures for designers involved in the development of VDOT plans. This manual provides detailed design specifications for all bicycle facilities on VDOT retaining walls and bridges and therefore has an important impact on bicycling conditions throughout the state.

### *Project Development Process (Construction)*

VDOT's project development process is intended to ensure a comprehensive and streamlined approach to the planning, design, and construction of transportation facilities. Understanding the needs of bicyclists and ensuring that projects provide the appropriate level of accommodation requires that they be considered throughout the entire development process of a project.

Roadway maintenance is a shared responsibility between VDOT and local jurisdictions; therefore an understanding of road maintenance responsibilities is important to understand bikeway maintenance issues. **Maintenance of public roads in Virginia** is the responsibility of the state or local government depending upon various factors:

**Local Roads** – In 93 of Virginia's counties, local roads are known as the secondary system of highways and are maintained by the Virginia Department of Transportation. Arlington and Henrico counties maintain their own local roads. Local roads in Arlington and Henrico are not part of the secondary system.

There are currently 81 municipalities in the urban system who maintain their local roads. These municipalities are:

1. All cities regardless of population
2. All incorporated towns of more than 3,500 population according to the latest U.S. Census or by evidence of population
3. The towns of Altavista, Chase City, Elkton, Grottoes, Lebanon, Narrows, Pearisburg, Saltville, and Wise

**Primary Roads** – Primary roads in all counties are maintained by VDOT. Primary roads in municipalities that are part of the urban system are considered primary extensions and are not part of the Primary System, are maintained by the municipality unless maintenance has been specifically retained by VDOT.

**Interstate Highways** – All Interstate highways are the responsibility of VDOT.



# Virginia Department of Transportation State Bicycle Policy Plan



This section will briefly outline the project planning, scoping, and decision process for transportation projects in Virginia.

In Virginia, localities develop comprehensive plans that include a transportation component. In addition, many localities have specific bicycle and/or trail master plans. Plans are also developed at the regional level, which cover transportation issues at a larger geographic scale. These local and regional plans guide VDOT project managers in determining the location and type of bicycle accommodations to be provided as part of VDOT projects. Designers use this information in the project scoping process, for example to establish the goals, budget, and schedule for a project.

Local governments continue to be involved throughout the scoping process. VDOT has outlined the procedural steps to ensure local involvement in establishing the bike and pedestrian features on a project in the *Bicycle and Pedestrian Implementation Guide for Locality Involvement*, published in November 2006. The document highlights requirements for the public hearing process and outlines steps to resolve potential conflicts between VDOT and localities regarding the provision and design of bicycle facilities.

As noted, following its adoption, VDOT developed updated procedures and best practices to facilitate implementation of the *Policy for Integrating Bicycle and Pedestrian Accommodations*. An important outcome of this effort was the development of a decision tree, located in Appendix B, to evaluate and document how bicycle and pedestrian accommodations are provided during the scoping of VDOT projects. Underlying this decision tree is a clear statement that all projects start with the assumption that some accommodation will be provided.

VDOT developed and has successfully implemented a process for determining whether, to what extent, and in what circumstances an exception to the Policy may be warranted. In order for an accommodation to not be provided as part of a VDOT project, the proposed project must fall into one of six categories established in the policy:

- 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 fund, 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 are defined as paving unpaved gravel roads, which are considered to be a bicycle accommodation
- Bicycle and pedestrian travel is prohibited by state or federal law

In addition to providing guidance on the appropriate application of the categories above, VDOT also implemented a process to institutionalize the granting of exceptions and to provide guidance for project managers. An important element of this process is a decision tree or flow chart that designers use to evaluate projects in relation to a detailed list of criteria. The decision tree is applied to projects at the scoping stage and again at a point when additional information is available in order to determine if cost and environmental exceptions are met or if updated information invalidates initial assumptions regarding the project.



## Chapter 5 Program and Policy Recommendations

This chapter provides recommendations to improve the bicycle element of the *Policy for Integrating Bicycle and Pedestrian Accommodations* consistently, appropriately and cost effectively. The recommendations in this Plan will help the Department advance the Policy more effectively, thereby achieving the vision and goals established in Chapter 2, and will involve a wide variety of partners within various divisions of VDOT, as well as stakeholders throughout the Commonwealth. The recommendations are organized under four core elements:

- 1) Clarify policies with regard to bicycle accommodations
- 2) Provide staff with resources to integrate the accommodations of bicyclists in projects and programs
- 3) Improve bicycle outreach and coordination
- 4) Measure and evaluate progress

Each recommendation includes a statement outlining the current practice along with a recommendation and appropriate action steps to more fully integrate the Policy. Successful policies and practices in other state Departments of Transportation were referenced in the development of these recommendations.

### Element 1:

#### **Clarify policies with regard to bicycle accommodations.**

*Current:* The *Policy for Integrating Bicycle and Pedestrian Accommodations* (2004) establishes the framework for accommodating bicyclists and pedestrians in the funding, planning, design, construction, operation, and maintenance of Virginia's transportation network.

*Recommendation:* In order to meet the Policy's vision of a multimodal transportation system, VDOT should provide additional guidance on the planning and design of bicycle facilities. In some cases, this will involve clarifying or revising existing policies and procedures. In other cases, it will involve developing new resources to guide the implementation of the Policy across all disciplines of the department.

The following specific actions should be undertaken:

#### **1.1: Supplemental Bicycle Design Policies and Procedures**

*Existing:* VDOT's Road Design Manual (RDM) and related geometric standards and specifications determine the design of all transportation projects and are used by all levels within VDOT. This manual provides guidance on how to design bicycle facilities and is consistent with national standards and guidance. However, further guidance is needed to determine the appropriate type or level of bicycle accommodation that may be needed in different roadway environments. This is a particular issue for large suburban roadways because land use changes due to development create an even greater need for non-motorized transportation accommodations and safety countermeasures.

*Action 1.1a:* VDOT should develop additional design policies and procedures to address bicycle issues on roadways owned, operated and/or managed by the Commonwealth, including retrofit and operational changes needed to accommodate bicyclists in various roadway environments. VDOT policies will need to be kept up to date on all of the latest facility treatments as the field evolves rapidly. This is especially true for nationally recognized guides such as the Manual for Urban Traffic Control Devices (MUTCD), the AASHTO Bike Guide, and the Americans with Disabilities Act Accessibility Guidelines (ADAAG) for facilities and buildings, as these are reviewed and updated regularly. This should include strategies to ensure piecemeal development results in bicycle facilities that are contiguous and functional in both the short- and long-term, see example policies and procedures in Appendix A.

*Action 1.1b:* VDOT will establish a standard process for receiving, processing and approving requests for bike signage, specifically for share the road and bike route signs. The process will address issues related to responsibility for installation and maintenance.



**Action 1.1c:** VDOT will strive to become a model employer when it comes to accommodating and encouraging bicycle commuting. This will include developing guidelines for the provision of bike parking, shower, and changing facilities in VDOT offices, and implementing incentive programs such as the Federal Bicycle Commuter Tax Benefit. In urbanized areas, VDOT will explore the potential to provide bicycles for employees' use for short trips during the work day.

### **1.2: Policy Clarification and Application**

**Existing:** After the *Policy for Integrating Bicycle and Pedestrian Accommodations* was adopted by the CTB, VDOT developed the Decision Process guide, which indicates the specific course of action to be taken when an exception to the Policy may be warranted. This chart, a decision tree, was carefully considered by numerous disciplines within VDOT, as well as local partners. The decision tree is an effective resource when used correctly. However, there are times when the decision tree is applied inconsistently, which can result in misapplication of the Policy.

**Action 1.2a:** The decision tree should be revisited to ensure it clearly describes the process that should be undertaken to determine if an exemption to the Policy is warranted. At a minimum, a clarifying statement should be added on the decision tree that explains its proper use and how it directly relates to the Policy. See draft in Appendix B.

**Action 1.2b:** Bicycle and Pedestrian Program Staff should continue to semi-annually review the policy implementation process to ensure that potential issues are identified and addressed.

### **1.3: Road Diet/Lane Diet Strategies**

**Existing:** Right-of-way is often limited, therefore creating challenges when trying to accommodate all users. Due to constrained rights-of-way, providing for the safety of bicyclists may require re-allocating existing or proposed pavement width. Creating narrower travel lanes, otherwise known as lane diets, can provide space for paved shoulders or bicycle lanes. Additional lanes for bicycle accommodations can also be provided by reducing the number of lanes dedicated for automobiles and trucks. These projects are known as road diets.



Arlington, VA

**Action 1.3a:** VDOT should consider issuing an Instructional and Informational Memorandum (IIM) that encourages the inclusion of bike lanes during road reconstruction and resurfacing projects by narrowing travel lanes to 10-foot (where possible). This IIM should explain when 10-foot and 11-foot wide travel lanes can be utilized without decreasing safety for motorists (see the discussion in Appendix C). This strategy will provide a cost effective method of improving Bicycle Level of Service on VDOT roadways, without compromising safety for other users.



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This memorandum should allow narrower lane widths in new projects or in roadway widening projects where the width of the road is being expanded but where right-of-way is constrained. It also should provide general guidance on locations where road diets, such as the removal of travel lanes, may be an option during retrofit projects.

**Action 1.3b:** Protocol should encourage proactive review of lane widths and capacity during new construction, reconstruction and resurfacing projects, with the purpose of determining if bike lanes or paved shoulders can be implemented as a part of the project.

#### ***1.4: Value Engineering***

**Existing:** Value engineering is the systematic review of a project to improve performance, quality and/or life-cycle cost. The proposed lane width policy (see Action 1.3a above) will complement VDOT's value engineering goals by reducing the cost of incorporating bike lanes and paved shoulders for bicycle use.

**Action 1.4a:** The value engineering process should consistently apply the CTB's *Policy for Integrating Bicycle*

*and Pedestrian Accommodations*. On projects where provision of accommodations will result in significant cost increases, attempts should be made to reconfigure geometrics throughout the project to allow for inclusion of bicycle accommodations without the need to acquire additional right-of-way.

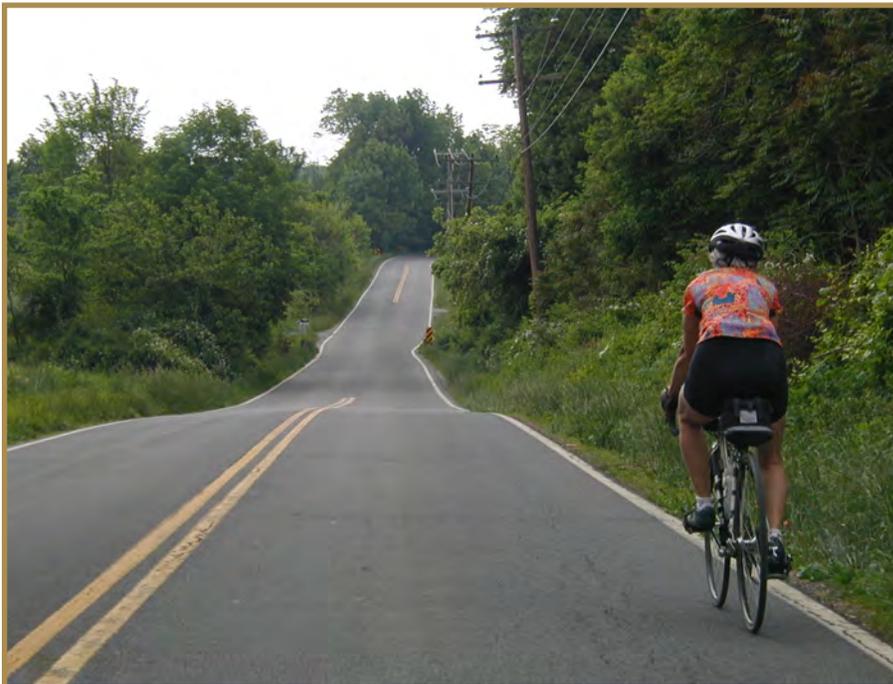
#### ***1.5: U.S. Bike Routes 1 and 76***

**Existing:** As described in Chapter 2, Virginia has more miles of officially adopted U.S. Bicycle Routes than any other state. Route signs have been added along portions of the designated U.S. Bicycle Routes in Virginia. These routes are an asset to the Commonwealth. They are heavily utilized by cyclists at all levels of ability, are known nationwide, and are an economic resource because they attract bicycle tourism.

**Action 1.5a:** When projects arise that impact USBRs 1 and 76, VDOT should strive to provide a high quality of service for bicyclists, in accordance with AASHTO and Appendix A. This includes the provision of paved shoulders and bicycle lanes.

**Action 1.5b:** VDOT's Bicycle and Pedestrian Program should continue to work with local governments, bicycling groups, and VDOT's District offices to identify locations where the routes could be realigned and where spur routes should be incorporated. The objective of this work should be to improve the safety of the routes, while also improving connections to desired destinations.

**Action 1.5c:** As the USBRs 1 and 76 improve over time, VDOT should work with partners to install signs and provide maps that identify the route locations using the State Bike Map and the Department



*Rural Bicycling in Virginia*



# Virginia Department of Transportation State Bicycle Policy Plan



of Tourism. Signs should provide supplemental way finding information, such as distance and destination information.

### ***1.6: Policy Regarding Bicycle Prohibitions***

**Existing:** Bicycle access is restricted on interstate highways in Virginia; however, there is currently no policy regarding when bicycle access should be restricted on other highways. In addition there is not a complete inventory of Virginia roadways where bicycle access is restricted. This lack of information has led to a piecemeal decision-making regarding the restriction of bicycle use.

**Action 1.6a:** VDOT should maintain a listing of current roadways where bicycle access is restricted.

**Action 1.6b:** VDOT should develop a clear protocol to determine when prohibitions are warranted based upon objective criteria related to safety. This should apply to new roads and also should be used to review existing roads to determine if existing prohibitions still meet the criteria.

**Action 1.6c:** In accordance with the Policy, VDOT should allow the construction of separated shared-use pathways in the right-of-way of controlled-access freeways and identify where this can be applied safely. This can offer the opportunity to provide continuous, long-distance bikeways. For example, Virginia has several highly successful pathways that were built along freeways, including the Custis Trail in the I-66 corridor.

### ***1.7: System Preservation and General Maintenance***

**Existing:** At times, existing bicycle accommodations are eliminated or obstructed in the course of maintenance or construction activities. For example, existing bike lanes are sometimes not re-stripped in an over-lay project.

**Action 1.7a:** VDOT should develop a directive to preserve and/or replace bicycle accommodations as part of maintenance or construction activities to ensure that bicycle facilities and/or accommodations are not inappropriately eliminated or obstructed.

**Action 1.7b:** VDOT should expand bicycle-related information in the next update to the Maintenance Division Best Practices Manual to encourage proactive review of

resurfacing and pavement rehabilitation projects based on new lane width guidelines as described in Action 1.3a.

**Action 1.7c:** Procedures should be developed that address the routine maintenance of state-maintained bicycle routes, shared use paths, paved shoulders, bicycle lanes, and other existing bicycle facilities, in accordance with the *Policy for Integrating Bicycle and Pedestrian Accommodations*, including snow removal, pavement repairs, regular sweeping, and debris removal.

**Action 1.7d:** VDOT and other bike advocate partners should develop programs that encourage outside groups to conduct simple maintenance activities along on-road and off-road routes (e.g. an Adopt-a-Trail – or Route – program).

### ***1.8: Shoulder Maintenance Funding***

**Existing:** VDOT has a goal to expend approximately two percent of the pavement maintenance funds to pave shoulders during overlay projects.

**Action 1.8a:** The VDOT District Bicycle and Pedestrian Coordinator should identify potential locations to appropriately allocate these pavement maintenance funds. Potential locations are roads that are known to be popular bicycle routes, roads that are signed bicycle routes, and/or roads that are proposed for designation as bicycle routes.

### ***1.9: Bicycle-Friendly Traffic Calming***

**Existing:** Traffic calming is beneficial to bicyclists because it reduces motor vehicle speeds and is therefore encouraged on roadways where appropriate. However, some traffic calming measures can create a barrier to bicycling if they are not designed with bicyclists in mind.

**Action 1.9a:** VDOT should update the *Traffic Calming Guide for Residential Streets* as necessary to ensure bicycle friendly design provisions are incorporated per the *AASHTO Guide for the Development of Bicycle Facilities*.

### ***1.10: Updates to Manuals***

**Existing:** With many manuals and guidance documents under revision, e.g. Manual on Uniform Traffic Control Devices (MUTCD), AASHTO Bicycle Guide, and the



Highway Capacity Manual (HCM) 2010. Considerable new or revised guidance and/or design bicycle accommodation design standards will be in place in the next few years.

**Action 1.10a:** VDOT should incorporate up-to-date bicycle facility design guidance into ongoing review and update of all VDOT manuals, guides, standards, and specifications that impact bicycling. It will be especially important to include new policies and geometric standards for bicycle facilities in the Road Design Manual (RDM) once the 2009 MUTCD is adopted by VDOT, and once the new edition of the AASHTO Bike Guide is published.

### ***1.11: Central Resource for Policies***

**Existing:** VDOT has a national reputation as a leader in developing policies that support bicycling. However, VDOT's various policies and memoranda can sometimes be difficult to locate and it is not always clear as to how they should be integrated.

**Action 1.11a:** A central clearinghouse should be created on the Bicycle and Pedestrian Program website to serve as a quick reference page for VDOT's policies related to bicycling and walking. This area of the website should explain the relationship between the *Policy for Integrating Bicycle and Pedestrian Accommodations* and other integral policies.

## **Element 2:**

### **Provide staff with resources to integrate the requirements of bicyclists in projects and programs.**

**Existing:** VDOT has made tremendous strides in establishing policies that address the needs of bicyclists. However, these policies are still becoming incorporated into the daily operating procedures of the department. The Bicycle and Pedestrian Program provides leadership for this process.

**Recommendation:** Staff at all appropriate levels of VDOT should be provided training and guidance, as well as clear direction on their job responsibilities in order to ensure they design, construct, operate, and maintain roadways that accommodate the needs of bicyclists.



Alexandria, VA

The following specific actions should be undertaken:

### ***2.1: Mission and Job Descriptions***

**Existing:** VDOT's Bicycle and Pedestrian Program serves as an advocate for bicyclist and pedestrian needs within VDOT. Since the late 1970s, it has provided planning-level technical assistance to state and local transportation planners, coordinated implementation of VDOT policies, and spearheaded bicycle and pedestrian education and safety awareness throughout Virginia.

**Action 2.1a:** In order to build on the role it currently serves, the VDOT Bicycle and Pedestrian Program should establish a mission statement which outlines the core responsibilities of the Program and Central office staff (see draft mission statement in Appendix D).



**Action 2.1b:** VDOT should review the March 5, 1998 Memorandum regarding District Bicycle and Pedestrian Coordinators' duties and responsibilities to determine if revisions are needed.

**Action 2.1c:** VDOT's Bicycle and Pedestrian Program should establish a consistent method for partnership and communication between the District Bicycle and Pedestrian Coordinator and other divisional staff and central office staff, as well as other relevant stakeholders.

## **2.2: Training Opportunities**

**Existing:** Due to the need for education on emerging bicycle planning and design concepts and guidelines as well as the need to enhance awareness of the *Policy*, additional staff training opportunities are necessary. The need for training sessions will be reduced over time as more VDOT staff and consultants become skilled in this area. However, the need for training will always be present as new staff joins the organization.

**Action 2.2a:** VDOT should continue to offer a variety of regular multimodal transportation training opportunities for VDOT engineering, operations, maintenance, and planning staff at all levels of the organization, as well as staff at Regional Planning Commissions, Metropolitan Planning Organizations, Planning District Commissions, local governments, and to consultants and other individuals. Trainings for VDOT staff should focus on the implementation of the *Policy*. Trainings should account for new employees, new content that may become available in the RDM or other VDOT manuals, and new national guidance.

**Action 2.2b:** Training opportunities should include a variety of training venues such as in-person workshops and web-based seminars.

## **2.3: Staff Qualifications**

**Existing:** In order to apply the *Policy* consistently throughout Virginia, knowledge of bicycle planning and design is needed among many various staff categories and positions within VDOT. As colleges and universities offer more extensive courses in urban planning and civil engineering, professionals entering the workforce

increasingly bring bicycle planning and engineering skills to the job.

**Action 2.3a:** Where appropriate, VDOT should include bicycle planning and design skills in position descriptions and hiring procedures. VDOT should also continue to offer opportunities for staff at all levels to participate in bicycle rides and field training events to gain "hands-on" experience with bicycling issues.

## **2.4: Liability Issues**

**Existing:** People regularly bicycle throughout Virginia's state roads to access schools, jobs, shopping, transit, and for health and recreation. Various policy statements of AASHTO, the MUTCD, FHWA, and VDOT make it clear that it is the responsibility of the department to provide reasonably safe accommodations for bicyclists. There have been questions as to whether or not VDOT will expose itself to liability risks by encouraging bicycling and walking along and across roads. Providing a bicycle facility will not increase the department's liability exposure, assuming the facility is designed in accordance with national and state-issued design standards and guidance, and adheres to the *Policy for Integrating Bicycle and Pedestrian Accommodations*. In most instances, providing for the safety of bicyclists will decrease VDOT's liability exposure.

**Action 2.4a:** VDOT's Bicycle and Pedestrian Program should continue to provide education and guidance on this issue and should work with the Attorney General's office for clarifications where needed.

## **Element 3:**

### **Improve outreach and coordination on bicycle issues.**

**Existing:** In addition to VDOT, there are many other agencies and organizations in the Commonwealth responsible for implementing bicycle projects and programs. The activities of VDOT are interrelated with activities of outside organizations; therefore a high level of coordination will benefit everyone.



**Recommendation:** VDOT should continue to coordinate where appropriate with local government staff, Metropolitan Planning Organizations, parks and recreation departments, Planning District Commissions, other State Agencies in addition to non-profit organizations on bicycle issues.

The following specific actions should be undertaken:

### **3.1: Local Coordination**

**Existing:** Many local governments have developed bicycle master plans or included recommendations for bicycle facilities in small area plans, regional and local transportation plans, and comprehensive plans. The Code of Virginia requires all governing bodies in the Commonwealth to have an adopted Comprehensive Plan with a transportation element, which is to be reviewed by VDOT before adoption. The extent to which VDOT can support the implementation of these plans depends on the department's ability to readily access the recommendations of each Plan and determine the precise locations for proposed bicycle accommodations.

**Action 3.1a:** VDOT's Bicycle and Pedestrian Program should develop and maintain a catalogue of adopted plans that include bicycle recommendations, and should

maintain a GIS database of state-maintained roadways with existing or proposed bicycle accommodations. This inventory should include Comprehensive Plans and stand-alone bicycle master plans.

**Action 3.1b:** VDOT should ensure that these plans are referenced during project scoping processes in order to comply with the Policy.

**Action 3.1c:** VDOT should work closely with localities to ensure that the Policy is applied on locally administered projects and to ensure that localities have access to resources that facilitate the process, e.g. Bike and Pedestrian Implementation Guide for Locality Involvement.

### **3.2: VDOT Bicycle and Pedestrian Website**

**Existing:** There is currently a Bicycle and Pedestrian Program section available on the VDOT website containing a variety of information regarding the Program. This includes cycling events, laws, and information on VDOT policies. Due to the breadth of the content available on the website, some of the content may be dated or lacking certain elements.

**Action 3.2a:** VDOT should review the content and formatting of the website quarterly to determine that the



Lynchburg, VA



content and formatting are still applicable. VDOT should make necessary revisions and conduct periodic updates to this portion of the website to enable quick access to information.

**Action 3.2b:** VDOT should add section(s) to the website serving as a centralized clearinghouse for all planning and engineering resources, e.g. links to information such as MUTCD and RDM, catalogue of local and regional plans, and informational memorandums.

### **3.3: Coordination with Marketing, Communications, and Public Affairs Offices**

**Existing:** VDOT Bicycle and Pedestrian Program has historically encouraged efforts and partnered with stakeholders to promote bicycling and bicycle safety messages, such as a bike to work day.

**Action 3.3a:** VDOT's Bicycle and Pedestrian Program should increase coordination with VDOT's Marketing, Communications, and Public Affairs Offices to expand knowledge of bicycle issues and programs. Strategies include coordination meetings with communications office staff and working with the offices to develop messages about bicycling in Virginia. Additionally, this should include use of the VDOT YouTube channel to distribute bicycle, pedestrian, and motorist safety education video segments.

### **3.4: Coordination with Tourism Agencies**

**Existing:** VDOT has partnered with affiliated agencies on bicycling messages and events in the past.

**Action 3.4a:** VDOT's Bicycle and Pedestrian Program will continue to coordinate with the Virginia Tourism Authority and the Virginia Tourism Corporation to build a knowledge base of bicycle events and programs and identify opportunities for joint promotional activities, information distribution, and education.

### **3.5: Bicycle Advisory Committee**

**Existing:** VDOT has established a Bicycle Advisory Committee (BAC) to assist in the administration of the Policy as well as address various bicycling related topics across the state (a list of current BAC members is included

on page 1 of this Plan).

**Action 3.5a:** VDOT should ensure that the BAC continues to remain an active, ongoing committee. VDOT should encourage members of the BAC to meet at least annually to discuss bicycling policies, standards, and practices that affect the bicycling community, as well as opportunities to partner to promote bike safety.

Membership of the BAC should continue to include local government representatives, bicycle advocates, and representatives from various state agencies such as the Department of Conservation and Recreation (DCR), the Department of Tourism, and the Department of Rail and Public Transportation (DRPT). Membership should be expanded to include the Department of Motor Vehicles (DMV), the Department of Health, and the State Police. Possible additional state agencies include the Department of Environmental Quality and the Department of Mines, Minerals, and Energy.

**Action 3.5b:** VDOT should clarify the scope and responsibilities of the committee and establish a protocol for selecting members and chairing meetings.

### **3.6: Coordination with Department of Education**

**Existing:** VDOT has made recent efforts to collaborate with the Department of Education and local school systems on bicycling and walking issues through the Safe Routes to School Program.

**Action 3.6a:** VDOT should continue to work with the Department of Education to ensure Virginia's school children have the option to bicycle to school in locations where this can be done safely.

**Action 3.6b:** VDOT should participate in Road Safety Assessments (RSA) for schools that are located on the State highway system, as requested. Where possible, school zone safety assessments should address bicycle access to schools, including providing street crossings and paved shoulders.



Virginia Commonwealth University

**Action 3.6c:** VDOT should encourage the design of transportation infrastructure serving new schools to safely accommodate students that arrive on bicycles.

**Action 3.6d:** VDOT should encourage biking and walking to school and provide opportunities for students to have access to bicycle safety education.

**3.7: Coordination with Colleges and Universities**

**Existing:** Localities with colleges in Virginia show the highest levels of bicycle use as bicycling is an ideal mode of travel for short trips to and from campus.

**Action 3.7a:** VDOT should continue to work with colleges and universities (including community colleges) to support bicycle access to campus and to address bicycle safety on campus.

**Action 3.7b:** VDOT should support the inclusion of bicycle planning and design courses or adding such elements within existing courses in college and university curricula.

**Action 3.7c:** VDOT should pursue partnerships with colleges and universities aimed at developing and

disseminating training opportunities and resources.

**Action 3.7d:** VDOT should encourage college and universities to provide safety education classes similar to League of American Bicyclist bike education classes.

**Action 3.7e:** VDOT should continue to work with colleges and universities to encourage research on bicycling issues in the Commonwealth.

**3.8: Coordination with National, State, and Local Parks Agencies**

**Existing:** VDOT encourages providing non-motorized access to national, state, and local parks. Parks agencies have been key partners in the planning, development, and management of bicycle facilities throughout the Commonwealth, they will continue to play a crucial role in the future.

**Action 3.8a:** VDOT should continue to coordinate closely with national, state, and local parks agencies in order to further develop a statewide network of bicycling facilities.

**3.9: Coordination with Transit Agencies**

**Existing:** Transit systems benefit by being accessible to multiples modes. Transit agencies that support bicycling have found that bicycling extends the transit agency's reach, increasing mobility to customers at each end of a transit trip. While VDOT does not have direct authority over any transit system, the Department serves an important support role.

**Action 3.9a:** VDOT supports the concept of bicycle access along rail corridors. VDOT's Bicycle and Pedestrian



Program will work with the Department of Rail and Public Transportation (DRPT) to facilitate implementation of these facilities. VDOT will also support and participate in transit access plans that are undertaken by organizations such as Washington Metropolitan Area Transit Authority (WMATA), Virginia Railway Express (VRE), and the National Railroad Passenger Corporation (AMTRAK). It will be very important to ensure that high-speed rail expansion in Virginia does not create barriers for bicyclists; therefore these projects should anticipate the need for at-grade and grade-separated bicycle crossings.

**Action 3.9b:** For smaller transit organizations, VDOT should play a lead role in improving bicycle access to transit facilities. As part of this effort, VDOT should encourage the provision of more covered and secure bicycle parking at transit facilities as well as improving roadway conditions for bicyclists accessing transit stations and stops by bicycle.

## Element 4:

### Measure and Evaluate Progress

**Existing:** VDOT has limited capacity to evaluate various conditions related to bicycling including use of existing facilities, mode share, or safety improvements.

**Recommendation:** Regular monitoring and evaluation of bicycle performance measures will help ensure that the bicycle mode is included in the everyday operations of VDOT. Established bicycle performance measures will

help document improvements in bicycle use, safety, and convenience throughout Virginia. This will provide data that can be used to help VDOT understand how various actions have improved bicycling conditions and outcomes. The data required to track these performance measures will be collected by a variety of staff and divisions within VDOT. Some may also require assistance from state, regional, and local government partners and other organizations and stakeholders.

The following specific actions should be undertaken:

#### 4.1: Performance Measures

**Existing:** Currently, there is no means to inventory existing facilities and accommodations or to demonstrate improvements resulting from the implementation of the Policy. Additionally, there is no statewide methodology in place to evaluate outcomes of accommodations, education, or safety improvements provided.

**Action 4.1a:** VDOT should establish benchmarks needed for future tracking of bicycle-related implementation efforts and changes in ridership numbers over time. Measures that can be considered include the number of bikeway miles implemented, the number of bicycle crashes, the number of bicycle parking spaces, percentage of students bicycling to school, and other measures.

#### 4.2: Data Collection

**Existing:** Some ridership or usage data has been collected on a limited number of shared-use paths. However, the data collection is not routine or widespread and is limited to off-roadway facilities. Additionally, there is no inventory of existing bicycle facilities or accommodations.

**Action 4.2a:** VDOT should establish a long-term pedestrian and bicycle facility inventory and counting program, in coordination with towns and cities, Regional Planning Commissions, Planning District Commissions, and Metropolitan Planning Organizations. VDOT's role in the process should be to provide leadership in establishing consistent methodologies for pedestrian and bicycle counts and for inventorying non-motorized facilities including shared use paths, bike lanes, bike routes, and



# Virginia Department of Transportation State Bicycle Policy Plan



other facilities. VDOT should serve as a central repository of this information.

**Action 4.2b:** VDOT should coordinate with organizations that have existing surveys to obtain statistically accurate bicycle travel survey data.

**Action 4.2c:** VDOT should explore potential improvements needed to aide in the collection and categorization of bicycle crash data and work with partner agencies to improve methods of collecting this data.

In conclusion, the actions identified above will establish means to ensure that the CTB's *Policy for Integrating Bicycle and Pedestrian Accommodations* becomes ingrained in the policies and procedures of VDOT. The actions also establish means to enable the department to serve in a coordinating role with other agencies and organizations throughout Virginia that are involved in promoting safe bicycling.



Mt. Vernon Trail



## Chapter 6 Timeframe and Priorities

This chapter establishes priorities for the recommendations in Chapter 5. These priorities and their associated timeframes were based on the following parameters:

### Short-Term Recommendation Parameters (0-3 Years)

The following parameters were used to determine actions that should occur in the 0-3 year timeframe. These activities include:

1. Actions that would provide immediate benefits to the implementation of the CTB's *Policy for Integrating Bicycle and Pedestrian Accommodations*.
2. Actions that can be accomplished given existing Departmental resources, including staff and budgets.
3. Actions that capitalize upon internal and external opportunities that exist now, or are expected in the near future.

### Mid-Term Recommendation Parameters (3-5 Years)

The following parameters were used to determine actions that should occur in the 3-5 year timeframe. Mid-term activities include:

1. Actions that will further advance the CTB's Policy, building upon the momentum established in the short-term.
2. Actions that require a modest investment of resources.
3. Actions that may benefit from the contribution of outside resources which are not likely to materialize in the short-term.

### On-Going Actions

These are actions that are expected to be undertaken periodically, or on a continuous basis.

The tables on the following pages categorize each action from Chapter 5 into the 0-3 year, 3-5 year and ongoing timeframes. Each action has been condensed for ease of inclusion in the table; refer to Chapter 5 for a more detailed discussion of each action.



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<i>Element 1: Clarify Policies</i>			
<i>Action</i>	<i>(0-3 yr)</i>	<i>(3-5 yr)</i>	<i>Ongoing</i>
Action 1.1a: Develop Supplemental Design Policies (Appendix A)	✓		
Action 1.1b: Develop a process for installing and maintaining bike signage	✓		
Action 1.1c: Develop guidelines for providing bike parking, showers, and changing facilities at VDOT offices		✓	
Action 1.2a: Add policy clarification to decision tree process chart	✓		
Action 1.2b: Semi-annual review of the policy implementation process			✓
Action 1.3a: Consider a new directive allowing narrower lane widths	✓		
Action 1.3b: Proactive review of lane widths during projects to provide bike lanes or shoulders			✓
Action 1.4a: Value engineering consistently applies the Policy			✓
Action 1.5a: Routine upgrades to USBR 1 and 76 during highway projects			✓
Action 1.5b: Identify re-alignments and spur routes for USBR 1 and 76	✓		
Action 1.5c: Installation of new signs and route map development for long distance bike routes			✓
Action 1.6a: Develop list of current roadways where bicycle access is restricted	✓		
Action 1.6b: Establish protocol to determine when prohibitions are warranted	✓		
Action 1.6c: Develop policy to permit shared use paths in limited access rights-of-way		✓	
Action 1.7a: Prepare directive to preserve and/or replace existing bicycle accommodations	✓		
Action 1.7b: Expand bicycle information in the Maintenance Division Best Practices Manual		✓	
Action 1.7c: Establish procedures addressing the routine maintenance of bikeways, per Policy		✓	
Action 1.7d: Develop an Adopt-a-Route Program	✓		
Action 1.8a: District offices ID locations where shoulders should be repaved			✓
Action 1.9a: Update Traffic Calming Guide to include bicycle friendly design provisions		✓	
Action 1.10a: Incorporate bicycle facility design guidance in VDOT geometric standards			✓
Action 1.11a: Website updates to ensure all bike/ped policies are in one place			✓



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## *Element 2: Provide Staff with Necessary Resources*

<i>Action</i>	<i>(0-3 yr)</i>	<i>(3-5 yr)</i>	<i>Ongoing</i>
Action 2.1a: Establish mission and core responsibilities of the Bike and Pedestrian program (Appendix D)	✓		
Action 2.1b: Review/revise responsibilities of District bicycle and pedestrian coordinators	✓		
Action 2.1c: Establish communication methods between Central and District office bicycle staff	✓		
Action 2.2a: Offer multimodal training to VDOT staff and others			✓
Action 2.2b: Expand training opportunities to include webinars	✓		
Action 2.3a: Include bicycle responsibilities in job descriptions for new VDOT employees, where appropriate			✓
Action 2.4a: Continue to provide guidance on liability issues			✓

## *Element 3: Improve Bicycle Outreach and Coordination*

<i>Action</i>	<i>(0-3 yr)</i>	<i>(3-5 yr)</i>	<i>Ongoing</i>
Action 3.1a: Maintain a database of adopted local plans that address bicycling	✓		
Action 3.1b: Ensure local plans are reviewed during project scoping			✓
Action 3.1c: Work with local governments to ensure Policy is applied to locally-administered projects			✓
Action 3.2a: Periodic review of the content of the Bicycle and Pedestrian Program website			✓
Action 3.2b: Create centralized information area on website that provides easy-to-access guidance		✓	
Action 3.3a: Increase communication with VDOT Marketing, Communication, and Public Affairs Offices			✓
Action 3.4a: Continue to coordinate with Virginia Tourism Authority and others to promote bicycling			✓
Action 3.5a: Continue to involve the Bicycle Advisory Committee in Program activities			✓
Action 3.5b: Clarify the scope and responsibilities of the Committee	✓		
Action 3.6a: Collaborate with the Department of Education, particularly on Safe Routes to Schools issues	✓		
Action 3.6b: Participate in Road Safety Audits for schools on state-maintained roads			✓



### *Element 3: Improve Bicycle Outreach and Coordination, Cont.*

<i>Action</i>	<i>(0-3 yr)</i>	<i>(3-5 yr)</i>	<i>Ongoing</i>
Action 3.6c: Encourage good bicycle access in new school site design	✓		
Action 3.7a: Work with colleges and universities to promote bicycling to campus	✓		
Action 3.7b: Support the inclusion of a bike/ped transportation course at colleges and universities	✓		
Action 3.7c: Partner with colleges and universities on training courses	✓		
Action 3.7d: Encourage colleges and universities to provide bicycle safety classes			✓
Action 3.7e: Continue to work with college and universities to research bicycling issues in the Commonwealth			✓
Action 3.8a: Work with parks agencies at the national, state, and local level to build a network of bikeways			✓
Action 3.9a: Support projects and programs that encourage bike access to transit	✓		
Action 3.9b: Play a lead role in improving bike access to transit for smaller transit agencies		✓	

### *Element 4: Measure and Evaluate Progress*

<i>Action</i>	<i>(0-3 yr)</i>	<i>(3-5 yr)</i>	<i>Ongoing</i>
Action 4.1a: Establish benchmarks needed to measure progress toward the goals of this Plan	✓		
Action 4.2a: Provide leadership for a long-term bicycle and pedestrian data collection program			✓
Action 4.2b: Coordinate with organizations that already collect data to incorporate bicycle data			✓
Action 4.2c: Explore potential improvements to the collection and categorization of bicycle crash data	✓		



## Appendices

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## Appendix A Bicycle Facilities Accommodation Policy

### Introduction

This document provides guidance on how to address design issues that commonly arise on roadways owned, operated and/or managed by VDOT. It is a policy document, summarizing overriding VDOT principles. While these principles impact bike-related elements of the design process, this document is not intended to replace existing design guidance as presented in VDOT's Road Design Manual. Rather, it should be used in tandem with existing guidance.

This list is not intended to be comprehensive and IS NOT intended to address every design issue that may arise. Other standards and guidelines should be consulted, including the *Manual on Uniform Traffic Control Devices (MUTCD)*, the *AASHTO Guide for the Development of Bicycle Facilities*, and the *AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities*. Engineering judgment should be used when designing and selecting facilities.<sup>11</sup>

### ***1. Bicycle Routes – Compatibility with Bicycling***

Roadways should be evaluated for bicycle compatibility prior to posting bicycle route signs, specifically:

- A bicycle level of service (BLOS) for the roadway of C or better is preferred. In some cases, short connecting segments of lower BLOS can be used.
- There should be no sudden or unexpected hazards such as unsafe drain grates (if such conditions exist, they should be repaired).
- An effort should be made to adjust traffic control devices to meet the needs of bicyclists, for example, actuated signals should respond to bicyclists.

### ***2. Eliminating Gaps During Routine Projects to Facilitate Connectivity***

During road construction and rehabilitation projects, VDOT will investigate nearby bicycle facility connections and make all reasonable attempts to close gaps and facilitate transitions between different bikeway types. VDOT will

also follow bicycle appropriate design principles, per the *AASHTO Guide for the Development of Bicycle Facilities*.

### ***3. Bike Lanes and Paved Shoulders are Preferred***

Where adequate space is available, bike lanes or paved shoulders are the preferred facilities on major roadways owned and managed by VDOT as further defined below. Bike lanes are generally preferred on major suburban roadways because they provide additional operating space for bicyclists and paved shoulders are generally preferred on major rural roadways for the same reason. Shoulders may not be necessary on minor rural roads with low volumes and/or speeds. However, they should be considered when appropriate, such as on roads with higher truck traffic or those with limited sight distance. Bicycle level of service should be used to assist in making the determination as to whether bike lanes or shoulders are needed. A buffered or separated pathway may be necessary, in addition to paved shoulders on roadways with speeds of 45 mph and above, high traffic volumes, and/or infrequent driveways and/or intersecting roadways. Parallel paths in addition to bike lanes are appropriate in populated areas.

### ***4. Retrofitting Roadways***

The following methods will be employed by VDOT to retrofit bike lanes or paved shoulders on urban and suburban roadways, as per the RDM and AASHTO Greenbook:

- Reducing travel lane widths (lane diet) – Lane widths may be reduced per the flexibility defined in AASHTO's Green Book and the RDM. See Appendix C for more information on appropriate travel lane widths.
- Reducing the number of travel lanes (road diet) – In most cases, an engineering analysis will be needed on roadways with excess capacity to determine if they are candidates for this strategy. VDOT and local governments have instituted successful road diets in Virginia. This strategy has safety and operational benefits to motorists, as well as bicyclists and pedestrians.

<sup>11</sup> This document highlights VDOT's design priorities and outlines how bicycles will be considered in the design process. The intent is for it to become an appendix to other documents like VDOT's Road Design Manual (RDM).



- Reconfiguring or reducing on-street parking – Since VDOT streets typically do not have on street parking, this option will have limited use. In addition, this method is a last resort as on-street parking is beneficial to pedestrians, which provides a buffer between the sidewalk and travel lanes, helps to reduce travel speeds and changes to parking are often opposed by adjacent landowners.

### 5. Brief Segments of Bikeways are Acceptable in Order to Facilitate Connectivity at a Later Time

Some projects will only provide a short segment of bike lanes that do not immediately connect to other bicycle facilities on either end. Regardless, it is necessary to provide the space for bicyclists so that future projects can continue to build a growing network. Projects that would result in short bike lanes of less than one-fourth mile should include the necessary pavement width when constructed so the final configuration can be striped with bicycle lane lines, legends, and signs to designate the space as a true bike lane once connectivity is more feasible. Striping plans should be considered interim and reviewed in light of the final conditions. This will eliminate or reduce pavement damage from grinding activities, for example to remove shoulder striping at intersections.

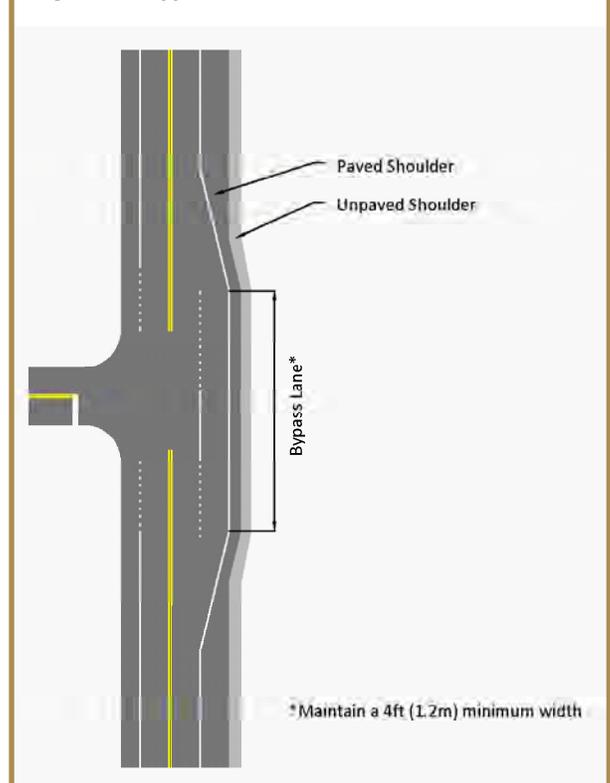
As additional projects such as repaving or roadway capacity improvements enable a longer, continuous bicycle route. Pavement legends and signs should be installed at that time along the entire length of the route. The termini of bicycle facilities, even temporary termini, should occur at logical points that give less experienced bicyclists the option of exiting the roadway if necessary. Options include terminating the bicycle facility at an intersection with a low speed and/or low volume street or to provide a curb ramp at a mid-block terminus that enables a bicyclist to use an alternate facility if they are not comfortable continuing in the roadway. Warning signs per the MUTCD, should be used to warn bicyclists and motorists that the dedicated bike facility is ending.

### 6. Bicycle Compatibility at Intersections

Intersection improvements on VDOT roadways should consider bicyclists in the following ways:

- Actuated traffic signals should detect bicycles, per the AASHTO Guide for the Development of Bicycle Facilities.
- Signals should be designed to address bicyclists' needs, per the AASHTO Guide, including minimum green, yellow, and all-red intervals and extension times that are compatible with typical bicyclist speeds.
- Where appropriate, bicycle lanes should be striped through intersections and interchanges, even in locations where they are not present on the approaches. It is beneficial to provide bicycle lanes in these locations because they help bicyclists properly position themselves on the roadway, and therefore help to reduce conflicts with turning traffic.

**Figure 1: Bypass Lanes at T-Intersections**





### 7. Bypass Lanes at T-Intersections

At T-intersections where a bypass lane is provided to facilitate left turns, a minimum 5-foot shoulder width should be maintained in order to facilitate safe bicycle passage. At T-intersections with shared use paths, a bike left turn pocket should be provided when possible to facilitate left turns by bicyclists travelling on the road who wish to access the shared use path.

### 8. Bicycle Accommodations on Bridges

Bicycle accommodations on bridges should be in accordance with the Commonwealth Transportation Board's policy on bicycle and pedestrian accommodations. All projects start with the assumption that some accommodation should be provided. The specific type of accommodation should be determined based on the type of roadway and type of bicycle and pedestrian accommodations provided on the bridge approaches. Specific information and guidance on bicycle and pedestrian accommodations on bridges is provided in VDOT's Manual of the Structure and Bridge Division – Volume V – Part 2, Chapter 6 Geometrics.

### 9. Drain Grates

Bicycle compatible drainage grates should be used on all projects except where bicyclists are legally prohibited.

### 10. Longitudinal Rumble Strips

Longitudinal rumble strips should not be used on shoulders used by bicyclists unless there is a minimum clear path of four feet from the rumble strip to the outside edge of the paved shoulder, or five feet to the adjacent guardrail, curb, or other obstacle. Gaps are also needed (per AASHTO guidelines) to allow bicyclists to cross over for left turns, to avoid debris on the shoulder, or to pass other bicyclists. Instructional and Informational Memo number IIM-LD-212 provides detailed information on the design and placement of rumble strips. VDOT will continue to monitor and incorporate national best practices for the design and placement of longitudinal rumble strips.

### 11. Prime and Seal Surfaces

Prime and seal surfaces should be avoided where possible on VDOT roads that are designated as bicycle routes. This includes those that are locally-designated, are along U.S. Bicycle Routes 1 and 76, and roadways that are frequently used by bicyclists. Where prime and seal is unavoidable, stone should be regularly swept at intersections, curves, and downhill grades to avoid slipping by bicyclists and to provide a smoother riding surface. If a paved shoulder is provided, it should receive the same treatment as the travel lane.

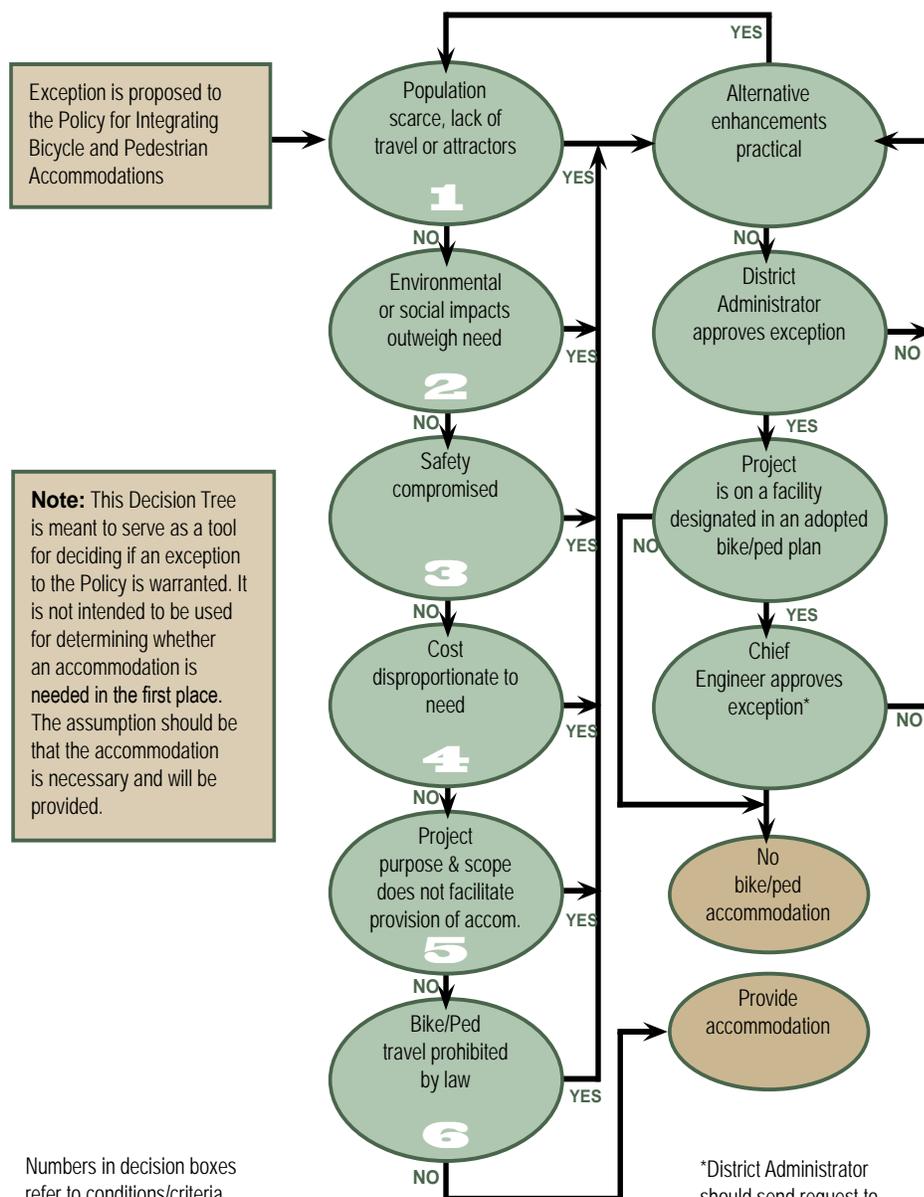
### 12. Innovative Bikeway Design

VDOT will study and, where appropriate, implement new types of bikeways that are being used effectively in other jurisdictions, including bike signals, bike boxes, cycle tracks, buffered bike lanes, contra-flow bike lanes, and bike boulevards, among others. Some of these bikeway designs may require official experimentation status through the Federal Highway Administration. More information on the status of innovative bikeway designs can be found on FHWA's website at: [www.fhwa.dot.gov/environment/bikeped/mutcd\\_bike.htm](http://www.fhwa.dot.gov/environment/bikeped/mutcd_bike.htm).



# Appendix B Revised Exceptions Process Decision Tree

## Bicycle and Pedestrian Accommodation Decision Process



**Note:** This Decision Tree is meant to serve as a tool for deciding if an exception to the Policy is warranted. It is not intended to be used for determining whether an accommodation is needed in the first place. The assumption should be that the accommodation is necessary and will be provided.

Numbers in decision boxes refer to conditions/criteria list. See list for greater detail regarding appropriate exception criteria.

\*District Administrator should send request to Chief Engineer to approve exception and retain documentation.



## Appendix C Travel Lane Width Reference

Available right-of-way is often limited and it can be challenging to accommodate all users. While pedestrians and bicyclists currently comprise a relatively small percentage of system users, they also are more vulnerable users and therefore their safety is particularly important in the planning, design, and maintenance of the system.

Due to constrained rights-of-way, increasing accommodations for pedestrians and bicyclists may require re-allocating existing or proposed pavement space. Creating narrower travel lanes and center turn lanes, e.g. less than 12-foot, or implementing lane diets, can provide space for paved shoulders or bicycle lanes within the existing pavement width. This space could also be allocated to wider sidewalks, pedestrian refuges, and other design improvements to reduce the distance that pedestrians must travel to cross the road.

### Recommendation

VDOT should consider issuing an Instructional and Informational Memorandum (I&M), See Chapter 5 page 26 comments, on lane widths based on current research, similar to a directive issued by the Florida Department of Transportation in June 2009.<sup>12</sup> This directive should specifically allow VDOT Districts, Residencies, and Municipalities to narrow lane widths to consider adding bike lanes during resurfacing when the width of the road is not changing, assuming the appropriate level of analysis has been done. This strategy will provide a cost effective method of improving Bicycle Level of Service on VDOT roadways, without compromising safety for other users.

This memorandum also can allow narrower lane widths in new projects or in roadway widening projects where the width of the road is being expanded but where right-of-way is constrained.

### *Policy Background and Research*

National highway design policy encourages a flexible approach to selecting lane widths. The AASHTO Policy on Geometric Design of Highways and Streets recommends that lane widths on major roads range from 10- to 12-foot. The Federal Highway Administration encourages flexibility

and notes that while wider lane widths may be attainable on new construction, projects that seek to retrofit the built environment will need to consider minimum values and when necessary use a design exception process for less than minimum values.<sup>13</sup>

Traditionally, the desired standard width for motor vehicle travel lanes has been 12 feet. Concerns about vehicle occupant safety and congestion have prevented consideration of narrower travel lane widths, especially on arterials. New research, however, shows that 12-foot may not always be needed for safety and capacity and that, in many situations, lane widths between 10-foot and 11-foot on arterials and collectors do not negatively impact overall motor vehicle safety or operations. *Relationship of Lane width to Safety for Urban and Suburban Arterials*, a recent study by the Midwest Research Institute<sup>14</sup> should be referenced for more information on this topic.

New research has also been undertaken to determine the effect of reducing lane widths on motor vehicle capacity. NCHRP Project 3-72 entitled *Lane Widths, Channelized Right Turns, and Right-turn Deceleration Lanes in Urban and Suburban Areas* studied saturation flow rates for various lane widths and found only a negligible difference, less than five percent, between the saturation flow rate of a 12-foot travel lane versus a 9.5-foot travel lane. Therefore, reducing a travel lane width from 12-foot to 10-foot has been found to have no adverse effects on motor vehicle capacity in urban and suburban locations. The Highway Capacity Manual is currently under revision and due in 2010, it will reflect these research findings.

A good document providing guidance for appropriate lane widths is *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities* published by the Institute of Transportation Engineers in collaboration with the Congress for the New Urbanism. This document reflects more current flexible roadway solutions grounded in the scientific safety principles followed by ITE. This document provides general guidance on lane width, dimensions and criteria for common elements of the cross section and other design elements of major urban thoroughfares.

<sup>12</sup>Roadway Design Bulletin 09-03: Bicyclist Needs on Resurfacing, Restoration and Rehabilitation (RRR) Projects, 2009.

<sup>13</sup>Federal Highway Administration. *Flexibility in Highway Design*, 1997.

<sup>14</sup>Potts, Harwood, and Richard. *Relationship of Lane width to Safety for Urban and Suburban Arterials*. Transportation Research Board, 2007.



## Appendix D VDOT Bicycle and Pedestrian Program Mission, Core Responsibilities and Staffing/Resource

VDOT's Bicycle and Pedestrian Program promotes bicycling and walking throughout the Commonwealth. Since the late 1970s the program has provided planning assistance to state and local transportation planners, coordinated activities for various bicycle committees, and spearheaded bicycle and pedestrian education and safety promotions in Virginia. This memorandum describes the division of responsibilities between the Bicycle and Pedestrian Program and support staff in other areas of the organization.

### Mission Statement

The Bicycle and Pedestrian Program plays a leadership role in advancing bicycle and pedestrian transportation modes as a routine practice and integrated component of VDOT's planning, design, construction, operations, and maintenance processes and serves to maximize the utility and safety of non-motorized transportation modes for both transportation and recreation..

### Program Responsibilities

A brief description of the primary, secondary, and tertiary responsibilities of the VDOT Bicycle and Pedestrian Program is included below.

#### Primary

- **Bicycle and pedestrian policy guidance and implementation:** The program coordinates with VDOT Districts and Residencies, the VDOT Policy Implementation Team (PIT), the Bicycle Advisory Committee (BAC), and others to continue to foster and advance the implementation of the State Bicycle Policy Plan and the *Policy for Integrating Bicycle and Pedestrian Accommodations*. In addition, the program develops, revises, and provides comments on internal policies related to bicyclists and pedestrians. It serves as a conduit between VDOT Districts and Residencies and the Central Office in determining provisions of VDOT policies and coordinating guidance and responses from the appropriate division(s) within Central Office.

- **Design guidance:** The program provides guidance on the selection and design of bicycle facilities and accommodations to stakeholders within VDOT, as well as to the public and private sector.
- **Stakeholder relations:** The program serves as a partner with and conduit between VDOT and bicycle and pedestrian advocacy organizations.
- **Bicycle master planning:** The program spearheads statewide bicycle planning processes and advises and participates in local/regional bicycle planning efforts as requested.
- **Safe Routes to School (SRTS) program oversight:** The program coordinates with and supports the Virginia SRTS program.
- **Legislation:** The program drafts and revises proposed legislation and assists in drafting VDOT responses to proposed legislation.
- **Constituent response:** The program provides constituent responses on behalf of the Governor's office and other elected officials.
- **Tracking and reporting on performance measures:** The program plays a leadership role in tracking and reporting on bicycle and pedestrian-related performance measures.
- **Organizing statewide bike and pedestrian conferences:** The program plays an active role in organizing statewide bike and pedestrian conferences and other training opportunities.
- **Convening:** The program plays an active role in regularly convening key stakeholders such as the Statewide Bicycle Advisory Committee (BAC) and District Bicycle and Pedestrian Coordinators.

#### Secondary

- **Participation in the budget setting process:** The program has an active role in the budget setting process to advance pedestrian and bicycle projects and programs throughout the state.



- **State of the practice research:** The program conducts and disseminates state of the practice research on bicycle-related policies, design, and research.
- **Education and outreach:** The program spearheads bicycle education and outreach efforts for the full range of stakeholders, including motorists, bicyclists, pedestrians, and law enforcement officials.
- **Plan review:** The program reviews VDOT construction plans submitted to the Central Office, providing VDOT Districts with guidance and suggestions on how to deal with site-specific planning and design issues as requested.
- **Bicycle and pedestrian law questions:** The program provides answers to questions from citizens regarding the existence and application of bicycle and pedestrian laws in Virginia.
- **Committee representation:** The program serves on state and national committees such as the State Trails Task Force and the APHERD/NHTSA bike curriculum initiative.
- **Special project management:** The program leads special projects on behalf of VDOT, including Bike to Work Day.

### Tertiary

- **Expert witness:** The program provides expert witness testimony on behalf of VDOT for bicycle and pedestrian issues.
- **Bike routing, trip information, and mapping:** The program provides guidance on bike routing and trip planning and mapping particularly where statewide routes are concerned.
- **Virginia Transportation Research Council (VTRC) research projects:** The program provides feedback on ongoing VTRC projects and serves on relevant committees.
- **Assistance with submission of U.S. Bicycle Route revisions to AASHTO:** The program provides assistance and support to VDOT District offices for proposed changes to the U.S. Bicycle Routes in Virginia.

- **Bicycle and pedestrian safety materials:** The program takes a lead role in the procurement and distribution of bicycle and pedestrian safety materials.
- **Development and oversight of new or updated resources:** The program develops and provides oversight of new and updated resources including the Virginia Bicycle Guide, Virginia Bicycle Facility Resource Guide, and the State Bicycle Map.
- **Enhancement fund programming:** The program works directly with the Enhancement Program and Local Assistance Division to ensure coordination of statewide planning and construction of bicycle and pedestrian facilities.

### Staffing and Resource Plan

The VDOT Bicycle and Pedestrian Program's current staffing and resources are discussed briefly below. As additional responsibilities are taken on, as recommended in the State Bicycle Policy Plan, additional staffing and/or resources will be required, as noted below. The program currently has an active role in the budget setting process. This should continue in the future.

#### Current

VDOT's Bicycle and Pedestrian Program's current staffing and resources include one full-time Bicycle and Pedestrian Planner, one full-time Safe Routes to School Coordinator as required by law, and ongoing staff support from other VDOT programs and consultant resources.

#### Future

The full-time Bicycle and Pedestrian Planner and Safe Routes to School positions should remain in the future. As the demand for bicycle and pedestrian responsibilities increases, additional staffing and/or resources should be considered to commensurate with responsibilities and support of the program. The program should continue to benefit from staff support from other programs. In addition, the program should be provided with regular access to additional staff support.