

Local Planning and Promotion of Bicycle and Pedestrian Accommodations



A Review and Analysis of Virginia Government Efforts

By John Bolecek
for the Virginia Municipal League
and the Weldon Cooper Center for Public Service
September 14, 2009

Executive Summary

Bicycling and walking are growing in popularity for many reasons. Recognizing the importance of this trend both for individuals and communities, many localities in Virginia have taken steps to accommodate, encourage, and plan for pedestrians and bicyclists. These efforts encompass a wide variety of activities, including the creation of trails, bicycle lanes, sidewalks, bicycle and pedestrian plans, bicycle and pedestrian advisory committees and new full-time positions for bicycle/pedestrian coordinators and greenway planners. Some localities even provide for bicycle-parking requirements in their zoning ordinances.

This paper examines steps that the commonwealth and selected Virginia localities have taken to plan for bicycle and pedestrian transportation. To the extent feasible, it also analyzes the costs and benefits involved. Thus it can serve as a guide for Virginia localities that may be considering similar programs. Ideally, it will also foster increased communication among local and state officials about the benefits of bicycling and walking, as well as best practices.

Although localities throughout the commonwealth face severe budgetary constraints, they may nevertheless be able to improve bicycle and pedestrian transportation in their communities. Some programs require few, if any, additional expenditures. Others that might increase costs may still be worth considering because of the likely return on investment and increased probability of leveraging future funding. Given the potential benefits of bicycling and walking and growing demand, it is now more important than ever for all levels of government to adopt policies that promote walkable and bikable communities.

Method

The main body of research for this report consisted of a review of relevant literature, analysis of reports and data, and telephone interviews with state and local officials. Two resources that proved especially valuable were the *2009 BikeWalk Virginia Benchmark Study*, which shows the distribution of bicycle and pedestrian programs between counties, cities, and towns in the commonwealth, and the *Virginia Bicycle Facility Resource Guide*, a 2002 Virginia Department of Transportation (VDOT) publication. Interviews were conducted primarily with local planning officials and with staff from the Virginia Department of Transportation (VDOT).

Background

The need to plan for the bicyclist and the pedestrian is a timely issue that is gaining more and more attention. For one thing, people are walking and biking more now than at any other time in recent years. The reasons for the burgeoning popularity of pedestrian and bicycle transportation vary: increased gas prices, other economic incentives, environmental benefits, public health benefits, congestion mitigation, and the growing demand for walkable communities. The economic factors contributing to this trend became apparent in the summer of 2008 when bicycle sales rose sharply after the dramatic spike in gas prices. In fact, bike sales outpaced car sales in the first quarter of 2009 (Huffington Post). The Virginia Department of Motor Vehicles (DMV) reports that as of 2008, roughly 30 percent of all Virginians did not drive (DMV Crashfacts and U.S. Census).

More precise data about walking and biking rates nationwide will be available when the final results of the 2009 National Household Travel Survey are released and the 2010 Census is completed and analyzed. However, smaller-scale studies already indicate an increase in bicycle and pedestrian activity in various parts of the country. The Washington Metropolitan Area Transit Authority (WMATA), for example, has conducted studies on the number of Metro passengers who bike or walk to Metro stations and found “between 2002 and 2007, bicycling to Metro stations increased 60 percent, and walking increased 18 percent,” according to Greater Greater Washington, a blog citing the WMATA study.

Moreover, the momentum is likely to increase if the federal government provides additional economic incentives as expected. One bill before Congress that could serve as a vehicle is the American Clean Energy And Security Act of 2009, which passed the U.S. House of Representatives in June 2009. It requires industries to capture the cost of their carbon emissions, including costs related to transportation. If the bill passes the Senate and is signed into law, it will provide significant economic incentives for walking and biking, since these two modes of transportation are among the very few that produce no carbon emissions. In addition, under the new law, the economic benefits of biking and walking would probably continue to increase, because the already low cost of walking and biking will remain static while the cost of driving is likely to grow, depending on vehicles' carbon emissions and the price of fuel. Given these trends, it is now more important than ever for all levels of government to adopt policies that promote walkable and bikable communities.

Existing Research and Data

In 2007, BikeWalk Virginia, a nonprofit organization, conducted the first major study of bicycle and pedestrian planning in Virginia, based on a survey of all counties, cities, and towns in the commonwealth. The results were published in a report, titled *The 2007 Benchmark Study*. Although the response rate was only 35 percent, the report provided an initial view of bicycle and pedestrian facilities and plans throughout the state. In particular, it included information about local bicycle, pedestrian, and greenways plans; bicycle and/or pedestrian advisory committees; total miles of trails and bicycle lanes; and the amount each locality had received in Transportation Enhancement grants (funds awarded by the federal Highway Trust Fund and administered by VDOT that are a major source of support for local bicycle and pedestrian projects).

When BikeWalk Virginia repeated the survey in 2009 it had greater success. With a response rate this time of 50 percent, the updated study provides a more comprehensive view of local bicycle and pedestrian transportation programs in the state. Known as the 2009 BikeWalk Virginia Benchmark Study, its goal is to provide

“baseline data to improve transportation programs. Currently there has been no inventory of bicycle and pedestrian (bike/ped) programs in Virginia, and so there is no preliminary knowledge of what resources exist for these communities. In this report you will find an overview of the regional distribution of bike/ped programs as well as analyses regarding public access and public safety. We hope that organizations will use our findings as a jumping off point for future research.” (BikeWalk Virginia 2009 Benchmark Study)

This study also contributes valuable analysis and maps that show the spatial distribution of bicycle and pedestrian resources (Bike Walk Virginia 2009 Benchmark Study).

Existing Conditions

As the table below indicates, cities have a higher rate of plans and committees than other localities, according to the 2009 BikeWalk Virginia report.

	Cities	Counties	Towns
Transportation plans	90%	66%	26%
Bicycle plans	51%	33%	8%
Pedestrian plans	21%	18%	25%
Greenway plans	36%	16%	8%
Bicycle Advisory Committee	23%	14%	9%
Pedestrian Advisory Committee	18%	9%	8%
Transportation Advisory Committee	44%	24%	4%

These figures are also shown in the graphs below.

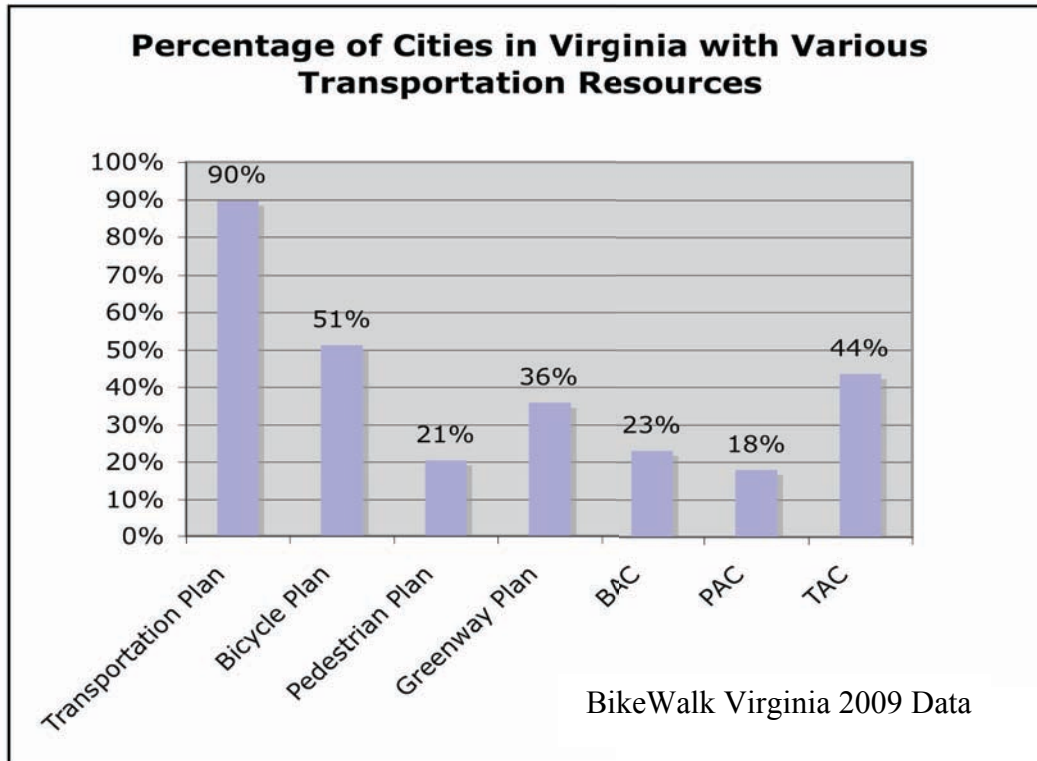


Figure 1.

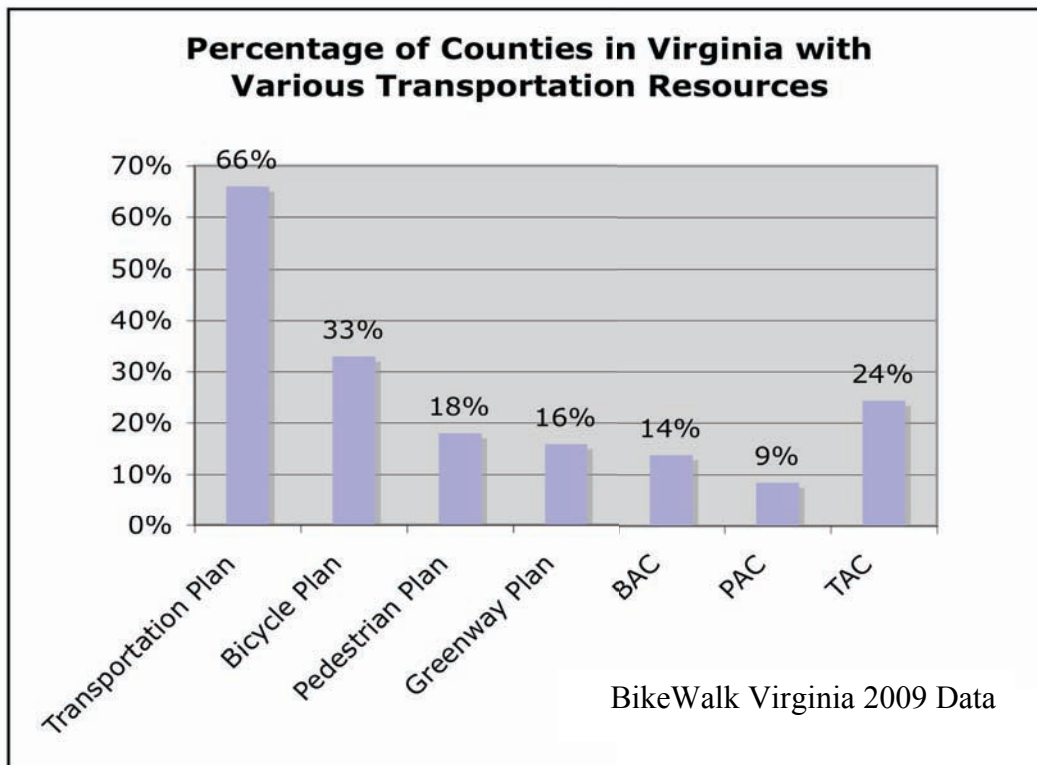


Figure 2.

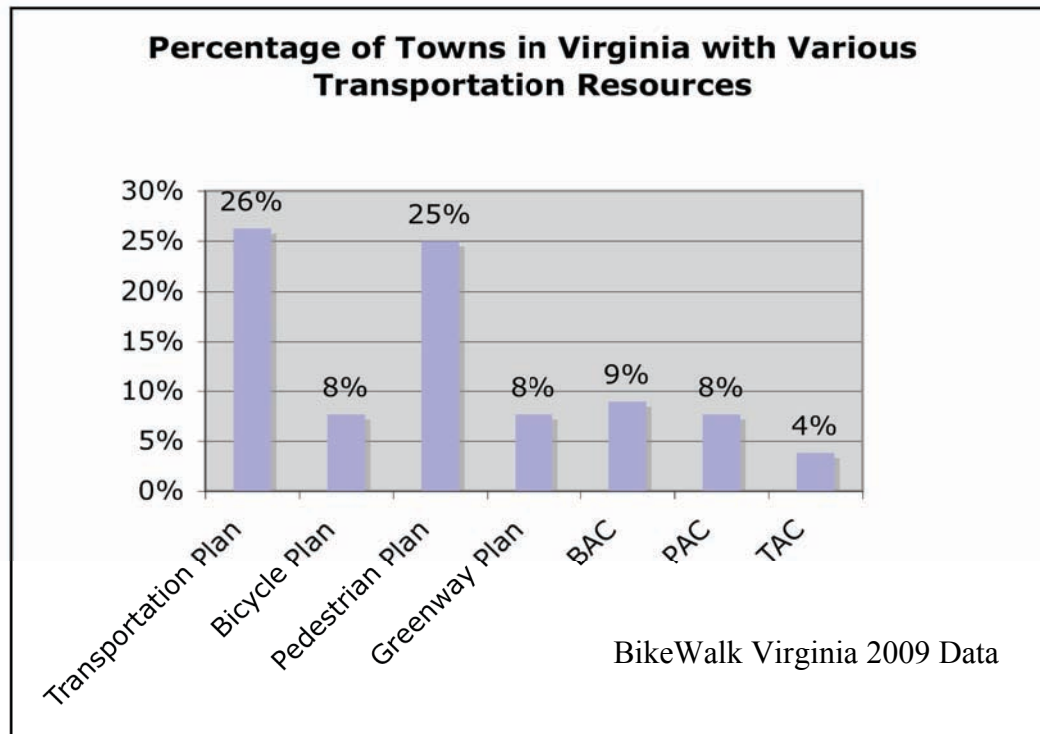


Figure 3.

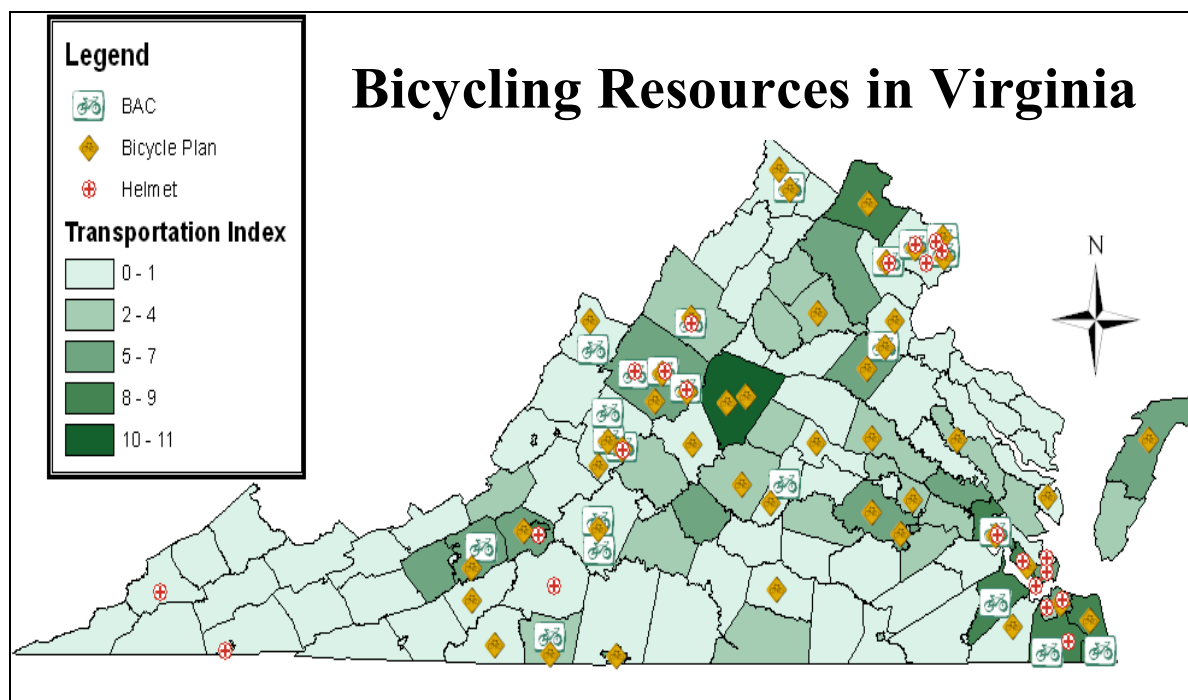


Figure 4. Map courtesy of BikeWalk Virginia. This map shows the distribution of bicycling resources and laws throughout Virginia. The green bicycle symbol indicates localities that have bicycle advisory committees. The orange road sign symbol shows which localities have bicycle plans. The transportation index is a ranking system that gives one point out of 12 for each “yes” answer to the questions in the survey.

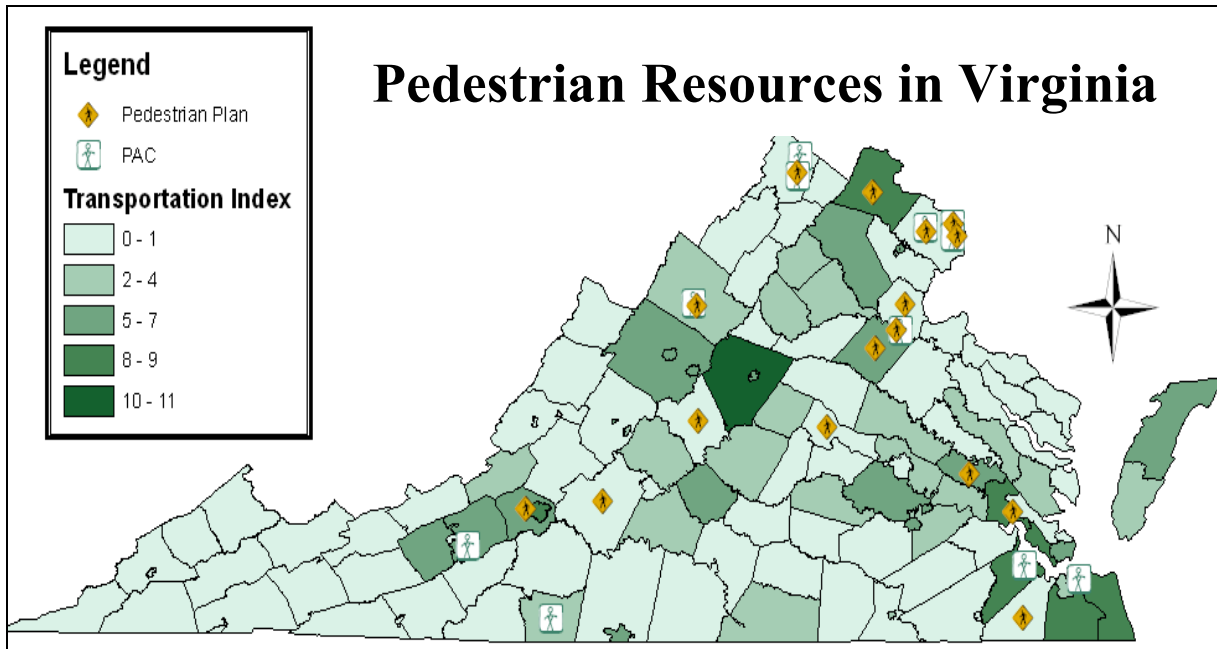


Figure 5. Map Courtesy of BikeWalk Virginia. This map shows the distribution of pedestrian resources throughout Virginia. The green pedestrian symbol shows which localities have pedestrian advisory committees. The orange road sign symbol shows which localities have pedestrian plans.

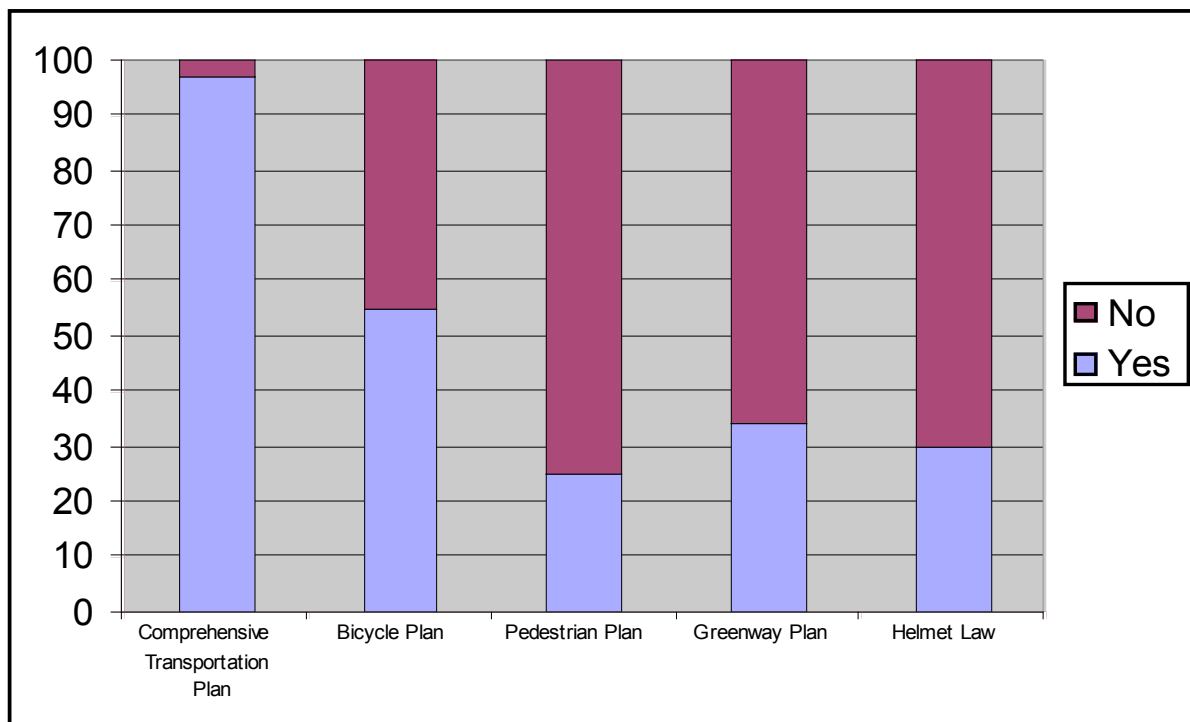


Figure 6. Chart Courtesy of BikeWalk Virginia. This chart shows the total percentage of cities and counties with a comprehensive transportation plan, bicycle plan, pedestrian plan, greenway plan, and/or helmet ordinance for those under 14.

Bicycle and Pedestrian Plans

Adoption of a bicycle and/or pedestrian plan is arguably the most important step a locality can take to prepare itself to improve biking and walking conditions. Such plans accomplish two key goals: developing a long-term strategy to accommodate bicycles and pedestrians and increasing the locality's ability to leverage funds for bicycle and pedestrian facilities.

In addition, the process of developing a bicycle and/or pedestrian plan can itself be beneficial. If done well, it can engage the entire community—citizens, decision makers, and staff—in creative thinking to shape a common vision for the future and to develop short- and long-term goals for making that shared vision a reality. Ideally, the process can also generate strong community support for the plan. Once approved, the final plan will represent tangible documentation of the community's vision for a section of existing roadway or a new road.

Benefits of Coordinating with VDOT

VDOT has the third largest highway system in the United States and maintains at least some of the roadways in virtually every Virginia locality. Because there are many local governments with many different plans, it is important for localities to communicate their needs effectively to VDOT. An approved bicycle or pedestrian plan provides clear evidence of a locality's needs and, as a result, increases its ability to leverage funding for bicycle and pedestrian facilities in a number of ways. For example, incorporating a section of roadway into a locally adopted bicycle or pedestrian plan can raise the funding threshold for the bicycle or pedestrian facility in any VDOT projects, which affect that road segment. In 2004 the Commonwealth Transportation Board adopted a policy calling for the integration of bicycle and pedestrian accommodations in every VDOT project. To implement this policy, VDOT requires that each project begin with the assumption that it will include a bicycle and/or pedestrian accommodation. While exceptions are possible, inclusion of a section of roadway in a locally adopted plan significantly reduces the likelihood that an exception would be granted.

VDOT projects that are over budget provide a second example of the way in which an approved bicycle or pedestrian plan can help localities leverage funds. Generally, when a VDOT project is over budget, the bicycle or pedestrian component can be cut if it exceeds more than 10 percent of the total project cost. However, if the affected section of roadway is included in a locally adopted plan, the threshold increases to 20 percent. (This example applies only when a project is over budget or some other exception is triggered.) Note, however, that VDOT projects funded with highway construction money can exhaust the entire project budget for a bicycle or pedestrian facility.

Communication with VDOT through locally adopted plans can have other benefits as well. Both road striping and paving-and-maintenance activities can be used to a locality's advantage if well documented in a plan. If a locality wants a bike lane painted on a certain road, planners should document that there is adequate width, indicate where the lane would start and terminate, and make VDOT aware of the plan. The next time that

that section of roadway is restriped, VDOT can paint the bike lane. Similarly, localities can have shoulders paved for bicyclists through state maintenance activities. According to the *2004 Commonwealth Transportation Board Policy for Integrating Bicycle and Pedestrian Accommodations*, Virginia's goal is that 2 percent of the paving budget of each VDOT district be dedicated to paving shoulders. Thus localities that include goals for such paving in their plans and notify VDOT of these intentions can obtain state help with implementation.

Local officials can obtain more information about the *2004 Commonwealth Transportation Board Policy for Integrating Bicycle and Pedestrian Accommodations* in a section of VDOT's Biking and Walking webpage entitled "Documents for Localities." The most relevant document is called *Bicycle and Pedestrian Implementation: A Guide For Localities*, which provides further details about several of the suggestions and methods of implementation covered in this section.

Leveraging Funding

A locally adopted plan can also help localities leverage proffers from private developers for bicycle and pedestrian facilities. For example, if a sidewalk and crosswalks lie along a roadway adjacent to a proposed development and desired improvements to these pedestrian accommodations are spelled out in a locally adopted plan, a locality may be able to accomplish the improvements through proffers. The developer is likely to have reviewed the comprehensive plan and to have noted of any recommendations for bicycle or pedestrian improvements nearby. Such transportation improvements close to the development are obvious choices to proffer. Moreover a plan communicates to the developer that these improvements are something the locality considers a commitment. In addition, listing facilities in the comprehensive plan allows the developer to envision the bicycle and/or pedestrian facilities as part of the development from the outset. Finally, localities can encourage developers to help finance bicycle and/or pedestrian improvements by requiring private facilities such as bicycle parking in the zoning ordinance. For an example, see Gloucester County's Zoning Ordinance section 11-2.

It is also important to note that projects included in locally adopted plans are more likely to attract federal Transportation Enhancement and Safe Routes to Schools funding than those that have not been officially sanctioned following a complete public review. The reason is that an important requirement of most such grants is evidence of community support, something an approved plan can easily show.

Creation

Anyone interested in creating a bicycle and pedestrian master plan should review the *Virginia Bicycle Facility Resource Guide* mentioned above. This excellent guide recommends the following basic outline:

- Goals and objectives
- Existing facilities and roadway network
- Planned pedestrian, bicycle and roadway improvements
- Significant attractions and destination points
- Routes and locations of proposed facilities

- Indications of preferred facility types along roads, e.g., sidewalks, bicycle lanes, and trails
- Prioritization of projects (short term vs. long term)
- Implementation strategies including funding

A complete plan should contain at least these components but could include as much detail as a locality chooses. Note that although the guide does not address pedestrian planning separately, its recommendations for planning bicycle accommodations also apply, for the most part, to planning pedestrian accommodations.

Cost

Cost is a fundamental concern for any local government contemplating a new bicycle and pedestrian plan. In fact, the costs involved, including staff time, can vary widely, depending on local circumstances. At one extreme, a plan might be developed with just a minor commitment of staff time, easily absorbed under an existing budget line item. At the other extreme the process could call for a major new consulting contract and a significant outlay of funds.

One planning technique is available that can minimize costs and is probably ideal for small localities or others without either a complete bicycle and pedestrian plan in place or the resources to create one. It is a bare-bones method that requires no outside resources and can be completed by a planner or other staff member familiar with the local road network and its right-of-way. This approach merely involves tracing over a black-and-white map of the locality with a colored marker to denote bicycle routes and places where facilities such as bicycle lanes or paved shoulders are appropriate. The same technique can be used to create a pedestrian plan by noting existing sidewalks on the map with one color and with another highlighting places where missing sections of sidewalk should be installed. A simple plan developed in this way can reap many of the benefits discussed above, including coordination with VDOT, developers, and the public. It may even be used to leverage other funding in the absence of a complete plan.

Some localities may prefer to engage a consultant to develop their bicycle and pedestrian plans. In that case, the cost depends generally on the depth and detail of the plan, the size of the locality, and the amount of work done in-house instead of by the consultant. The *Virginia Bicycle Facility Resource Guide* lists the following factors for consideration in estimating the cost of a consultant-led plan:

Who will complete the activity? Labor costs to complete the assignment will vary depending on whether the work is done by local/regional staff, a consultant, a citizen group, or a combination.

How much outreach is necessary and who will be involved? The extent of outreach appropriate for the project is an important factor, including coordination with the general public, special interest groups, local/state/federal officials, neighborhood associations, and local elected officials. Multiple meetings and other outreach methods can become costly.

What mapping and/or graphics will be required? Who will produce them and how? Clear mapping and graphics are essential to the planning process. The types of graphics the effort will require such as mapping, renderings, brochures, or other graphical products can be a major cost consideration. Similarly, the type of software to be used and a decision about whether mapping will utilize Geographical Information System (GIS) data should also figure into the estimate.

What is the level of complexity of the activity? The length of the project, the level of public acceptance, corridor constraints, and the political climate can all affect planning costs.

Is the project starting from scratch or has work been previously completed? The cost to complete the planning effort will also depend on how much legwork has already been done.

The Pedestrian and Bicycle Information Center website offers many helpful resources, including one that addresses these cost issues in more detail, entitled *How much does it cost to develop a bicycle and/or pedestrian plan?* The article notes that a locality can expect to pay between \$25,000 and \$500,000 for an in-depth consultant-led plan, depending primarily on the community's size. The cost for a city as large as Philadelphia, for example, would be at the higher end of the scale. The website also collects sample bicycle and pedestrian plans from across the United States and provides an article on local pedestrian planning. Links to all of these articles are listed at the end of this report.

Bicycle and Pedestrian Advisory Committees

Several localities in Virginia rely on bicycle and pedestrian advisory committees for guidance in creating new bicycle pedestrian plans or keeping existing ones up to date. However, the composition of these groups varies widely from one locality to another. In some, the governing body appoints members of the advisory committee, while in others the committees are comprised of self-selected volunteers. Likewise, the responsibilities of these groups and the individuals or entities to which they report are also inconsistent from locality to locality. Oversight may come from local staff, the planning commission, or either the board of supervisors or city or town council.

When a locality creates a new bicycle and/or pedestrian plan and needs a committee to guide that process and to meet periodically to keep the plan up to date, it often selects an advisory committee comprised of stakeholders, including local government staff, planning commission members, elected officials, and citizen advocacy groups. For example, the Historic Triangle Bicycle Advisory Committee, whose members are area stakeholders, is in charge of keeping the Williamsburg, James City, and York Regional Bicycle Facilities Plan current.

Similarly, pedestrian and bicycle advisory committees in Arlington County and the City of Alexandria, are comprised of concerned local citizens. Arlington County's Pedestrian Advisory Committee meets every other month and reports to city staff. The Arlington Bicycle Advisory Committee meets every month. In both cases the members of these

committees chair and conduct their own meetings. According to staff interviews, total staff time required amounts to a few hours of meeting preparation and several more for the meeting itself.

Local officials interested in creating bicycle and pedestrian advisory committees may want to consult with their counterparts in other localities about their experiences and recommendations. The make-up of the committee is an important early question to resolve. Since there are so many variations from one locality to another, the more information officials can gather about best practices, the better. Another key question is the precise role of the group. This should be clarified before the recruitment and appointment process begins and well before the first meeting. There is a good rule of thumb to determine the appropriate reporting level: an advisory committee's main concerns should guide the decision about who oversees it. For example, if committee members want to influence project implementation, then staff is probably the appropriate reporting level. On the other hand, if the committee is more concerned about policy-level decisions, matters of funding, or project selection, City or Town Council or the Board of Supervisors is probably a better choice.

Bicycle and Pedestrian Plans in Alexandria and New Kent County

The City of Alexandria and New Kent County offer two good examples of bicycle and pedestrian plans that can serve as models for other Virginia localities. The former is an urban jurisdiction; the latter is rural. Although both plans are excellent, they represent vastly different levels of planning effort.

Alexandria's bicycle and pedestrian plan, last updated in 2008, is extremely detailed. Among other things, it shows the wide variety of factors that can be incorporated into a plan, such as analyses that support recommended improvements. Specifically, Alexandria's plan includes bicycle level-of-service studies, crash data with maps for both bicyclists and pedestrians, and GIS analysis of streets with the most pedestrian and bicycle activity. Additional components of the plan include roadway-crossing conditions, needed signalization improvements, and recommendations for curb ramp improvements. In addition, Alexandria's plan contains sound strategies for implementation and ideas for integrating some of its recommendations into existing Capital Improvement Plan (CIP) projects. GIS maps illustrate many of these variables.

New Kent's Bicycle and Pedestrian Plan, on the other hand, was created essentially at no cost to the county as part of a planning district commission consultant-led plan for the entire region. The Richmond Regional Planning District Commission (RRPDC) paid for a regional bicycle and pedestrian plan that encompassed all its member localities, but New Kent was the only one to incorporate relevant sections of the document into its comprehensive land use plan. As a result, VDOT was able to help the county implement some of the recommended improvements. Certainly not every locality will have the same good fortune as New Kent, but this case does highlight the value of planning district commissions, a resource available to every locality.

Obsolete Programs

Another way to encourage bicycling is to dismantle mandatory bicycle registration programs. Such programs are generally unpopular with cyclists because they consume too much money and time. In addition, because the vast majority of Virginia localities do not require registration, bicyclists living in the affected jurisdictions may resent being singled out.

In 2009 Norfolk citizens urged the city to repeal an ordinance requiring registration of all bicycles operated within city limits. Concerns about unequal enforcement grew amid allegations that police were enforcing the law in low-income neighborhoods but not in other areas of high bicycle use, such as those around Old Dominion University. WTKR reported, “Police records show a clear pattern: Bicycles are most frequently seized in low-income neighborhoods and from people living in low-income neighborhoods.” The WTKR reporter found that generally most people did not register their bicycles. In fact, both council members admitted in interviews that they had never registered their bicycles.

The administrative costs of bicycle registration programs are also a concern. In general these costs are so high they can only be recouped through unreasonably high fees. However, voluntary registration programs can be successful and even popular. Examples of well-received voluntary programs can be found at many Virginia universities. (When biking is a crime)

Conclusion

Although bicycles and pedestrians are important components of the transportation system in Virginia, pedestrian and bicycle infrastructure has often been an afterthought in our transportation network. Even in urban areas, pedestrians frequently walk on roads with no sidewalks, and bicyclists often travel without any accommodation on busy roads. Given the health benefits to users, environmental benefits to all, mitigation of congestion, and other quality-of-life implications, planning for and improving bicycle and pedestrian transportation are certainly worth the investment.

Moreover, the global implications of increasing carbon emissions and the rising cost and demand for petroleum worldwide make it imperative that we do a better job planning for bicyclists and pedestrians. Walkable and bikable neighborhoods are becoming more and more important to residents. The best means of meeting these needs at the local level is with effective bicycle and pedestrian plans—living documents created and approved by local governments. As other transportation funds dwindle, careful planning for bicycle and pedestrian expenditures offers localities a glimmer of hope for an alternative, cost-effective way of improving transportation networks and their citizens’ quality of life.

Bibliography

2004 Commonwealth Transportation Board Policy for Integrating Bicycle and Pedestrian Accommodations. http://www.virginiadot.org/programs/resources/bike_ped_policy.pdf

BikeWalk Virginia 2007 Locality Survey
<http://www.bikewalkvirginia.org/programs/BikePedBenchmarkStudy.asp>

BikeWalk Virginia Benchmark Study. 2009. Jayne Deickmesister

City of Alexandria Bike Ped Mobility Plan. 2008.
<http://alexandriava.gov/localmotion/info/default.aspx?id=11418>

Greater Greater Washington Blog. August, 2009.
<http://greatergreaterwashington.org/post.cgi?id=2573>.

Gloucester County Zoning Ordinance. Section 11-2. Parking. [http://municode.com/](http://municode.com/http://www.huffingtonpost.com/dennis-markatos/us-bike-sales-higher-than_b_207899.html)
http://www.huffingtonpost.com/dennis-markatos/us-bike-sales-higher-than_b_207899.html Bike sales up

New Kent County Bicycle and Pedestrian Plan. <http://www.co.new-kent.va.us/planningcomm/revcompplan/18Bike.pdf>

Phone interview: Jakob Helmboldt, Virginia Department of Transportation: Tuesday August 25th 2009.

Phone interview: Yon Lambert, City of Alexandria. Tuesday August 25th 2009.

Phone interview: David Patton, County of Arlington. Monday, August 31st, 2009.

U.S. Census Bureau. Quickfacts State population estimates. Virginia 2008.

Virginia Bicycle Facility Resource Guide. 2002. Virginia Department of Transportation and VHB Consulting. <http://virginiadot.org/travel/resources/bk-facresguide.pdf>

Virginia Department of Motor Vehicles Crashfacts. 2008. Page 1. General Statistics. Number of Licensed Drivers.

National Pedestrian and Bicycle Information Center. How much does it cost to develop a plan?
<http://www.walkinginfo.org/faqs/answer.cfm?id=20>

National Pedestrian and Bicycle Information Center. Sample Pedestrian Plans
<http://www.walkinginfo.org/develop/sample-plans.cfm>

National Pedestrian and Bicycle Information Center. Local pedestrian planning
<http://www.walkinginfo.org/develop/levels-local.cfm>

When Biking Is A Crime. Mike Mather WTKR-TV3. 2009.
<http://www.wtkr.com/news/wtkr-bikingcrime-mather-mar30,0,3780539.story?page=3>

This paper was written by John Bolecek, a recent graduate of the University of Virginia's Department of Urban and Environmental Planning. He works for the U.S. Department of Transportation as a transportation safety analyst and is a certified instructor for the National Safe Routes to Schools course.

John wrote this report to fulfill the terms of the Wallerstein Scholarship, which he was awarded in 2008. The annual scholarship is awarded jointly by the Weldon Cooper Center for Public Service at the University of Virginia and the Virginia Municipal League.

For more information, contact John Bolecek at john.bolecek@dot.gov or 202-366-8112. This report is available at <http://www.vml.org/> and <http://www.coopercenter.org/>