Chapter 9 – Bicycle and Pedestrian Facilities

Introduction

Bicycling and walking are often overlooked as serious travel options in the United States. In older U.S. cities, as well as in Europe and other parts of the world, these modes constitute a very important part of the transportation system. In the cul-de-sac oriented suburban environment developed after World War II, however, these modes seem out of scale and out of place. Distances between residences and activities are discouraging to pedestrians and cyclists in this environment; further, these distance barriers are magnified by design factors that either prevent direct paths, or that put pedestrians and cyclists in conflict with vehicular traffic. Moreover, many of the cycle paths and walking trails are built to loop around some feature. Hence, cycling and walking may seem more a recreational pursuit unlikely to comprise a significant transportation mode within the built environment, and therefore are typically not given great weight in transportation planning or policy schemes. It is important to remember that for the people of our community without driver’s licenses, bicycling and walking are the primary – and perhaps exclusive – form of independent mobility.

The essence of Travel Demand Management (TDM) is in efficiently managing the overall transportation system by drawing upon all travel options as appropriate and creating a balanced transportation network within which numerous options are available. In this regard, there is more potential to bicycling and walking than might appear at first glance, in both a direct and a complementary relationship. There are at least three important ways in which bicycle and walk modes might be pushed into greater service:

- **As a Primary Mode:** more people could use cycling or walking as a primary mode instead of driving, if given appropriate opportunity and encouragement.

- **As a Feeder Mode:** bicycling and walking can be effective for connecting to transit (or ridesharing) for longer trips, again if given appropriate opportunity and encouragement.

- **For Circulation:** if the destination site or activity center allows for convenient circulation, travelers are more likely to use non-auto modes to reach the site in the first place.

Even considering limitations presented by the built environment, it is reasonable to conclude that rates of cycling and walking, particularly for non-recreational purposes, are considerably less than their potential. If greater advantage is taken of settings where cycling and walking are legitimate alternatives, even marginal increases can have beneficial impacts on traffic levels and air quality.
Implementation Issues

Stimulating higher rates of bicycle and walking modes has benefits as part of an overall transportation management strategy. This strategy is cost effective from a public investment point of view, especially considering the favorable impacts upon air quality in the Richmond area. There are a number of technical and policy actions which can be taken to maximize the benefits of these modes, for example:

Include bicycle/pedestrian links when planning for transportation projects

Bicycle and pedestrian initiatives have typically been pushed by interest groups, rather than evolving as part of a rational, comprehensive planning process that sees cycling and walking as an integral link to the overall transportation system. These linkages apply not only to connections between residential areas and activity centers, but when these modes are carefully considered in relation to regional transit systems and in the design of activity centers, they can support access and circulation other than just by private vehicles.

Target scarce resources for settings with the greatest payoff

Certain factors help explain where bicycle and walking initiatives are likely to be of greatest benefit. For instance, settings where travel distances are relatively short between residential areas and key trip attractors; settings where there are high concentrations of people under 40 (such as university communities); and areas where there already exists compatible infrastructure which can be modified into appropriate facilities. In addition, areas where auto travel is difficult because of localized congestion or parking facilities are crowded and expensive also represent good potential, so long as the congestion does not present a safety threat to bike or pedestrian travel. As a general rule of thumb, people will walk up to one-half mile as a part of a home-based work trip and will bicycle up to five miles as part of a home-based work trip.

Place emphasis on conventional facilities

Despite the appeal of bicycle and walking facilities that double as recreational trails, evidence suggests that options such as sidewalks and bike lanes along arterials may be more effective and cost much less. For utilitarian travel like commuting, bike/walk patrons are more likely to be interested in an efficient, direct path with acceptable safety levels, rather than a path which is scenic but indirect. Nevertheless, the recreational use of park trails and bike paths may well encourage greater levels of utilitarian travel. Consider also that grade changes affect human-powered transportation modes more than motorized vehicles in designing accommodations for cycling and walking.
Promote linkages for continuity

Even where systems of bike trails, paths, or walkways exist, they may fall short if there are significant gaps or barriers in the network to connect activity centers. For example, pedestrian paths may be blocked or truncated, or made circuitous by natural or man-made obstacles. Continuity can be improved through careful planning and identification of obstacles.

Think in terms of packages of actions

Empirical evidence suggests that no one strategy is paramount in the decision to bike or walk. Obviously, safety is an issue, as is having a secure place to park one’s bicycle if cycling is the mode, or having a place to shower and change at the end of a long and strenuous trip, or in extreme weather. The more practical and promising strategies to enhance cycling and walking are not done piecemeal, but as part of a carefully-thought-through program of actions where each of the major impediments/barriers is removed or diminished in some way.

Consider the linkage with transit

While cycling or walking as a primary mode to work can offer significant benefits, improving congestion and air quality may be even greater if bicycling and walking are given greater attention as supporting modes by connecting with transit for longer trips. This means careful design of transit stations, so that substantial numbers of users are attracted from local neighborhoods by walking or cycling, rather than cars. It also means working within the local planning process to promote linkages between transit and the community, via path/sidewalk connections as well as avoiding conflicts with traffic. It also requires attention to inter-system connections, meaning secure bike rack/locker areas for cyclists, and shelters and adequate lighting for pedestrians.

Seek private sector involvement and support.

Developers play an important role in the potential for bike/pedestrian use in the design of buildings and subdivisions, in terms of the location of buildings relative to streets, other buildings, services, and transit. Development review procedures can and have been used successfully to create higher design standards in regards to incorporation of bike/pedestrian/transit usage. Similarly, employers can be encouraged to increase attention to bike/walk use through provision of bike facilities and showers and changing facilities.
Consider financial encouragement.

While cost, per se, is not shown by surveys as a major reason why individuals bike or walk to work, substantial changes in the cost relationships among modes, such as what might come about through introductions of either incentives or driving disincentives (charging for formerly free parking) would be reasoned by most travel analysts to have a significant effect on the attractiveness of walking or cycling, assuming that it is a physically reasonable option.

Provide marketing and education

Assuming strategies can be implemented which materially enhance the environment for cycling or walking, it will be important to notify the public of the changes and their potential benefits. These efforts should be monitored and evaluated, with collection of appropriate data to determine the effectiveness of particular technical, policy or marketing and informational approaches for future planning and programming efforts.

In the long-term, realizing the ultimate potential of cycling and walking depends on altering current development trends, planning procedures, funding programs, and preferences which are conditioned on current experience. Towards this end, the measures listed above should significantly increase the use and associated benefits of these neglected, time-honored modes of travel. Further indications of the trend for alternative options for commuting and traveling are reflected in federal transportation-related programs such as the “Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users” and “Safe Routes to School.”

Bicycle - Pedestrian Planning at the State Level

VDOT’s state bicycle and pedestrian program, which has been promoting bicycling and walking within the state since the late 1970s, provides planning assistance to state and local transportation planners, activity coordination for various bicycle committees, and bicycle and pedestrian education and safety promotions.

In 2003, the Virginia Secretary of Transportation set forth policy goals relating to the integration of bicycle and pedestrian travel into the Virginia multimodal transportation system. As a result, VDOT conducted a comprehensive review of policies and procedures relating to bicycle and pedestrian accommodations. The result of this review was the Commonwealth Transportation Board’s 'Policy for Integrating Bicycle and Pedestrian Accommodations' (called

[Image of a bicycle and pedestrian path with text: Courtesy of VDOT]
simply Policy) adopted in March 2004, which established cycling and walking as “fundamental travel modes” and guided VDOT’s consideration of bicycling and walking in the planning, funding, design, construction, maintenance, and operation of Virginia’s transportation network.

In 2011, VDOT released State Bicycle Policy Plan which 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 (2004) consistently, appropriately, and cost effectively. Future plans will be addressing 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. This Plan focuses on policies, procedures, and programs within VDOT’s authority.

The 2011 VDOT State Bicycle Policy Plan has two major goals and four core recommendations elements as listed below:

- **Goal 1**: To increase the use of bicycling in Virginia to include a full and diverse range of the population for all trip purposes.

- **Goal 2**: To improve safety and comfort of bicyclists throughout Virginia and to reduce bicycle crashes.

Recommendations:

**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.

**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 Virginia Department of Conservation and Recreation (DCR) released a 2007 Virginia Outdoors Plan that addresses pedestrian and bicycle networks and facilities on a statewide level, as well as making recommendations for bicycle and pedestrian trails in the Richmond region (DCR is currently working on 2013 Virginia Outdoors Plan). In particular the plan promotes livable and walkable communities based on the desire by citizens to reduce automobile use and commutes, improve health and fight obesity, and adapt to rising fuel costs and transportation concerns. Livable and walkable communities are connected with trails and sidewalks, and they maximize parklands, open space and recreational services.

Bicycle and pedestrian facilities are listed under “Transportation Programs” which identify the following as issues for Virginia:

- The need to encourage Rails to Trails and Rails with Trails to meet the growing needs for multipurpose trails.
- A need to encourage walkable, livable communities with safe routes to schools.
- A lack of support systems for self-powered commuters such as bike lockers and showers.
- A need to educate motorists and bicyclists.
Bicycle/Pedestrian Planning in the Richmond Region

Several years ago, the MPO agreed to serve as a model for VDOT to draft a regional bicycle and pedestrian plan for its 2,600 mile network. The Richmond Regional Bicycle and Pedestrian Plan, accepted in July 2004, evaluated the current status of bicycle and pedestrian planning in the Richmond region based on level of service, demand and interest, and existing policy. The plan considered the implementation issues noted previously, and provided goals, recommendations, and implementation strategies to be applied at both the local and regional levels.

The following goals were established for the Richmond Regional Bicycle and Pedestrian Plan:

- Increase the overall number of people who regularly bicycle and/or walk in the Richmond region.
- Increase public awareness of bicycling and walking as viable modes of transportation.
- Promote rights and responsibilities of pedestrians, bicyclists, and motorists in a shared transportation network. Improve safety and enforcement.
- Ensure that bicycle and pedestrian accommodations are considered in a balanced approach to planning and funding transportation improvements.
- Create additional physical activity opportunities in our community, increasing physical and mental wellness and improving air quality for all.
- Provide improved opportunity and access for walking and bicycling to all residents.
- Encourage the design, financing, and construction of transportation facilities which provide safe, secure, and efficient linkages for bicyclists and pedestrians throughout the Richmond region.
- Stimulate local economies by providing safe and efficient bicycle and pedestrian connectivity between businesses, tourism, and recreation destinations.
- Encourage safe riding and walking practices on roads, byways, and trails in the Richmond region.
- Promote the development of seamless transitions for all bicycle and pedestrian facilities which cross jurisdictional boundaries (i.e., city, county, or town).
Existing/Proposed National/Regional Bike- Ped Corridors in the Richmond Region

US Bike Routes 1 and 76

U.S. Bike Routes 1 and 76 are signed national bicycle touring routes that cross the Richmond Region; 1 from north to south and 76 from east to west, intersecting in Ashland. Established in 1982 and relocated in 2005, both routes are AASHTO designated and draw bicycle tourists from around the world as well as from within the Region.

Virginia Capital Trail

Virginia Capital Trail will create a 55 mile paved bicycle and pedestrian trail linking Richmond to Williamsburg along the historic Route 5 corridor. The project is divided into eight sections, with each section having an individual schedule for completion. The portion of the trail from Williamsburg north to the Chickahominy River is currently complete. In addition, a seven mile section of the trail in Charles City County is also open. The New Market Heights, the Sherwood Forest and Varina sections of the trail are scheduled for completion between 2013 and 2014; the first phase of the Richmond Riverfront section opened in early 2010, and runs from 18th Street to Great Shiplock Park. A completion date for subsequent phases in downtown Richmond (from Shiplock Park at Dock/Pear streets, to the Henrico County line) is yet to be determined.

East Coast Greenway

The East Coast Greenway (ECG) is a developing trail system, spanning nearly 3,000 miles as it winds its way between Canada and Key West, linking all the major cities of the eastern seaboard. Over 25 percent of the route is already on safe, traffic-free path. From Washington, D.C., the ECG enters Virginia along the Mount Vernon Trail. From Mt. Vernon, the ECG continues on road to Fredericksburg along the route of the future Potomac Heritage Trail. From Fredericksburg, the ECG continues south to Richmond, where the Greenway divides into two routes: the spine route, which continues south to North Carolina’s Piedmont region, and the alternate Historic Coastal Route, which heads southeast through Jamestown and Williamsburg before aiming south toward Wilmington, N.C. In the Richmond Region, Department of Conservation and Recreation (DCR) has been advancing a program to map and distribute maps of the interim on-road route. DCR will work with VDOT and the East Coast Greenway Association to sign the on-road route.

James River Heritage Trail

The James River Heritage Trail is a proposed braided trail network in the heart of Virginia that follows the James River from the foothills of the Allegheny Mountains to the Chesapeake Bay. Department of Conservation and Recreation (DCR) recently (August 2011) completed a draft plan of the 540 mile trail of which almost one-third is in the Richmond Region.
Map 9-1: Existing & Proposed Regional Bike-Trail Corridors

Legend

- Richmond MPO Boundary
- Jurisdictional Boundary
- Road Network
- River / Lake
- Bike Route 1
- Bike Route 76
- Virginia Capital Trail
- East Coast Greenway
- James River Heritage Trail

Existing & Proposed Regional Bike-Trail Corridors in Richmond Region

Data Source: VDOT 2011
Richmond Region's Bike-Ped Matrix

Richmond Region's Bike-Ped Matrix identifies the following components for all the nine member jurisdictions of the Richmond Region:

- Existing policies and existing/planned facilities in current comprehensive plans (or other related plans) relating to bicycle and pedestrian facilities.
- Existing regulations in site plan and subdivision ordinances (or equivalent) relating to the bicycle and pedestrian facilities.
- The mechanisms for programming maintenance of these facilities.
- Other related components like Safe Routes to School and Park & Ride Lots.
<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Bike-Ped In Comprehensive Plan/ Other Plans</th>
<th>Comp Plan /Other Plan Adopted</th>
<th>Zoning Ordinances /Subdivision Ordinances</th>
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<th>Park &amp; Ride Lots</th>
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<tr>
<td>Ashland</td>
<td># States updating of 1998 Bicycle and Pedestrian Plan. # Sidewalk Replacement Plan to be updated as current projects are completed. # Continued work with Hanover County and other regional partners, including the East Coast Greenway Organization to develop a connected trail system. # When road improvements are made, a bike lane should be added, and facilities for bicyclists should be made available along the route. The appropriateness of shared lane marking or sharrows should be investigated within the Town and if useful the application of these road markings is recommended.</td>
<td>Dec 6, 2011</td>
<td>Data not received</td>
<td># Trans-American Route / US Bike Route 76 # Interstate Bike Route 1 # Ashland trolley Line - 1 mile</td>
<td># East Coast Greenway # Railside Trail # Stony Run Trail to De Jarnette Park # Mechumps Creek Trail # N. James Street Trail to Vaughan Road and Carters Hill Subdivision # Extension of Trail along Hill Carter Parkway # Sidewalk gaps on Ashcake Road # Jamestown Road Sidewalk/trail # Pedestrian/Bike Bridge over I-95</td>
<td>Policy Cd 11 of the Comp Plan states to establish a test project on a half or whole block within Downtown to show that Downtown sidewalk repair and reconstruction can be completed with little or no disruption to the building occupants and no damage to the buildings.</td>
<td># 2012 - Henry Clay Elementary School Infrastructure projects # 2010 - Henry Clay Elementary School sidewalks and crossing Improvements # Elementary school and John Gandy Elementary School enforcement crossing guard and safety patrol training</td>
</tr>
<tr>
<td>Charles City</td>
<td>Area Plans: Roxbury Development Center, Courthouse Development &amp; Hideaway Development Center to be developed with sidewalks/ crosswalks. Decorative street lighting and public transportation services to be used.</td>
<td>Sep 22, 2009</td>
<td>Data not received</td>
<td># Trans- American Route / US Bike Route 76 # Virginia Capital Trail (sections)</td>
<td>Data not received</td>
<td>N/A</td>
<td>Data not received</td>
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<td>Goochland</td>
<td>Area Plans : Centerville Village / Goochland Courthouse Village : # Building small segments of pedestrian pathways or bikeways on a project by project basis to form an interconnected network of pedestrian pathways in the long term as the segments are connected. # Safe, well-designed pedestrian pathways to be provided when recommended by village design standards. Design standards addressing road mentions, landscaping, lighting, placement of buildings, and parking to improve walkability.</td>
<td>Feb 3, 2009</td>
<td>Zoning Ordinance, Appendix A, Route 250 and Goochland Village Courthouse Overlay Districts, sidewalks and interconnectedness required.</td>
<td># Sidewalks in Route 250 and Courthouse Areas</td>
<td># Courthouse Village # James River Heritage Trail</td>
<td>ARRA funded improvements to Centerville and Oilville park-and-ride lots</td>
<td># 2008 Goochland County Public Schools. SRTS plan development ES &amp; MS</td>
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<td>Bike-Ped In Comprehensive Plan/ Other Plans</td>
<td>Comp Plan/Other Plan Adopted</td>
<td>Zoning Ordinances/Subdivision Ordinances</td>
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<td>Chesterfield</td>
<td>Chesterfield County Bikeway Plan:</td>
<td>Feb 22, 1989</td>
<td># Subdividers are required to construct sidewalks as defined by the Publicly Maintained Sidewalk Criteria. # Generally, sidewalks are required as a condition of approval for development. # County can request a pedestrian plan submitted in conjunction with site plan or tentative subdivision plan submission.</td>
<td>Bike Lanes/ Paved shoulders # Interstate Bike Route 1 # Route 10, Beach to 150 # Courthouse Road, 60 to 360 # Courthouse Road, 360 to 288 # Bailey Bridge, 360 to Glen Tara # Smoketree Drive, Yarrow Lane to Gordon School Road # Ironbridge Parkway, Arbor Landing Drive to Stephens Point (or Route 10) # Coalfield Road, Genito to Charter Colony # Coalfield Road, Genito to Charter Colony # Charter Colony Parkway, Coalfield to Woolridge Road # Woolridge Road, 60 to Charter Colony # Genito Road, 360 to Courthouse # Genito Road, 60 to South Ridge # Genito Road, South Ridge to Fox Chase Lane # Lucks Lane, Courthouse to Spirea (connects to bike path constructed with Rt 288) # Robious Road, Old Bon Air to Woodmont # Robious Road, Polo Parkway to Salisbury</td>
<td>Bike Lanes/ Paved shoulders # Huguenot Road from Polo Pkwy to Forest Hill Avenue # Bailey Bridge, under construction, Claypoint to Manchester HS # East Coast Greenway # James River Heritage Trail</td>
<td># Bike lanes are maintained by VDOT # Sidewalk is maintained by VDOT unless on private property.</td>
<td># 2008 - Chesterfield County elementary Schools (38) walkability audits and curriculum. # 2010 - Robious elementary school / Middle School Sidewalks. # 2010 Robious Middle School, Robious, Bettie Weaver, Clover Hill elementary schools Enforcement crossing guard and safety patrol training</td>
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Area Plans: Pedestrian Accessibility

# Chesterfield Area Plans fall into three categories regarding policies addressing pedestrian movement: plans that do not address pedestrian accessibility, plans that vaguely address improving pedestrian accessibility; and plans with detailed goals and objectives regarding pedestrian accessibility and mobility. # Examples of the latter include the: Bon Air Community Plan; Eastern Midlothian Plan; Chester Plan; Midlothian Area Community Plan; Northern Area Plan; Powhite Route 288 Development Area Plan; Route 360 Corridor Plan. # Policies include: incorporating pedestrian facilities into new developments and roads; developing a comprehensive pedestrian network where appropriate; linking pedestrian and bike routes to recreation sites; and encouraging land use that accommodates pedestrian movement.

Adopted Various Dates

- # States to establish a comprehensive bikeway system by: accommodating the needs of both recreational and commuter cyclists; developing a primary bikeway network focused on Pocahontas State Park and the Route 10 and Courthouse Road corridors; and building the network to link population concentrations and nodes of activity. # States to create a bikeway system that is cost-effective by: pursuing expansion through existing rights-of-way and easements; and working with the biking community to disseminate information and receive feedback about the condition and usability of the system. # States to ensure that the bikeway system grows along with development of the County by: encouraging developers to provide interlinking bike routes; reserving natural and open areas for bikeways; strengthening the site plans review process to assure the integration of bikeways into new developments; and incorporating bikeways into the development of new public facilities.

- States to generally address improving pedestrian accessibility, plans that vaguely address improving pedestrian accessibility; and plans with detailed goals and objectives regarding pedestrian accessibility and mobility. # Chesterfield County Bikeway Plan; Route 288 Development Area Plan; Route 360 Corridor Plan. # Policies include: incorporating pedestrian facilities into new developments and roads; developing a comprehensive pedestrian network where appropriate; linking pedestrian and bike routes to recreation sites; and encouraging land use that accommodates pedestrian movement.
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<tr>
<td>Hanover</td>
<td>States to provide Hanover County Citizens with a comprehensive, multimodal transportation network by designing new roads to accommodate both pedestrian and bicycle movements.</td>
<td>March 28, 2007</td>
<td>N/A</td>
<td>Existing: # Trans-American Route / US Bike Route 76 # Interstate Bike Route 1 # Intersection of Sliding Hill &amp; New Ashcake Road. # Trails in parks include Cold Harbor Battlefield park, Montpelier park, North Anna Battlefield Park, Pole Green park, Poor Farm park. Proposed: # East Coast Greenway Potential Greenway Corridors: # Trolley Line trail # Mattaponi Trail # Pamunkey trail.</td>
<td>N/A</td>
<td># 2009 Laurel Meadow Elementary School Sidewalk. Education and encouragement activities.</td>
<td># Old Mechanicsville Turnpike near the intersection of Shady Grove Rd</td>
</tr>
<tr>
<td>Henrico</td>
<td>Bicycle Facility Policies</td>
<td>August 11, 2009</td>
<td>N/A</td>
<td>Existing: # Trans-American Route / US Bike Route 76 # Interstate Bike Route 1 # VA Capital Trail (sections) # Sidewalks on all new and reconstructed thoroughfares. Proposed: # East Coast Greenway # James River Heritage Trail # VA Capital Trail (sections) # Sidewalks on all new and reconstructed thoroughfares.</td>
<td>N/A</td>
<td>No maintenance policies regarding bicycle lanes. # Sidewalks within the ROW are maintained by Henrico County unless there is a maintenance agreement that indicates otherwise.</td>
<td># Gaskins Road at I-64 # Parham Road at Fordson Road # Glenside Drive and Staples Mill Road, # White Oak Village Shopping Center</td>
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<td>New Kent</td>
<td># The Draft Comprehensive plan identifies roads suggested for bike lanes or paved shoulders. # Potential off-road corridors and areas that need attention to pedestrian accommodations (especially within designated Village areas) have been identified.</td>
<td>Draft 2011</td>
<td># Includes requirements for lighting and landscaping, including pedestrian accommodations in residential subdivisions and within areas designated as Villages.</td>
<td># New Kent Courthouse Area # New Kent Visitors and Commerce Center.</td>
<td># Courthouse to Courthouse connector (between Charles City And New Kent along Route 355)</td>
<td>N/A</td>
<td>N/A</td>
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<td>Powhatan</td>
<td># States to promote &quot;complete street&quot; designs that promotes pedestrian and bicycle friendly facilities with design that is compatible with land use quality objectives, including distinctions between rural characters and strategically located mixed-use districts. # States to address the above mentioned objective by promoting pedestrian and bike improvements, especially in new developments, to enhance walkability. New Streets should connect to new and existing sidewalks and off-street pedestrian or multi-use paths in a way that promotes safe crossing for pedestrians and improves opportunities for using multiple modes of travel.</td>
<td>July 12, 2010</td>
<td>N/A</td>
<td># Interstate Bike Route 1 (along Genito Road) # 3 &quot;Share the Road&quot; # James River Heritage Trail # Courthouse to Library # Population Centers to Parks</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>City of Richmond</td>
<td>Downtown Master Plan Bicycle Facilities : # Dedicated Bike lane not recommended for most downtown streets except few like Manchester Bridge. Shared lanes marked with &quot;sharrow&quot; markings recommended for bicycles. Since it signal to both bicyclists and drivers the presence of mixed traffic. # The provision of adequate bicycle parking suggested at either end of the bicyclist’s trip to encourage walkability and bikeability. Pedestrians Facilities : # States to prioritize pedestrian needs on Downtown Streets by making the downtown thoroughfares tailored for walkable neighborhoods and include narrow lane widths, on-street parking, and shorter curb radii. Different walkable thoroughfare are proposed for different streets like Broad Street, Manchester Bridge, Commerce Street Etc. Mayor's Pedestrian, Bicycling, and Trails Report # Recommends the City Implement &quot;complete streets&quot; set policy and design standards. # Recommends developing a complete network of on-roadway and off-road bikeways # Recommends the prioritization of greenways, blueways, trails, on road bicycle routes, and pedestrian routes as official routes of the City.</td>
<td>Downtown Master Plan Adopted July 2009</td>
<td>Data not received</td>
<td># Sidewalks throughout the city. # Interstate Bike Route 1 # Shared Lane Bicycle Corridors in many streets. # Cannon Creek, Powhite and Gillies Creek Greenways are key connector for an off-road network. # Butter milk Trail, Forest Hill Park Trail, and Belle Isle trails are recreational trails. Bicycle and Pedestrian facilities: # VA Capital Trail # East Coast Greenway # James River Heritage Trail #Forest Hill Avenue #Jahnke Road #Midlothian Turnpike #German School Road #Hull Street.</td>
<td>Data not received</td>
<td>N/A</td>
<td># K- Mart - Midlothian Tpke and Greshamwood Pl</td>
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Chapter 9 – Bicycle and Pedestrian Facilities
FTA Funding for Bike-Ped Projects Near Transit

The Federal Transit Administration issued a policy statement on August 2011 on the eligibility of pedestrian and bicycle improvements for funding under federal transit law. FTA's policy statement declares that walking, biking and transit are complementary forms of transportation and that people often use them in conjunction with each other.

According to this policy any pedestrian improvement within one-half mile from, or any bicycle improvement within three miles of, public transportation will automatically be deemed as having "a de facto physical and functional relationship to public transportation" and qualify for FTA funding.

Map 9-2, “Bicycle & Pedestrian Access to Transit” shows all GRTC (the transit provider in the Richmond Region) bus stops and the one-half mile as well as three miles buffer areas from the bus stops. All areas which fall inside the blue solid line are eligible for pedestrian improvement whereas all areas falling inside orange solid line are generally eligible for bicycle facility improvement.

Another component of the map is the hatched red lines which show the concentration households with 1 or less vehicles: these are the areas which are most in need of local transit. The majority of these areas lie within the three mile buffer of the GRTC bus stops. However, a small area in northern Ashland and far-western Henrico County which have a concentration of households with one or less vehicles are outside the three mile buffer to transit service.

Map 9-3, “Transit Catchment Area: Elderly, Low Income and Disabled Population” shows the concentration of elderly, low income or disabled population in the Richmond Region. We can see that they are spread throughout the region and only a small area of the region lies in the transit catchment area (i.e., one-half miles buffer for pedestrians and three miles buffer for bicycles).

Trails Along Active Rail Lines

Existing railway corridors represent potential opportunities for establishing long-distance bicycle and pedestrian facilities. In 2009 and in response to a Virginia General Assembly request (HB 2088), The Virginia Department of Rail and Public Transportation (DRPT), the Virginia Department of Conservation and Recreation (DCR) and the Virginia Department of Inland Game and Fisheries (DGIF) worked together to develop a set of processes and procedures for creating Rails with Trails and Pedestrian Crossings in the state. Staff from the above agencies met with stakeholders including CSX Transportation (CSX), Norfolk Southern (NS), the Virginia Railroad Association (VRA), BikeWalk Virginia, Virginia Bicycling Federation, Float Fishermen of Virginia, Friends of Rivers of Virginia, Richmond Area
Bicycling Association, local governments and other user groups to get input used in the creation of this document.

As developed, the document is meant to be used as a resource for state agencies, railroads and trail advocates. VDRPT does not take a stance for or against Rails with Trails. The document is clear to point out that both CSX and Norfolk Southern, Virginia’s two Class I rail carriers, and all short-line rail companies in the state are opposed to construction of trails within active rail right-of-ways. However, they are willing to address requests on a case-by-case basis, if they follow the processes and procedures outlined in the document. Recreational trail advocates are in favor of using rails with trails as one component in a system of regional trails, and point out that with low frequency and volume of trains, trails adjacent to tracks can be safer than those adjacent to high volume roadways.

There are two identified opportunities for incorporating trails in the rail right-of-ways: the first is submitting a trail proposal to DCR who will then communicate with the railroad in question; the second is identifying rail projects which have been submitted for Rail Enhancement Funds (REF), and then cross-referencing with existing trail proposals, through DCR. Rail companies in Virginia indicated that they would prefer to work with only one state agency for discussion of trails and crossings.

Both processes begin with the submission of a Letter of Interest (LOI) to DCR. DCR will then coordinate with DGIF and DRPT and the host railroad in order to assess the feasibility of the trail proposal for both existing and new rail lines. The report summarizes the general steps a project would go through, based off the Rails to Trails Conservancy report and the 2002 USDOT report, as follows:

- Project Feasibility Study, including an inventory and assessment of resources
- Stakeholder identification
- Railroad coordination and involvement
- Legal issues and agreements between stakeholders
- Master planning
- Implementation and construction plans
- Maintenance plans and identification of responsible parties
- Funding sources

In the second process, DRPT will notify DCR of applications received for Rail Enhancement Funds (REF), so that DCR, DRPT and DGIF can review the application and look for opportunities to incorporate trails or pedestrian crossings into the design.
Map 9-3: Transit Catchment Area: Elderly, Low-Income & Disabled Population

Data Source:
GRTC-Transit System
Census 2000 Summary File 3
Table P02001 for Disabled Population
Table P25001 for elderly Population
Table P120ACS-5-Year Estimates
All 2006-2010 ACS 5-Year Estimates

Legend:
- Jurisdictional Boundary
- River / Lake
- GRTC Bus Stops 1/2 Mile Buffer
- Elderly or Low Income or Disabled Population

Transit Catchment Area in Elderly, Low-Income Population

Elderly, Low-Income & Disabled Population

Richmond
ASHLAND
HENRICO
HANOVER
POWHATAN
CHESTERFIELD
Goochland
NEW KENT
CHARLES CITY

Map 9-3: Transit Catchment Area: Elderly, Low-Income & Disabled Population

9-18 Chapter 9 – Bicycle and Pedestrian Facilities
ADA Transition Planning requirement for Bicycle and Pedestrian Projects

The Americans with Disabilities Act requires a Transition Plan by local and state governments. Such a plan includes how the government will remove barriers to accessibility over time for persons with disabilities. Bicycle and pedestrians projects also require that all programs, services and activities of public entities be accessible to persons with disabilities. The act also tasks government entities to undertake self-evaluations and to develop plans to address how programs and infrastructure can and should be modified to meet the needs of those with mobility challenges.

Plan 2035 Bicycle - Pedestrian and Trails Projects

Plan 2035 Bike-Ped Projects include Capital trail Extensions in Charles City, New Kent Courthouse to Charles City Courthouse Connector along Route 155 and a whole bunch of citywide projects in Richmond. Map 9-4 shows all 2035 Bike-Ped Projects in the Richmond Region.
Map 9-4: Plan 2035 Bicycle, Trail & Pedestrian Projects

Note: Projects shown include all newly submitted bicycle & pedestrian projects. Not all projects received funding.

Legend
- Richmond MPO Jurisdictional Boundary
- Major Road Network
- River/Lake
- Ht. Prd. & Trails
- Prds.