

Chapter 10 – Bicycle and Pedestrian Facilities

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 build 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; 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 5 miles as part of a home-based work trip. The existing data on walking distances for different trip purposes is limited, and this rule of thumb could easily extend given current high gasoline prices.

- 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 SAFETEA-LU legislation 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. One of the most recent accomplishments as a result of the program is the allocation of two percent of annual repaving expenditures throughout the VDOT system for providing paved shoulders that would enhance the traveling environment for cyclists and pedestrians, amounting to approximately \$4 million per year.

In 2003, the Virginia Secretary of Transportation set forth policy goals relating to the integration of bicycle and pedestrian travel into the Virginia multi-modal 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 is the Commonwealth Transportation Board’s *Policy for Integrating Bicycle and Pedestrian Accommodations* adopted in March 2004, which establishes cycling and walking as “fundamental travel modes” and guides VDOT’s consideration of bicycling and walking in the planning, funding, design, construction, maintenance, and operation of Virginia’s transportation network.

VDOT’s revised bicycling and pedestrian policies include:

- Bicyclists, walkers, and other modes of non-motorized transportation should receive the same consideration as motorized transportation in the planning, design, construction and operation of Virginia’s transportation network.
- Bike lanes, sidewalks, shared-use paths or other accommodations should be included in the design of all new highway and major reconstruction projects, unless special circumstances exist that prevent the inclusion of such accommodations or a local governing body has formally requested that bike lanes or other access not be included in a particular project.
- Access to the entire transportation system should be improved for bicyclists and pedestrians. Existing restrictions affecting bicycle and pedestrian access to existing highway facilities should be reviewed to achieve this goal.
- Current funding procedures for bicycle and pedestrian facilities, including design, construction, maintenance, and operations should be reviewed to ensure that these facilities are treated in the same fashion as highway projects. There should be no bias against bicycle or pedestrian facilities.
- VDOT should identify recommendations for amending any statutory provisions that either hinder the inclusion of bicycle or pedestrian accommodations in construction or prohibit the use of state or federal transportation funds for stand-alone bicycle or pedestrian construction projects. Again, there should be no bias against bicycle or pedestrian facilities.

- VDOT should ensure that all these activities are coordinated at the statewide and VDOT district levels, including the appointment of focused district advisory councils for pedestrian and bicycle issues.

VDOT is currently in the process of reconstituting its Statewide Bicycle Advisory Committee which has historically also championed pedestrian-oriented projects and planning.

The Virginia Department of Conservation and Recreation 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. 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.

Chapter VII of the Outdoors Plan discusses trails and greenways and makes the following recommendation (among others): “Local governments should have a greenways and trails component in their comprehensive plan that provides for a variety of leisure trail experiences and promotes pedestrian and bicycle transportation alternatives.”

The East Coast Greenway and the James River Heritage Trail are statewide trail systems with regional significance. Both of these trail systems are under development and are planned to feature off-road facilities that will be made up of existing or proposed and locally-managed trails accommodating all abilities of users including pedestrians, cyclists, hikers, skaters, and equestrians. The East Coast Greenway is envisioned as an urban trail system connecting cities, towns and the countryside in-between along the east coast from Maine to Florida. Portions of the East Coast Greenway have been designated within Virginia. Segments are under consideration for designation within the Richmond region; however, to-date, no segments have been designated. The James River Heritage Trail is proposed to follow America’s founding river, the James River, from the Chesapeake Bay to the foothills of the Appalachian Mountains. The trail will follow the old Kanawha Canal towpath, park trails, scenic riverside roadways and urban riverfront trails into the heart of Virginia.

MPO staff is providing planning and technical assistance to two different groups focusing on developing a system of greenways and trails within the region that would take into account trail development efforts associated with both of the East Coast Greenway and the James River Heritage Trail.

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*, adopted 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).

The plan outlined the following 27 recommendations, divided into four categories, to achieve the goals and implementation strategies that would assist in the integration of bicycle and pedestrian issues with local and regional planning.

Bicycle and Pedestrian Network Recommendations

- Establish a regional network of roadways, sidewalks, and shared use paths that will serve bicycling and walking needs in the Richmond region.
- Use the pedestrian nodes and corridors identified in the plan to guide and focus pedestrian improvements in planning the regional network.
- Develop a regional sign system for select network routes that is easily and quickly understood by bicyclists and pedestrians, and serves both transportation and recreation oriented trips.
- Establish connected routes within the regional network for development as bicycle touring routes.

- Continue and complete development of the planned Virginia Capital Trail.
- Integrate U.S. Bicycle Routes 1 and 76 within the regional network.
- Develop plans to upgrade, extend, and study existing and proposed shared use paths that are identified to be part of the regional network.
- Implement a series of demonstration projects in high impact areas within this network to feature a variety of bicycle and pedestrian facility types and emerging design treatments, and to build support for plan implementation among elected officials, business leaders, and the public.
- Provide bicycle and pedestrian access across major barriers by improving existing crossings and developing new crossings at key locations.
- Establish a regional bicycle parking equipment procurement and installation program.
- Fully integrate bicycle and pedestrian accommodations into existing bus transit services, park and ride lots, and transportation demand management programs. (Note: all GRTC buses have installed bike racks at this time).
- Coordinate maintenance activities for bicycle and pedestrian facilities to ensure a safe and high quality experience for every user of the roadway.

Policy Recommendations

- Encourage the use of context sensitive roadway design that facilitates adequate accommodation of bicyclists and pedestrians in the design of all roads in each jurisdiction.
- Adopt bicycle facility selection considerations.
- Adopt pedestrian facility selection considerations.
- Encourage each jurisdiction within the region to make changes to land use and development policies to ensure that future development facilitates and encourages safe and increased levels of bicycle and pedestrian travel.

Planning Recommendations

- Establish a permanent regional bicycle and pedestrian committee to provide oversight of plan implementation and enable on-going public involvement and interagency and inter-jurisdictional coordination on bicycle and pedestrian issues.
- Establish an ongoing bicycle and pedestrian program at the regional level to provide staff support for plan oversight and coordination, and to facilitate select implementation tasks.
- Encourage the individual jurisdictions within the region to develop and/or regularly update local bicycle, pedestrian, and trail plans.
- Identify federal, state, regional, and local funding mechanisms and sources to begin development of the regional bicycle and pedestrian network.
- Undertake small area and corridor studies in key locations.
- Ensure that all planning studies for new transit systems and TDM services fully consider bicycle and pedestrian integration issues and opportunities.

Program Recommendations

- Develop and implement on-going encouragement programs to promote increased bicycling and walking for transportation purposes, including commuting and other utilitarian trips.
- Include target-audience, safety, and use-promotion activities with the completion of each demonstration project and opening of a major new bicycle, pedestrian, or shared-use path facility.
- Develop and implement targeted safety education and enforcement programs.
- Extend the implementation of a bicycle and pedestrian safety education curriculum targeted to elementary school students that has been successfully piloted in some schools.

Following is an updated progress report of bicycle and pedestrian related planning, design, and implementation efforts as originally reported to the regional bicycle and pedestrian plan study advisory committee in the *Existing Conditions Technical Memorandum, Revised Draft*, May 22, 2003 prepared by Toole Design Group and Kimley-Horn and Associates.

Town of Ashland

- completed and adopted a town Bicycle and Pedestrian Plan (1998)
- recently adopted a comprehensive town plan which further expresses support for the analysis and recommendations developed in the Bicycle and Pedestrian Plan
- built a 0.7-mile section of a rail with trail facility (Railside Trail) and built short trail section on N. James Street.
- planned and partially funded section of Trolley Line Trail and supports further development of this trail corridor linking Ashland and Richmond.
- installed three short walking path segments: one on N. James Street, one on Hill-Carter Parkway Extension, and one on Ashcake Road.
- installed one 0.5-mile section of bike lane
- implemented orange flag crossing program
- developed brochures about local trails
- is the destination of a weekly bicycle tour organized by the Richmond Area Bicycling Association
- developed an off-road mountain cycling trail at a Town park.
- hosted Dan Burden (Walkable Communities, Inc.) for a town Walkability Audit.

Charles City County

- identified four roadways in the county as greenways on a map in the comprehensive plan:
 - Route 5
 - Route 155
 - Route 106
 - Route 600
- VDOT's Route 5 Capital to Capital project (renamed Virginia Capital Trail) is the most significant bicycle/pedestrian activity in the County.
- has no dedicated bicycle facilities or shared use pathways, and few sidewalks.

Chesterfield County

- is implementing a bikeway master plan adopted in 1989. This master plan grew out of bikeway planning efforts dating back to 1975, and is incorporated into the county comprehensive plan.
- has constructed (or has under design) various bicycle facilities, including bike lanes and paved shoulders.
- has built a few small greenway trails, such as Chester Linear Park (a rail trail) and has plans to include trails as a part of other park development projects.
- is actively involved in making pedestrian improvements such as the Halloway Avenue, Route 60, and Walton Park sidewalk projects.
- has been successful in securing VDOT Transportation Enhancements funds and Virginia Recreational Trail funds for bicycle, pedestrian, and trail projects in the county
- has completed a number of sub-area studies calling for trails, such as the Riverfront Plan
- has a local greenway organization: Friends of Chesterfield Riverfront
- owns a portion of abandoned railroad in southeast Chesterfield
- identifies potential greenway corridors and calls for development of a greenway master plan in the park and recreation master plan.
- U.S. Bike Route 1 has been properly signed in the County.

Goochland County

- has done no dedicated bicycle or pedestrian planning.
- has no dedicated bicycle facilities or shared-use paths, and only a few sidewalks are present along select streets.
- has raised motor vehicle traffic connectivity issues in the area around the West Creek Development. Currently only four roads connect Goochland and Henrico: I-64, Route 250, Route 6 and Route 650. Limited access on I-64 and high traffic volumes on Route 250 and Route 6 seriously limit bicycle and pedestrian connectivity today, and conditions are likely to become worse in the future.

Hanover County

- completed a bikeway plan (not formally adopted); it identifies three specific opportunities for bicycle and pedestrian improvement:
 - Sub Area Plan for Kings Charter
 - Sub Area Plan for Route 54 Corridor
 - Recreational Bike Route Plan of Civil War Trails
- recently adopted a comprehensive plan that includes a map of potential bicycle facilities and calls for increasing the options available for bicycling and walking for transportation, designing new roads to accommodate bicycling and walking, and development of greenway trails
- has no existing greenway trails, but the park and recreation master plan identifies three potential greenway corridors:
 - Trolley Trail
 - Mattaponi Trail
 - Pamunkey Trail

- has no dedicated on-road bicycle facilities in existence.
- U.S. Bike Routes 1 and 76 have been properly signed within the County.

Henrico County

- has done no dedicated bicycle or pedestrian planning.
- has no dedicated bikeways.
- Includes the following in the update of the 2015 Park Master Plan:
 - projects a 2015 Bike Path Facility deficit of 56 miles
 - projects a 2015 Walking Path Facility deficit of 44 miles
 - does not retain references to trails listed in previous plan (see below)
- identified five potential greenway trails in the update of the 2005 Park Master Plan:
 - Tuckahoe Creek/Kanawha
 - Upham Brook
 - Highland Springs/Chickahominy
 - Almond Creek Basin
 - Four Mile Creek Basin
- U.S. Bike Routes 1 and 76 have been properly signed within the County.

New Kent County

- identifies the following elements in a draft bicycle and pedestrian improvement map, prepared by County planning staff:
 - roads needing improved surface for bicycling
 - roads suggested for bike lanes or paved shoulders
 - potential off-road corridors
 - roads and areas that need attention to pedestrian accommodations.
 - potential intersections for roundabouts
- included bikeway and pedestrian elements in three formal sub-area plans:
 - West Area Plan
 - Route 33 Area Plan
 - Route 155/Providence Forge Area Plan
- has no dedicated bicycle facilities or shared use pathways, and few sidewalks.

Powhatan County

- has completed no dedicated bicycle or pedestrian planning.
- has installed Share the Road signs on Route 711 (Huguenot Trail); Judes Ferry Road (VA 614) from Huguenot Trail (VA 711) to Norwood Creek; and parts of Route 13 (Old Buckingham Road).
- has developed a draft map of roadways in the County that should be studied in the planning process. They are grouped as high priority and secondary priority routes.
- has developed Bike Tour Cue Sheets for a Powhatan County to Louisa County Ride.
- has no dedicated bicycle facilities or shared use pathways, and few sidewalks.
- U.S. Bike Route 1 has been properly signed within the County.

City of Richmond

- identifies current conditions and needs, and recommends the following improvements in the 1997 City Transportation Plan:
 - Eastern-Western transect (on road)
 - Northern-Southern transect (on road)
 - Greenway trails along the James River shorelines
 - A signed bike route system for the rest of the City
 - Improved commuter bike parking
- completed a map of existing and proposed facilities in 2001: City Bike Routes
- completed city-wide master plan (2000-2020):
 - provides strong policy support for bicycling and walking
 - identifies potential on-street bikeways in citywide and sub-area plans and maps
- built a number of pedestrian pathway facilities along and across the James River:
 - Canal Walk (bicycles are not allowed)
 - Belle Isle bridges (bicycle accessible)
 - various paths along the south shoreline of the James River: Pony Pasture, Flood Wall Trail, Reedy Creek (mostly bicycle accessible)
 - various access paths on the north shoreline (primarily pedestrian)

- has existing bike lane on Broad Rock Road (Route 10)
- built a few roadways with paved shoulders for bicycling, including the Robert E. Lee bridge and Jahnke Road and has additional projects in planning and design
- using paved shoulders and share the road signs on Riverside Drive
- spends about \$1 million annually on sidewalk repair and maintenance
- completed rehabilitation of the Main Street Station. It is the new Amtrak station for the city and is slated to become an intermodal urban hub. There is community interest in developing this station as a pedestrian hub, and ensuring that it is well linked, for bicyclists and pedestrians, to neighborhood walkways and greenways, as well as the James River waterfront.
- has developed formal planning documents for bicycle and pedestrian routes in Southampton, and the Vision for the Boulevard plan includes bikeways and walkways.
- U.S. Bike Route 1 has been properly signed within the City as well as the Riverside Trail.
- westernmost segment of the Virginia Capital Trail is complete from the floodwall to the Shockoe Bottom railroad trestle.

Locations of most of the region's existing and planned bicycle routes are shown on Map 10-1 ('planned' bike routes are those shown in locally adopted comprehensive plans).

Map 10-1 Existing and Planned Bicycle Routes



- Jurisdictional Boundary
- Regional Airports
- Richmond International Airport
- Intercity Bus Terminal
- Amtrak Station
- Main Street Station
- Park and Ride Facility (no bike racks)
- Park and Ride Facility (bike racks)
- Virginia Capital Trail
- Bicycle Routes**
 - - - Bike Route 1
 - - - Bike Route 76
 - - - Bike Route 106
 - Richmond Planned Bike Routes
 - Chesterfield Planned Bike Routes
 - New Kent Planned Bike Routes
 - Charles City Planned Bike Routes
- Road Network
- Interstate & Expressway
- Highway
- Rivers, Lakes
- MPO Study Area

0 2 4 8 12 16 Miles

Prepared by: Richmond Regional Planning District Commission,
April 2008
Source: Chesterfield County 2005
City of Richmond 2006
New Kent County 2007
Virginia DOT 2007
Richmond Regional PDC, 2008

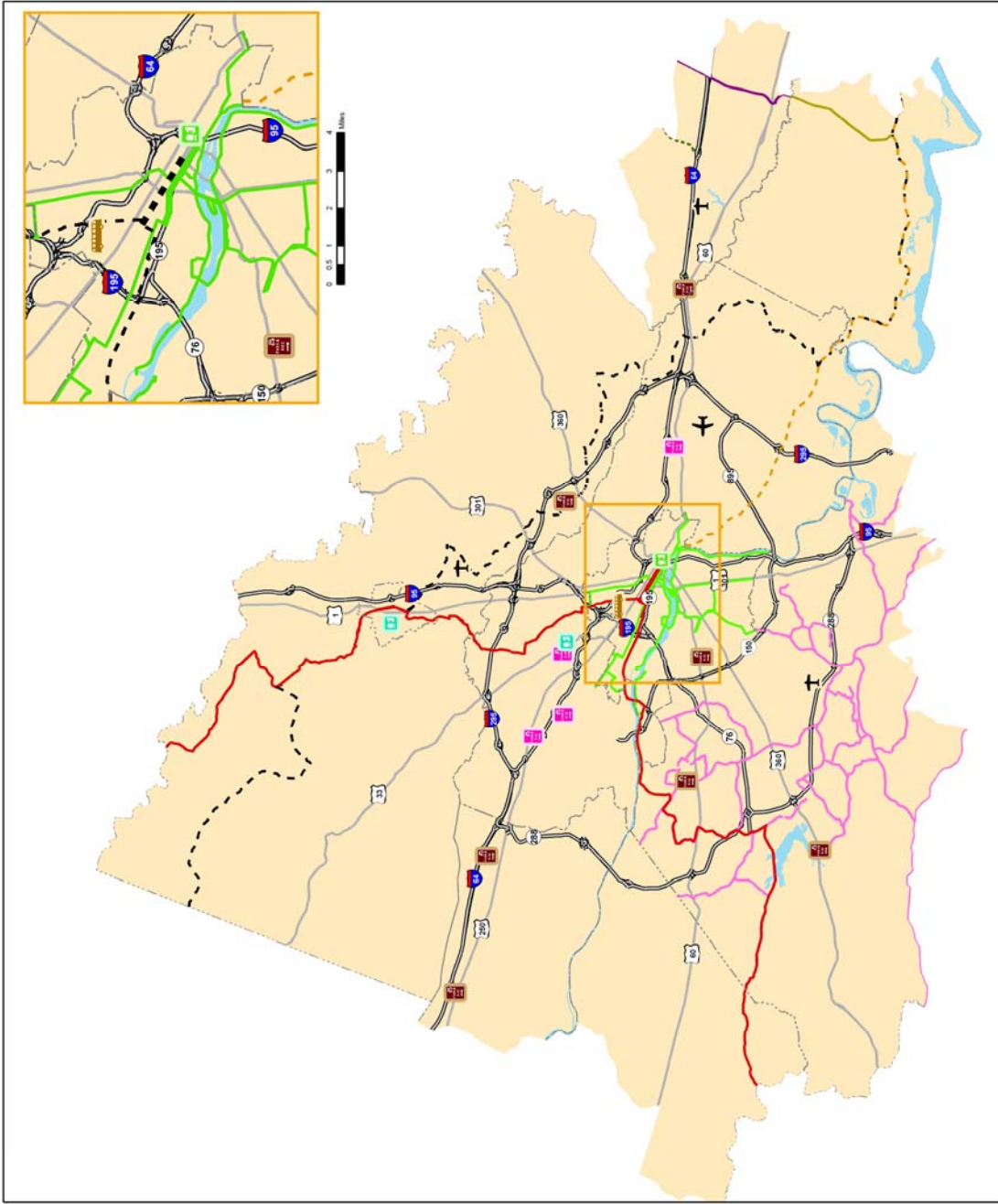


Figure 10-1 shows a list of projects from the adopted FY08-FY13 Six-Year Improvement Program that comprises the major bicycle-pedestrian oriented projects in the Richmond area.

Figure 10-1 Bicycle-Pedestrian Projects List (\$000)

Jurisdiction/ Agency	UPC #	Route	Type of Improvement	Total
Charles City	81561	Rt. 5	Va. Capital Trail: Interpretive Site	418
Charles City	81562	Rt. 5	Va. Capital Trail: Sherwood Forest	13,517
Charles City	86279	Rt. 5	Va. Capital Trail: New Market	1,250
Charles City	71910	Rt. 5	Va. Capital Trail: Courthouse	4,802
Chesterfield	86561		Construct sidewalk	460
Chesterfield	T4775		Extend Coalfield Rd. Sidewalk	454
Chesterfield	77240	Rt. 647	Construct sidewalk	157
Chesterfield	1326	Rt. 683	Construct sidewalk Forest Hill Ave at Buford Rd	4,450
Henrico	86280		Va. Capital Trail: Varina Phase	600
New Kent	67939	Rt. 155	Courthouse to Courthouse Connector	2,274
Powhatan	50028	Rt. 13	Sidewalk installation	959
Richmond	78245		Va. Capital Trail: Western Section	2,068
Richmond	86556	Grace St.	Replace Pedestal Poles	338
Richmond	86429		Va. Capital Trail: Richmond East	24,922
Richmond	71730	Rt. 10	Sidewalk, handicap ramps, signalized crossing	170
Richmond	81346	Rt. 360	Construct pedestrian refuge island	500
Regionwide	86428	Districtwide	Va. Capital Trail coordination	30
TOTAL				57,369