

## SECTION 3 - OVERVIEW OF EXISTING BICYCLE ACCOMMODATIONS

Section 3 provides a general accounting and overview of recent efforts and ongoing efforts to better accommodate bicyclists within the regional transportation and recreational network, and an evaluation of progress in doing so, primarily since completion of the 2005 [Bikeway Plan for the RVAMPO](#). This accounting involves engineering approaches, as well as efforts to encourage, promote, and facilitate bicycling as a viable mode of transportation in the MPO study area and the greater region and is generally organized around the [League of American Bicyclists' "5 Es"](#) of bicycle/pedestrian planning and coordination which includes:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation and planning

### 3.1 Engineering

Engineering involves accommodation of cyclists on public roads, existence of both well-designed bike lanes and multi-use paths, and existence and content of bicycle master plan or other guidance documents. All identified existing bicycle accommodations (on-street, trails, greenways, signage, pavement markings, etc.) in the RVAMPO study area are included in the Regional Bicycle Accommodations Geodatabase and are viewable on the [RVARC Online Map](#). Additionally, links to bicycle related plans, policies, and other guidance are provided on the [RVARC Bicycle, Pedestrian, and Greenway Planning](#) website.

### 3.1.1 Bicycle Plans, Policies, and Programs

As noted in Section 2, a range of local and regional guidance is available in the MPO Study area including:

- *Bikeway Plan for the RVAMPO*
- City of Roanoke Completes Policy
- City of Roanoke Street Design Guidelines
- Local Paving and Resurfacing Programs
- Roanoke County Design Handbook
- Roanoke Valley Greenway Conceptual Plan
- VDOT Policy for Integrating Bicycle and Pedestrian Accommodations

Consistent with the VDOT *Policy for Integrating Bicycle and Pedestrian Accommodations*, an "accommodation" is defined as any facility, design feature, operational change, or maintenance activity that improves the environment in which bicyclists and pedestrians travel. Bicycle accommodations may include on-street accommodations, off-street accommodations, and ancillary accommodations.

### 3.1.2 On-Street Bicycle Accommodations

As the name implies, on-street bicycling accommodations generally involve engineering or design approaches to better accommodate cyclists within the roadway or corridor footprint. Examples of on-street accommodations present in the MPO study area include:

- bike lanes (with signage and pavement markings)
- wide travel lane
- paved shoulders



- signed bike routes
- bike routes
- paved shoulders
- shared roadways
- neighborhood streets

Other on-street accommodations available, but not currently in place in the region, include, but are not limited to:

- bicycle boulevards
- bicycle contra lanes
- cycle tracks
- advisory lanes

The previously referenced bicycle accommodation guidance documents (AASHTO, MUTDC, NACTO Urban Design Guide, etc.) provide design guidance and standards for various on-street accommodations.

As outlined in Section 1, the primary entity responsible for installation of an on-street bicycle accommodation varies throughout the MPO study area with VDOT being responsible for roadway construction and maintenance in Botetourt and Roanoke Counties; while the cities of Roanoke and Salem, and the Town of Vinton are responsible for the construction and maintenance of streets within their respective jurisdictional boundaries. While progress has been region-wide, the City of Roanoke in particular has made significant progress in the provision of on-street bicycle accommodations through a variety of approaches including adoption of the 2005 *Bikeway Plan*, adoption and implementation of a

“complete streets” policy, annual paving and resurfacing program, stimulus funding (ARRA), road diets, and long range transportation planning processes (TIP, SYIP, etc).

The Regional Bicycle Accommodations Geodatabase (see Section 3.

### 3.1.2.1 Bicycle Lanes

A bike lane is a portion of a roadway, which has been designated by striping, signing and pavement markings, for the preferential or exclusive use of bicyclists. As of November of 2011 there were 6 (six) corridors within the RVAMPO study area boundary with conventional bicycle lanes, totaling 14.2 lane miles, representing differing approaches and opportunities for provision of a bicycle lane (Figure 3.1). Corridors with bicycle lanes in the RVAMPO study area include (Table 3.1):

- Memorial Avenue (City of Roanoke, 2000)
- Hardy Road (Town of Vinton, 2004)
- Colonial Avenue (City of Roanoke, 2008)
- Mountain View Road (Roanoke County, 2009)
- Shenandoah Avenue (City of Roanoke, 2010)
- Gus Nicks Boulevard (City of Roanoke, 2010)
- Peters Creek Extension (City of Roanoke, 2011)

The City of Roanoke has installed conventional bicycle lanes and other accommodations on numerous streets by reconfiguring the existing roadway pavement width as part of its annual paving and resurfacing program.



Memorial Avenue bicycle lanes (13<sup>th</sup> to Cambridge) were installed as part of a “road diet” which removed one travel lane to provide space for installation of a conventional bicycle lane in 2000. This project and was conducted as part of a roadway reconstruction project. This corridor provides connection to the Roanoke River Greenway, Vic Thomas Park, Ghent Park, and the Grandin Village, several signed bicycle routes, public transportation and several neighborhoods (Mountain View, Norwich, and Grandin).

Colonial Avenue bicycle lanes (26<sup>th</sup> to Winding Way) were installed as part of the City of Roanoke’s 2008 annual paving program. Existing travel lanes were narrowed allowing for installation of a conventional bicycle lane along a portion of the corridor and preservation of on-street parking. The Colonial bicycle lane provides connection to Virginia Western Community College, Fishburn Park Elementary School, and Murray Run Greenway.

Shenandoah Avenue bicycle lanes (24<sup>th</sup> to 5<sup>th</sup>) was installed as part of the City of Roanoke’s annual paving program (2010) and consists of a conventional bicycle (westbound) and a wide travel lane (eastbound). These accommodations were installed by reconfiguring (i.e., narrowing) the geometric design of the existing travel lanes

Gus Nicks Boulevard bicycle lanes (Orange Avenue to Town of Vinton CL) were installed as part of the City of Roanoke’s annual paving program (2010) in which the existing travel lanes were narrowed allowing for installation of a bicycle lane. This bicycle lane design uses the outside travel lane as well as the curb and gutter to meet the AASHTO standards

The Peters Creek Extension bicycle lanes (Melrose to Brandon) were installed as part of the City of Roanoke’s 2011 annual paving program. Prior to installation of bicycle lanes, bicycle accommodations along the corridor consisted of wider outside travel lanes and Share the Road signage. Existing travel lanes were narrowed allowing for installation of a conventional bicycle lane. This portion of Peters Creek Extension is also a signed bicycle route.

Other bicycle lanes in the RVAMPO study area include Hardy Road (Town of Vinton) and Mountain View Road (Roanoke County), both of which were installed as a part of VDOT reconstruction projects. The Hardy Road bicycle lane (Bypass Road to Wolf Creek) was the first bicycle lane in the region and connects to Wolf Creek Greenway, Horn Elementary School, and several neighborhoods along Hardy Road. The Mountain View bicycle lane (Town of Vinton CL) to near the Blue Ridge Parkway overpass provides connection to the Wolf Creek Greenway, Blue Ridge Parkway, and several neighborhoods.

Bicycle lanes are planned for other corridors in the MPO study area including 10th Street and 13<sup>th</sup> Street/Hollins Road in the City of Roanoke and Walnut Avenue in the Town of Vinton as part of planned reconstruction projects. Projects form the [2012-2015 RVAMPO Transportation Improvement Program](#) (TIP) are provided in Section 4.



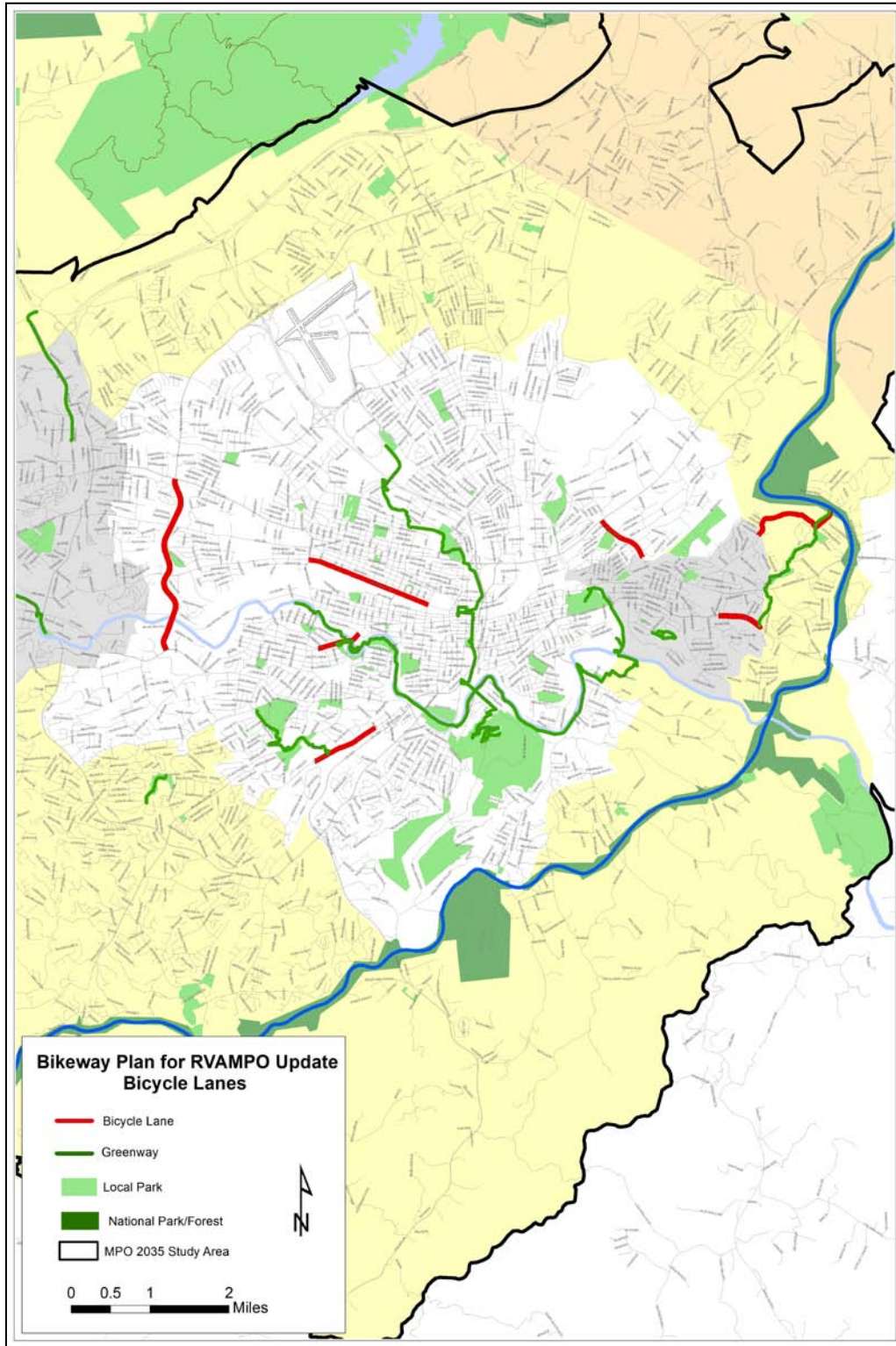


Figure 3.1: Bicycle Lanes



Table 3.1  
Bicycle Lane Locations and Mileage

Street	From	To	Year Installed	Locality	Length (miles)
COLONIAL	26TH	WINDING WAY	2008	City of Roanoke	1.8
GUS NICKS	CORPORATE LIMIT	ORANGE	2010	City of Roanoke	1.4
MEMORIAL	13TH SW	CAMBRIDGE	2000	City of Roanoke	1.1
PETERS CREEK EXTENSION	MELROSE	BRANDON	2011	City of Roanoke	4.7
SHENANDOAH	24 TH	5 TH	2010	City of Roanoke	1.6
MOUNTAIN VIEW	CORPORATE LIMIT	0.12 MILES WEST OF FALLING CREEK DRIVE (ROUTE 1075)	2008	Roanoke County	2.5
HARDY	BYPASS ROAD	WOLF CREEK	2004	Town of Vinton	1.1
City of Roanoke - Total Bike Lane Miles					10.6
Roanoke County - Total Bike Lane Miles					2.5
Town of Vinton - Total Bike Lane Miles					1.1
RVAMPO Total Bike Lane Miles					<b>14.2</b>

*Bicycle lanes and mileage as of 12/31/11. Source: RVARC*





*Wide travel lane on Colonial Avenue) prior to bicycle lane installation (City of Roanoke)*



*Wide travel lanes on Shenandoah Avenue prior to installation of bicycle lane*



*Bicycle lane on Colonial Avenue (City of Roanoke) installed as part of the 2008 annual paving program*



*Bicycle lane on Shenandoah Avenue installed as part of the 2011 annual paving program*





*Bicycle lane on Memorial Avenue (City of Roanoke) installed as part of a "road diet" in 2000*



*Bicycle lane on Mountain View Road in Roanoke County installed as part of a VDOT reconstruction project in 2008*



*Bicycle lane on Gus Nicks Boulevard (City of Roanoke) installed as part of the 2011 annual paving program*



*Bicycle lane on Colonial Avenue (City of Roanoke) installed as part of the 2008 annual paving program*



### 3.1.2.2 Wide Travel Lanes

Wide travel lanes are roadways that provide adequate width for both motor vehicle and bicycle travel and are a viable option to accommodate cyclists where there is not sufficient roadway width for conventional bicycle lanes. Wide travel lanes are often used in tandem with signage (e.g., Share the Road, Bike Route, wayfinding, etc.) and pavement markings (e.g., sharrows). Additionally, a right edge stripe (“urban shoulder”) or on-street parking stripe can be installed on wide travel lane to further delineate the accommodation and serve as traffic calming devices.

Wide travel lanes are present throughout the RVAMPO study area, representing one of the most common on-street bicycle accommodations (Figure 3.2). Examples of wide travel lanes in the RVAMPO study area include, but are not limited to:

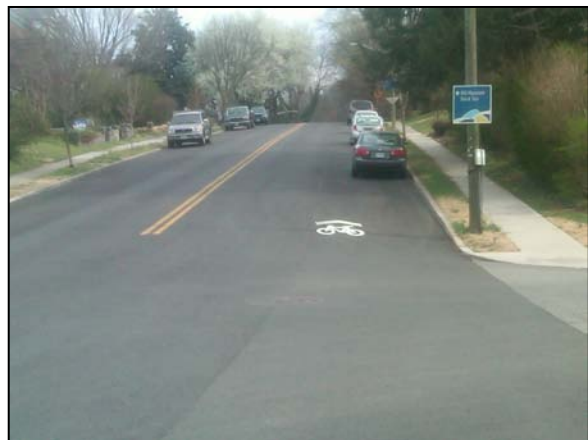
- Brandon Avenue (City of Roanoke)
- College Avenue (City Salem)
- Hollins Road (Roanoke County)
- Idaho Street (City of Salem)
- Melrose Avenue (City of Roanoke)
- Walnut Avenue (City of Roanoke)
- Walnut Avenue (Town of Vinton)

As part of the 2011 paving program, the City of Roanoke installed a wide travel lane in the uphill direction of a portion of Walnut Avenue (and Mill Mountain Greenway) by reconfiguring the existing lane dimensions (i.e., downhill lane narrowed, uphill lane widened). Sharrows and wayfinding signage were also installed along the wide travel lane to further delineate accommodation.

While a road diet can be an effective approach to accommodating bicyclists, it should be noted that the reduction in “lane miles” may negatively impact (i.e. reduce) federal or state transportation funding for the locality.



*Center line shifted and downhill travel lane narrowed to install wide travel lane in uphill direction on Walnut Avenue/Mill Mountain Greenway (City of Roanoke)*



*Wide travel lane (uphill), shared lane marking, and wayfinding/directional signage on Walnut Avenue/Mill Mountain Greenway*







Wide travel lane (road diet) on 5<sup>th</sup> Street in the City of Roanoke installed as part of the 2011 annual paving program



Wide travel lane on Walnut Avenue/Mill Mountain Greenway in the City of Roanoke



Wider outside travel lane on Brandon Avenue in the City of Roanoke



Wide travel lane with an "urban shoulder" on Walnut Avenue/Mill Mountain Greenway



### 3.1.2.3 Paved Shoulders

Shoulder improvements are often effective in accommodating bicycle travel on a shared roadway. Although a 4-foot paved shoulder is recommended for bicycle travel, there is no design standard. In general, any additional shoulder width will provide greater benefit than no shoulder at all. In addition to accommodating bicyclists, paved shoulders also provide additional roadway maintenance and safety benefits such as pull over areas, recovery areas, and increased pavement structure durability.

Although not specifically installed as bicycle accommodations, there are several roadways in the RVAMPO study area with paved shoulders varying widths and suitability for bicycle travel (Figure 3.2). Additionally, in recent years, VDOT has included (or plans to include) paved shoulders width on several roadway reconstruction projects (e.g., US 221, US 460). Additionally, VDOT can use road maintenance funding to improve existing paved shoulders to better accommodate bicyclists including increasing the shoulder width were practicable. Examples of corridors in the RVAMPO study with paved shoulders include, but are not limited to:

- Route 419/Electric Road
- US 220 (Botetourt County)
- US 460 (western Roanoke County)
- Sanderson (Roanoke County)
- Route 311/Catawba Valley (Roanoke County)



*Paved shoulder on US 220 North in the Daleville area of Botetourt County*



*Wide travel lane and paved shoulder on Shenandoah Avenue installed as part of the 2010 annual paving program*





*Paved shoulder on Route 419/Electric Road in Roanoke County*

While paved shoulders can often sufficiently accommodate cyclists, impediments to doing so can include inconsistent and/or insufficient paved shoulder width, pavement conditions, and right turn conflicts (i.e., paved shoulder also serves as right turn lane). Additionally, as with conventional bicycle lanes and wider travel lanes, debris often tends to accumulate within the paved shoulder presenting a potential hazard for cyclists. Entities responsible for street cleaning with the RVAMPO study area are the same as with construction and maintenance responsibilities (see Section 1). Street cleaning schedule and frequency vary based on the responsible entity. For instance the City of Roanoke cleans each residential street once every four months; arterial streets each month; and Central Business District (downtown) streets are swept each Wednesday, Friday, and Saturday nights. The VDOT Salem District currently conducts very limited cleaning or debris removal on roadways under its jurisdiction.



*Inconsistent paved shoulder along Electric Road/419 in Roanoke County*



*Street cleaning in the City of Roanoke*



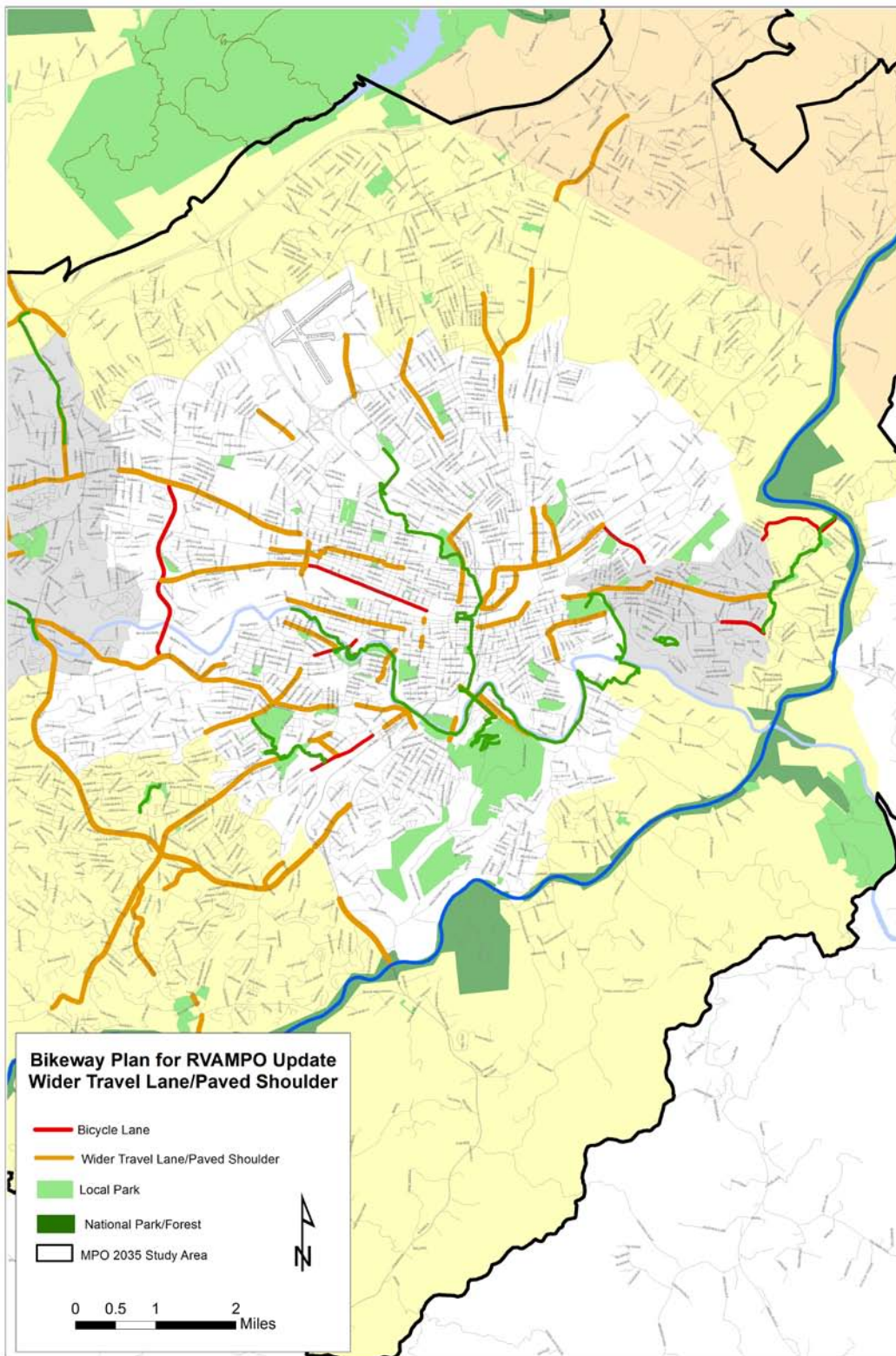


Figure 3.2: Wider Travel Lanes and Paved Shoulders



### 3.1.2.4 Signed Bicycle Routes

A signed bicycle route is an established route that connects activity centers, greenways, and other destinations with directional signage and/or pavement markings to delineate the route. Signed bicycle routes often utilize lower traffic volume corridors, neighborhood streets and other suitable shared roads, as well as existing on-street accommodations were available. The routes as often provide alternatives to higher traffic volume roadways.

The City of Salem has long had an 11.2 mile signed bike route designed for riders of all ages and skill levels. This bike route connects various activity centers and destinations within the city. The Salem bicycle route follows neighborhood and other low traffic volume streets and has bicycle-specific accommodations along portions of the route (Figure 3.3).

The City of Roanoke also has several established signed bicycle routes in place with other routes being developed by the City of Roanoke Bicycle Advisory Committee. The current signed bicycle routes in the City of Roanoke serve as on-street greenway connectors and generally utilize lower traffic corridors, neighborhood streets, as well as other bicycle and existing bicycle accommodations.

Throughout the RVAMPO study area numerous potential bicycle routes have been identified by area cyclists and stakeholders and are included in the Regional Bicycle Accommodations Geodatabase maintained by the Regional Commission. Additional routes are being developed through the various local and/or

regional plans, policies, processes (neighborhood, corridor, or area plans, complete streets policy, etc), as well as VDOT planning efforts. However, additional work is needed to identify additional bicycle routes and provide appropriate accommodation(s) along these corridors.



*Bike Route signage and Valley Metro bus stop at the terminus of the Memorial Avenue bicycle lane*



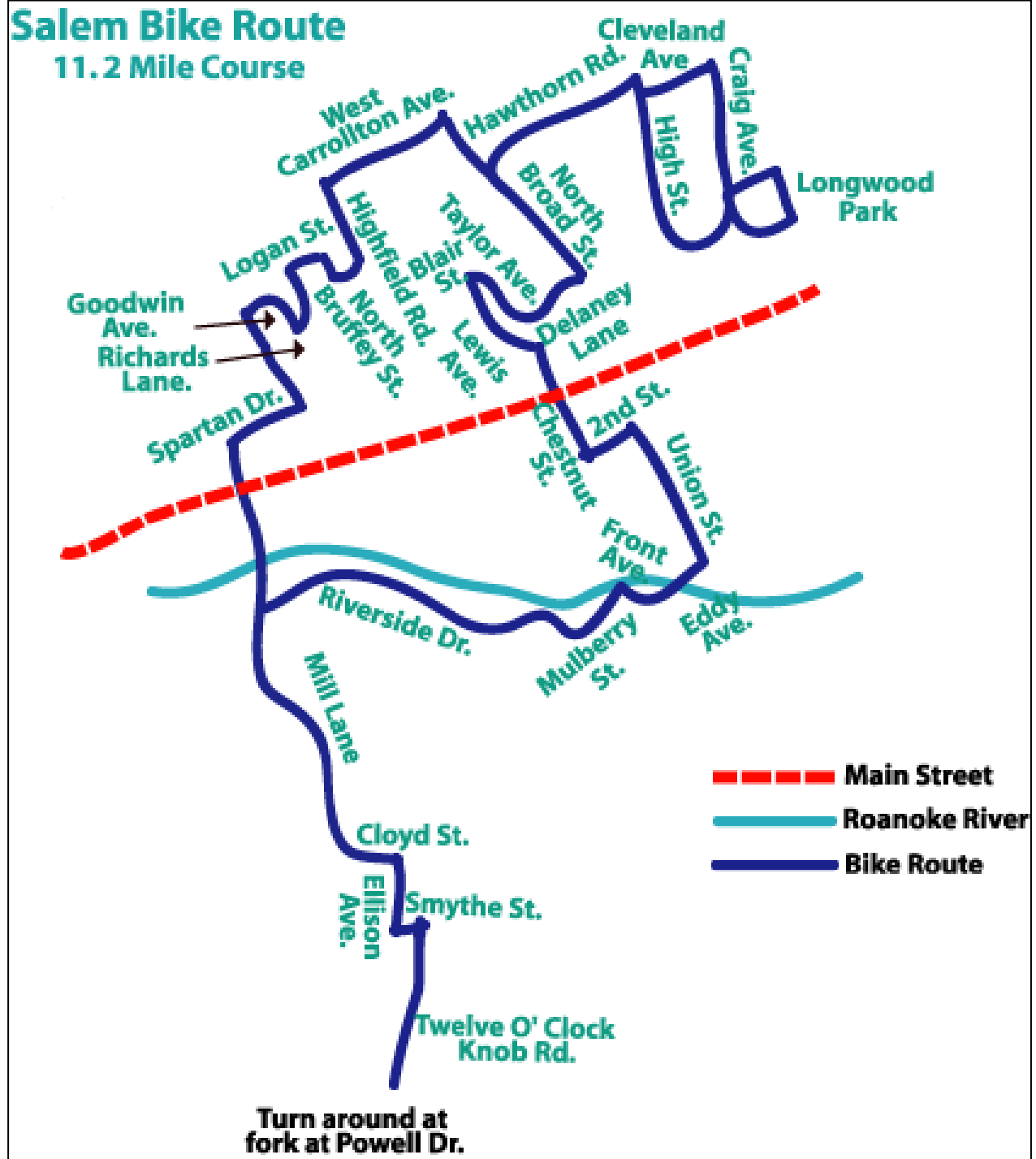


Figure 3.3: City of Salem Bike Route: Source: City of Salem



### 3.1.2.5 Other Local/Regional Routes

Beyond local signed bicycle routes, other informal bicycle “routes” have been identified in the region by local cyclists and stakeholders. These routes include commuter, recreational, touring, and social routes, and utilize existing on-street accommodations, neighborhood streets, lower traffic corridors, greenways, etc.

#### 3.1.2.5.1 Regional Bike Commuter Routes

RIDE Solutions “Bike Commuter Routes” provide connection to downtown Roanoke (and points in between) from various quadrants of the RVAMPO study area (Figure 3.4). While these routes are currently not signed/marked or otherwise delineated on ground, printable and Interactive maps of all Regional Bike Commuter Routes are available at the [Bike Roanoke](#) website.

#### 3.1.2.5.2 Art by Bike Route

The Art by Bike touring route connects various pieces of public art in the City of Roanoke (Figure 3.5). The Art by Bike touring developed in partnership with the Roanoke Arts Commission to celebrate the unveiling of *In a Tangle*, the sculptural bike rack installed in the Grandin Village on July 1, 2011. This easy, eight mile loop runs from the Grandin Village to downtown and back, and utilizes several existing bicycle accommodations including bicycle lanes, signed bicycle routes, greenway/shared use paths, and neighborhood streets. Printable and Interactive maps of the Art by Bike Route are available on the [Bike Roanoke](#) website.

### 3.1.2.5.3 Alternative Routes

While not specifically a bicycle accommodation, alternative routes provide options to higher traffic volume/speed roadways. Alternative routes are generally neighborhood or other lower traffic streets that parallel major commute corridors. The Regional Commission and RIDE Solutions have worked with area cyclists and other stakeholders to identify and map a number of alternative routes throughout the RVAMPO study area. These routes are identified on the [RVARC Online Map](#) and Bike Roanoke [Interactive Bike Map](#).



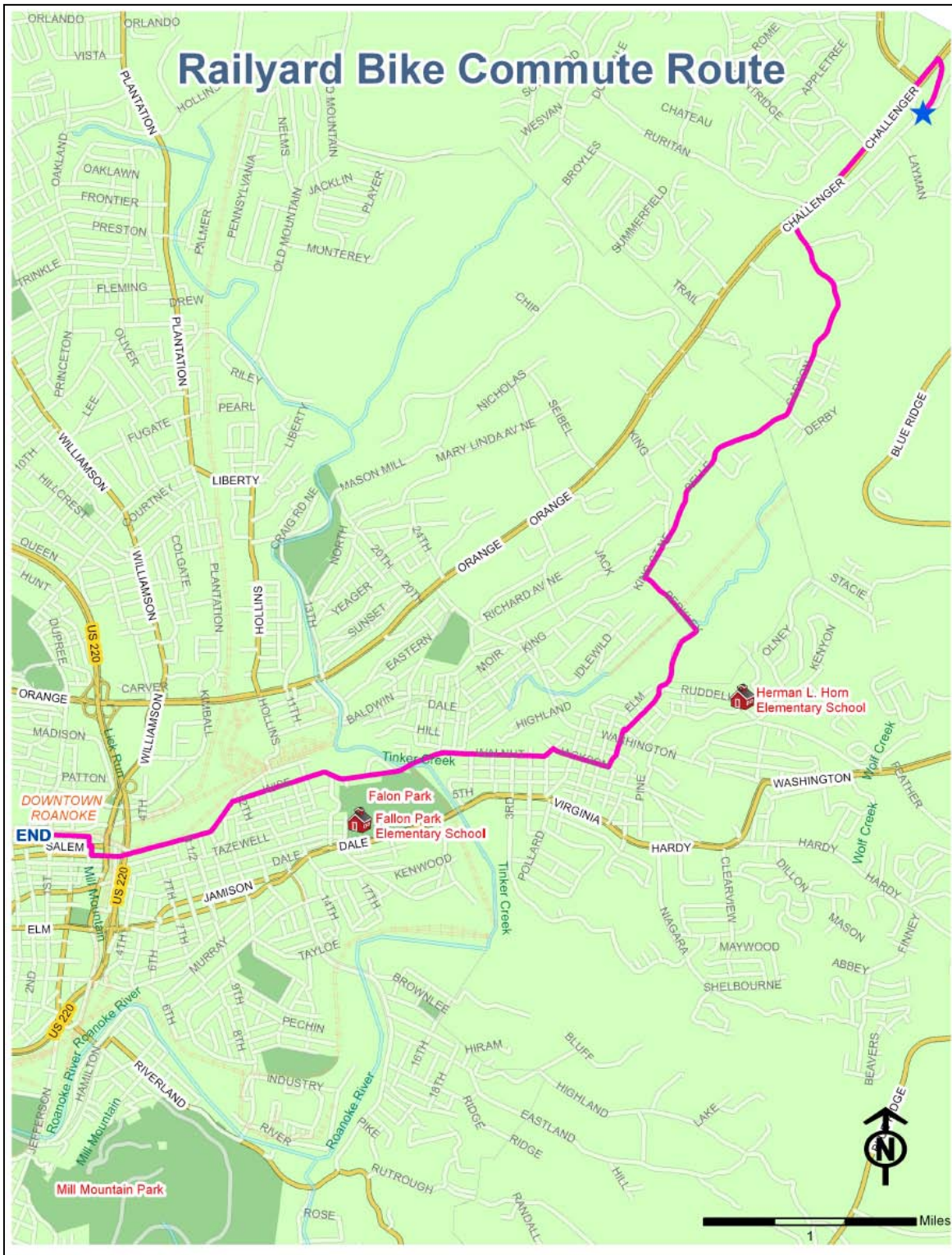


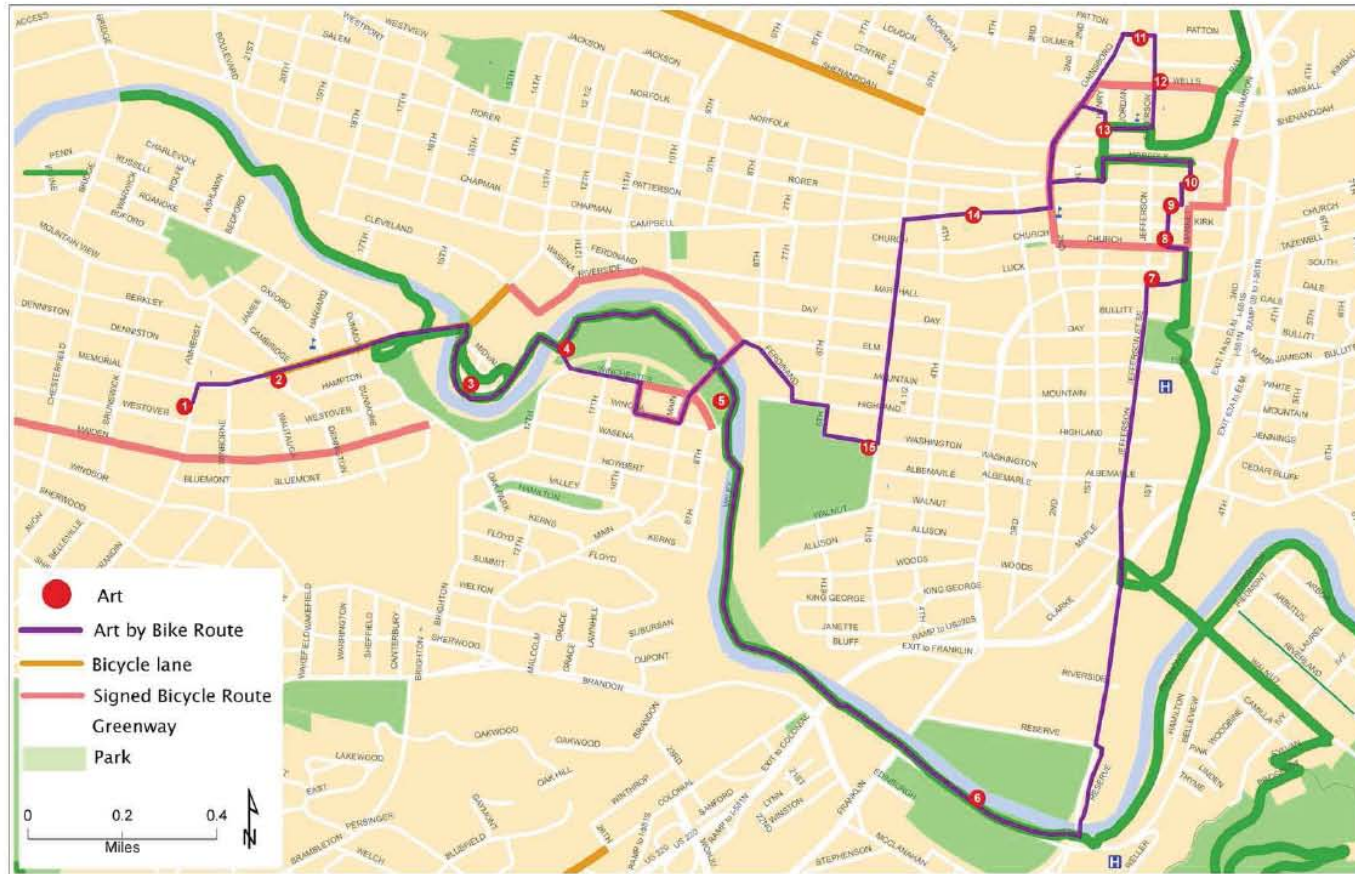
Figure 3.4: RIDE Solutions Bike to Work Route Map







# Turn by Turn Directions



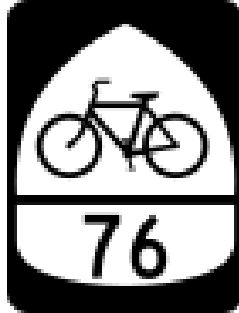
- 1 - START AT *In a Tangle Grandin Rd.*  
- TURN LEFT onto Grandin Rd.  
- TURN RIGHT onto Memorial Ave.
- 2 - STOP AT *Trojan Dog*  
- FOLLOW Memorial Ave. to Black Dog Salvage/Vic Thomas Park
- 3 - STOP AT *In Flux*  
- CONTINUE ON Roanoke River Greenway
- 4 - STOP AT *Wasena Bridge*  
- CONTINUE ON Roanoke River Greenway
- 5 - STOP AT *Skate Park*  
- CONTINUE ON Roanoke River Greenway
- 6 - STOP AT *Mutated Snail*  
- CONTINUE ON Wiley Dr.  
- TURN LEFT onto Old Jefferson St.  
- TURN RIGHT onto Jefferson St.  
- TURN RIGHT onto Franklin Rd.
- 7 - STOP AT *Glory Pipes*  
- WALK BIKES through Norfolk Southern Plaza  
- TURN LEFT onto Church Ave.
- 8 - STOP AT *Century Plaza*  
- WALK BIKES across Kirk Ave. into Market St. Garage
- 9 - STOP AT *Youth Murals*  
- TURN RIGHT onto Campbell Ave.  
- TURN LEFT onto Wall St.
- 10 - STOP AT *Bike Rack #9*  
- TURN LEFT onto Market St.  
- TURN LEFT onto Norfolk Ave./Railwalk  
- TURN LEFT onto 1 1/2 St.  
- TURN RIGHT onto Salem Ave.  
- TURN RIGHT onto 2nd St.  
- TURN RIGHT onto Patton Ave.
- 11 - STOP AT *Reading Garden*  
- TURN RIGHT onto N. Jefferson St.
- 12 - STOP AT *Recoil*  
- CONTINUE ON N. Jefferson St.  
- TURN LEFT onto Center Ave.
- 13 - STOP AT *Martin Luther King, Jr. Memorial Bridge*  
- TURN RIGHT onto Henry St.  
- TURN LEFT onto Loudon Ave.  
- TURN LEFT onto 2nd St.  
- TURN RIGHT onto Campbell Ave.
- 14 - STOP AT *Connect*  
- CONTINUE ON Campbell Ave.  
- TURN LEFT onto 5th St.
- 15 - STOP AT *Highland Park*  
- TURN RIGHT onto 6th St.  
- TURN LEFT onto Highland Ave.  
- FOLLOW Ferdinand Bike Route to Wasena Park

Figure 3.5: Art by Bike Route



### 3.1.2.6 Virginia Interstate Bicycle Route 76

The Virginia Interstate Bicycle Route 76 is one of three recognized national bicycle routes that run through Virginia and is a popular recreational cycling destination (for locals and visitors). Bicycle Virginia Bicycle Route 76 is part of the [Trans-America Bike Trail](#) (a.k.a. BikeCentennial Route 76) which runs for 4,250 miles from Williamsburg, Virginia to Astoria, Oregon. The 500-mile Virginia section of the Trans-America Bicycle Route runs from Yorktown to the Kentucky state line near Breaks Interstate Park and generally follows the Trans-America Bike Trail.



The Virginia Interstate Bicycle Route 76 runs through portions of Botetourt and Roanoke counties and includes roadways within the RVAMPO 2035 study area in Botetourt as well as roadways covered under the Rural Transportation Planning in Botetourt and Roanoke counties (Figures 3.6 and 3.7). Few regions are as uniquely suited to capitalize on this geographic proximity to Bicycle Route 76) and providing improved connection between these routes and the population/activity centers in the RVAMPO study area has been noted as a priority by area cyclists and stakeholders. The *Bikeway Plan* recognizes and promotes greater connection and integration of the route to the RVAMPO study area.

VDOT is primarily responsible for maintenance and signage along the Bicycle Route 76. Currently, Bicycle Route 76 is demarcated with white and black, “Route 76” signs with a bicycle

image. Beyond route and occasional “Share the Road” signage, bicycle accommodations along the route are largely absent. Additionally, wayfinding and directional information, including maps, are very limited. Additionally, speed limits, geometric design (lack of shoulder, narrow travel lanes) on portions of the route present impediments to cyclist using the route.



*Bike Route 76 signage at Route 779 and US 220 in Botetourt County*

Directions for the Bike Route 76 through Botetourt and Roanoke counties are provided below.

**Botetourt County (traveling east to west)  
Total Distance: 40.6 miles**

- Enters Botetourt County from the north on Frontage Road 55 (old US 11) coming out of Rockbridge County
- Continues through the Town of Buchanan on US 11
- Turns left onto Route 640 (Lithia Road) just south of the Town of Buchanan
- Continues on Route 640 (Lithia Road) south to Nace Road (also Route 640)



- Follows Nace Road (Route 640) until intersection of US 11
- Turns left onto US 11 for a short distance before turning left onto Route 651 (Stoney Battery Road) Continue on Route 651 until it crosses US 11 in Troutville
- Turns right onto Route 779 (Valley Road) to US 220 in Daleville
- Crosses US 220 and follows Route 779 to the Catawba Valley and Roanoke County as it continues south

Roanoke County (traveling east to west)  
Total Distance: 13.7 miles

- Enters Roanoke County on Route 779 (Catawba Creek Road) from Botetourt County
- Continues on Route 779 until the intersection with Route 311 (Catawba Valley Road)
- Turns right (west) onto Route 311 for a short distance
- Turns left onto Route 785 (Blacksburg Road) and continues on Route 785 into Montgomery County

**Bicycle Route 76 – RVAMPO Study Area Connections**

As previously noted, the Virginia Bicycle Route 76 run through, or close to, the RVAMPO study area in Botetourt and Roanoke counties with the following corridors providing possible connection to activity centers and other destinations in the study area:

- US 220 (Botetourt County)
- US 220 Alternate (Botetourt)
- US 11/Lee Highway (Botetourt County)

- SR 311/Catawba Valley Road (Roanoke County)

US 220 provides a direct connection from Route 779 to activity centers in the Daleville area of Botetourt County. This portion of US 220 is 4 lanes divided highway and is classified as a “Rural Other Principal Arterial” by VDOT. The outside travel lanes are 12-feet wide with a 4-foot wide paved shoulder (northbound) which is and deteriorated in places, and a speed limit of 45 MPH. Currently, there is no bicycle-related signage (i.e., Share the Road) along the corridor. This segment of US 220 (1-81 to 779) has a high development density with numerous commercial establishments and high AADT. The BCI and BLOS models indicated a LOS of D along this segment of the corridor.

Bicycle Route 76 cross US 11 (Lee Highway) in the Troutville area of Botetourt County. This section of US 11 is classified as an “Urban Collector” by VDOT and connects the Bicycle Route 76 to activity centers in Daleville (Exit 150) and Roanoke County. US 11 continues into Roanoke County Roanoke County (Williamson Road) and connects to other lower-traffic corridors that provide access to Roanoke including Cloverdale Road (Alternate US 220), Read Mountain Road, Sanderson, and Hollins Road.

Route 311 is a two lane rural road with a posted speed limit of 55 and is classified as a Rural Major Collector by VDOT (Appendix A). Route 311 is also a commuter route between parts of Roanoke and Craig counties resulting in high traffic volume and speeds. Virginia Bicycle Route 76 utilizes a section of Route 311 (785 to 779) in Roanoke County. Route 311, a Virginia scenic Byway, provides a direct connection to the City of Salem and the



Roanoke urbanized area approximately 9 miles from the Route 785. Additionally, Route 311 provides connection to numerous activity centers and point of interests within and/or proximate to the RVAMPO study area (via 419/Electric Road, Kessler Mill Road, Thompson Memorial, and Hanging Rock Greenway), including downtown Salem, Roanoke College, a park and ride lot (I-81 at Exit 140), Carvins Cove Natural Reserve, McAfees Knob, Havens Wildlife Refuge, Catawba Recreation Center (Roanoke County Parks and Recreation), the Virginia Tech Experimental Farm, Jefferson National Forest, and the Appalachian Trail. However, although in recent years VDOT has made improvements to the paved shoulder (widening, pavement improvement) through maintenance funds, Route 311 currently does not sufficiently and safely accommodate cyclists. For instance, the LOS along sections of Route 311 was a D (moderately low) and E (very low) (Regional Bicycle Suitability Study, 2004). However, both level of service models (BCI and BLOS) indicated that several design and/or operational changes could increase the LOS including increasing the travel lane and/or paved shoulder and reduction of 85<sup>th</sup> percentile speed along the corridor. To better accommodate cyclists VDOT has recently installed additional “Share the Road” signs and increased shoulders width along portions of Route 311.

Additional planning will be required on behalf of the RVAMPO, local governments, VDOT, and other stakeholders to better connect Virginia Bicycle Route 76 to activity centers and destinations in the RVAMPO study area and incorporate the route into the regional transportation and recreation network. Roads composing the Virginia Bicycle Route and

potential connecting corridors are included in the list of corridors for consideration of bicycle accommodations for each locality (Section 4).

Beyond the *Bikeway Plan for the RVAMPO* and related transportation planning documents (e.g., *Rural Bikeway Plan*, TIP, etc.) connectivity between Bicycle Route 76 and regional activity centers and destinations can also be addressed through other planning processes or documents at the local, state, and regional levels (e.g., trail, greenway, tourism, economic development, health/active living, livability).



*Improved paved shoulder on Route 311 in Roanoke County installed by VDOT in 2011 as part of its maintenance program*



Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

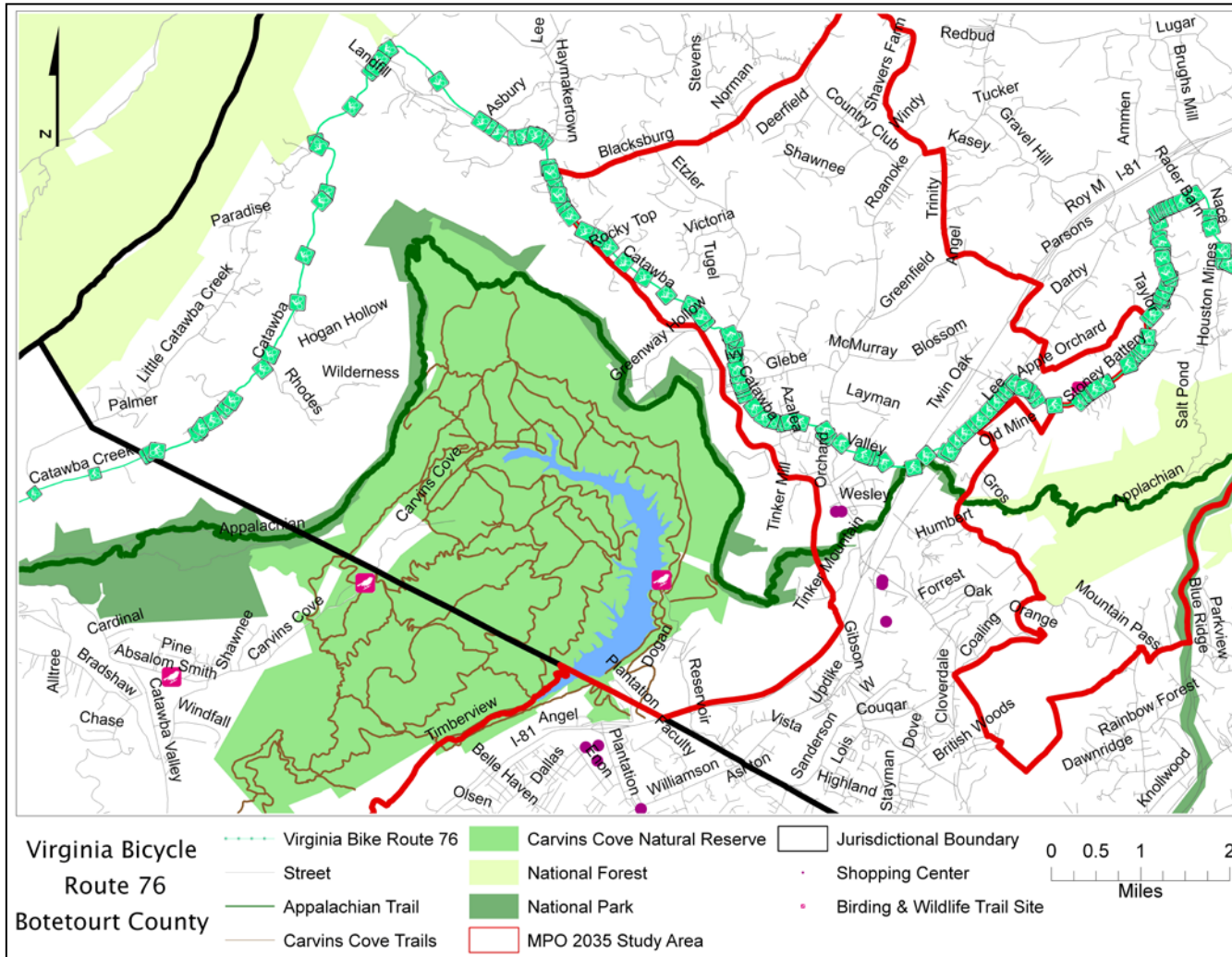


Figure 3.6: Virginia Bicycle Route 76 - Botetourt County



Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

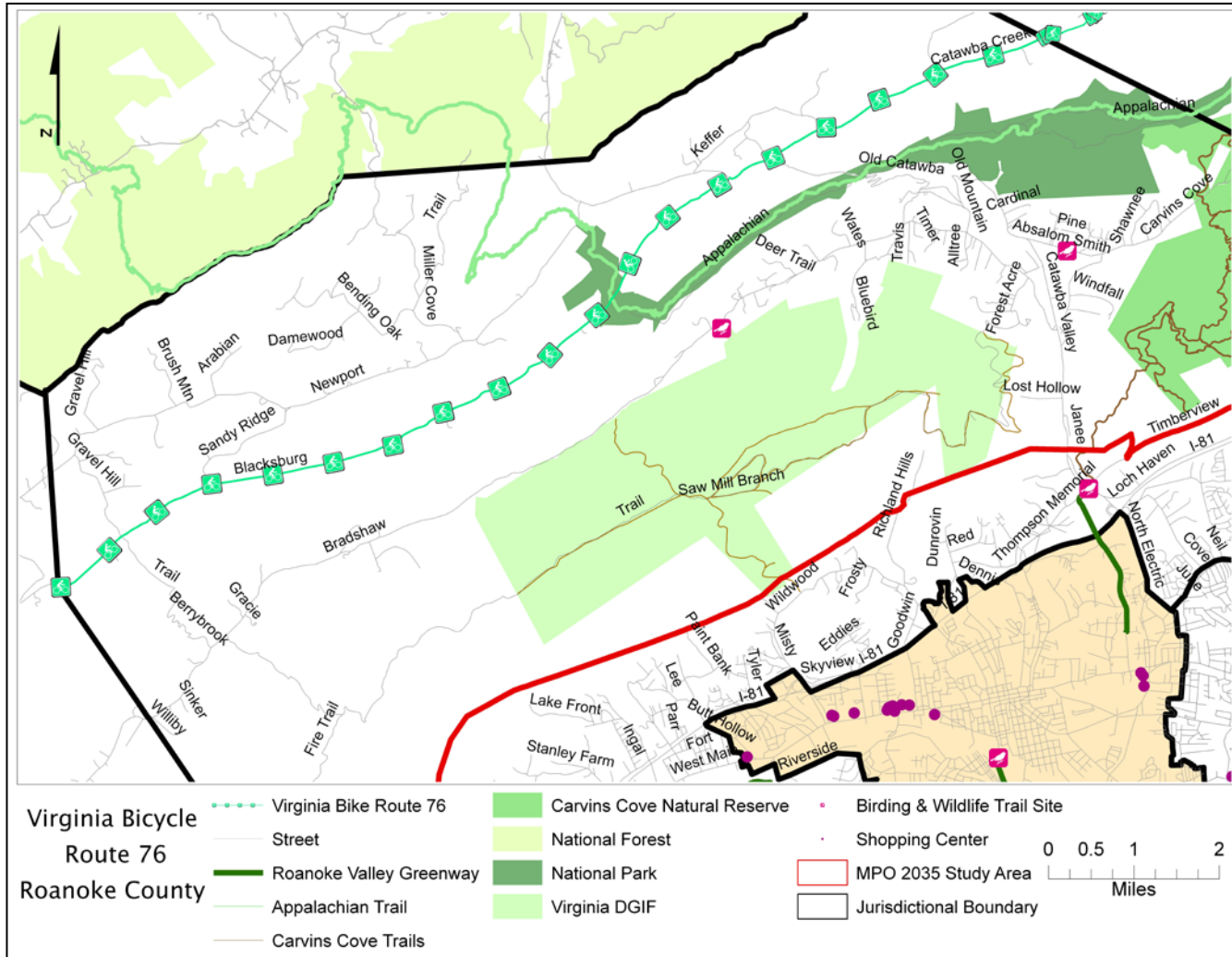


Figure 3.7: Virginia Bicycle Route 76 - Roanoke County



### 3.1.2.7 Blue Ridge Parkway

The [Blue Ridge Parkway](#) is a 469-mile scenic route that runs through 39 counties in North Carolina and Virginia. The Blue Ridge Parkway, which is administered by the National Park Service (NPS), is the most visited unit of America's National Park System. The Blue Ridge Parkway runs through portions of the MPO study area in Botetourt, Franklin, and Roanoke counties. The Blue Ridge Parkway is under the jurisdiction of the National Park Service (NPS), as such state, regional, and local agencies have limited input regarding bicycle accommodations along its length.

The portion of the Blue Ridge Parkway in the region is primarily a two-lane, undivided, roadway with 11-foot travel lanes and generally no shoulders along most of its length. Despite the roadway geometrics, the Blue Ridge Parkway is a popular cycling destination for local cyclists as well as cyclists from outside of the area due, in part, to its scenic beauty, challenging and varied topography, and relatively low AADT. However, it should be noted that although the Parkway has low AADT, portions of the Blue Ridge Parkway near the Roanoke area, especially between Route 24 and US 221, are used daily by area commuters, resulting in higher traffic volumes at certain times during the day. Traffic volumes also increase significantly during certain times of year (i.e., fall leaf season) as tourists travel the Parkway.

The Blue Ridge Parkway can be accessed at several locations within, or in close proximity to, the MPO study area including:

- US Route 220 (Roanoke County/City of Roanoke) Parkway Spur/J.P. Fishburn Parkway (City of Roanoke)
- State Route 24 (Roanoke County)
- US Route 460 (Roanoke County)
- Route 43 (Botetourt County – outside of MPO)

Although Parkway access is limited, there are numerous activity centers and destinations along or in close proximity to the Blue Ridge Parkway in Roanoke area (the largest population center along the Blue Ridge Parkway) including Explore Park, Mill Mountain Zoo, Discovery Center, the Roanoke Star, Mill Mountain Greenway, Roanoke Mountain campground, and numerous commercial centers. While the limited access points provide connection between the Blue Ridge Parkway and the Roanoke area, currently, bicycle accommodations, wayfinding and/or directional information along these corridors are limited. Likewise, wayfinding and/or directional information to activity centers, destinations, and attractions in communities along the Blue Ridge are also lacking.

In general, the Roanoke Parkway Spur provides the safest access to the Roanoke Valley (City of Roanoke) from the Blue Ridge Parkway via J.P. Fishburn Parkway and the Mill Mountain Greenway). Additionally, a section of US 220 leading to the Blue Ridge Parkway has a paved shoulder (southbound direction) with Share the Road signage. Share the Road signage is in place on US 220 (northbound direction) leading from the Blue Ridge Parkway to Roanoke County and City of Roanoke, however, currently there are no

- US Route 221 (Roanoke County)



on-street accommodations (i.e., paved shoulder) along the southbound segment of the corridor.

The primary Blue Ridge Parkway planning and guidance documents include:

- [Roanoke Valley/Blue Ridge Parkway Trail Plan](#) (2011)
- [Blue Ridge Parkway General Management Plan](#) (GMP) (2011)

In October 2007, the NPS initiated a public comment period to identify issues and additional study that will be needed to develop an Environmental Assessment for a trail plan for the Roanoke Valley section of the Parkway (from Stewarts Knob, Milepost 110.6 to Masons Knob, Milepost 126.2). The intent of the [Roanoke Valley/Blue Ridge Parkway Trail Plan](#) is to develop a safe and integrated trail system that would provide critical linkages between the Roanoke Valley Greenway trail network, Parkway trails, and the community. This trail system would provide the public with a greatly enhanced range of trail opportunities, as well as provide the NPS trail planning, mapping, and rehabilitation assistance from the Roanoke Valley Greenway Commission. Additionally, the NPS is developing a [Blue Ridge Parkway General Management Plan](#) (GMP) which will provide comprehensive guidance for perpetuating natural systems, preserving cultural resources, and providing opportunities for quality visitor experiences along the parkway for the next 20+ years.

While it is understood that the Blue Ridge Parkway is under the jurisdiction of the National Park Service, the *Bikeway Plan for the RVAMPO* recognizes the importance of the Blue Ridge

Parkway as a major recreational destination in the region and promotes greater connection/access between the Blue Ridge Parkway and trails and the Roanoke. As such the Blue Ridge Parkway and roadways providing potential connection/access are included in the *Bikeway Plan* as corridors for consideration of bicycle accommodation(s) (Section 4). Table 3.2 and Figure 3.8 provide an overview of current auto and bicycle access to the Blue Ridge Parkway motor road, as well as proposed bicycle access from the Blue Ridge Parkway planning documents. Additionally, the *Bikeway Plan* encourages greater and ongoing dialog and collaboration between the NPS and Roanoke area governments, citizens, cyclists, and other stakeholders regarding issues impacting the Blue Ridge Parkway and surrounding communities.

Note: Discussion of the Blue Ridge Parkway and inclusion of the corridor in the *Bikeway Plan for the RVAMPO* is done so with the knowledge and understanding that decisions about management of cultural and historic resources, including the parkway motor road itself, and all other parkway resources, are dictated by the National Park Service Organic Act, the Redwoods Act, other Department of Interior (DOI) laws and policies, the U.S. Code of Federal Regulations, and other federal law and policy. Any changes to the parkway require compliance with the National Environmental Policy Act and National Historic Preservation Act to assess the level of impact on park resources.





Table 3.2  
Blue Ridge Parkway  
Existing and Proposed Bicycle Access

Location	Mile Post	Locality	Access Type	Comments
US 220/Franklin	122	City of Roanoke, Roanoke County	Auto	Existing access; connects to retail/commercial; open to bicycles
Route 24/Washington	112.5	Roanoke County, Town of Vinton	Auto	Existing access; connects to Wolf Creek Greenway; open to bicycles
Mill Mountain Parkway Spur	121	City of Roanoke	Auto	Existing access; preferred on-road connection to City of Roanoke via Mill Mountain Parkway Spur; open to
US 460/Blue Ridge	105	Botetourt County	Auto	Existing access; high traffic corridors; open to bicycles
Buck Mountain Road	122.5	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; Access from Buck Mountain Rd. (along gas line ROW)
Starlight	124.3	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan, Access from Starkey Park and Greenway
Raintree	126.1	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; Access from Raintree Rd.
Falcon Ridge	121.9	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; Access from Falcon Ridge Rd.
Vinton Ranger Station	112	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; new parking area and paved path to Mountain View Rd.
Hardy Road Vicinity	113.7	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; new parking area and paved path to Mountain View Rd.
Roanoke River Overlook	115	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; Greenway and bicycle connection at Roanoke River Overlook
Pitzer Road	117.1	Roanoke County	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; bicycle connection at Pitzer Rd.
Yellow Mountain Road	Mill Mt.	City of Roanoke	Bicycle	Proposed Authorized Roanoke Parkway Trail Plan; Greenway connections

Source: Roanoke Valley/Blue Ridge Parkway Trail Plan (2011) and National Park Service



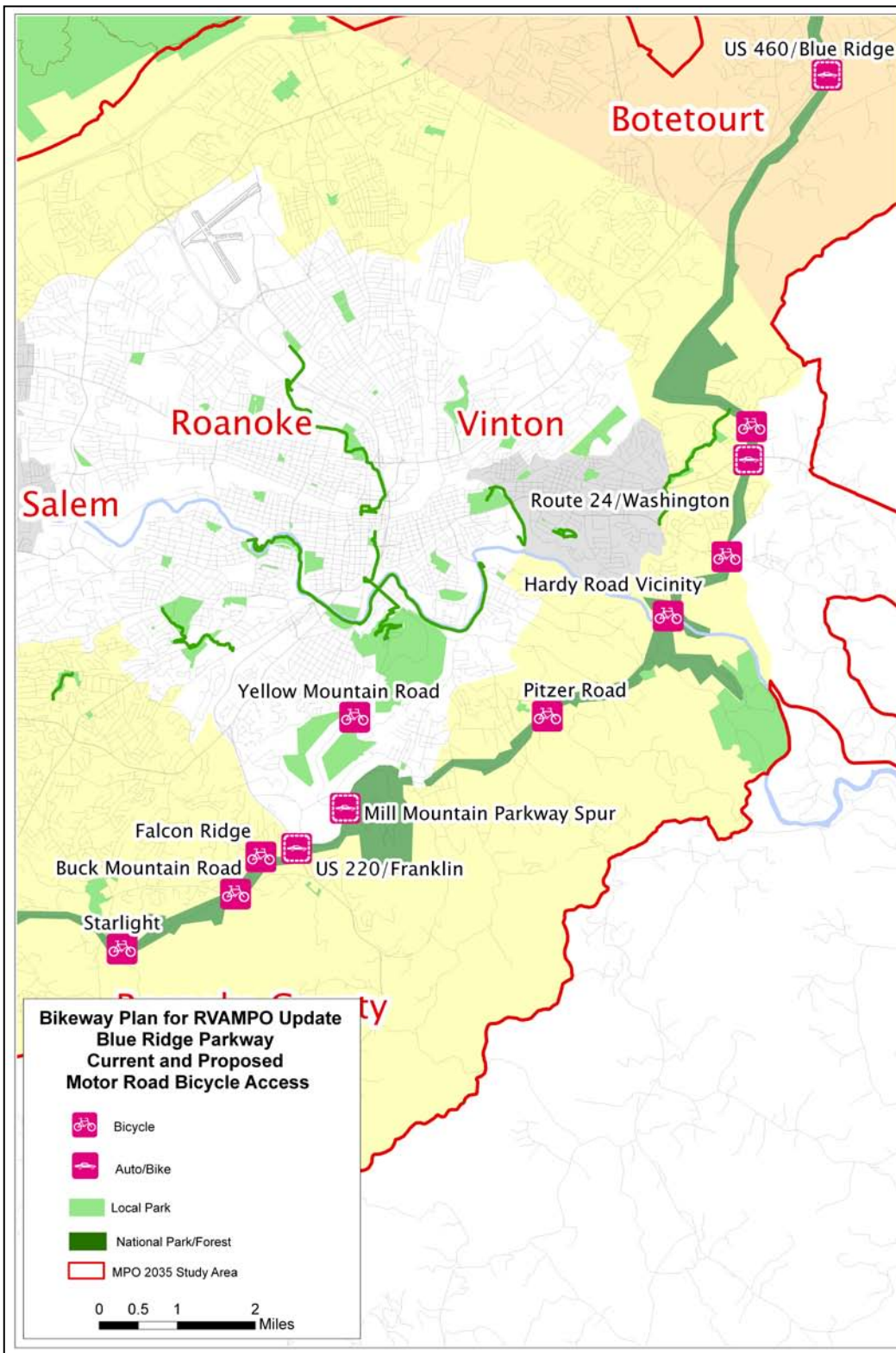


Figure 3.8: Blue Ridge Parkway Current and Proposed Bicycle Access



### 3.1.2 Signage and Pavement Markings

The MUTCD and the NACTO Urban Design Guide provide examples of the various bicycle-related signage and pavements available to better accommodate cyclists with the transportation network. Examples of bicycle signage and pavement markings currently in place in the RVAMPO study area include:

- bike lane signs and pavement markings
- “Share the Road” signs
- bike route signs
- sharrows (shared lane markings)
- wayfinding and directional signage

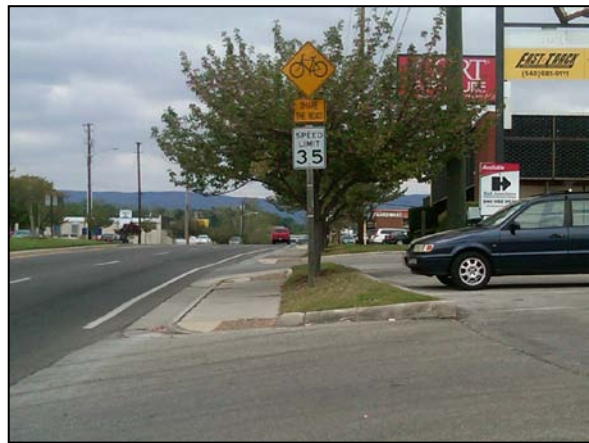
#### 3.1.2.1 Share the Road Signs

Share the Road signs are the most common bicycle-related signage in the RVAMPO study area. Currently there is a total of twenty-four (24) Share the Road signs in the study area with the vast majority (21) being located and installed by the City of Roanoke. VDOT has also installed the remaining Share the Road signs along two corridors in the RVAMPO study area including US 220 (City of Roanoke) leading to and from the Blue Ridge Parkway, SR 311, and Wildwood Road in Roanoke County (Table 3.3 and Figure 3.9).

While the effectiveness (real and/or perceived) of “Share the Road” signs in improving cycling conditions is debatable, this treatment does provide a low-cost, minimum accommodation where other options (i.e., increase pavement width) are not practicable. Additionally, placement of Share the Road signs on roadways with wider outside travel lanes may provide an increased awareness of the potential presence of cyclists, shared nature (motorists and cyclists) of a

roadway, and cyclists “right” to use the roadway.

Based on feedback and discussion with VDOT, there appears to be no formal or consistent VDOT policy or process regarding the request and installation of “Share the Road” signage on VDOT maintained roads. The RVAMPO and Regional Bicycle Advisory Committee will continue to work with VDOT (and local governments) to clarify this process and seek installation of Share the Road where warranted and practicable.



*Share the Road sign, wide travel lane, and “urban shoulder on Brandon Avenue*

#### 3.1.2.2 Shared Lane Markings

Shared lane markings, or “sharrows,” are pavement markings used to indicate a shared lane environment for bicycles and automobiles. Sharrows are included in the 2010 MUTCD, thereby increasing the likelihood of local and state transportation departments. The benefits of sharrows include (NACTO 2011):

- alerts motor vehicle drivers to the potential presence of bicyclists



- alerts road users of the lateral position bicyclists are likely to occupy within the street
- indicates a proper path for bicyclists through difficult or potentially hazardous situations such as railroad tracks
- advertises the presence of bikeway routes to all users
- provides a wayfinding element along bike routes
- increases the distance between bicyclists and parked cars, keeping bicyclists out of the “door zone”

Shared lane markings, however, should not be considered as a substitute or in lieu of bike lanes, cycle tracks, or other separation treatments where these types of facilities are otherwise warranted or space permits. Sharrows are most suitable to indicate a shared lane situation where the speed differential between cyclists and motorists travel speeds is very low such as low traffic volume streets, neighborhood streets, and downtown environments with speed limits not exceeding 25 mph. Shared lane markings generally are not appropriate on streets that have a speed limit above 35 mph. Shared lane markings can also be used to guide cyclists to destinations along preferred bicycle routes as a component of a comprehensive wayfinding system utilizing signing and/or pavement markings.

Since inclusion of shared lane markings in the 2009 MUTCD, the City of Roanoke has begun installing sharrows along corridors throughout the city. For instance sharrows along Church Avenue and 2<sup>nd</sup> Street not only indicate a shared lane environment for bicycles and automobiles but also serve as wayfinding markings for the preferred bicycle route to connect the Lick Run

Greenway and Mill Mountain Greenway through downtown Roanoke. The City of Roanoke has also placed sharrows at the termini of all standard bicycle lanes in the city to indicate the transition to a shared lane environment. Table 3.4 and Figure 3.10 provide an overview of current shared lane markings location in the RVAMPO study area.



*Sharrow (shared lane marking) on Church Street in downtown Roanoke. Markings also serve as wayfinding for on-street bicycle connection between Mill Mountain Greenway and Lick Run Greenway*





*Shared lane marking at terminus of Memorial Avenue bicycle lane*

the NACTO Urban Bikeway Design Guide (Section 2) provide guidance on wayfinding signage, pavements markings, and other treatments.

### **3.1.2.3 Directional and Wayfinding Signage and Pavement Markings**

Beyond standard bicycle route signage, guidance on a range of directional/wayfinding signage and pavement markings are available to assist in directing cyclists to destinations, preferred routes or other bicycle accommodations. Other directional or wayfinding information may include distances or times to specified destinations or activity centers along a route, connections to other bicycle routes or accommodations, and points of interest. As previously noted, the City of Roanoke BAC is developing bicycle routes throughout the city and reviewing options for design and funding of directional and wayfinding signage along various bicycle routes. Additionally, the RIDE Solutions and the Regional Commission are working with local governments and stakeholders in developing regional commuter, recreational, and “cultural” (Art by Bike, Rail by Bike) routes, as well as greenway connections throughout the study area. The MUTCD and



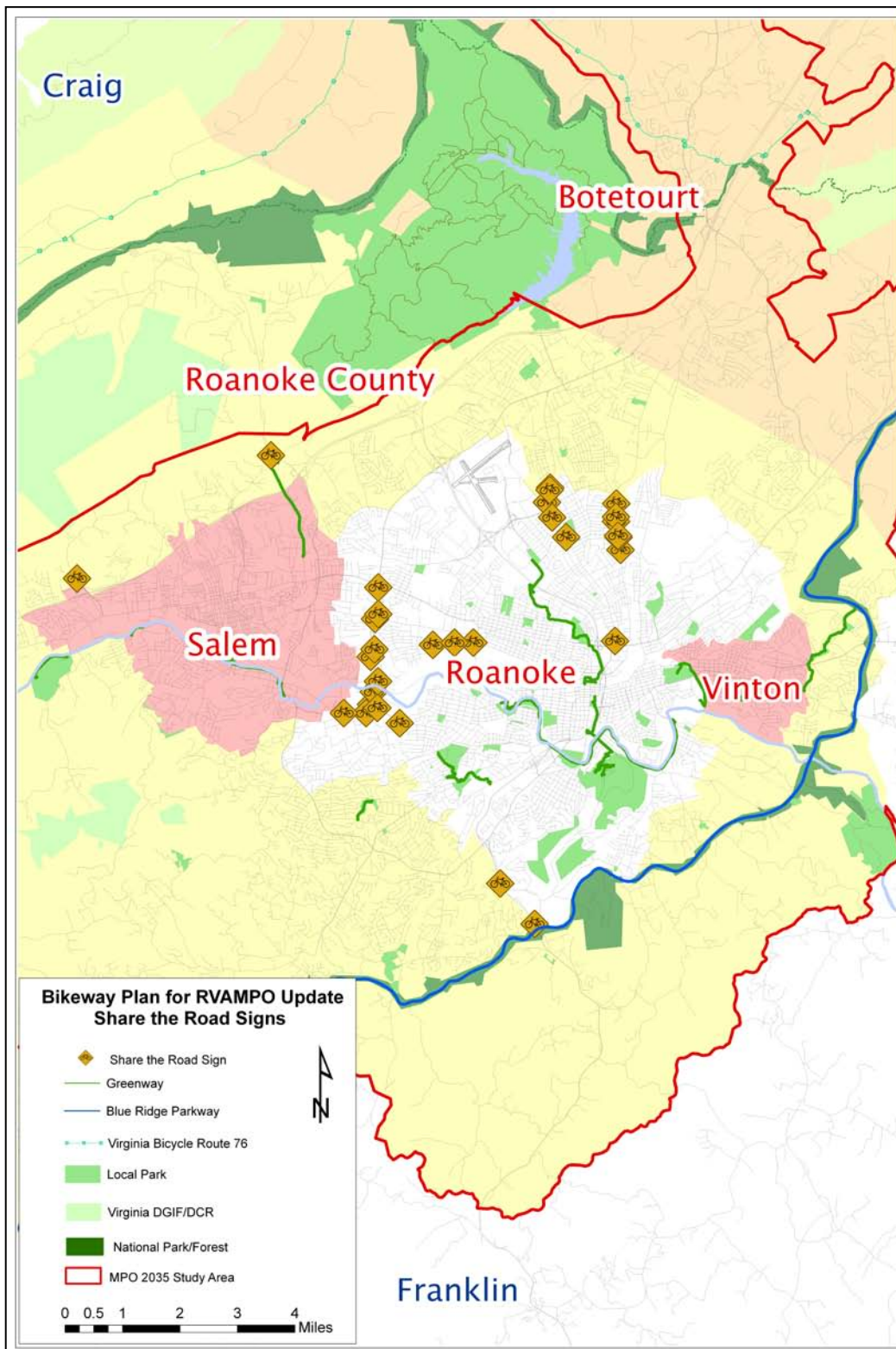


Figure 3.9: Share the Road Signs within RVAMPO



Table 3.3  
Share the Road Sign Locations

Street	Direction	Location	Year Installed	Locality
Brandon	West	Edgewood	2008	City of Roanoke
Brandon	West	Peters Creek Extension	2008	City of Roanoke
Brandon	East	Belle Aire	2008	City of Roanoke
Brandon	East	Peters Creek Extension	2008	City of Roanoke
Catawba Valley/311	North	Electric	2009	Roanoke County/VDOT
Peters Creek Extension	South	Shenandoah	2008	City of Roanoke
Peters Creek Extension	South	Salem	2008	City of Roanoke
Peters Creek Extension	South	Melrose	2008	City of Roanoke
Peters Creek Extension	North	Brandon	2008	City of Roanoke
Peters Creek Extension	South	Blue Ridge	2008	City of Roanoke
Peters Creek Extension	North	Shenandoah	2008	City of Roanoke
Peters Creek Extension	North	Salem Turnpike	2008	City of Roanoke
Peters Creek Extension	North	Material Yard	2008	City of Roanoke
Plantation	North	Whiteside	2008	City of Roanoke
Plantation	North	Wentworth	2008	City of Roanoke
Plantation	North	Preston	2008	City of Roanoke
Plantation	South	Monterey Elem School	2008	City of Roanoke
Plantation	South	Preston	2008	City of Roanoke
Plantation	South	Wentworth	2008	City of Roanoke
Shenandoah	West	24th	2010	City of Roanoke
Shenandoah	East	31st	2010	City of Roanoke
Shenandoah	East	30th	2010	City of Roanoke
US 220/Franklin Road	South	Cross Bow	2008	City of Roanoke/VDOT
US 220/Franklin Road	North	Blue Ridge Parkway	2009	City of Roanoke/VDOT
Wildwood	North	Brogan	2005	Roanoke County/VDOT
Williamson	North	Curtis	2008	City of Roanoke
Williamson	North	Trinkle	2008	City of Roanoke
Williamson	North	Pocahontas	2008	City of Roanoke
Williamson	North	Hershberger	2008	City of Roanoke
Williamson	South	Hildebrand	2008	City of Roanoke
Williamson	South	Oaklawn	2008	City of Roanoke

Source: RVARC



# Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

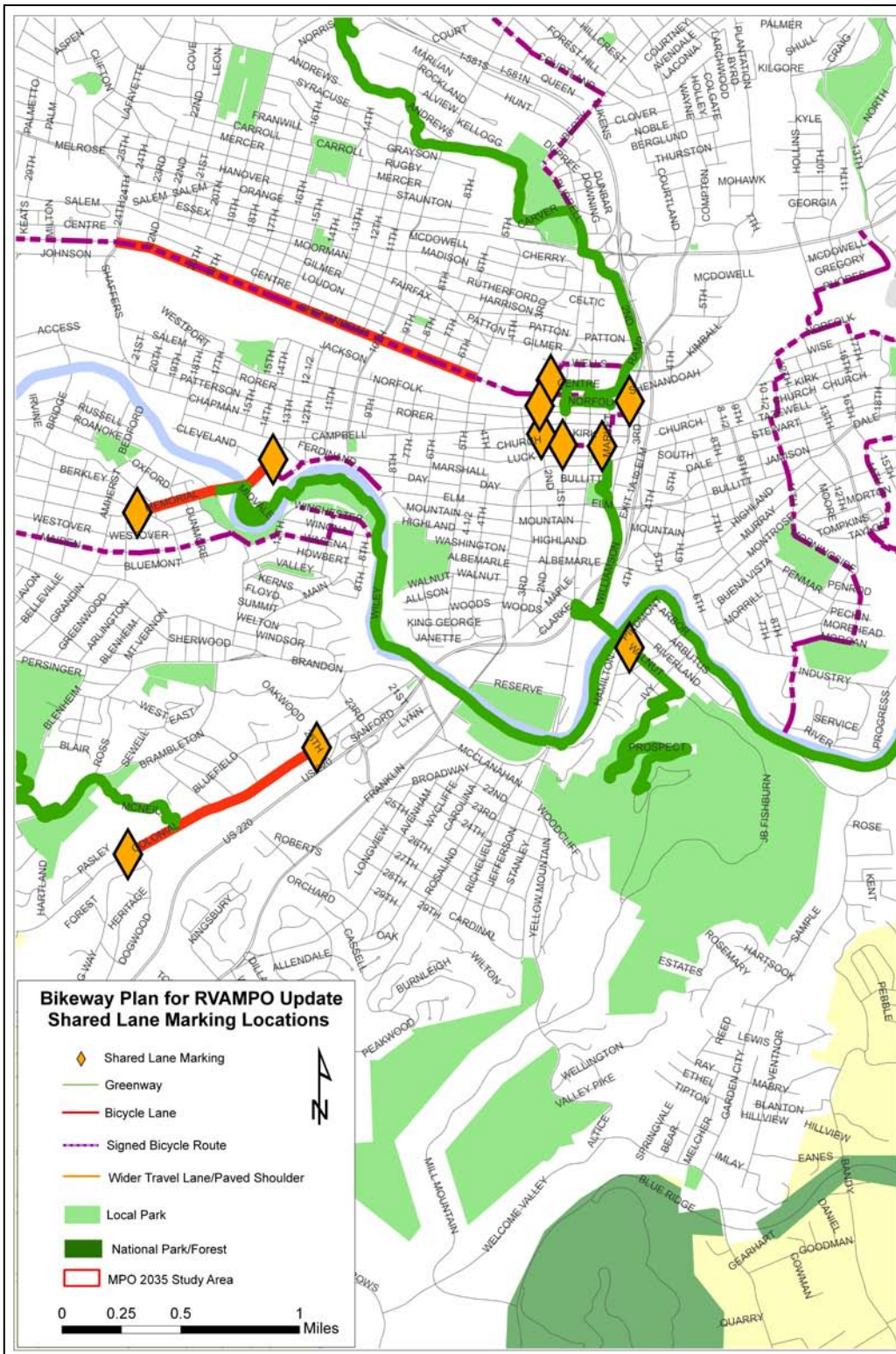


Figure 3.10: Shared Lane Marking (Sharrow) Locations





Table 3.4  
Shared Lane Marking (Sharrow) Locations

<b>Street</b>	<b>Direction</b>	<b>Year Installed</b>	<b>Location</b>	<b>Locality</b>
2nd	North	2011	Church - Signed bike route	City of Roanoke
Church	West	2011	Market – Signed bike route	City of Roanoke
Church	West	2011	1st- Signed bike route	City of Roanoke
Colonial	East	2011	26th - terminus of Colonial bike lane	City of Roanoke
Colonial	West	2011	Winding Way - terminus of Colonial Bike Lane	City of Roanoke
Memorial/13th	West	2011	Cleveland - terminus of Memorial bike lane	City of Roanoke
Memorial	West	2011	Cambridge - terminus of Memorial bike lane	City of Roanoke
Colonial	West	2011	Winding Way - terminus of Colonial bike lane	City of Roanoke
Walnut	East (uphill)	2011	Mill Mountain Greenway/Belleview	City of Roanoke
Williamson	South	2011	Shenandoah and Salem – Signed Bike Route, on-street greenway connection	City of Roanoke

Source: RVARC



### 3.1.3 Off-Street Bicycle Accommodations

#### 3.1.3.1 Greenways and Shared Use Paths

Greenways are consistently cited as one of the top cultural and recreational amenities in the Roanoke area. In addition to providing recreational and health benefits, area greenways are considered an important component of the regional bicycle (and alternative transportation) network. Moreover, in the Bicycle User Survey conducted as part of the *Bikeway Plan -2012 Update*, greenways/shared use paths were cited as the preferred bicycle accommodation. Note: The Bicycle User Survey includes additional greenway-related questions (Section 5).

Since completion of the 2005 *Bikeway Plan*, several local and regional greenway guidance documents have been developed. The [2007 Update to the Roanoke Valley Conceptual Greenway Plan](#), completed in June 2007, provides an overview of the existing and proposed regional greenway network. Other relevant plans include the [City of Roanoke Parks and Recreation Master Plan](#) and the [Roanoke County Parks Recreation and Tourism Comprehensive Master Plan for Parks and Facilities](#) (2008). In public surveys conducted as part of these master plans, respondents ranked expanding and connecting the regional greenway network as top priority. Note: Botetourt County is not a member of the Roanoke Valley Greenway Commission.

Currently, the [Roanoke Valley Greenway](#) system consists of approximately 25 miles of shared use paths and trails. Of this total, approximately 19 miles consists of 10-ft wide, paved shared use

trails, with the remainder consisting of crushed aggregate, wood chip or natural surface trails (Table 3.5).

The [Roanoke Valley Greenways Interactive Map](#) (Figure 3.11) provides greenway location, access, and amenities information and printable maps for all greenways in the network. The Interactive Map also provides directions, by various modes – driving, walking, and bicycling – to area greenways. Note: In 2011 the Roanoke Valley Greenways Interactive Map received the [National Association of Development Organizations](#) (NADO) Excellence in Regional Transportation Award and Trailblazer Award.



*Informational signage along Roanoke River Greenway in Wasena Park*



Table 3.5  
Roanoke Valley Greenways

<b>Greenway</b>	<b>Date Completed</b>	<b>Length (miles)</b>	<b>Surface</b>	<b>Locality</b>
Lick Run Greenway	2006	4.1	Paved with asphalt or concrete	City of Roanoke
Mill Mountain Greenway	2003	2.8	Paved with asphalt or concrete	City of Roanoke
Murray Run Greenway	2002	1.9	Crushed aggregate stone or wood chips and natural surface	City of Roanoke
Roanoke River Greenway *	1999-2011	5.7	Paved with asphalt or concrete	City of Roanoke
Tinker Creek Greenway	2002	1.3	Paved with asphalt or concrete	City of Roanoke
Hanging Rock Battlefield Trail	1999	1.3	Crushed aggregate stone or wood chips	City of Salem
Roanoke River Greenway - David Smith	2002	0.5	Crushed aggregate stone or wood chips	City of Salem
Roanoke River Greenway - Riverside	2010	1.6	Paved with asphalt or concrete	City of Salem
Roanoke River Greenway - Woodridge	2011	0.3	Paved with asphalt or concrete	City of Salem
Hanging Rock Battlefield Trail	1999	0.6	Crushed aggregate stone or wood chips	Roanoke County
Mud Lick Greenway - Garst Mill	1997	0.5	Paved with asphalt or concrete	Roanoke County
Roanoke River Greenway - Green Hill Park	2008	0.8	Paved with asphalt or concrete	Roanoke County
Wolf Creek Greenway	2006	2.1	Crushed aggregate stone or wood chips and natural surface	Roanoke County and Town of Vinton
Gladetown Trail	2012	0.7	Crushed aggregate stone or wood chips	Town of Vinton
<b>Total Greenway Mileage</b>		<b>24.0</b>		

*Greenways completed or under construction as of 12/31/11; \* Water Pollution Control Center to Bridge St.*



# Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

Roanoke Valley Greenways  
Existing Greenways-December 2011

- Falton Park
- Tinker Creek North
- Tinker Creek Dale Avenue North
- Tinker Creek Dale Avenue South
- Wolf Creek Hardy Road
- Wolf Creek Lynn Haven Baptist Church
- Wolf Creek Goode Park
- Roanoke River Piedmont Park
- Roanoke River River's Edge
- Roanoke River Wasena Park
- Roanoke River David Smith Salem Skate Park
- Roanoke River David Smith Moyer Sports Complex
- Roanoke River Green Hill Park East
- Roanoke River Green Hill Park West
- Hanging Rock South
- Hanging Rock Orange Market
- Hanging Rock North

Field Name	Field Value
Name	Roanoke River Greenway
Surface Type	A - Paved with asphalt or concrete
Year Completed	2007
Locality	City of Roanoke
Link to PDF Map	Roanoke River

3.11: Roanoke Valley Greenways Interactive Map



### 3.1.3.2 Greenway Connections

The need to promote greater connectivity among greenways and other activity centers/destinations was identified as a key issue at the Greenway Plan public input meetings. Additionally, a lack of connectivity between existing greenways was cited as the most common impediment to cycling on area greenways in the Bicycle User Survey (Section 5).

Increasing connectivity between the greenway, trail networks, and the transportation infrastructure can be accomplished through the development and/or utilization of a variety of accommodations. Potential accommodations could include, but are not limited to:

- sidewalks
- paved shoulders
- bike lanes
- wide travel lanes
- shared streets and roadways
- roadways with “Share the Road” signs
- path adjacent to roadway
- trails or other routes
- neighborhood streets
- alleys
- easements
- signage and pavement markings
- spot improvements

It is recognized that identifying and designating specific roadways as on-street greenway connector will require additional planning efforts beyond the *Bikeway Plan for the RVAMPO* (e.g., neighborhood plans, area plans, corridor plans, etc.) as well as greater coordination between VDOT, local governments, and the RVAMPO. The

2007 Conceptual Greenway Plan identified several corridors in the RVAMPO study area, not listed in the 2005 *Bikeway Plan*, as potential on-road greenway connections for consideration in the *Bikeway Plan – 2012 Update* (Table 3.6). Additionally, on-street Greenway routes or connections outside of the RVAMPO study area were in the [Rural Bikeway Plan](#) (Table 3.7). Both the *2007 Update to the Roanoke Valley Conceptual Greenway Plan* and the *Bikeway Plan* endorse development of on-road greenway connections as part of local and regional planning processes and as opportunities arise.

#### 3.1.3.2.1 Existing Greenway Connections

As noted in Section 3.1.2.4, the City of Roanoke has already begun establishing signed bicycle routes to serve as on-street greenway connectors. The City of Roanoke Transportation Division is responsible for installing signage along signed bicycle routes, with the Parks and Recreation Department providing greenway signage on routes that also serve as greenway connectors. Current signed bicycle routes/on-street greenway connections include:

- Roanoke River Greenway – Tinker Creek Greenway Connector (signed bicycle route)

This signed bicycle route provides on-street connection from the Roanoke River Greenway parking lot at the Regional Water Pollution Control Plant to the southern terminus of Tinker Creek Greenway. The route primarily follows lower traffic neighborhood streets with periodic directional signage (e.g., Bike Route signs and directional arrows).



Table 3.6  
On-Road Greenway Connections for  
Consideration in the Bikeway Plan for the RVAMPO - 2012 Update

Street	From	To	Locality
Cove Road	Electric Road /419	Greenridge Road	Roanoke County
Electric Road / 419	Route 220	Route 311	Roanoke Co., Salem
Green Ridge	Cove Road	Wood Haven Road	Roanoke County
Harborwood Road	Riverside Drive	Poor Mountain Road	Roanoke County
Main Street	Electric Road /419	Peters Creek Road	City of Salem
Mill Lane	Electric Road /419	Roanoke River	City of Salem
Mill Mountain Park Spur Road	Blue Ridge Parkway	Mill Mountain Park	City of Roanoke
Spartan Lane	Electric Road /419	Mill Lane	City of Salem
Timberview Road	Route 311	Terminus	Roanoke County
US 220 South	Franklin Road	Blue Ridge Parkway	City of Roanoke
Washington Avenue /Route 24	Vinton CL	Bedford County CL	Vinton, Roanoke Co.
Wood Haven	Green Ridge	Peters Creek Road	Roanoke County

Table 3.7  
On-Road Greenway Routes or Connections Included in the 2006 Rural Bikeway Plan

Street	From	To	Locality
Bradshaw Road (Route 622)	Route 311	Montgomery County CL	Roanoke County
Blacksburg Road (Route 785)	Route 311	Montgomery County CL	Roanoke County
Carvins Cove Road (Route 740)	Route 311	Botetourt County CL	Roanoke County
Carvins Cove Road (Route 740)	Botetourt County CL	Terminus	Botetourt County



Route Description (from Roanoke River Greenway to Tinker Creek Greenway):

Bennington Avenue to Tayloe Avenue to 15<sup>th</sup> Street to Kenwood Avenue to Tinker Creek Greenway.



Roanoke River Greenway – Tinker Creek Greenway Connector

- Mill Mountain Greenway – Lick Run Greenway Connector

Established in 2010, this route provides on-street connections from the terminus of the Mill Mountain Greenway at Church Avenue to the Lick Run Greenway at Wells Avenue. Route accommodations include slower-traffic downtown streets, greenway directional signage, and shared lane markings or “sharrows” (first sharrows) installed in the RVAMPO study area). Additionally, this route is intended primarily for use by bicyclists (pedestrians passing through the downtown market) to connect the two greenways.

Route Description: Mill Mountain Greenway – Lick Run Greenway Connector (signed bicycle route)

- Mill Mountain Greenway to Lick Run Greenway - Church Avenue to 2<sup>nd</sup> Street to Wells Avenue to Lick Run Greenway.
- Lick Run Greenway to Mill Mountain Greenway - Lick Run Greenway to Wells Avenue to Hotel Roanoke parking lot to Shenandoah Avenue to Salem Avenue to Market Street to Church Avenue to Mill Mountain Greenway.



Mill Mountain Greenway – Lick Run Greenway Connector (signed bicycle route)

- Roanoke River Greenway (Wasena) – Memorial Avenue Bicycle Lane

This route connects the Roanoke River Greenway (near Wasena Park) to the bicycle lane on Memorial Avenue which provides additional connection to the Grandin Village. Accommodations include Bike Route signage, directional arrows, and wide travel lanes (with right edge striping) on the Main Street bridge.

Route Description:



- Memorial/13<sup>th</sup> to Cleveland to Riverside to Ferdinand to Main to Winona to 8<sup>th</sup> Street to Winchester to Roanoke River Greenway.



Signed bicycle route and greenway connector - Roanoke River Greenway to Memorial Avenue bicycle lane



Signed bicycle route and on-street greenway connection directional signage

### 3.1.3.3 Trails

Beyond the on-road bicycling network and the greenway system, there are numerous off-road (i.e., natural surface trails) amenities in the RVAMPO study area. These amenities provide a range of recreation, health, and commuting benefits and include natural surface (other other non-paved greenways – Murray Run, Wolf Creek, Kessler Mill), as well as multi-use mountain bike, hiking, and equestrian trails. The following websites provide information, maps, and other resources on recreational resources (including off-road bicycling amenities) in the greater Roanoke region:

- [RoanokeOutside.com](http://RoanokeOutside.com)
- [Roanoke Valley-Alleghany Regional Commission Maps](http://RoanokeValley-AlleghanyRegionalCommissionMaps)

#### 3.1.3.3.1 Mill Mountain Park Trails

The City of Roanoke’s Mill Mountain Park has more than 10 miles of multi-use and hiking trails ranging from technical single track to less difficult trails suitable for all users (Figure 3.12). Mill Mountain Greenway also runs through Mill Mountain Park providing connection from downtown Roanoke to destinations on top of Mill Mountain (Roanoke Star, Discovery Center, Mill Mountain Zoo), Blue Ridge Parkway, and Chestnut Ridge Loop Trail (Figure 3.13). See Section 3.1.2.7 for additional discussion of Blue Ridge Parkway, Chestnut Ridge, and cycling on National Park Service lands.





Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

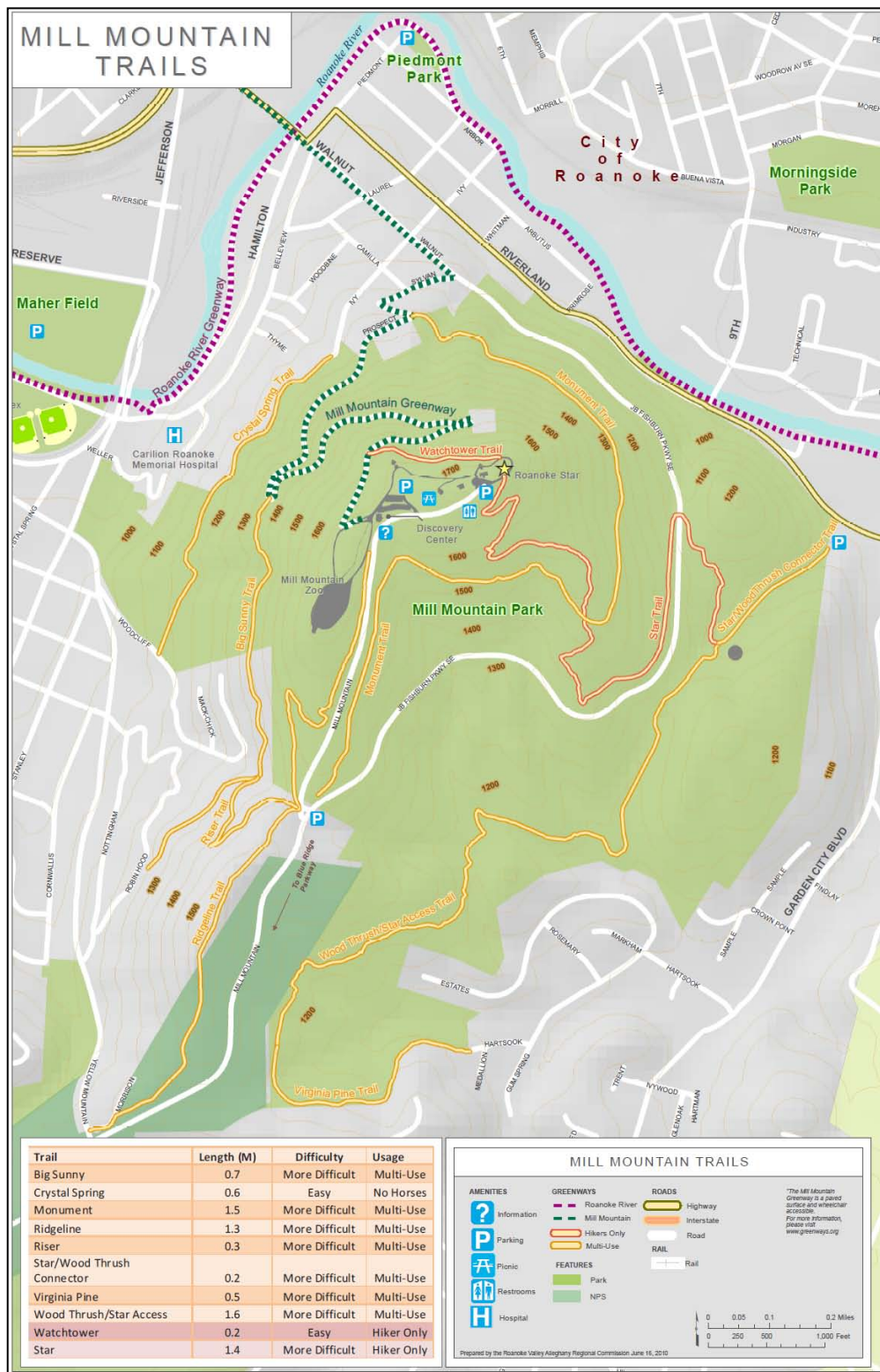


Figure 3.12: Mill Mountain Park Trails



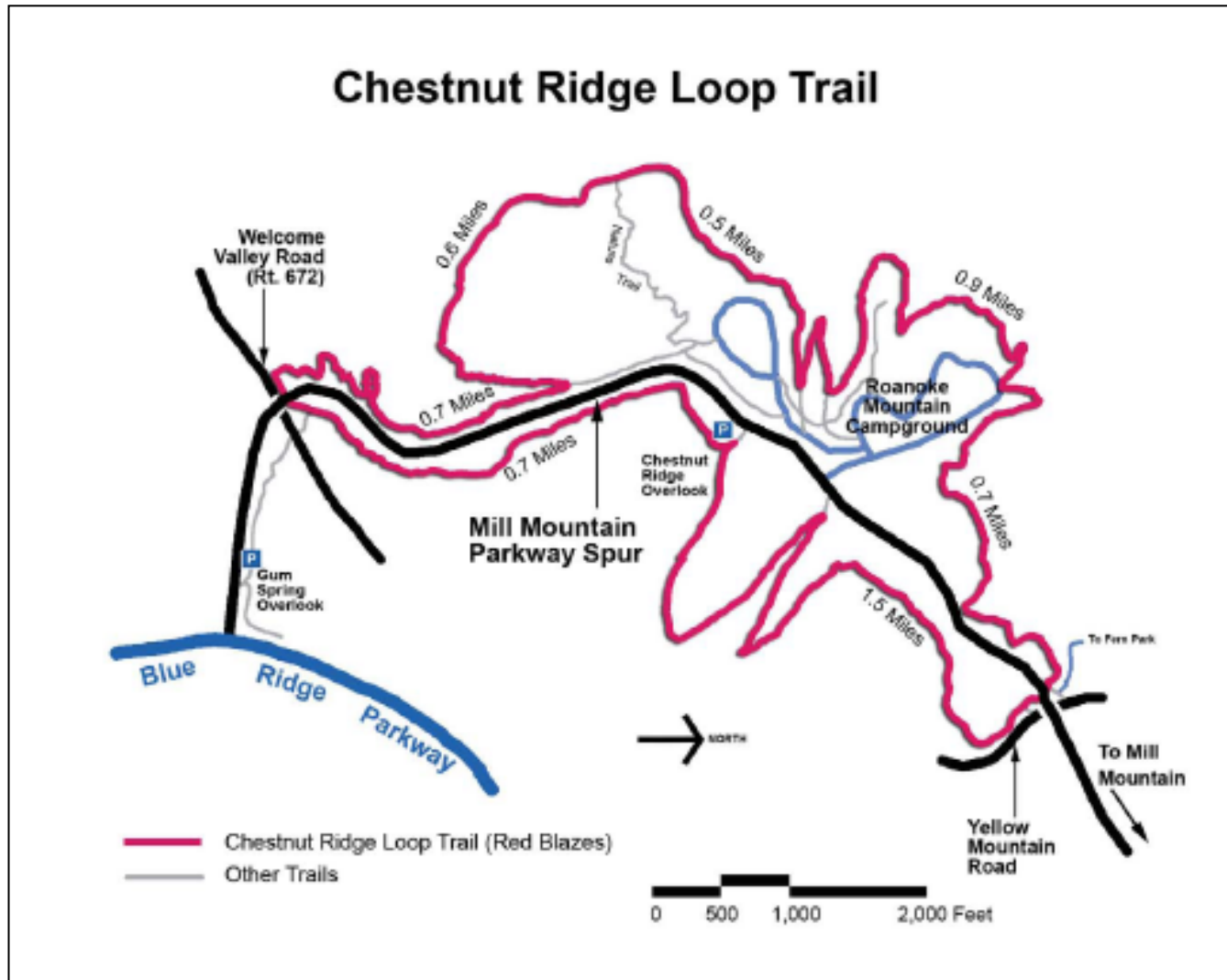


Figure 3.13: Chestnut Ridge Loop Trail Map



### 3.1.3.3.2 Carvins Cove Natural Reserve

The Carvins Cove Natural Reserve has approximately 43 miles of multi-use mountain biking, hiking, and equestrian trails, as well as Carvins Cove Reservoir within its 12,700 acres of open space. Although physically located in Roanoke and Botetourt counties, Carvins Cove Natural Reserve is managed by the City of Roanoke (Parks and Recreation Department), which manages lands above the 1,200-foot contour, and the Western Virginia Water Authority (WVWA), which owns the reservoir and the land below 1,200-foot contour (Figure 3.14).

The [Carvins Cove Natural Reserve Trail Management Plan](#), completed in 2009 and adopted by Roanoke City Council in July 2010, is the primary guidance and reference document management of Carvins Cove Natural Reserve and associated resources. The stated primary goal of the plan is to provide a sustainable network of trails which provides quality and safe nonmotorized trail opportunities year round, allows users to enjoy the natural environment in ways which fulfill their physical, emotional, and spiritual needs, and protects the natural resources and watershed resources while providing these opportunities.

Carvins Cove Natural Reserve can be accessed from the following locations (Figure 3.15):

- Bennett Springs Access (Roanoke County)
- Boat Dock/Reservoir Road (Roanoke County, Botetourt County)
- Timberview Access (Roanoke County)



*Information kiosk and land use pass payment dropbox at Carvins Cove Bennett Spring parking area*

Directional and wayfinding signage to Carvins Cove, especially for the Bennett Springs and Timberview parking areas, is very limited. Currently, there is no Carvins Cove related directional or wayfinding signage along any corridors leading to the Bennett Springs, Timberview nor Carvins Cove boat dock (Route 11 (Williamson) and Reservoir Road. Although the City of Roanoke and WVWA managed the Carvins Cove Natural Reserve, all access/parking areas and most potential wayfinding signage locations are located in Roanoke and Botetourt counties along VDOT maintained roads and include:

- Carvins Cove (640) – Botetourt and Roanoke counties
- Catawba Valley (Route 311)
- Dutch Oven (683) – Roanoke County
- Interstate 81
- Electric/419 (Roanoke County)
- Reservoir Road (648) - Botetourt and Roanoke counties
- Thompson Memorial/Route 311 – Roanoke County, City of Salem
- Timberview (1404) – Roanoke County



- Williamson/Route 11 – Roanoke County



Road sign to the Bennett Springs area along Route 311/Catawba Valley Road

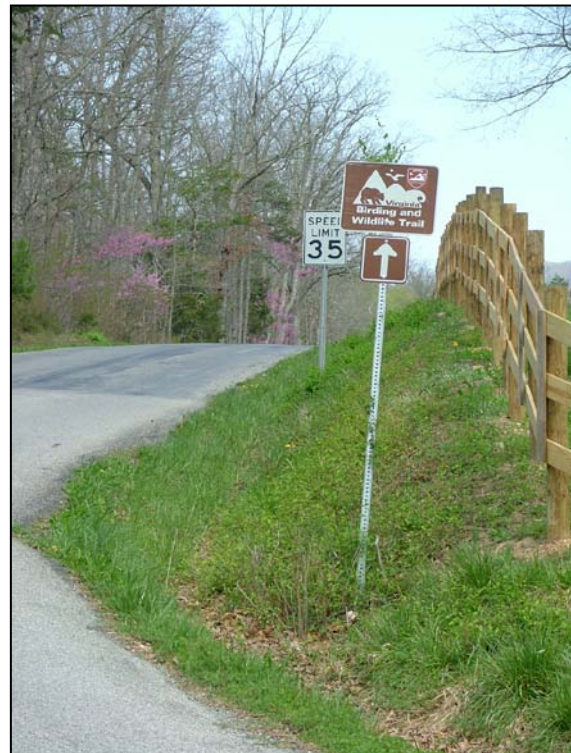
Programs are available to assist in the installation of directional/wayfinding signage to outdoor recreation and tourism destinations and travel amenities in the region (e.g., Carvins Cove, Blue Ridge Parkway, Bike Route 76, Explore Park, etc). The [Virginia Logos Integrated Directional Signing Program \(IDSP\)](#) was developed to provide Virginia motorist service businesses, attractions, tourist destinations and other specific points of interest with a single contact if they desire to have their location identified on a road sign along the state controlled and maintained roadway system to provide motorist with directional guidance and information about their location. Relevant IDSP signs and signing programs include the Supplemental Guides Signs Program and Tourist-Oriented Directional Signs.

Additionally, the VDOT Traffic Engineering Division Memorandum T&S-150 (Signing for Facilities on Highway Right of Way) provides guidance on permitting trailblazer signs on highway right of way at those locations where

they will be of service in directing traffic to a special facility and are within a reasonable distance of the facility (Appendix H).



Existing directional signage along Route 311/Catawba Valley Road



VDGIF Birding and Wildlife Trail directional signage on Carvins Cove Road (640)



Table 3.8  
Carvins Cove Natural Reserve  
Access and Amenities

Access Name	Location	Amenities	Locality
Bennett Springs Parking Area	Carvins Cove Road (Botetourt County)	parking area, information kiosk, maps, portable toilet, land use pass payment box	City of Roanoke; WVWA, VDOT maintained road
Timberview Parking Area	Terminus of Timberview Rd. (Roanoke County)	parking area, information kiosk, maps, land use pass payment box	City of Roanoke, WVWA; VDOT maintained road
Boat Dock	Terminus of Reservoir Rd. (Botetourt County)	parking area, information kiosk, maps, toilets, picnic shelters, dock dock/ramp	City of Roanoke, WVWA; VDOT maintained road

Source: RVARC



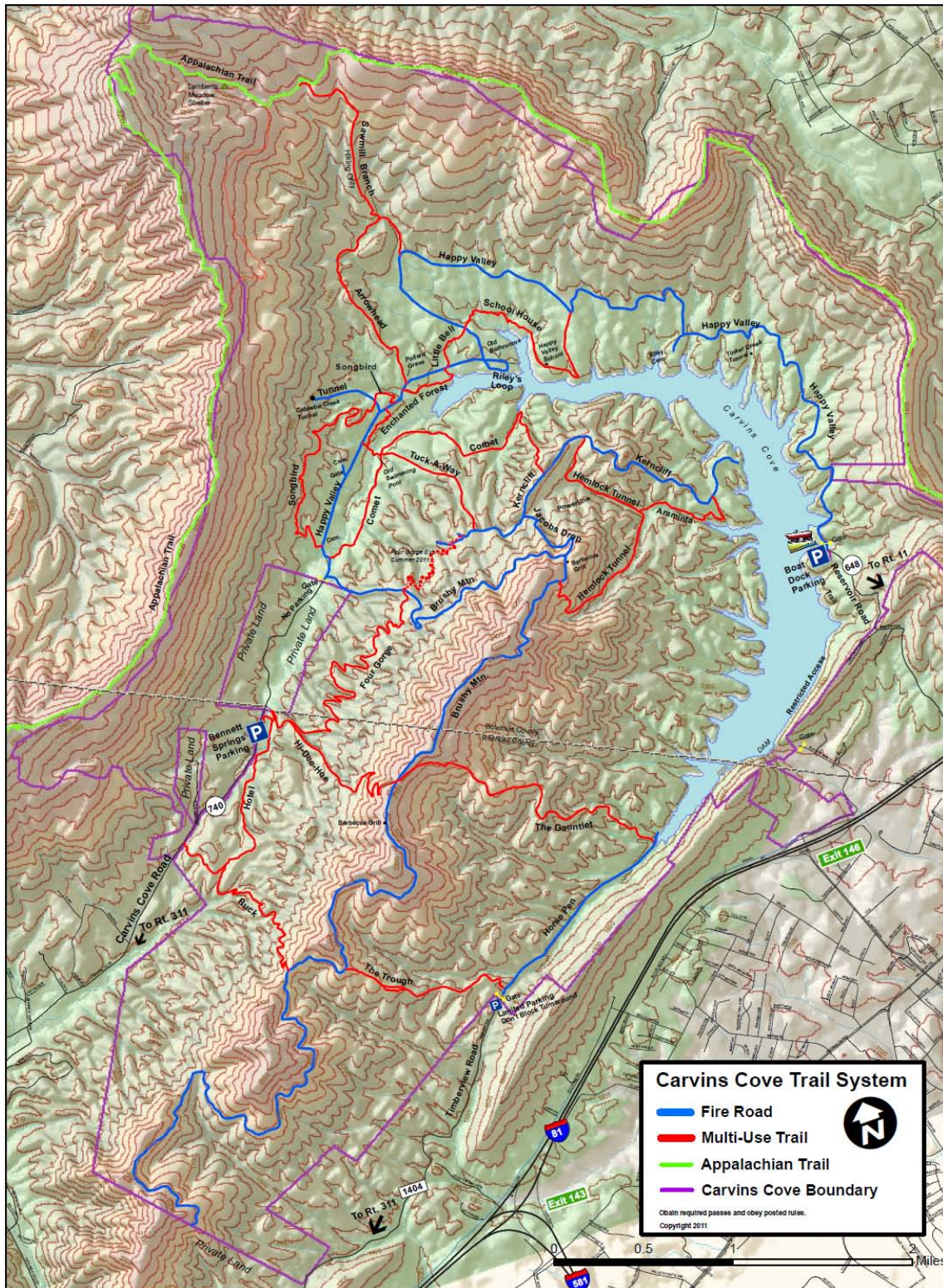


Figure 3.14: Carvins Cove Natural Reserve Trail System



Table 3.9  
Carvins Cove Natural Reserve  
Trail System

Trail	Type	Trail Length
Araminta	Trail	0.7
Arrowhead	Trail	1.5
Brushy Mountain Fire Road	Fire Road	9.2
Buck	Trail	1.6
Comet (lower)	Trail	0.7
Comet (upper)	Trail	1.5
Enchanted Forest	Trail	0.7
Four Gorge	Trail	2.2
Gauntlet	Trail	2.0
Happy Valley Fire Road	Fire Road	7.1
Hemlock Tunnel	Trail	1.8
Hi-Dee-Hoe	Trail	1.5
Horse Pen	Fire Road	1.3
Hotel	Trail	1.0
Jacobs Drop	Fire Road	1.1
Kerncliff	Fire Road	1.9
Little Bell	Trail	0.3
Riley's Loop	Fire Road	0.3
Sawmill Branch	Trail	1.1
School House	Trail	1.3
Songbird	Trail	1.9
Trough	Trail	1.1
Trough (Expert)	Trail	0.1
Tuck-A-Way	Trail	0.9
Tunnel	Fire Road	0.4
<b>Total Trail Miles</b>		<b>43.3</b>

Source: RVARC



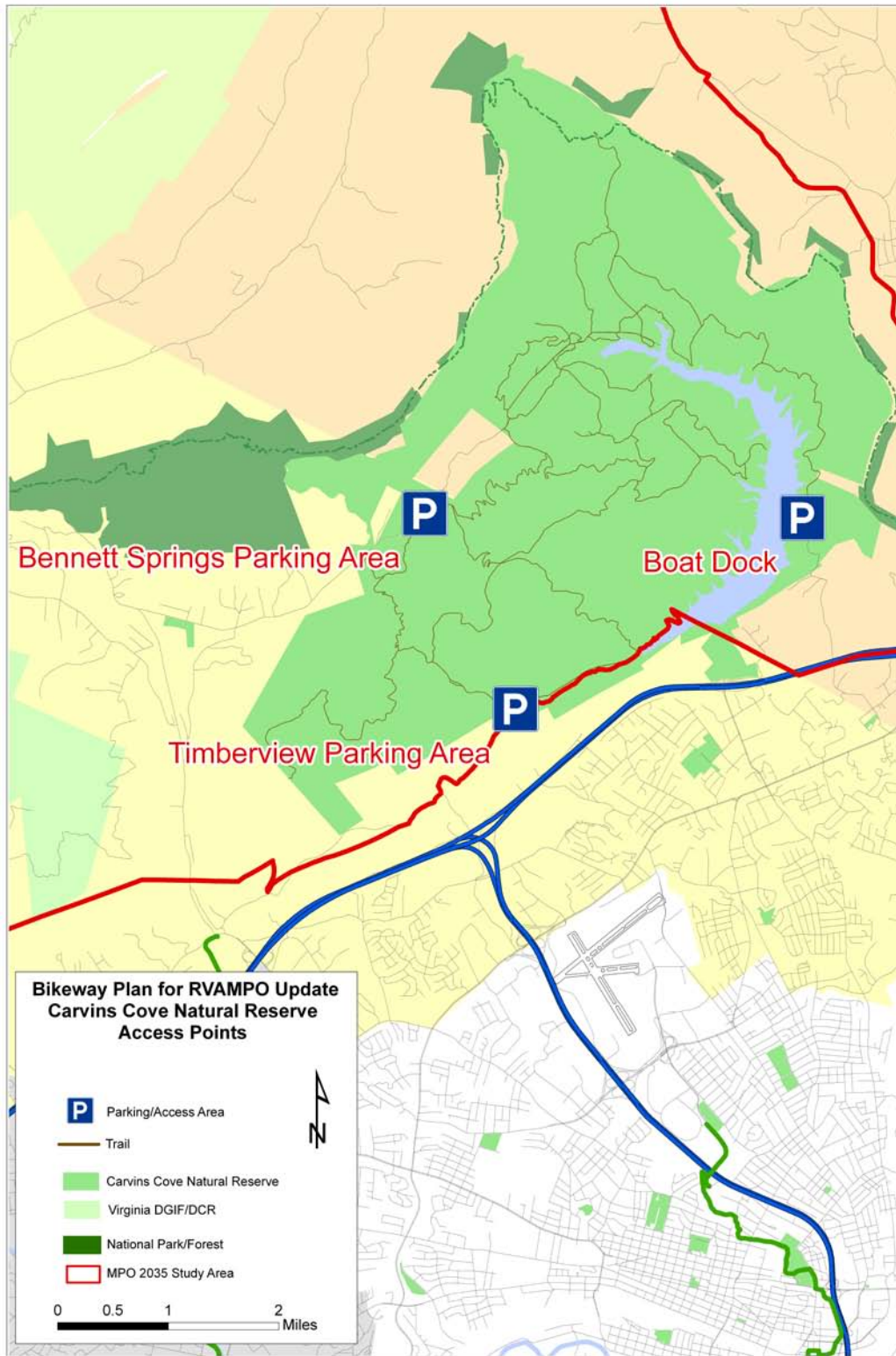


Figure 3.15: Carvins Cove Access /Parking





### 3.1.3.3.2 Virginia's Explore Park

Explore Park is located at Milepost 115 on the Blue Ridge Parkway. The Explore Park trail system, which was professionally built by International Mountain Biking Association (IMBA) volunteers, offers approximately 12 miles of technical single track mountain bike and hiking trails. Although the future of Explore Park remains uncertain, consistent with the Roanoke Valley Conceptual Greenway Plan and other planning documents, the *Bikeway Plan* endorses the inclusion of the planned Roanoke River Greenway through explore Park to the Franklin County line. See Section 3.1.2.7 for additional discussion of Explore Park, Blue Ridge Parkway, and cycling on National Park Service lands.

### 3.1.3.3.4 Other Trails

Other off road cycling trails are located within or in close proximity to the RVAMPO study area. These include several miles hiking/cycling trails Greenhill Park (Roanoke County) and Fishburn Park (City of Roanoke) and the Greenfield Center (Botetourt County). There are also numerous trails in Havens Wildlife Management Area in Roanoke County, which is managed by the Virginia Department of Game and Inland Fisheries). Additionally, there are numerous hiking and cycling trails in the Jefferson Nation Forest in Botetourt, Craig, and Roanoke counties.



Trailhead signage at Explore Park IMBA trails in Roanoke County



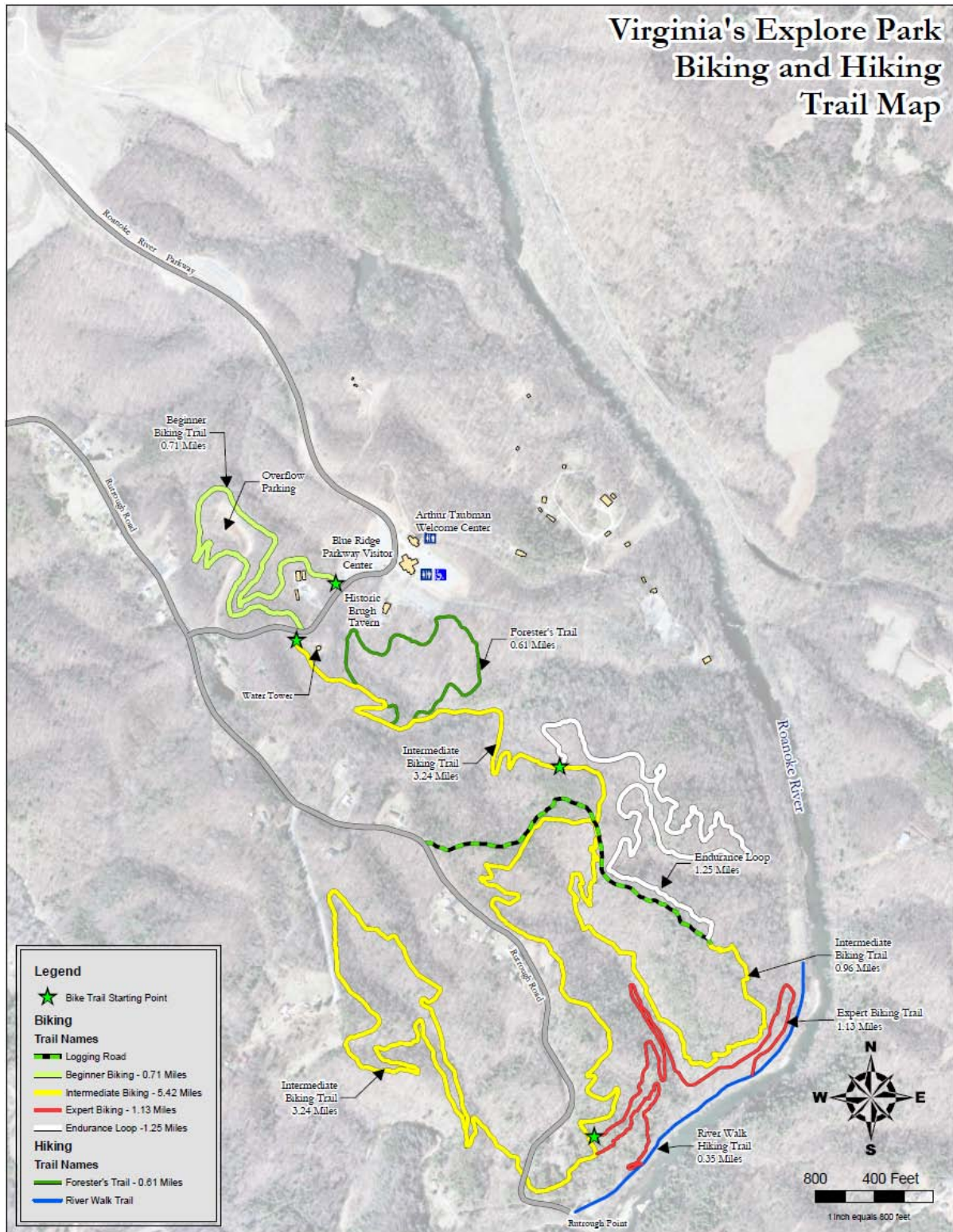


Figure 3.16: Explore Park Trails



### 3.1.4 Ancillary Bicycle Accommodations

Ancillary facilities are the supporting facilities and accommodations located at bicyclists' destinations or along preferred routes. Examples of ancillary accommodations include:

- bicycle racks
- bicycle storage areas or lockers
- showers and changing rooms
- bicycle racks on public transit
- information kiosks

#### 3.1.4.1 Bicycle Racks and Storage

Bicycle racks are by far the most common ancillary bicycle accommodation in the RVAMPO study area with bicycle racks at approximately 90 locations in the RVAMPO study area (Figure 3.17). Of these locations, the vast majority (72) are in the City of Roanoke with the greatest concentration of bicycle racks located in downtown Roanoke (Figure 3.18). The remaining bicycle rack locations include Roanoke County City of Salem, and Town of Vinton. There are currently no bicycle rack locations in the Botetourt County portion of the RVAMPO study area.

Common types of bicycle racks include grid, wave, and inverted U, and have been installed over the years by local governments, private businesses, and employers (Table 3.10). While many type of bicycle racks are available, the inverted U, or similar style that sufficient supports a bicycle and allows it to be secured to the rack at least two points, is recommended in local and regional guidance documents. However, grid style bicycle racks continues to be the most commonly installed type of rack by private businesses.

Since completion of the 2005 *Bikeway Plan*, formal efforts to document (i.e., map) existing bicycle racks; provide guidance and design standards; and install additional bicycle racks at locations throughout the region have been initiated.

Bicycle rack location mapping and documentation efforts include:

- Regional Bicycle Accommodations GIS Database
- RVARC Interactive Map
- RIDE Solutions Interactive Bicycle Map
- Downtown Roanoke Bicycle Parking Map

Bicycle rack design guidance and standards include:

- City of Roanoke Street Design Guidelines
- Roanoke County Parking Standards
- Roanoke County Design Handbook
- APBP Bicycle Parking Guidelines

Bicycle rack installation efforts include:

- RIDE Solutions Bicycle Rack Donation Program (Red Rack Program)
- City of Roanoke Rack installation Program
- City of Roanoke Public Art Program



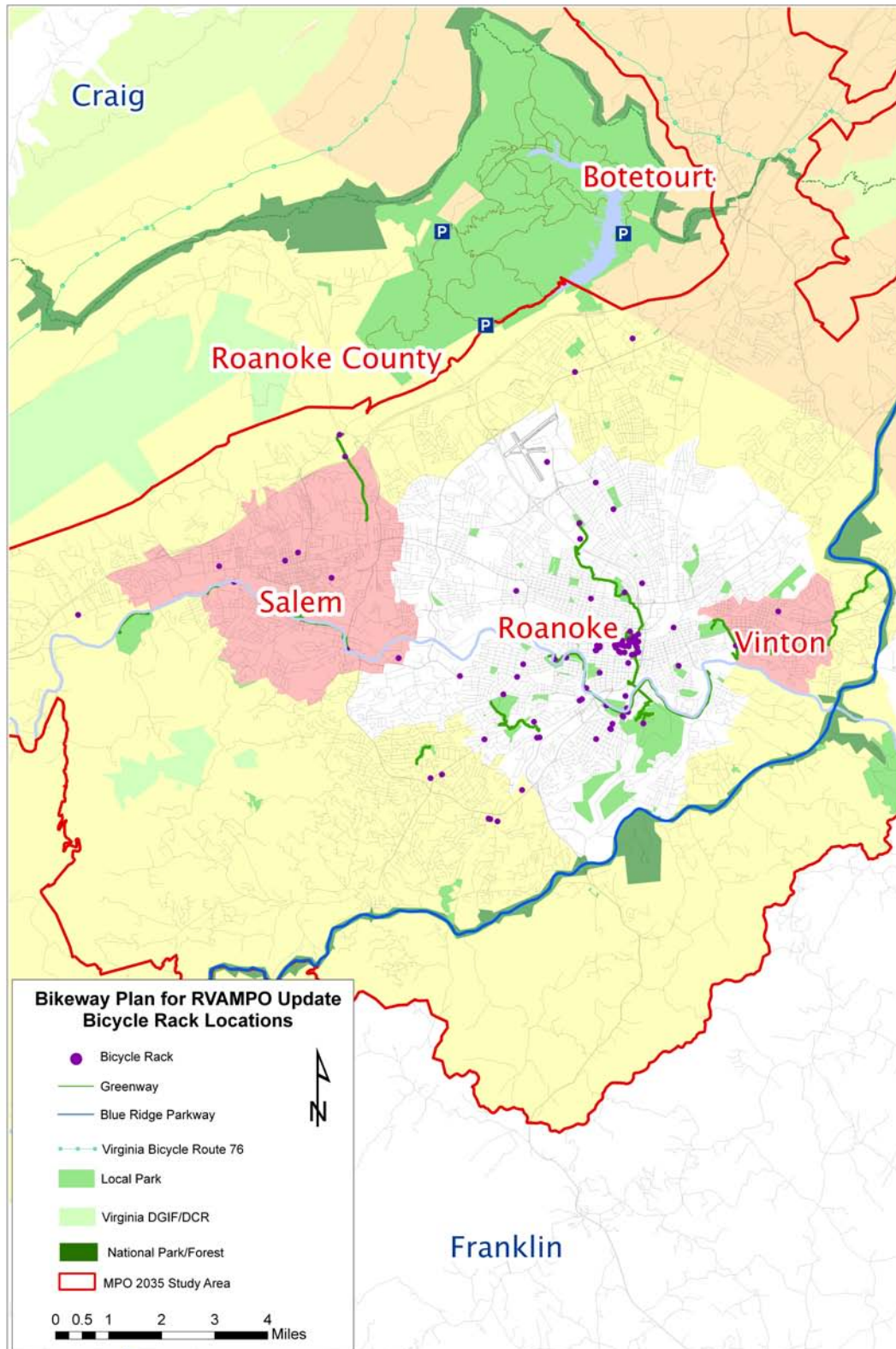


Figure 3.17: Bicycle Rack Locations



**Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update**

Table 3.10  
RVAMPO Bicycle Rack Locations

Location	Covered (Y/N)	Rack Design	Location Specifics	Locality
AEP - parking lot	no	grid	behind YWCA	City of Roanoke
Campbell Avenue	no	wave	corner of Jefferson and Campbell (north side of Campbell)	City of Roanoke
Campbell Avenue	no	inverted U	in front of Science Museum	City of Roanoke
Campbell Avenue	no	inverted U	in front of Mill Mountain Coffee	City of Roanoke
Campbell Avenue - Market Building	no	inverted U	corner of Campbell and Market St.	City of Roanoke
Campbell Court (Valley Metro bus terminal)	yes	inverted U	Campbell Ave front entrance	City of Roanoke
Carilion Riverside Center	yes	3 post	to left of the main entrance	City of Roanoke
Carilion Riverwalk Garage	yes	grid	north end of first floor	City of Roanoke
Carilion Roanoke Memorial Hospital	yes	inverted U	near front door, at entrance of valet parking	City of Roanoke
Carilion Roanoke Memorial Hospital	yes	wave	inside the Emergency Room parking garage, to the left of the main entrance	City of Roanoke
Carilion Terrace View Garage	yes	grid	at the exit near the elevator	City of Roanoke
Church Avenue	no	inverted U	in front of Texas Tavern	City of Roanoke
Church Avenue	no	inverted U	in front of Tudors Biscuits	City of Roanoke
Church Avenue	no	inverted U	in front of Downtown Athletic Club	City of Roanoke
Church Avenue	no	inverted U	corner of Church and Market St	City of Roanoke
City of Roanoke - Public Works Center	no	inverted U	front entrance	City of Roanoke
City of Roanoke Courthouse	no	inverted U	Church Ave across from Oakeys	City of Roanoke
Convention and Visitors Bureau	no	inverted U	front entrance	City of Roanoke
Cotton Mill Apartments - 6th and Marshall	no	inverted U	rental office 6th and Marshall	City of Roanoke
Crystal Spring Avenue	no	inverted U	in median between Crystal Spring Avenue and Richileu, near benches	City of Roanoke
Crystal Spring Elementary School	no	grid	side of school along 27th Street	City of Roanoke



**Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update**

Table 3.10 (continued)  
RVAMPO Bicycle Rack Locations

Location	Covered (Y/N)	Rack Design	Location Specifics	Locality
Crystal Spring Village	no	inverted U	corner of Crystal Spring Avenue and 23rd St, next to Post Office.	City of Roanoke
Discovery Center Mill Mountain	no	inverted U	front entrance	City of Roanoke
Family Dollar - Brandon and Edgewood	no	wave	end of building nearest Brandon Avenue	City of Roanoke
Federal Building	no	grid	front entrance near 2nd St	City of Roanoke
Fire Station - Williamson Road	no	wave	front entrance	City of Roanoke
Fork in the Alley	no	inverted U	2123 Crystal Spring Ave	City of Roanoke
Fork in the City	no	inverted U	front entrance 6th and Marshall	City of Roanoke
Grandin Gardens	yes	inverted U	Grandin Road near front entrance	City of Roanoke
Grandin Village	no	inverted U	Grandin Rd. in front of Roanoke Food Coop	City of Roanoke
Highland Park	no	grid	front entrance of park across from Highland Park Elementary School	City of Roanoke
Huff Lane Park	no	grid	next to softball field	City of Roanoke
James Madison Middle School	no	grid	across from visitor parking, left of main entrance.	City of Roanoke
Jefferson Center	no	wave	6th and Luck Ave side entrance	City of Roanoke
Jefferson School of Health Sciences	no	grid	Jefferson St parking lot	City of Roanoke
Kirk Avenue	no	inverted U	in front of Kirk Ave Music Hall	City of Roanoke
Library - Jackson Park Branch	no	grid	front entrance	City of Roanoke
Library - Main Branch	no	grid	front entrance	City of Roanoke
Library - Melrose Branch	no	grid	front entrance	City of Roanoke
Library - Raleigh Court Branch	no	grid	front entrance	City of Roanoke
Mill Mountain Greenway	no	inverted U	behind Main Library / terminus of Bullitt Ave	City of Roanoke
Mojo Café	no	wave	front entrance	City of Roanoke
Noel C. Taylor Municipal Building	no	grid	front entrance, top of stairs	City of Roanoke
Norfolk Southern Building	no	grid	front entrance	City of Roanoke
Parking Garage - Campbell Avenue	yes	inverted U	inside of parking garage	City of Roanoke
Parking Garage - Church Avenue	yes	grid	front entrance	City of Roanoke



**Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update**

Table 3.10 (continued)  
RVAMPO Bicycle Rack Locations

Location	Covered (Y/N)	Rack Design	Location Specifics	Locality
Parking Garage - Williamson Rd.	no	wave	outside of parking garage	City of Roanoke
Parking Garage - Williamson Rd.	yes	wave	inside of parking garage	City of Roanoke
Pedestrian Bridge - Market and Norfolk	yes	inverted U	entrance to pedestrian bridge	City of Roanoke
Regional Commission	yes	inverted U	Church Ave entrance	City of Roanoke
Regional Commission	no	inverted U	Luck Ave entrance	City of Roanoke
Rivers Edge Sports complex	no	inverted U	near tennis courts	City of Roanoke
Roanoke Higher Education Center	no	grid	front entrance	City of Roanoke
Roanoke Regional Airport	yes	grid	front entrance	City of Roanoke
Rotary Park Salem - Roanoke River Greenway	no	inverted U	near kiosk	City of Roanoke
Salem Avenue	no	inverted U	corner of Salem and Wall Street	City of Roanoke
Smith Park	no	inverted U	near picnic shelter	City of Roanoke
TAP - Crystal Tower	no	inverted U	Campbell Ave parking lot	City of Roanoke
Target - Valley View	no	grid	right of front entrance, behind shopping-cart staging area.	City of Roanoke
Tinker Creek Greenway	no	inverted U	between Dale/24 and Roanoke River	City of Roanoke
Towers Mall	yes	inverted U	lower level outside main entrance	City of Roanoke
Towers Mall	yes	inverted U	lower Level near Planet Fitness	City of Roanoke
Transportation Museum	yes	inverted U	front entrance	City of Roanoke
Valley Metro - Administrative Office	no	inverted U	1108 Campbell Ave., SE	City of Roanoke
Valley Metro - Campbell Court	yes	inverted U	Campbell Ave inside of building near Greyhound buses	City of Roanoke
Verizon Building	no	grid	Franklin Rd	City of Roanoke
Vic Thomas Park	no	inverted U	near park benches	City of Roanoke
Virginia Western Community College	no	grid	near entrance to Humanities Building	City of Roanoke
Virginia Western Community College	no	grid	behind bookstore	City of Roanoke
Wachovia Tower	no	inverted U	near entrance to parking garage	City of Roanoke



**Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update**

Table 3.10 (continued)  
RVAMPO Bicycle Rack Locations

Location	Covered (Y/N)	Rack Design	Location Specifics	Locality
Washington Park Pool	no	grid	front entrance of main building	City of Roanoke
YMCA - Kirk Family	no	inverted U	Church St entrance	City of Roanoke
YMCA - Kirk Family	no	grid	Luck Ave entrance	City of Roanoke
Liberty Medical Supply	yes	inverted U	front entrance	City of Salem
Library - Salem Branch	no	grid	front entrance	City of Salem
Roanoke College	some	grid	throughout campus	City of Salem
Roanoke River Wayside - Mill Lane	no	inverted U	near canoe launch	City of Salem
Spartan Square Shopping Center	no	grid	front entrance	City of Salem
YMCA - Salem	no	grid	front entrance	City of Salem
Brambleton Center	no	grid	parking lot	Roanoke County
Cave Spring Corners	no	wave	in front of Sally Beauty Supply	Roanoke County
Hollins University	no	inverted U	throughout campus	Roanoke County
Hollins University	no	inverted U	throughout campus	Roanoke County
Library - Glenvar Branch	no	grid	front entrance	Roanoke County
Library - Hollins Branch	no	grid	front entrance	Roanoke County
Library - Hollins Branch	no	grid	front entrance	Roanoke County
Orange Market Park and Ride Lot	no	wave	near end of Hanging Rock Battlefield Trail Greenway	Roanoke County
Roanoke Athletic Club	no	grid	front entrance	Roanoke County
Roanoke County Administration Center	yes	wave	front entrance	Roanoke County
Roanoke County Administration Center	yes	wave	rear entrance, near employee parking	Roanoke County
Roanoke County Parks, Recreation and Tourism Offices	no	inverted U	near front entrance	Roanoke County
Tanglewood Mall	no	grid	front entrance near Applebees	Roanoke County
Library - Vinton Branch	no	grid	front entrance	Town of Vinton

Source: RVARC





Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update



Figure 3.18: Downtown Roanoke Bicycle Rack Locations



### 3.1.4.1.1 Regional Bicycle Rack Donation Program (Red Rack Program)

In 2007, RIDE Solutions and the Roanoke Valley-Alleghany Regional Commission initiated a Bicycle Rack Donation Program (now the [Red Rack Program](#)) to encourage and facilitate bicycling as a viable means of transportation in the region through the donations of bicycle racks to local businesses and other activity centers. Qualifying area businesses and organizations can apply to receive a free bicycle rack from RIDE Solutions. Applications for the Bicycle Rack Donation Program are accepted throughout the fiscal year.



The Red Rack Program includes:

- donation of one or more bicycle racks per applicant
- bicycle rack location assistance
- Cycling, Walking, Public Transit, and Multimodal Information Packet
- recognition of recipients – news releases, Regional Commission newsletter, web site, and other media
- inclusion of bicycle rack location on the Interactive Bicycle Map and Regional Bicycle Accommodations Database

Since initiation of the Bicycle Rack Donations Program more than 40 bicycle racks (and associated alternative transportation information)

have been distributed to area businesses and other locations.

For more information on Bicycle Rack Donation Program contact RIDE Solutions at (540) 342-9393 or [www.ridesolutions.org](http://www.ridesolutions.org).

### 3.1.4.2 City of Roanoke Bicycle Rack Installation Program

In recent years, the City of Roanoke has installed numerous bicycle racks within city parks, libraries, central business district (i.e., downtown), parking garages, and public buildings. The City of Roanoke’s Transportation Division is responsible for installation of bicycle racks in the public rights-of-way (i.e., sidewalks, parking garages) with the Parks and Recreation Department responsible for installation of bicycle racks in city parks. Inverted-U style bicycle racks are the designated design standard, with exceptions for special racks such as public art racks.

*Inverted –U style bicycle racks in the Grandin Village*



The City of Roanoke, with support from Norfolk Western, also installed a “fix-it” bicycle station/rack in the Church Street parking garage which provides tools for basic bicycle maintenance. The City of Roanoke is also working with area businesses and stakeholders to install additional in-street parking such as bicycle corrals in locations throughout downtown Roanoke.



*Bicycle “fix-it” station and rack in the Market Square parking garage.*

### 3.1.4.3 City of Roanoke Public Art Program

The City of Roanoke’s Public Arts Commission has partnered with area cycling advocates and stakeholders to install and promote several “public art” bicycle racks in the city. Examples include art pieces titled *Bicycle Rack No. 9*, located in downtown Roanoke (Market St. and Salem Ave.), and *In a Tangle*, located in the Grandin Village. These pieces are included in the Art by Bike touring route (Figure 3.5) and serve as functioning bicycle racks for area establishments. Additional public art installations are planned throughout the City of Roanoke including an installation in Highland Park in the Old Southwest Neighborhood.



*Bike Rack No.9 public art/bicycle rack on the downtown Roanoke market*



*City of Roanoke Public Art Program for “In a Tangle” bicycle rack ribbon cutting*

### 3.1.4.4 Private Businesses

Bicycle racks installed by private businesses and organizations represent a large portion of the bicycle racks in the RVAMPO study area. Likely due to factors such as availability, costs, and ease of installation, the most common type of bicycle rack at these locations is the grid-style rack. Generally, grid-style bicycle racks are not preferred by cyclists as they do not provide sufficient support and locking points.



While many of these racks were installed prior to availability of newer bicycle rack designs, many area businesses continue to purchase and install the grid style bicycle racks. As previously noted, the inverted-U or similar designs that provide sufficient support and security are the preferred bicycle rack design standard.



Grid style bicycle rack at the Virginia Museum of Transportation

Beyond, the type or style available, bicycle racks at many establishments in the study area are often not located in a convenient, visible, secure, and accessible location protected from the elements. Additionally, cyclists often do not properly use the rack as designed reducing the utility of the rack and the number of bicycles a rack can accommodate.

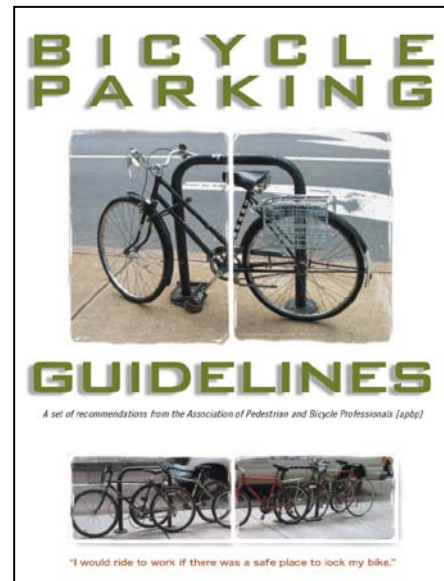
### 3.1.4.5 Bicycle Parking Guidance

The [APBP Bicycle Parking Guidelines](#) provide guidance and recommendations on bicycle parking options, design, location, use and related particulars. Additionally, RIDE Solutions and the Regional Commission offer bicycle parking guidance and assistance through the previously

referenced Red Rack Donation Program and related outreach efforts.



Improper use of inverted-U type bicycle rack in downtown Roanoke



# Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

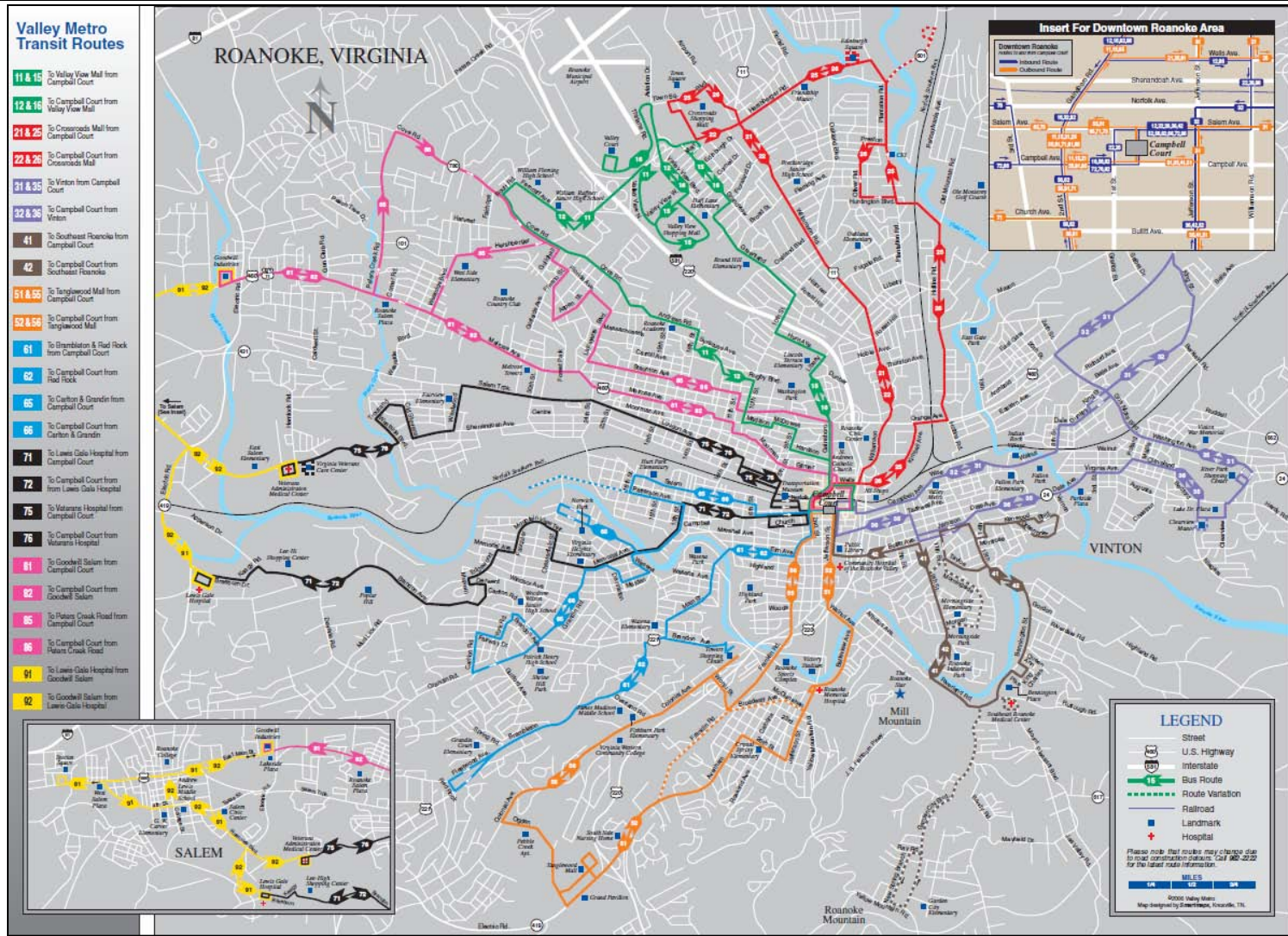


Figure 3.19: Valley Metro Bus Routes



**3.1.4.5 Public Transit - Valley Metro “Bike ‘N Ride”**

Valley Metro (Greater Roanoke Transit Service) is the public transit service provider in the Roanoke Valley. [Valley Metro](#) also operates the Smartway Commuter Bus, deviated route and paratransit services (RADAR, CORTRAN), and transit services to area colleges (Ferrum Express, Hollins Express, Roanoke Express). Valley Metro primarily serves the City of Roanoke and selected areas/routes in the City of Salem and Town of Vinton (Figure 3.19). Currently public transit service is generally not available in Botetourt and Roanoke Counties. However, Valley Metro does serve many areas adjacent or in close proximity to Roanoke County, providing potential multimodal (i.e., bike and bus) opportunities in which cyclists bike from their residences (or other origin) to area served by Valley Metro or the Smartway Commuter Bus.

In the fall of 2006, as part of its [Bike “n” Ride](#) program, Valley Metro began installing front mounted racks with a two bicycle capacity on its fleet of approximately 45 buses. Currently, nearly half of Valley Metro buses are equipped with bicycle racks. Valley Metro also allows cyclists to bring bicycle onto buses not equipped with bicycle racks. Currently, all Smartway Commuter buses are now equipped with front-mounted, two bicycle capacity racks. Additionally, Smartway buses have been retrofitted (2010) to carry additional bicycles in the underneath compartments on occasions when the front mounted racks are not sufficient to carry all bicycles. This retrofit is the result of ongoing dialog and compromise between Valley Metro, MPOs (Roanoke Valley Area MPO and Blacksburg/Christiansburg/Montgomery MPO), and area

cyclists and stakeholders. Although Valley Metro was aware of this issue, funding was not available to retrofit the buses with bicycle racks designed for the underneath luggage compartments (approximately \$5,000 per rack). However, through ongoing dialog and review of various options, a considerably less expensive retrofit was developed and has been well-received by Smartway ridership. Additional information on Valley Metro bus routes, schedules, and instructions for using the bicycle racks are available at [www.valleymetro.com](http://www.valleymetro.com).



*Valley Metro Bike N Ride ribbon cutting (2007)*



*Valley Metro Bike “n” Ride program bicycle rack and advertisement*



### 3.2 Education, Encouragement, and Enforcement

Since completion of the 2005 *Bikeway Plan for the RVAMPO*, significant progress has been made in the areas of bicycle education, encouragement, and enforcement. In general, bicycle education includes a range of activities that focus on cyclists and motorists and may include teaching cyclists of all ages how to ride safely congested city streets, share multi-use paths and teaching motorists how to share the road safely with cyclists. Encouragement involves activities and efforts to promote cycling and include items such as Bike Month events production of bicycle-related items such as bike maps, wayfinding signage, community bicycle rides, Safe Routes to School programs, commuter incentive programs, and related events. This section provides a general overview and examples of education, encouragement, and enforcement activities implemented since the completion of the 2005 *Bikeway Plan*.



*Cyclists illustrating the need for increased cycling education on Colonial Avenue*

#### 3.2.1 League of American Bicyclists Bicycle Friendly Community Workshop

In 2008, the League of American Bicyclists conducted a Bicycle-Friendly Community workshop in Roanoke. The workshop concluded with a series of action items that to assist Roanoke Valley communities in encouraging and promoting cycling and generally becoming more bicycle-friendly. Action items developed by the group include:

- Roanoke Valley-Alleghany Regional Commission establishing a Bicycle Committee
- Each local jurisdiction establishing a Bicycle Advisory Committee
- Each local jurisdiction adopting the *Bikeway Plan for the Roanoke Valley Area MPO – 2012 Update*
- Encouraging local interest groups to include non-motorized transit issues in their platform
- Hosting a candidate forum
- Creating an awards program to recognize government officials or agencies that are instrumental in improving conditions for cycling
- Organizing a community bike ride series
- Organizing a “big ride” with a large number of participants including elected officials
- Notifying businesses of the availability of free bicycle racks through the Bicycle Rack Donation Program from RIDE Solutions and the Roanoke Valley-Alleghany Regional Commission
- Launching a bike education program
- Airing television public service announcements to educate bicyclists on how



to ride safely and motorists on how to share the road

- Promoting bicycle rodeos, helmet give-away programs, and Safe Routes to Schools projects
- Participating in VDOT and National Park Service public meetings
- Each attendee participating in his or her Neighborhood Plan update process
- Determining outcomes of action plan

Since the BFC workshop the majority of the action items have been completed, initiated, are currently underway or on-going. The following items provide an overview of these action items, as well as other education, encouragement, and enforcement activities in the RVAMPO study area.

### 3.2.2 Bicycle Mapping

In addition to use planning, mapping and documentation of bicycle resources are also major education and encouragement activities. Since completion of the 2005 *Bikeway Plan*, the Regional Commission/RVAMPO, RIDE Solutions, and local governments have developed a range interactive and printable bicycle-related mapping resources. Examples of these resources include:

- Bike, Hike, Bus Roanoke Valley Mobility Map
- RIDE Solutions Interactive Bicycle Map
- RIDE Solutions Bike Commuter Route Maps
- RVARC Interactive Map
- City of Roanoke Signed Bicycle Route Maps
- Roanoke Valley Greenways Interactive Map

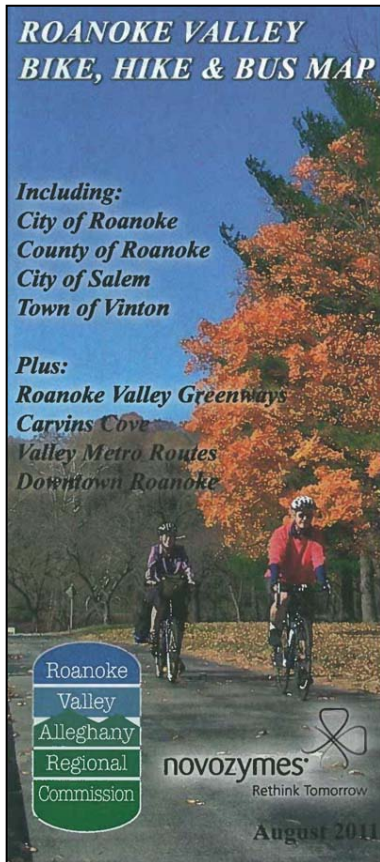
- Roanoke Valley Greenways Individual PDF Maps
- Carvins Cove Trail Map
- Carvins Cove Interactive Trail Map
- Mill Mountain Trail Map
- Downtown Roanoke Bicycle Parking Map
- Roanoke River Greenway Status Map
- Transportation Enhancement (TE) grant application maps
- Trailhead kiosks maps
- Regional Bicycle Accommodations Geodatabase

### 3.2.3 Bike, Hike Bus Roanoke Valley Mobility Map

In January 2007 the Roanoke Valley-Alleghany Regional Commission developed the initial Bike, Hike, Bus Roanoke Valley, Virginia “mobility” map. The *Bike, Hike, and Bus map* provides a range of bicycle, pedestrian, greenway and trail, and public transit information and resources, and covers the cities of Roanoke and Salem, Roanoke County, and the Town of Vinton. Updated versions of the *Bike, Hike, and Bus map* were produced in August 2007, July 2008, and August 2011. To date, approximately 30,000 free copies of the map have been distributed to local governments, bike shops, businesses, and other locations throughout the Roanoke Valley.







### 3.2.4 Bike Roanoke Interactive Bicycle Map

In 2008, RIDE Solutions and the Roanoke Valley-Alleghany Regional Commission developed the [Bike Roanoke Interactive Bike Map](#). The Bike Roanoke Interactive Bicycle Map includes both traditional and non-traditional bicycle accommodations with an emphasis on accommodations most useful for bicycle commuters. The Interactive Bike Map is available on the Bike Roanoke website.

### 3.2.5 Regional Bicycle Accommodations Geodatabase

The RVAMPO has developed and maintains a range of GIS data layers (i.e., shapefiles) to use in various bicycle, pedestrian, greenway, and alternative transportation planning process. Development of the geodatabase allows for documentation of existing bicycle accommodations, production of printable and interactive maps, exporting of tabular data (i.e., spatial attribute data), and other functions. Bicycle-related GIS data layers developed and maintained by the RVAMPO include:

- bicycle lanes
- wide travel lanes
- paved shoulders
- signed bicycle routes
- greenways (current and planned)
- greenway amenities (restrooms, parking, etc.)
- Share the Road signs
- shared lane markings (sharrows)
- bicycle racks
- bicycle shops
- RVAMPO *Bikeway Plan* Priority List Corridors
- RVAMPO *Bikeway Plan* Vision List Corridors
- Carvins Cove trails
- RVAMPO Transportation Improvement Program (TIP) projects
- Carvins Cove access/parking
- Mill Mountain trails
- Greenhill Park trail
- Blue Ridge Parkway
- Blue Ridge Parkway access
- Virginia Bicycle Route 76
- LAB Bicycle Friendly Businesses



Accommodations and associated attribute data in the Regional Bicycle Accommodations Geodatabase are viewable on the [RVARC Online Map](#) and can also be displayed on printed media (i.e., maps). Data are also available to local governments and stakeholders for general planning and mapping purposes.

### **3.2.6 Websites**

The Internet is an effective way to encourage cycling, distribute bicycle safety information, and promote cycling related resources and events. Currently, the primary local and regional websites for bicycle-related information in the Roanoke Valley include:

- [Bike Roanoke](#) (RIDE Solutions and RVARC)
- [RVARC Bicycle, Pedestrian, and Greenway Planning](#) (RVARC)
- [Bicycle-Friendly Community](#) (City of Roanoke)
- [Roanoke Outside](#) (Roanoke Regional Partnership)

Other relevant and useful bicycle-related websites include:

- [State Bicycle and Pedestrian Planning Program](#) (VDOT)
- [League of American Bicyclists](#)
- [Share the Road](#) (BikeWalk Virginia)

#### **3.2.6.1 Bike Roanoke**

Bike Roanoke, a service of RIDE Solutions and the RVARC, provides a range of cycling-related resources with emphasis on encouraging and promoting cycling and multi-modal transportation

in the region. Information includes maps, bike routes, cycling tips, cycling events, bicycle rack donation program, bicycle friendly business/community information, and other resources.

#### **3.2.6.2 RVARC Bicycle and Pedestrian Planning**

The Regional Commission's Bicycle and Pedestrian website provide a range of bicycle, pedestrian, and greenway planning resources and information including news; bike/ped plans, policies, and studies; interactive and printable maps; paving schedules; and other resources.

#### **3.2.6.3 City of Roanoke Bicycle-Friendly Community**

The Bicycle-Friendly Community webpage, maintained by the City of Roanoke Planning, Building, and Development Department, provides information on the City of Roanoke's effort to be designated as a Bicycle-Friendly Community and associated resources. The site provides safety information (brochures, videos, etc.), bicycle-related planning documents, greenway and trail information, and links to other useful websites.

#### **3.2.6.4 Roanoke Outside**

Roanoke Outside, developed and maintained by the Roanoke Regional Partnership, is a one-stop portal for information on outdoor recreation and active living opportunities in the greater Roanoke Region. The site provides a range of cycling-related information including bike commuting, on-road recreational, and mountain biking.



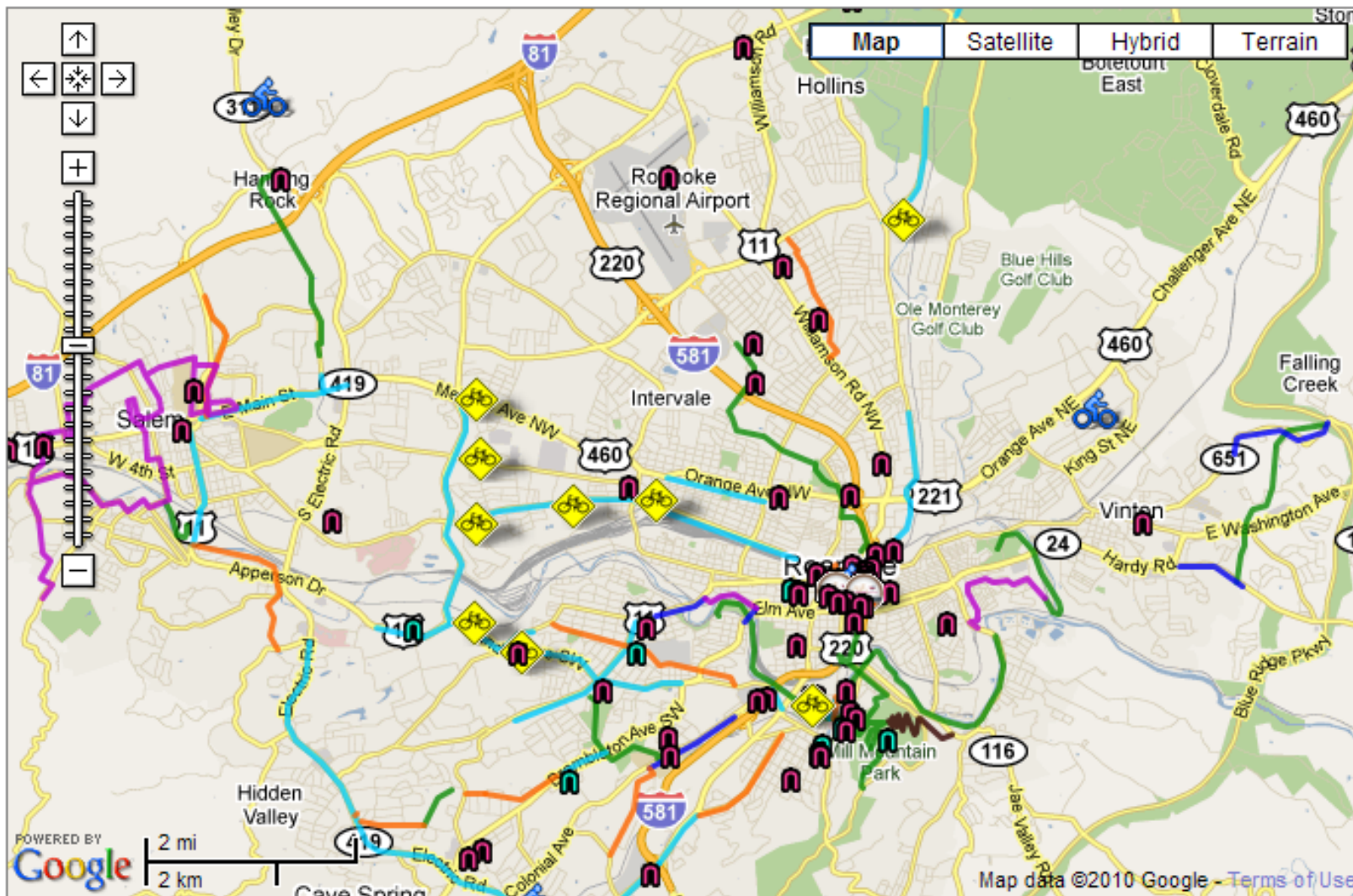


Figure 3.20: Bike Roanoke Interactive Bicycle Map



### 3.2.7 PSA's, Brochures, Guides, Videos, and Media Coverage

In recent years, several local and regional bicycle-education and safety guidance documents, resources, and guides have been developed to promote, encourage, and facilitate bicycling in the Roanoke area.

[Guide to Safe Cycling](#) (City of Roanoke Bicycle Advisory Committee)

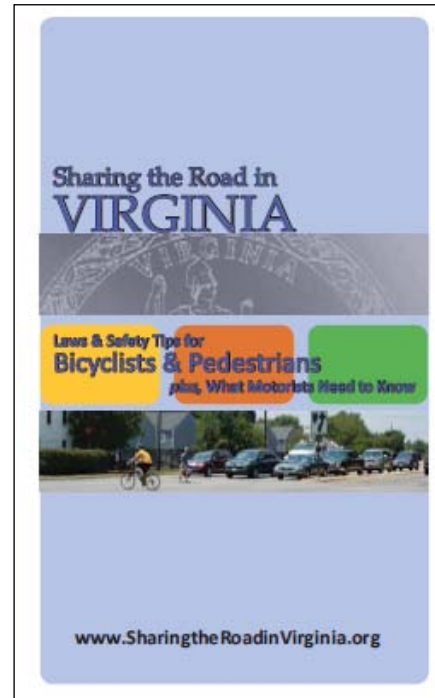
[Guide to Bicycle Commuting in the Roanoke and New River Valleys](#) (RVARC and RIDE Solutions)

[Greenway Etiquette Video](#) (Roanoke Valley Greenway Commission)

[Bike Roanoke Media Coverage](#) (RIDE Solutions)

[Sharing the Road in Virginia Pocket Guide](#) (BikeWalk Virginia)

While many of these resources are available Online, the Regional Commission and RIDE Solutions also maintain a supply of many of the printed resources available including the Bike, Hike, Bus map, Sharing the Road in Virginia Pocket Guide, and the City of Roanoke Guide to Safe Cycling brochure. The Regional Commission also maintains and distributes outreach and education material from other local, regional, state, and federal agencies (FHWA, VDOT, VDH, VDRPT), as well as cycling advocacy groups (Bike League, APBP).



*BikeWalk Virginia Sharing the Road in Virginia Pocket Guide*

### 3.2.8 Regional Bike Awards

In 2009, the RVARC initiated a regional [Bike Awards](#) program to recognize individuals in the greater Roanoke Valley area who are improving the opportunities for bicycling as a form of transportation, either through their individual effort and example as a cycling enthusiast, or through their professional work. Each year the Regional Bicycle Advisory Committee selects winners for the two regional Bike Awards – Bike Hero Award and Extraordinary Bike Professional Award.

The Bike Hero Award is awarded by the Roanoke-Valley Alleghany Regional Commission's Bicycle Advisory Committee to an individual who has



shown dedication to the use and advocacy of the bicycle as a transportation alternative in their day-to-day activities, their work in the community to improve bicycle accommodations, and their encouragement through advocacy or by example for others to replace vehicle trips with bicycle trips. The Extraordinary Bicycle Professional Award is given to an employee in the public or private sector who has shown remarkable leadership in encouraging the use of bicycling as a transportation alternative. The award is given once per year and recognizes work in a broad range of activities. Additional information on the Regional Bike Awards Program is available at [www.bikeroanoke.com](http://www.bikeroanoke.com).



2010 Bike Hero Award recipient

### 3.2.9 APBP Professional Development Series Webinars

Each year since 2009, the Regional Commission has hosted Association of Pedestrian and Bicycle Professionals (APBP) Professional Development Series webinars. APBP webinars are provided at no cost to participants open to all interested parties. Webinar attendees generally include a mix of staff (local, regional, state), cycling advocates, and other stakeholders. Beyond the

educational material presented in the webinars, they also provide an opportunity and forum for attendees to discuss various cycling-related issues. Additional information on the APBP Professional Development webinars is available at [www.apbp.org](http://www.apbp.org).

### 3.2.10 Planners and Engineers Ride

In 2009, the Regional Commission and Regional Bicycle Advisory Committee organized the inaugural “Planners and Engineers Bike Ride.” These rides are generally conducted quarterly and focus on a different area, route, or issue. These rides provide a range of benefits including discussion of possible or needed bicycle accommodations; route development; fieldwork/groundtruthing; and increasing staff and stakeholder familiarity with on-street cycling and related issues.



Inaugural Planner and Engineers Ride (2009) participants



Bikeway Plan for the Roanoke Valley Area MPO - 2012 Update

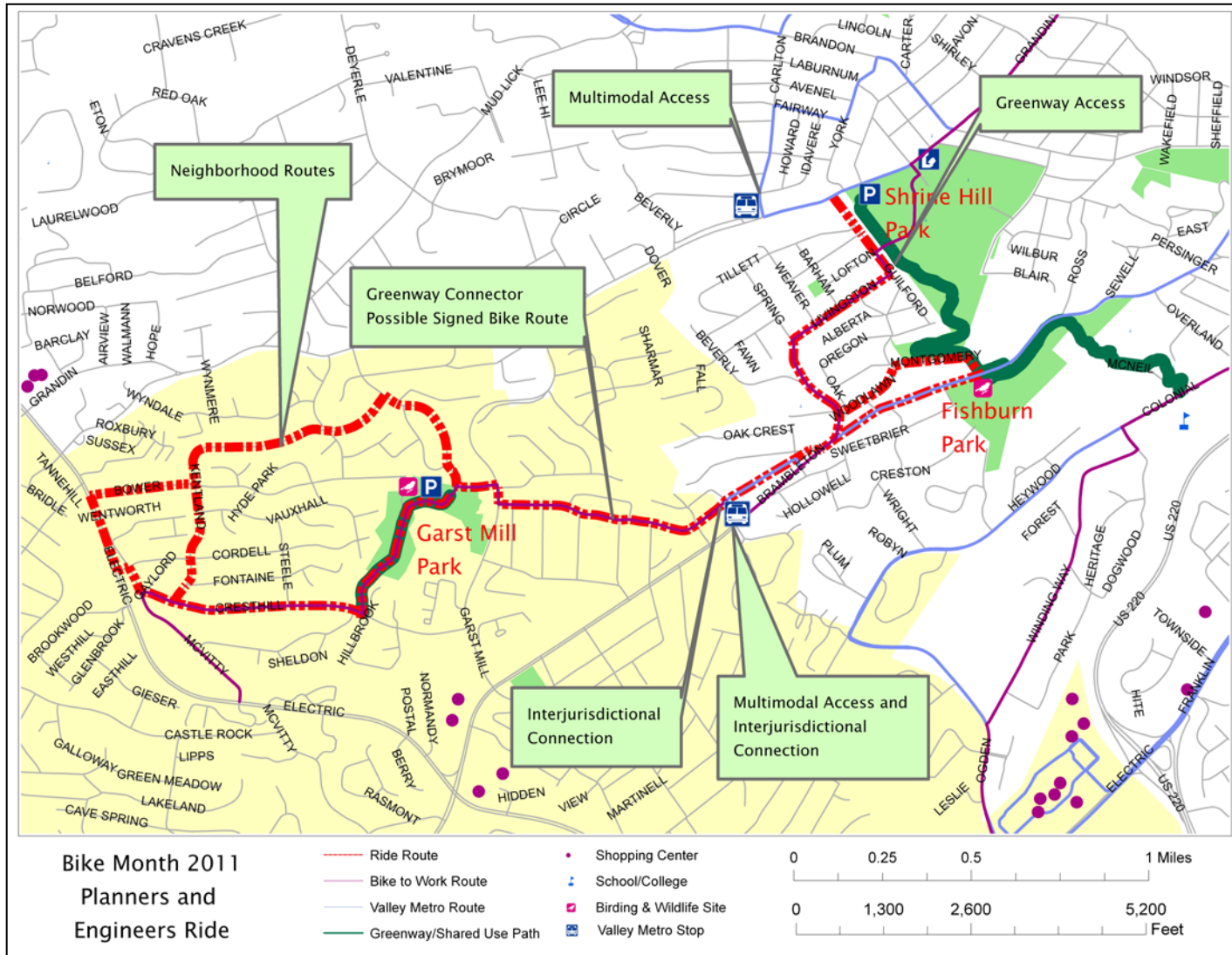


Figure 3.21: Planners and Engineers Ride Route



### 3.2.11 Bike Month

Each May Bike Month events are held throughout the region. RIDE Solutions, a program of the Roanoke Valley Alleghany Regional Commission, is the lead entity responsible for coordinating and conducting local and regional Bike Month events. Examples of past bike month events include

- Bike to Work Day
- Valley Metro bus tours and demonstrations on using the bus bicycle racks
- Bicycle inspections
- Clean Commute Challenges
- Mayor's Ride
- Art by Bike Tours
- Bicycle Friendly Business workshop
- Ciclovía

Additional Bike Month information is available from RIDE Solutions and Bike Roanoke.



Bike Month/Clean Commute Day activities 2007



Bike Roanoke Notice of Violation



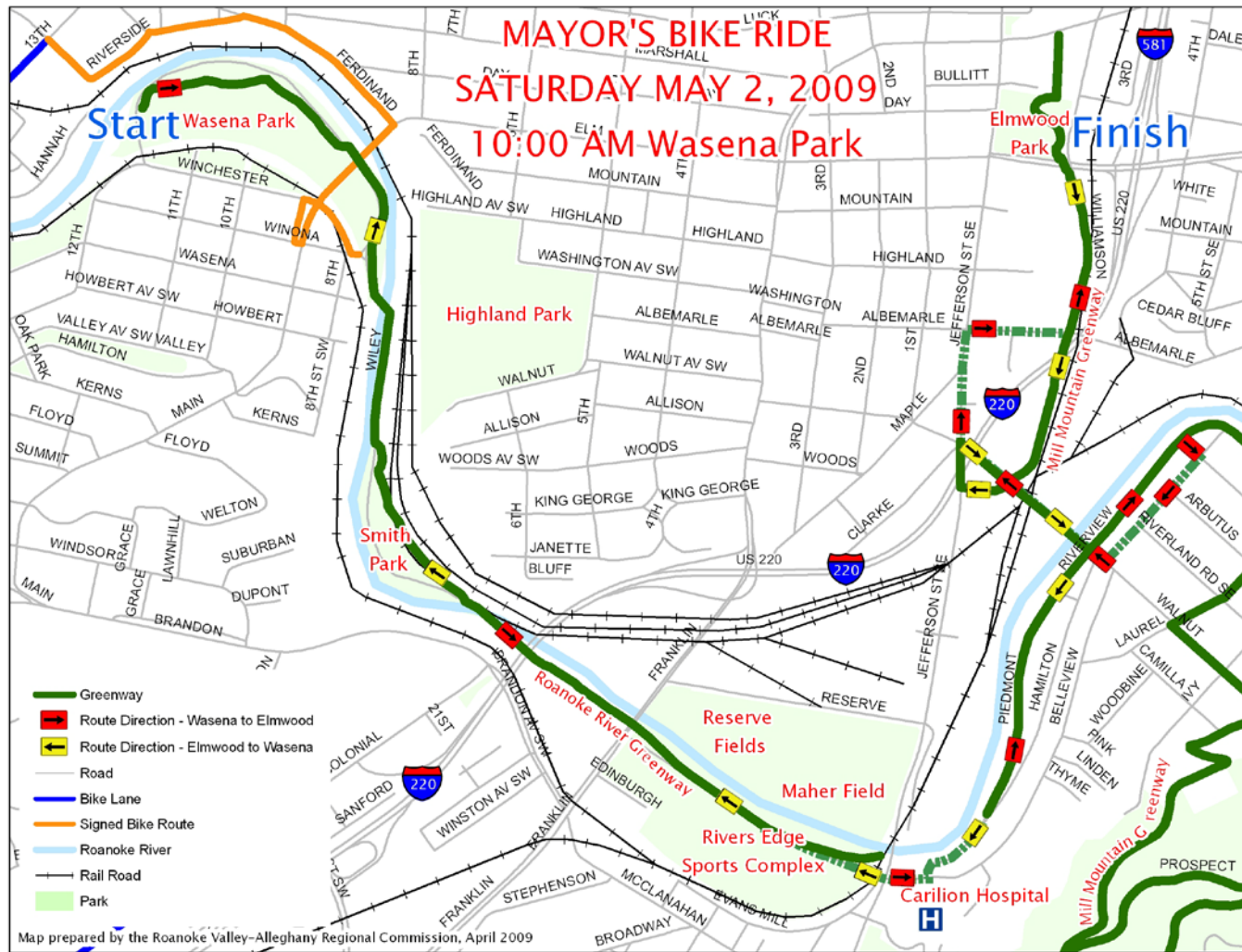


Figure 3.22: Mayor's Bike Ride 2010 Route





### 3.2.12 Safe Routes to School

The [Virginia Safe Routes to School Program](#) (SRTS) is a federally-funded program administered by the Virginia Department of Transportation that encourages more walking and biking to school through education and promotional activities, as well as engineering improvements to create a safer walking and biking environment. Only elementary and middle schools (K-8) are eligible for SRTS funding. The Virginia SRTS Program funds two types of activities for the implementation of School Travel Plans. These include:

- Non-infrastructure “programs” - activities that educate, facilitate, or encourage safe walking and bicycling for students. These can include in-school safety education, public outreach activities, traffic enforcement, and education on the benefits of walking and bicycling and other related activities. These are also referred to as “program” grants and are eligible for up to \$25,000 in funding.
- Infrastructure “projects” – improvements to the physical or ‘built’ walking and bicycling environment around schools and may include improvements such as installing sidewalks or crosswalks, fixing hazards, spot improvement, and traffic calming in or near school zones.

Development of a School Travel Plan (also referred to as a Safe Routes to School Plan or Action Plan) is required component in advance of any funding application to the Virginia Safe Routes to School (SRTS) Program. A School Travel Plan is a written document that outlines a school

community’s intentions for making travel to and from school more sustainable and safe.

Several Schools in the MPO study area have received SRTS funding since 2005. The City of Roanoke and Roanoke City Public Schools were awarded three Safe Routes to School (SRTS) grants from the Virginia Department of Transportation in 2007. Two pilot schools have been chosen for the program - Addison Middle School and Forest Park Elementary School. A \$25,000 non-infrastructure program grant was awarded for training a physical education teacher on the Bike Smart Virginia curriculum, purchasing bicycles and helmets to teach students how to ride safely, as well as conducting educational activities with their families. Two pilot schools have been chosen for the program - Addison Middle School and Forest Park Elementary School. Two project (infrastructure) grants totaling \$544,653 will be used to provide infrastructure improvements around two schools and in the surrounding neighborhoods. Projects will include new shared-use path connections, new lighting along the Lick Run greenway in Washington Park, and infill sidewalk construction in the neighborhoods.

In 2008, Roanoke County and Roanoke County Schools were awarded \$ 17,610 non-infrastructure “program” grant for William Bryd Middle School (Note: Town of Vinton residents attend Roanoke County Schools). Program grant funding was used for SRTS Plan development, purchase of bicycles and storage containers, and to implement the bicycle education and safety curriculum. In 2008, Roanoke County Schools also applied for a \$395,808 SRTS “project” (infrastructure) grant for safety improvements to



streets surrounding the William Byrd campus and formal connections between the Wolf Creek Greenway and the school campus. Requested improvements include traffic control devices, pedestrian and bicycle crossing improvements and off-street (i.e., greenway) accommodations. VDOT did not fund the infrastructure grant request. The William Byrd SRTS Travel Plan is available at [www.rvarc.org/bike](http://www.rvarc.org/bike).

The City of Salem also received a non-infrastructure program grant in 2008 to develop a Safe Routes to School Travel Plan. The City of Salem also applied SRTS “project” (infrastructure) grant for sidewalk and safety improvements to near Carver Elementary School Andrew Lewis Middle School.

The *Bikeway Plan* encourages local governments and school systems to continue to implement or develop Safe Routes to School programs and pursue funding for needed structure improvements to encourage increased cycling or walking to school.

### **3.3 Evaluation and Planning**

A range of local, regional, and state planning is available to provide guidance on improving bicycling conditions in the region. Since the 2005 Update of the *Bikeway Plan* considerable progress has been in efforts to better accommodate cyclist within the regional transportation and greenway network and generally promote and encourage cycling in the region. As noted in Section 1, a major component of the *Bikeway Plan* is documentation and evaluation of progress and planning for future improvements. Section 2 provides an overview of the primary planning and

guidance documents and resources available in the region. Major evaluation efforts and processes in place in the region include, but are not limited to:

- Regional Bicycle Accommodations Geodatabase (see Section 3)
- Roanoke Valley Greenways Geodatabase
- Regional Greenway and Trail User Count Program
- Roanoke River Greenway Status Map
- Bicycle Friendly Business Designation
- Bicycle Friendly Community Designations
- Regional Bicycle Suitability Study

#### **3.3.1 Regional Bicycle Accommodations Geodatabase**

See Section 3.2.5 for discussion of the Regional Bicycle Accommodations Geodatabase.

#### **3.3.2 Roanoke Valley Greenways Geodatabase**

In addition to the Regional Bicycle Accommodation Database, the Regional Commission also maintains a Roanoke Valley Geodatabase to document and map greenway progress and amenities. Greenway facilities and amenities in the Regional Greenways Geodatabase are uploaded to the [Roanoke Valley Greenways Interactive Map](#) for public viewing and guidance. Information included in the greenways geodatabase includes:

- existing greenways



- planned/proposed greenways
- greenway distances
- greenway access points and parking areas
- information kiosks
- shelters
- picnic shelters/tables
- public restrooms
- canoe launch areas
- exercise equipment
- interpretative signage

infrared counter collected data on the Appalachian Trail (between Route 311 parking lot and McAfees Knob) during 2010 and 2011. Periodic use counts have also been conducted on the Murray Run Greenway and Lick Run Greenway. Figures 3.23 and 3.24 provide examples of trail use data available for area greenways and trails.

### 3.3.3 Regional Greenway and Trail User Count Program

In 2009 the Regional Commission initiated the Regional Greenway and Trail User Count Program to obtain baseline data (i.e., current use) for general planning and maintenance purposes and to compare to future use as the greenway network is expanded, connected, and promoted. The count program utilizes both automatic infrared and magnetic counters that provide a range of information on trail use data including total number of counts; date and time of each count, and hourly, weekly, and yearly summaries, which can be displayed in various table, charts, and graphs.

Currently, infrared counters, which count all trail users (pedestrian, bicyclists) are in place at two locations along the Roanoke River Greenway (near Rivers Edge Sports Complex; and 17<sup>th</sup> St). A magnetic counter, which counts only bicyclists, is also in place on the Four Gorges Trail in the Carvins Cove Natural Reserve. Additionally an



*TRAFx infrared trail counter and housing*



*TRAFx trail counter on Roanoke River Greenway in Salem (Riverside Drive)*



**Welcome to DataNet!**  
A smarter way to analyze, manage, store and share your TRAFx data.

**Your counter sites** ... click below to explore

#	Site name	Last 12 months	Now	Report	Photo	Image 2
1	Appalachian Trail 311/McAfee's Knob Trailhead				No Image Uploaded	No Image Uploaded
2	Carvins Cove				No Image Uploaded	No Image Uploaded
3	Lick Run Greenway Southern End					
4	Murray Run Greenway					No Image Uploaded
5	Roanoke River Bennington				No Image Uploaded	No Image Uploaded

**Counter map (beta)**

Map showing counter locations (1-7) in the Roanoke Valley area. Locations include Troutville, Trussmark Airport, and Roanoke. A scale bar indicates 10 km and 5 miles. Data is attributed to 2009 OpenStreetMap and CloudMade.

Hint: Go to 'Manage' to set a counter's location.

**Additional mapping options**

- To link to a Google satellite image showing a counter's location, click a marker above.
- To download all counter locations as a KML file viewable with Google Earth, [click here](#).

[Learn more](#)

Figure 3.23: DataNet Trail Counter Data Management Website



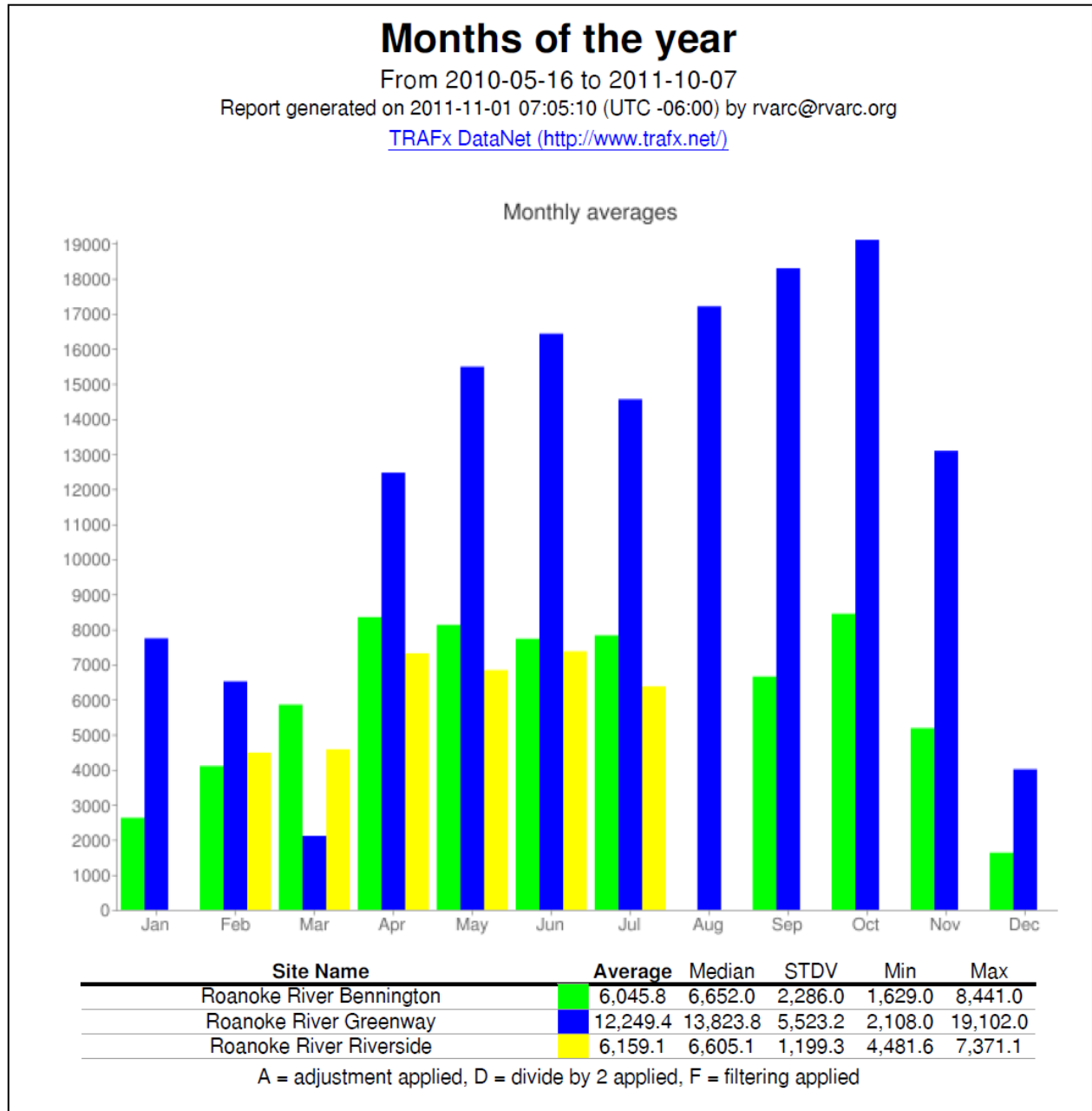


Figure 3.24: Roanoke River Greenway Use Data



### 3.3.4 Bicycle Friendly Business and Community Designations

The League of American Bicyclists Bicycle Friendly America programs include several bicycle-friendly programs and designations including:

- Bicycle Friendly Business
- Bicycle Friendly Community
- Bicycle Friendly University
- Bicycle Friendly State

Each application to the Bicycle Friendly America program is reviewed by a panel of national bicycle experts and several local reviewers are consulted to share their perspectives of the applicant.

The Bicycle Friendly Community Program (BFC) provides incentives, hands-on assistance, and award recognition for communities that actively support bicycling. In 2010, the City of Roanoke was designated a BFC at the Bronze Level, becoming one of only five BFC in Virginia (Alexandria, Arlington, Charlottesville, Harrisonburg, and Roanoke). Additional information on the LAB Bicycle Friendly America program is available at [www.bikeleague.org](http://www.bikeleague.org).

The Bicycle Friendly Business (BFB) program recognizes employers' efforts to encourage a more bicycle friendly atmosphere for employees and customers. The program honors innovative bike-friendly efforts and provides technical assistance and information to help companies and organizations become even better for bicyclists. This new initiative complements the League's Bicycle Friendly Community (BFC) program, which has been recognizing cities and towns for their bicycle friendliness since 2003.



In 2008, the Roanoke Valley Alleghany Regional Commission became the first League of American Bicyclists designated BFB in Virginia (as of 2012, there are 24 total BFB in Virginia). Other BFB in Roanoke include ShareBike (2010), Carilion Riverside Center (2012), and East Coasters (2012). The Regional Commission and RIDE Solutions offer information and assistance to area businesses interested in BFB designation.

