



# US BICYCLE ROUTE 76

A study of the Roanoke Valley – Alleghany Region

November 2017



## Acknowledgements

This study was completed with the help of an advisory committee. The Regional Commission would like to thank the members of this committee, listed below, for their assistance in providing feedback on the study, as well as collecting data through car and bicycle surveys of the route.

David Holladay, Roanoke County Staff

Jim Farmer, Botetourt County Staff

Liz Belcher, Greenway Coordinator

Lindsay Webb, Roanoke County Staff

Lisa Sumpter, Botetourt County Staff

Mary Zirkel, Town of Buchanan Staff

Robert Beatty, Botetourt County Staff

Tim Miller, Greenway Commission Representative

Eddie Wells, RVARC Staff

This study is a product of the Roanoke Valley – Alleghany Regional Commission.

**Project lead:** Amanda McGee

# Contents

---

Acknowledgements .....	i
Table of Figures.....	iv
Acronyms .....	v
Introduction .....	6
Study Purpose .....	8
Study Area.....	8
Physiography.....	11
Weather and Climate .....	11
Methodology .....	13
Field Visits .....	13
Short Survey.....	13
Rider Experience .....	13
Other USBR 76 Studies.....	13
Overview of the USBR 76 Corridor .....	14
Route Description .....	14
USBR 76 Roadway Segments .....	20
Signage.....	20
Land Use.....	20
Economic Impact .....	24
Central Shenandoah Planning District Commission.....	24
Adventure Cycling Organization .....	24
2010 Cross State Ride .....	25
Section Inventory.....	26
Rockbridge County to Town of Buchanan .....	29
Lithia Road to Town of Troutville.....	30
Town of Troutville to Roanoke Cement.....	31
Roanoke Cement to 311 Junction .....	31
311 Junction to Montgomery County.....	32
Survey Responses .....	34
Recommendations.....	35
Sources and Related Works .....	37

Links to Restaurants and Other Amenities .....	37
Appendix A: Survey and Survey Responses .....	A
Questions .....	A
Answers.....	C
Appendix B: Spurs and Alternate Routes.....	F
Catawba Valley Road (311) (west to east) – Roanoke County, Salem, City of Roanoke.....	F
Blue Ridge Parkway from Downtown Roanoke to Town of Buchanan (west to east).....	F
US 11/460 (west to east) – Christiansburg to Roanoke Valley .....	F
Appendix C: VDOT Roadway Functional Classification System.....	G
Rural Functional Classification System .....	G
Rural principal arterial .....	G
Rural major collector .....	G
Rural local .....	G
Urban Functional Classification System.....	G
Urban principal arterial.....	G
Urban minor arterial .....	H
Urban local.....	H

# Table of Figures

Table 1: Census Geographies .....	8
Table 2: Locally Identified Places .....	9
Table 3: Average Temperature and Precipitation - Roanoke Virginia .....	12
Table 4: USBR 76 Cue Sheet - Botetourt and Roanoke Counties.....	15
Table 5: USBR 76 Study Area Roadways, VDOT .....	18
Table 6: USBR 76 Average Annual Daily Traffic (AADT), VDOT .....	19
Table 7: Historical Markers, VDOT .....	28
Table 8: Additional Historic Resources, VDHR .....	28
Figure 1: USBR 1 and 76, Virginia Department of Transportation (VDOT) .....	6
Figure 2: USBR 76 Sign, VDOT .....	6
Figure 3: National Corridor Plan, Adventure Cycling Organization.....	7
Figure 4: Study Area - Roanoke Valley.....	10
Figure 5: Geologic and Physiographic Provinces of Virginia, James Madison University .....	11
Figure 6: Roanoke Climograph, US Climate Data.....	12
Figure 7: USBR 76 in Botetourt and Roanoke County.....	16
Figure 8: USBR 76 Elevation Profile - Botetourt and Roanoke Counties .....	17
Figure 9: Signage on the Corridor .....	21
Figure 10: Roanoke County Future Land Use Map .....	22
Figure 11: Botetourt County Future Land Use Map.....	23
Figure 12: Historical Markers, VDHR, VDOT .....	27

## Acronyms

AADT - Average Annual Daily Traffic

AASHTO – American Association of State Highway and Transportation Officials

AT - Appalachian Trail

B&B - Bed & Breakfast

CDP – Census Designated Place

NPS - National Park Service

RSTP - Regional Surface Transportation Program

RVAMPO - Roanoke Valley Area Metropolitan Planning Organization

RVARC - Roanoke Valley Alleghany Regional Commission

RVTPPO – Roanoke Valley Transportation Planning Organization

TA - Transportation Alternatives

UA - Urbanized Area

UC – Urban Cluster

USBRS - United States Bicycle Route System

USFS - United States Forest Service

VDOT - Virginia Department of Transportation

VDHR – Virginia Department of Historical Resources

# Introduction

Established in 1978 by the American Association of State Highway and Transportation Officials (AASHTO), the United States Bicycle Route System (USBRS) is a network of long-distance cycling routes in the United States (Figure 3). The purpose of the USBRS is to facilitate bicycle travel on appropriate roads, paths and highways over routes that are desirable for interstate bicyclists. A route is formed as a continuous network of available roads through two or more states connecting and traversing areas of scenic, cultural, and recreational interest.



Figure 1: USBR 1 and 76, Virginia Department of Transportation (VDOT)

US Bicycle Route 76, along with USBR 1, is one of the two original USBRS routes officially designated in 1982. Also known as the TransAmerica Trail (and formerly the Bikecentennial), USBR 76 is an east-west oriented, cross-country bicycle route running for approximately 4,250 miles from Yorktown, Virginia to Astoria, Oregon. Approximately 500 miles of USBR 76 are located in Virginia between Yorktown in the east and the Kentucky state line near Breaks Interstate Park in the west (Figure 1). In Virginia, USBR 76 is demarcated with rectangular, black and white, signs with a bicycle image, route number, and directions arrow.



Figure 2: USBR 76 Sign, VDOT



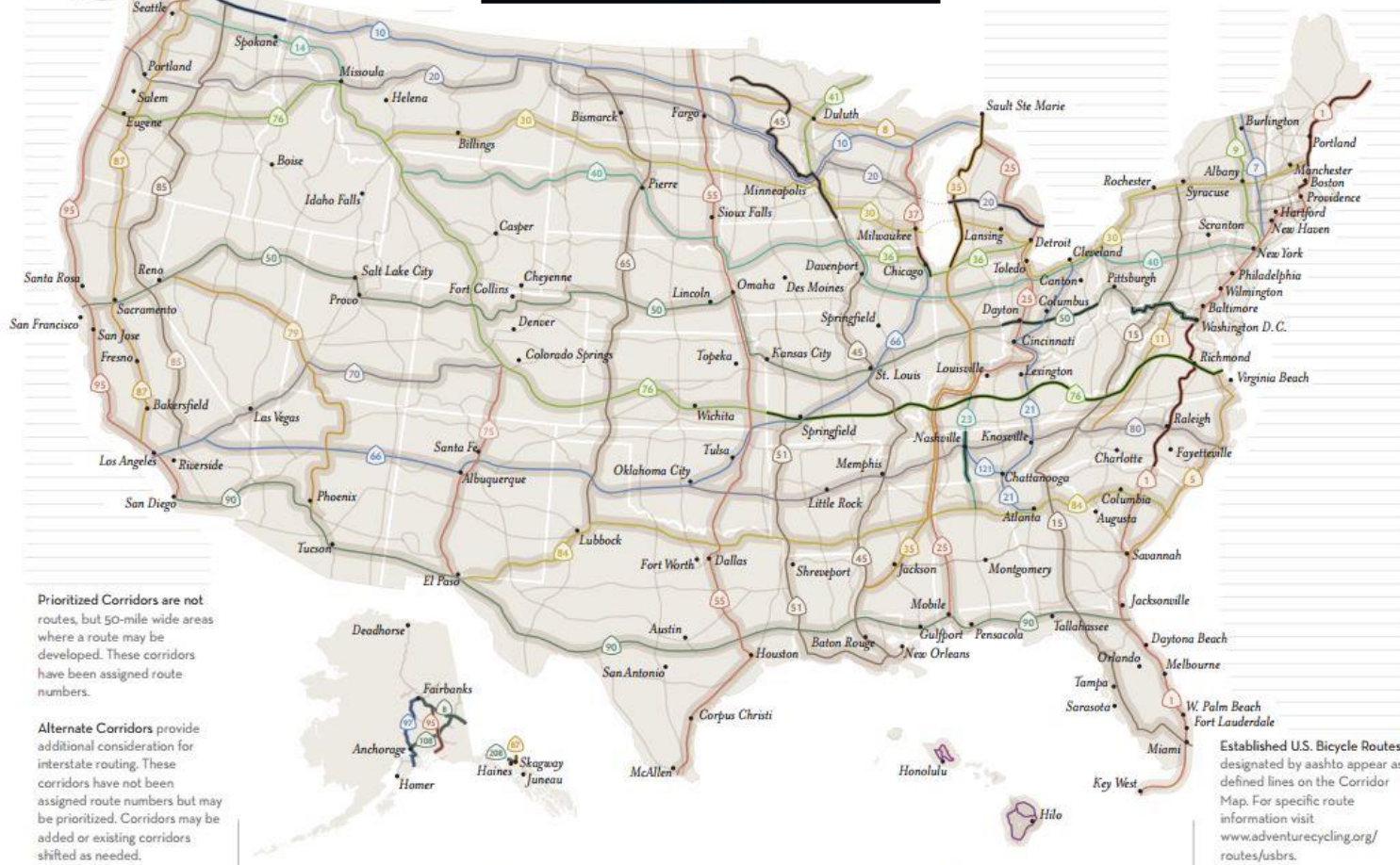
The goal of The United States Bicycle Route System is to connect America through a network of numbered interstate bicycle routes.

# NATIONAL CORRIDOR PLAN

October 2014

Adventure Cycling Association  
America's bicycle travel experts

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS  
**AASHTO**  
THE VOICE OF TRANSPORTATION



Prioritized Corridors are not routes, but 50-mile wide areas where a route may be developed. These corridors have been assigned route numbers.

Alternate Corridors provide additional consideration for interstate routing. These corridors have not been assigned route numbers but may be prioritized. Corridors may be added or existing corridors shifted as needed.

Established U.S. Bicycle Routes designated by aashto appear as defined lines on the Corridor Map. For specific route information visit [www.adventurecycling.org/routes/usbrs](http://www.adventurecycling.org/routes/usbrs).

Figure 3: National Corridor Plan, Adventure Cycling Organization



## Study Purpose

The primary objectives of this study are to provide a comprehensive overview and analysis of USBR 76 in the Roanoke Valley – Alleghany Regional Commission service area, and to develop recommendations to improve the user experience, better showcase the region’s natural, cultural and recreational resources, and increase the economic benefits derived from USBR 76. Specific tasks and activities include:

- Analyzing the roadway geometrics, operations, and signage;
- Compiling an inventory of services, destinations, activity centers, and points of interest along and proximate to USBR 76;
- Mapping;
- Analyzing the economic impact of USBR 76;
- Identifying the deficiencies of and needed improvements to USBR 76;
- Identifying possible spur routes from USBR 76 through other portions of the study area; and
- Identifying adjacent and proximate land use use(s).
- Exploring ways to increase the economic benefits of USBR 76 for Botetourt and Roanoke Counties and the greater region;

## Study Area

USBR 76 traverses 55.4 miles of roadways in Botetourt County and Roanoke County and includes areas within the Roanoke Valley Area Transportation Planning Organization (RVTPPO) 2040 study area as well as RVARC’s Rural Transportation Planning Program area. The study area is also within the Virginia Department of Transportation (VDOT) Salem District which is responsible for construction and maintenance of roadways in the counties of Botetourt and Roanoke.

While the primary focus of this study is on the USBR 76 corridor and proximate areas, it also considers USBR 76 in the context of the larger region (Figure 4). Tables 1 lists the various geographies within the study area.

**Table 1: Census Geographies**

Census Geography	Population
Botetourt County	33,074
Roanoke County	92,439
Roanoke Urbanized Area*	211,071
Roanoke Metropolitan Statistical Area**	308,238
Town of Buchanan	1,416
Town of Troutville	550
Daleville Census Designated Place	2,100
Cloverdale Census Designated Place	2,941

\* Roanoke UA includes the cities of Roanoke and Salem and portions of Bedford, Botetourt, Montgomery, and Roanoke counties

\*\* Roanoke MSA includes the cities of Roanoke and Salem and the counties of Botetourt, Craig, Franklin, and Roanoke

Beyond officially recognized or administrative geographies, USBR 76 passes through numerous unincorporated communities, locally identified places, and population centers.

**Table 2: Locally Identified Places**

<b>Place</b>	<b>Place Type(s)</b>	<b>County</b>
Catawba	unincorporated area	Roanoke
Lone Star	unincorporated area	Botetourt
Mt. Union	unincorporated area	Botetourt
Nace	unincorporated area	Botetourt
Lithia	unincorporated area	Botetourt

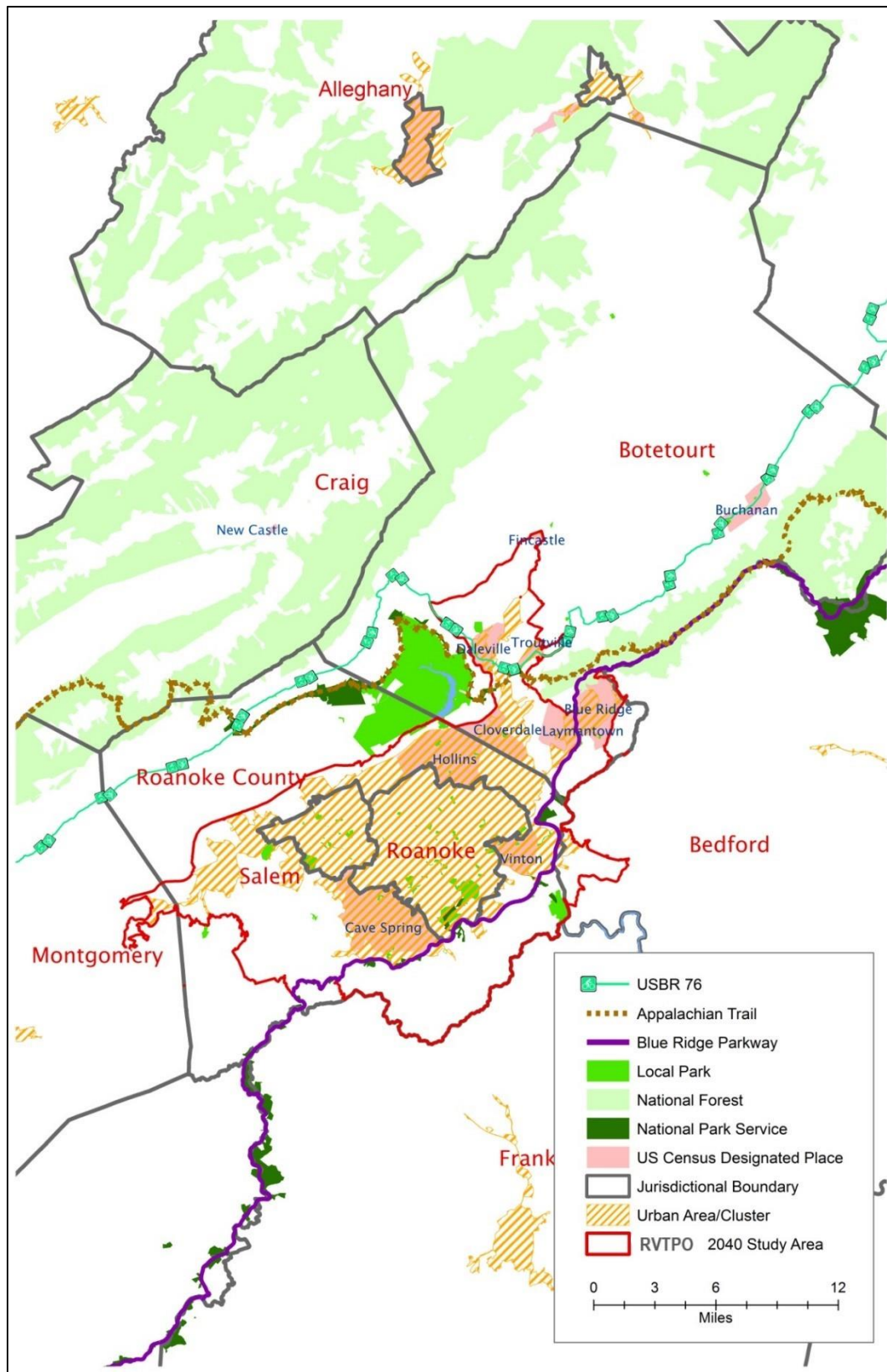


Figure 4: Study Area - Roanoke Valley

## Physiography

USBR 76 traverses the Valley and Ridge and the Blue Ridge physiographic/geologic provinces of Virginia (Figure 5). The Valley and Ridge physiographic/geologic province is characterized by sedimentary rocks folded and faulted in anticlines (ridges) and synclines (valleys) and a trellis drainage pattern with streams running parallel to long ridges. USBR 76 passes through both the Roanoke River and James River watersheds crossing the divide several times along the route and paralleling or crossing Catawba Creek, Tinker Creek, the James River, and a number of smaller streams.

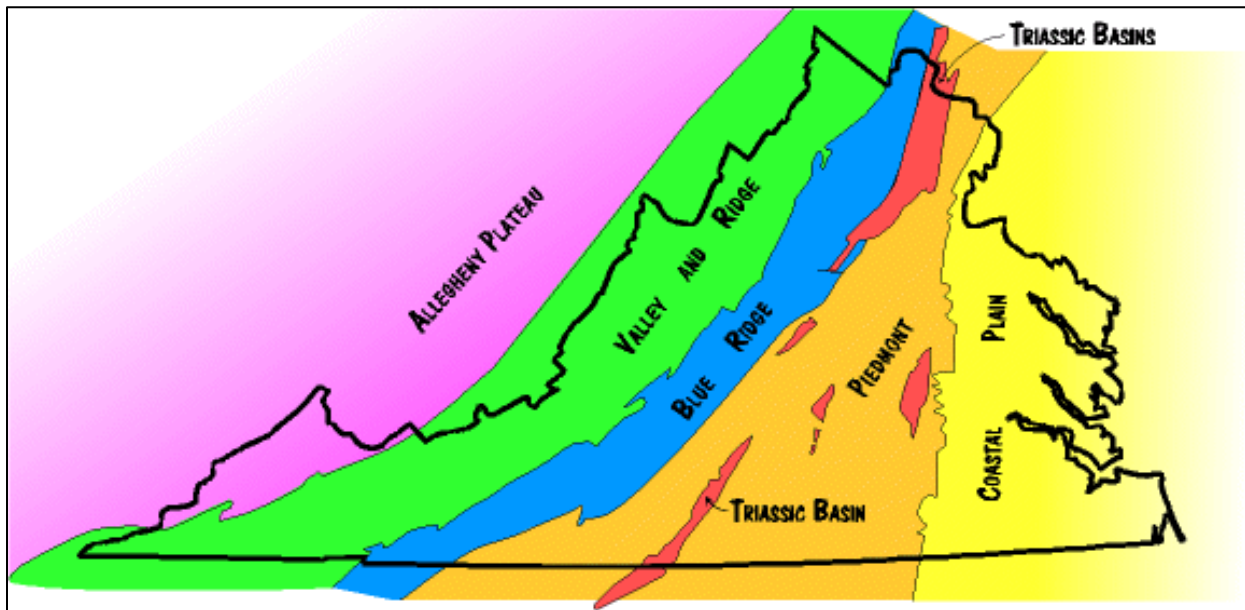


Figure 5: Geologic and Physiographic Provinces of Virginia, James Madison University

## Weather and Climate

The study area climate can be generally characterized as humid-subtropical (Cfa) to humid continental – warm summer (Dfa) with considerable variation based on elevation. Both climate types are characterized by seasonal variation in temperature and precipitation distributed throughout the year. Table 3 and Figure 6 provide average temperatures and precipitations for the study area.

Table 3: Average Temperature and Precipitation - Roanoke Virginia

	January	February	March	April	May	June
Average high in °F	46	49	58	68	76	83
Average low in °F:	28	30	37	45	53	62
Average precipitation in inch	2.91	2.87	3.46	3.39	4.06	3.82
Average snowfall in inch	6	6	2	1	0	0
	July	August	September	October	November	December
Average high in °F	87	86	78	69	59	48
Average low in °F	66	65	58	47	38	30
Average precipitation in inch	4.06	3.54	3.9	2.87	3.39	2.95
Average snowfall in inch	0	0	0	0	1	4

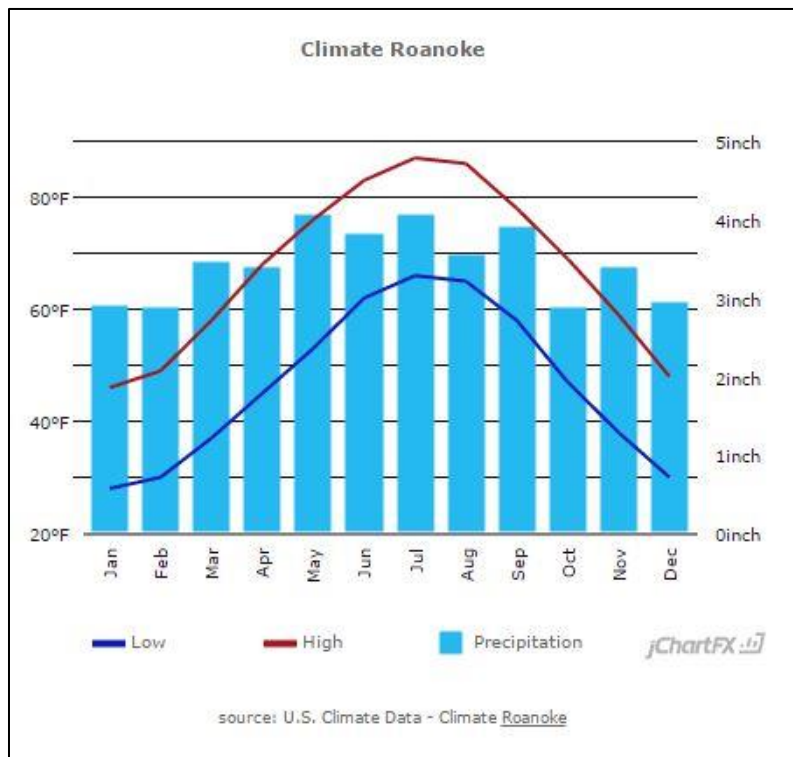


Figure 6: Roanoke Climograph, US Climate Data

## Methodology

In order to collect the data needed to complete this study, the following methods were used.

### Field Visits

Locality staff and RVARC staff took two driving tours of the route. One driving tour encompassed the parts of the route located within Roanoke County, and was led by Roanoke County staff. The second driving tour was led by Botetourt County and Town of Buchanan staff, and took place on the sections located within Botetourt County. The goal of these tours was to locate signage which may not have been included in the VDOT shapefiles (dated 2009) and to identify potential amenities or points of interest along the route.

### Short Survey

RVARC staff created a brief, 5-question online survey to distribute to area bicyclists regarding their experiences on USBR 76 within the study area. This survey divided the route into sections, listed in the Section Analysis. The results of the survey as well as the original survey questions are included in Appendix C.

### Rider Experience

Tim Miller, a local cyclist and member of the Roanoke Valley Greenway Commission, biked this route with an eye to navigation issues and hazards which might present themselves to cyclists, including road surface, safety, and other issues. His experience informed the Section Analysis.

### Other USBR 76 Studies

In Virginia, there have been other studies conducted by planning district commissions (PDC) which may be relevant to readers of this study. These are the corridor studies undertaken by the Thomas Jefferson PDC and the New River Valley PDC. References to both of these studies are available in the Sources and Related Works section at the end of this document.

The New River Valley's corridor study is of particular impact on this document as that PDC borders the Regional Commission study area. The NRVPDC service boundary begins at the Montgomery County line and continues along the USBRS 76 corridor from there.

# Overview of the USBR 76 Corridor

---

This section provides a comprehensive overview of USBR 76 in the study area including route description, roadway geometrics and operations, and related information. Information was collected using fieldwork, GIS, stakeholder input, and secondary data sources. Route analysis includes the following items:

- route segments
- elevation profile
- directions / cue sheets
- roadway classification speed limit
- annual average daily traffic
- travel lane pavement width
- shoulder type, width, and condition
- pavement condition
- signage
- maintenance issues
- hazards or safety concerns
- adjacent or proximate activity centers or points of interest

The Virginia Department of Transportation is responsible for construction and maintenance on all public roadways, including USBR 76 designed segments, in Botetourt and Roanoke counties.

## Route Description

USBR 76 runs for 55.4 miles through Botetourt and Roanoke Counties, entering/exiting Botetourt County from Rockbridge County in the east and entering/exiting Roanoke County from Montgomery County in the west (Figure 7). Of this distance, 13.7 miles are located in Roanoke County and 40 miles are in Botetourt County. Figure 8 provides an elevation profile, with reference points along USBR 76, in the study area. Table 4 provides detailed, turn-by-turn USBR 76 route directions (cue sheet) for both east-to-west and west-to-east travel.

The route topography in the study area is generally rolling, interspersed with moderately difficult climbs/descents. Elevation along the route ranges from approximately 2,000 feet to 900 feet, with the highest elevation (approximately 1,977 feet) at the Roanoke River/James River drainage divide on Blacksburg Road (785) in eastern Roanoke County and the lowest point (approximately 900 feet) at the James River in the Town of Buchanan (Figure 8).

Table 4: USBR 76 Cue Sheet - Botetourt and Roanoke Counties

East to West Travel Direction			
Total Distance (miles)	Direction	Roadway	Distance to Next Maneuver (miles)
0	Straight	Lee Highway (US 11) – enter Botetourt Co from Rockbridge Co	3.5
3.5	Right	Overpass Road (623) crossing 1-81	0.1
3.6	Left	Frontage Road 54	4.0
7.6	Left	Lee Highway (US 11)/Main Street through Town of Buchanan	3.9
11.5	Left	Lithia Road (640)	6.3
17.8	Left	Nace Road (640)	3.9
21.7	Left	Lee Highway (US 11)	0.6
22.3	Left	Stoney Battery Road	3.4
25.7	Left	Lee Highway (US 11)	1.1
26.8	Right	Valley Road (779)	1.6
28.4	Right	US 220 (Roanoke Road)	0.2
28.6	Left	Catawba Road (779)	13.2
41.8	Straight	Catawba Creek Road (779) – enter Roanoke Co from Botetourt Co	3.6
45.4	Right	Catawba Valley Road (311)	0.5
45.9	Left	Blacksburg Road (785)	9.6
55.5	Straight	Blacksburg Road (785) – enter Montgomery Co from Roanoke Co	
West to East Travel Direction			
Total Distance (miles)	Direction	Roadway	Distance to Next Maneuver (miles)
0	Straight	Blacksburg Road (785) – enter Roanoke Co from Montgomery Co	9.6
9.6	Right	Catawba Valley Road (311)	0.5
10.1	Left	Catawba Creek (779) – enter Botetourt Co from Roanoke Co	3.6
13.7	Straight	Catawba Road (779)	13.2
26.9	Right	US 220 (Roanoke Road)	0.2
27.1	Left	Valley Road (779)	1.6
28.7	Left	Lee Highway (US 11)	1.1
29.8	Right	Stoney Battery Road	3.4
33.2	Right	Lee Highway (US 11)	0.6
33.8	Right	Nace Road (640)	3.9
37.7	Right	Lithia Road (640)	6.3
44.0	Right	Lee Highway (US 11)/Main Street through Town of Buchanan	3.9
47.9	Right	Frontage Road 54	4.0
51.9	Right	Overpass Road (623) crossing 1-81	0.1
52.0	Left	Lee Highway/Frontage Road 55	3.5
55.5	Straight	Lee Hwy (US 11)/FR 55– enter Rockbridge Co from Botetourt Co	





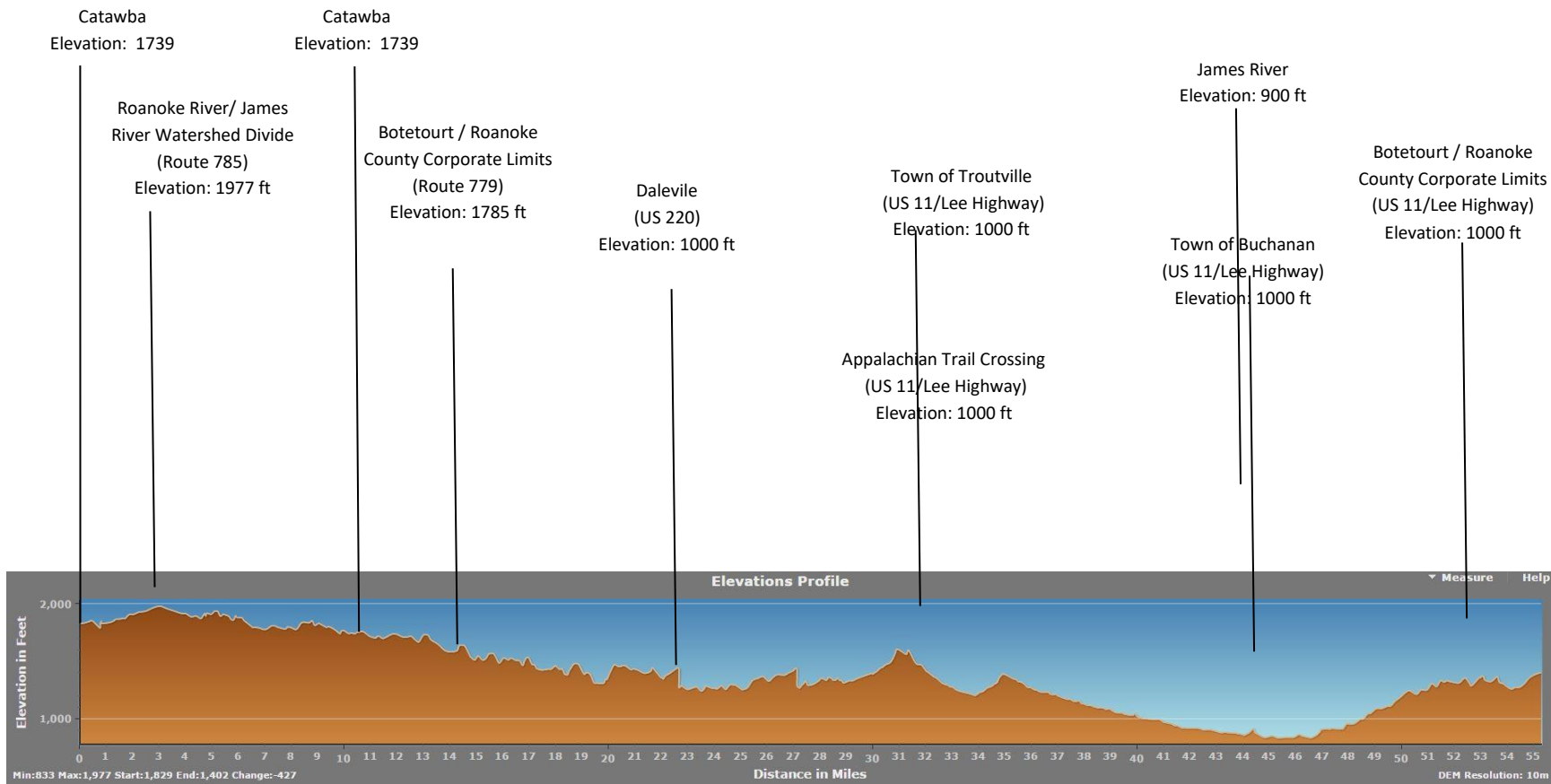


Figure 8: USBR 76 Elevation Profile - Botetourt and Roanoke Counties

Table 5: USBR 76 Study Area Roadways, VDOT

ROADWAY SEGMENT NAME	FROM	TO	LOCALITY	VDOT CLASSIFICATION	SPEED LIMIT	LENGTH (MILES)
BLACKSBURG (ROUTE 785)	CORPORATE LIMIT	CATAWBA VALLEY (ROUTE 311)	ROANOKE COUNTY	RURAL MAJOR COLLECTOR	55	9.6
CATAWBA VALLEY (ROUTE 311)	BLACKSBURG (ROUTE 785)	CATAWBA CREEK (ROUTE 779)	ROANOKE COUNTY	RURAL MAJOR COLLECTOR	55	0.5
CATAWBA CREEK (ROUTE 779)	CATAWBA VALLEY (ROUTE 311)	CORPORATE LIMIT	ROANOKE COUNTY	RURAL MAJOR/MINOR COLLECTOR	55	3.6
<b>ROANOKE COUNTY MILES</b>						<b>13.7</b>
CATAWBA	CORPORATE LIMIT	MPO STUDY AREA BOUNDARY (BLACKSBURG)	BOTETOURT COUNTY	RURAL MAJOR/MINOR COLLECTOR	55	8.5
CATAWBA	MPO STUDY AREA BOUNDARY (BLACKSBURG RD)	US 220 (ROANOKE)	BOTETOURT COUNTY	URBAN COLLECTOR	55	4.6
US 220 (ROANOKE)	CATAWBA (ROUTE 779)	VALLEY	BOTETOURT COUNTY	URBAN PRINCIPAL ARTERIAL	45	0.2
VALLEY (779)	US 220 (ROANOKE)	LEE HIGHWAY (US 11)	BOTETOURT COUNTY	URBAN COLLECTOR	35	1.6
US 11 (LEE HIGHWAY)	VALLEY	STONEY BATTERY	BOTETOURT COUNTY	URBAN PRINCIPAL ARTERIAL	40/35	1.1
STONEY BATTERY	LEE HIGHWAY (US 11)	LEE HIGHWAY (US 11)	BOTETOURT COUNTY	LOCAL NON-CLASSIFIED	30/25	3.4
US 11 (LEE HIGHWAY)	STONEY BATTERY	NACE	BOTETOURT COUNTY	RURAL MAJOR COLLECTOR	55	0.6
NACE (640)	LEE HIGHWAY (US 11)	LITHIA	BOTETOURT COUNTY	LOCAL NON-CLASSIFIED	40/35	3.9
LITHIA (640)	NACE (640)	LEE HIGHWAY (MAIN)	BOTETOURT COUNTY	LOCAL NON-CLASSIFIED	40/35	6.3
LEE HIGHWAY (MAIN)	LITHIA	FRONTAGE ROAD 54 (1-81)	BOTETOURT COUNTY	RURAL MAJOR COLLECTOR	55/35/25	3.9
FRONTAGE ROAD 54 (1-81)	LEE HIGHWAY (MAIN)	OVERPASS (623)	BOTETOURT COUNTY	LOCAL NON-CLASSIFIED	35	4.0
OVERPASS (623)	FRONTAGE ROAD 54 (1-81)	US 11 (LEE HIGHWAY)	BOTETOURT COUNTY	LOCAL NON-CLASSIFIED	35	0.1
US 11 (LEE HIGHWAY)	OVERPASS (623)	CORPORATE LIMIT	BOTETOURT COUNTY	RURAL MAJOR COLLECTOR	55	3.5
<b>BOTETOURT COUNTY MILES</b>						<b>41.7</b>
<b>STUDY AREA TOTAL MILES</b>						<b>55.4</b>



Table 6: USBR 76 Average Annual Daily Traffic (AADT), VDOT

Route Number	Route Name	Locality	Segment Length	Segment Start	Segment End	AADT	Percent 2 and 4 Tire Vehicles	Percent Busses	Percent Single Unit Trucks 2 Axle	Percent Single Unit Trucks 3+ Axle	Percent Combination Trucks 1 Trailer	Percent Combination Trucks 2+ Trailer
00785	Blacksburg Rd	Roanoke County	2.18	Montgomery County Line	80-697 Sandyridge Rd	310	98%	0%	1%	0%	0%	0%
00785	Blacksburg Rd	Roanoke County	7.55	80-697 Sandyridge Rd	SR 311 Catawba Valley Dr	350	98%	0%	1%	0%	0%	0%
00779	Catawba Creek Rd	Roanoke County	0.75	SR 311 Catawba Valley Dr; 80-698 Keffer Rd	SR 320 Catawba Hospital Dr	800	No Data	No Data	No Data	No Data	No Data	No Data
00779	Catawba Creek Rd	Roanoke County	1.56	SR 320 Catawba Hospital Dr	80-600 Moses Family Rd	640	No Data	No Data	No Data	No Data	No Data	No Data
00779	Catawba Creek Rd	Roanoke County	1.32	80-600 Moses Family Rd	Botetourt County Line	240	No Data	No Data	No Data	No Data	No Data	No Data
00311	Catawba Valley Dr	Roanoke County	6.70	SR 419 Electric Rd	80-779 Catawba Creek Rd	9100	97%	0%	1%	1%	1%	0%
00311	Catawba Valley Dr	Roanoke County	0.52	80-779 Catawba Creek Rd	80-785 Blacksburg Rd	4800	96%	0%	1%	1%	1%	0%
00311	Catawba Valley Dr	Roanoke County	2.54	80-785 Blacksburg Rd	Craig County Line	4500	96%	0%	1%	1%	1%	0%
00779	Catawba Rd	Botetourt County	4.62	Roanoke County Line	11-600 S, Little Catawba Creek Rd	230	No Data	No Data	No Data	No Data	No Data	No Data
00779	Catawba Rd	Botetourt County	1.31	11-600 S, Little Catawba Creek Rd	11-600 N, Haymakertown Rd	690	No Data	No Data	No Data	No Data	No Data	No Data
00779	Catawba Rd	Botetourt County	1.43	11-600 N, Haymakertown Rd	11-664 Asbury Lane	800	No Data	No Data	No Data	No Data	No Data	No Data
00779	Catawba Rd	Botetourt County	0.72	11-664 Asbury Lane	11-666 Haymakertown Rd	1500	100%	0%	0%	0%	0%	0%
00779	Catawba Rd	Botetourt County	0.33	11-666 Haymakertown Rd	11-630 Blacksburg Rd	2300	90%	1%	1%	1%	8%	0%
00779	Catawba Rd	Botetourt County	2.89	11-630 Blacksburg Rd	11-672 E, Etzler Rd	5300	87%	1%	1%	1%	9%	0%
00779	Catawba Rd	Botetourt County	0.46	11-672 E, Etzler Rd	11-675 Glebe Rd	4200	100%	0%	0%	0%	0%	0%
00779	Catawba Rd	Botetourt County	0.80	11-675 Glebe Rd	11-626 Mimosa St	4700	100%	0%	0%	0%	0%	0%
00779	Catawba St	Botetourt County	0.55	11-626 Mimosa St	US 220 N, Roanoke Rd	5800	100%	0%	0%	0%	0%	0%
00779	Valley Rd	Botetourt County	1.46	US 220 S, Roanoke Rd	WCL Troutville	1400	100%	0%	0%	0%	0%	0%
00779	Valley Rd	Town of Troutville	0.15	WCL Troutville	US 11 Lee Highway	1500	100%	0%	0%	0%	0%	0%
00011	Lee Highway	Botetourt County	0.10	Roanoke County Line	80-601 Shadwell Dr	17000	93%	1%	1%	1%	4%	0%
00011	Lee Highway	Botetourt County	2.73	80-601 Shadwell Dr	ALT SR 220 Cloverdale Rd	12000	90%	1%	1%	2%	6%	0%
00011	Lee Highway	Botetourt County	0.25	ALT SR 220 Cloverdale Rd	Ramp From I-81 NB at Exit 150 B	6800	99%	0%	0%	0%	0%	0%
00011	Lee Highway	Botetourt County	1.09	Ramp From I-81 NB at Exit 150 B	SCL Troutville	6800	99%	0%	0%	0%	0%	0%
00011	Lee Highway	Town of Troutville	1.85	SCL Troutville	NCL Troutville	6800	99%	0%	0%	0%	0%	0%
00011	Lee Highway	Botetourt County	2.98	NCL Troutville	11-640 Brughs Mill Rd	4900	95%	1%	1%	1%	1%	0%
00011	Lee Highway	Botetourt County	5.86	11-640 Brughs Mill Rd	I-81 South of Buchanan	3100	95%	1%	1%	1%	1%	0%
00011	Lee Highway	Botetourt County	2.23	I-81 South of Buchanan	WCL Buchanan	4100	95%	1%	1%	1%	2%	0%
00011	Main St	Town of Buchanan	0.43	WCL Buchanan	11-625 Mt Joy Rd	4100	95%	1%	1%	1%	2%	0%
00011	Main St	Town of Buchanan	2.09	11-625 Mt Joy Rd	SR 43 Parkway Dr	4000	95%	1%	1%	1%	2%	0%
00011	Main St	Town of Buchanan	0.18	SR 43 Parkway Dr	SR 43 First St	4100	95%	2%	2%	0%	1%	0%
00011	Main St	Town of Buchanan	0.78	SR 43 First St	NCL Buchanan	2800	95%	1%	1%	1%	2%	0%
00011	Lee Highway	Botetourt County	0.35	NCL Buchanan	I-81 North of Buchanan	2800	95%	1%	1%	1%	2%	0%
00651	Stoney Battery Rd	Town of Troutville	0.10	US 11 MID, Lee Highway	11-716 Apple Orchard Lane	1400	No Data	No Data	No Data	No Data	No Data	No Data
00651	Stoney Battery Rd	Town of Troutville	0.33	11-716 Apple Orchard Lane	ECL Troutville	410	No Data	No Data	No Data	No Data	No Data	No Data
00651	Stoney Battery Rd	Botetourt County	3.05	ECL Troutville	US 11 N, Lee Highway	460	No Data	No Data	No Data	No Data	No Data	No Data
00640	Nace Rd	Botetourt County	0.90	US 11 S, Lee Highway	11-711 Houston Mines Rd	1100	No Data	No Data	No Data	No Data	No Data	No Data
00640	Nace Rd	Botetourt County	3.05	11-711 Houston Mines Rd	11-606 E, Blue Ridge Trpk	620	No Data	No Data	No Data	No Data	No Data	No Data
00640	Lithia Rd	Botetourt County	3.46	11-606 E, Blue Ridge Trpk	11-636 Hardbarger Rd	260	No Data	No Data	No Data	No Data	No Data	No Data
00640	Lithia Rd	Botetourt County	2.89	11-636 Hardbarger Rd	US 11 N, Lee Highway	340	No Data	No Data	No Data	No Data	No Data	No Data
00623	Overpass Rd	Botetourt County	0.08	FR-55 Lee Highway	FR-54 Frontage Rd	380	No Data	No Data	No Data	No Data	No Data	No Data
00054	Purgatory Mountain Rd	Botetourt County	1.24	Dead End	I-81 Interchange	230	No Data	No Data	No Data	No Data	No Data	No Data
00054	Frontage Rd	Botetourt County	0.84	I-81 Interchange	11-614 Arcadia Rd	650	No Data	No Data	No Data	No Data	No Data	No Data
00054	Frontage Rd	Botetourt County	1.58	11-614 Arcadia Rd	11-608 Indian Rock Rd	1100	No Data	No Data	No Data	No Data	No Data	No Data
00054	Frontage Rd	Botetourt County	2.08	11-608 Indian Rock Rd	11-622 Alpine Rd	2400	No Data	No Data	No Data	No Data	No Data	No Data
00054	Frontage Rd	Botetourt County	0.85	11-622 Alpine Rd	Dead End	180	No Data	No Data	No Data	No Data	No Data	No Data

## USBR 76 Roadway Segments

USBR 76 utilizes 16 separate roadway segments in the study area with the majority being classified as Rural Major Collectors by VDOT. Speeds limits range from 25 MPH to 55 MPH with the highest speed limits generally occurring in Roanoke County on Blacksburg Road, Catawba Valley Drive (Route 311), and Catawba Creek Road. The highest speed limits in Botetourt County occur on Catawba Road and US Route 11 (Lee Highway). Table 5 shows more information about the roadways within the study area.

In Roanoke County, average annual daily traffic (AADT) ranges from a high of 4,800 along Catawba Valley Drive (311) to a low of 240 on Catawba Creek Road (779). In Botetourt County, the high is 5,800 on Catawba Street, and the low is 230 on Catawba Road. These numbers show a great deal of traffic variation throughout the route, depending on the roadway in question. High traffic volume is centered around denser development patterns and major highways such as U.S. 220, S.R. 311, and U.S. 11.

## Signage

Wayfinding signage is an important element of navigating any on-road route. USBR 76 users should be able to easily follow the route in either direction without becoming lost. Key points for signage include turns and junctions. Signage is maintained by VDOT as part of their general maintenance operations within road right-of-way.

Figure 9 contains the sign map which was created with the help of VDOT and the locality staff of Roanoke County, Botetourt County, and the Town of Buchanan. It shows a well-signed corridor. Survey of the corridor showed only one significant hazard with respect to signage. This was at the 311 junction. More on this issue will be discussed in the Section Analysis.

## Land Use

Land use along the corridor is broadly characterized by rural farmland, with the exception of key locations such as Troutville, Buchanan, and Daleville. Figures 10 and 11 contain the future land use maps for Roanoke County and Botetourt County, respectively.

The pink area in northern Roanoke County corresponds to the Catawba Community Center and Catawba Post Office locations. This color denotes a village center. The rest of the route contained within Roanoke County is conservation or other rural use.

In Botetourt, much of the route is also located in rural, low-density use areas. However, Daleville in particular may present issues in the future for this corridor, since the land use in this area is particularly dense, being part of the Roanoke MPO boundary. Daleville is located within the large, orange section in the Botetourt County future land use map which denotes medium density residential and commercial development in this area.





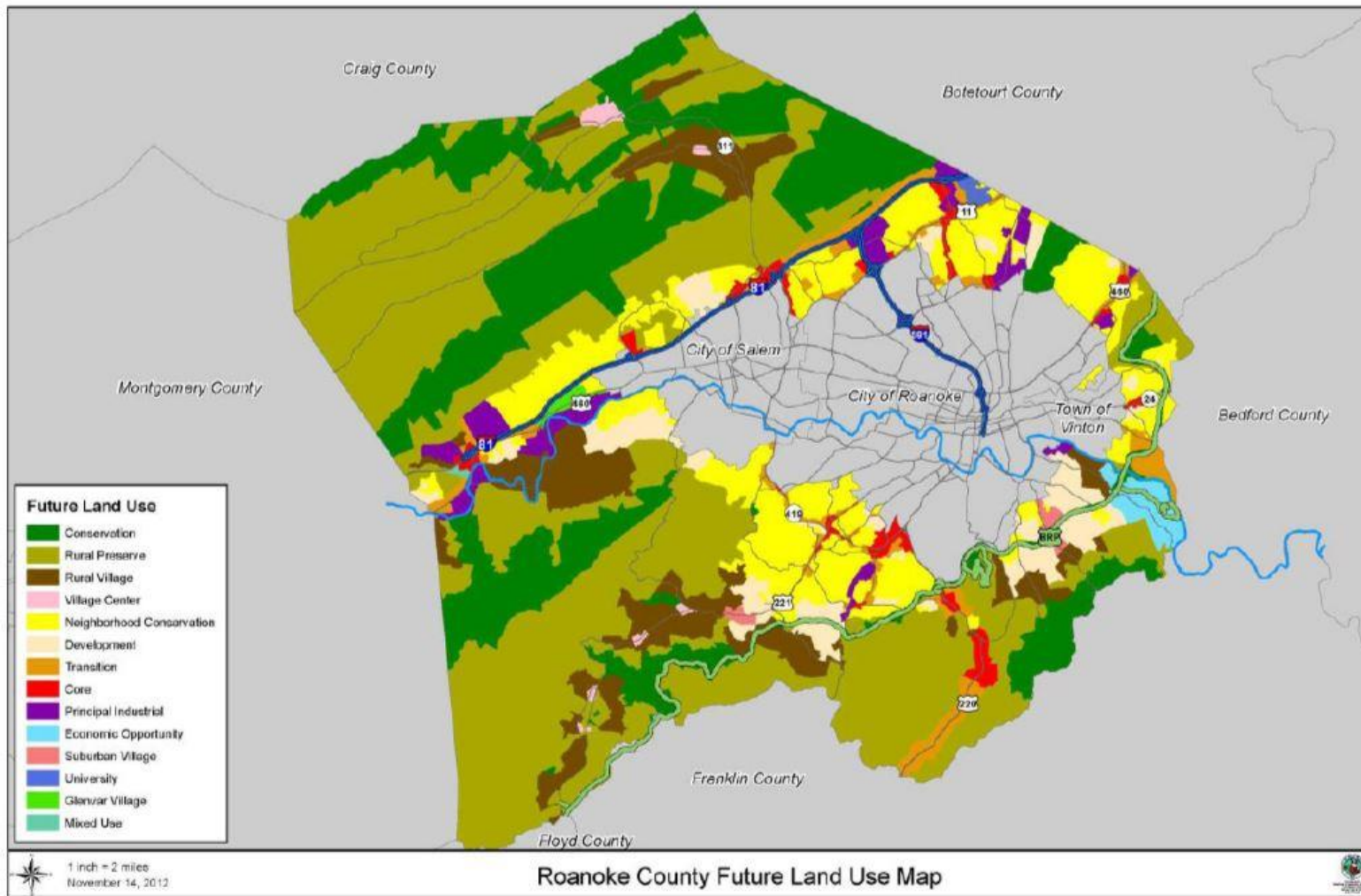


Figure 10: Roanoke County Future Land Use Map

# MAP 9

## BOTETOURT COUNTY OF VIRGINIA



### FUTURE LAND USE 2011

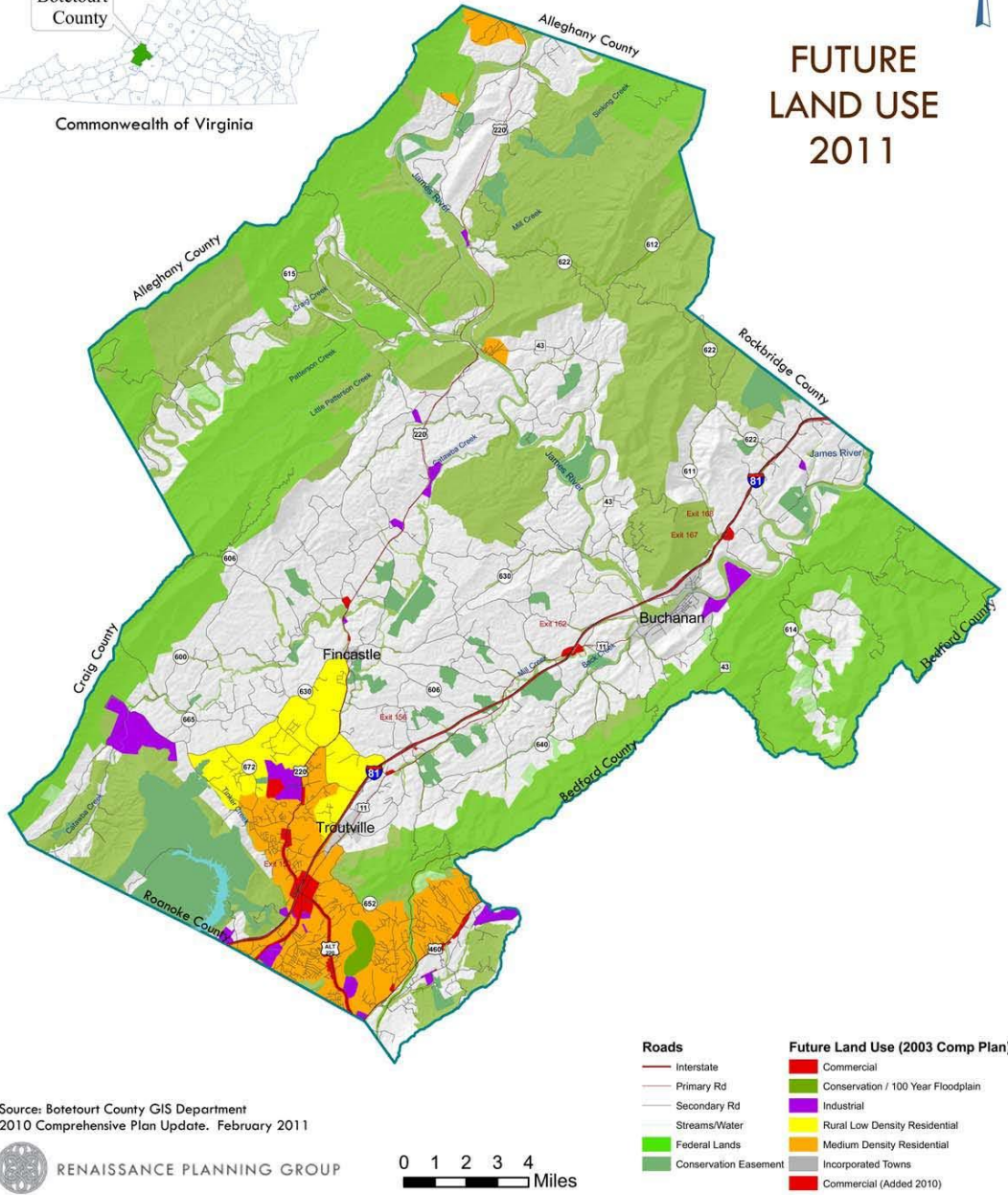


Figure 11: Botetourt County Future Land Use Map



## Economic Impact

Currently, USBR 76 largely bypasses population centers in the Roanoke Valley. This is likely by design. Bypassing major population centers puts cyclists on rural road, which improves their safety and experience by allowing for lower traffic volume and scenic views. This, however, somewhat limits the potential for economic impact on the Roanoke Valley. Attempts at quantifying the direct and indirect economic impacts of USBR 76 encounter therefore face several challenges, including lack of empirical data. While USBR 76 showcases the study area's scenic beauty and natural resources, direct, tangible economic benefits (sales tax, employment, visitor spending) from the route are limited, especially in Roanoke County.

One way of increasing economic impact of USBR 76 is to encourage spur and loop routes off of the main bike route. If destination traveler on looped routes were encouraged, the economic impact could increase. When cyclists find an event that extends their stay, such as the Damascus Trail Days, economic impact also increases. Hotels represent the largest daily expenditure for USBR 76 through-cyclists, based on available data.

## Central Shenandoah Planning District Commission

The Central Shenandoah Planning District Commission (CSPDC) conducted a study in 2015 regarding the economic impact of bicyclists in their region. As they are neighbors to the Roanoke Valley – Alleghany Region, these numbers are perhaps the most relevant to this study.

The report, entitled *The Economic Impact of Bicycling in the Central Shenandoah Valley*, was published in August of 2016. In the Executive Summary, CSPDC cites that 71 percent of cyclists visiting the Central Shenandoah region stayed at least one night in the area, with average daily spending, including food, lodging, and other spending, being \$155 per person. CSPDC estimates that direct economic impact for the region is \$8.6 million, while indirect impact is \$13.6 million. This number includes all bicycle tourism in the area, and may not be limited to on-road routes.

## Adventure Cycling Organization

Regional Commission staff contacted the Adventure Cycling Organization to obtain information on USBR 76 use and expenditures. Based on a combination of USBR 76 map sales and the number of cyclists that visited the Adventure Cycling headquarters, the organization estimated a total of 1,200 USBR 76 through-cyclists annually.

Adventure Cycling Organization has also developed a compilation of reports and studies analyzing economic impact of bicycle routes and systems throughout the US and abroad. Based on review of the following studies, average daily (overnight) expenditure for USBR 76 through cyclists in the study area is estimated to be approximately \$100 per person. Given the length of USBR in the study area it is estimated that through cyclists average one overnight stay, with Daleville or Buchanan being the most likely overnight locations. This is based off of evaluations from the two reports below.

### *Great Allegheny Passage (GAP)*

A 2012 study of the Great Allegheny Passage shows that trail users spend an average of \$114 for overnight stays. Businesses along the trail attributed thirty percent of their gross revenues to the GAP, and about half of the businesses said that the trail affected their decision to expand.

## *Montana*

The Institute for Tourism and Recreation Research (ITRR) at the University of Montana's School of Forestry conducted a study entitled, "Analysis of Touring Cyclists: Impacts, Needs and Opportunities for Montana," which found that multi-day cyclists spend \$75 per day while in Montana, and stay an average of eight or more nights. Researchers queried cyclists who had visited Adventure Cycling headquarters in 2013, or who had purchased Montana section maps between 2010-2013. Cyclists hailed from 48 states and 18 countries.

## 2010 Cross State Ride

The annual economic impact observed during the 2010 Cross State Ride is estimated at \$200,000. This is based on estimates provided by the Joseph Morgan at the Virginia Bicycle Federation (VBF). The VBF met with about 80 cross state riders during their two-week journey, or an average 40 per week. With an average of 40 through travelers spending approximately \$250 per week for food, lodging and other expenses, weekly spending equals \$10,000. Based on this observation, the estimated impact of 40 through cyclists per week over a 20 week optimum travel season yields an annual impact of \$200,000. Overall, USBR 76 is comparable in economic impact to a major club sponsored day or weekend bicycle ride.

VBF hopes to get a more reliable rider count by putting a log in point at a location that all USBR 76 riders are likely to pass, such as the Draper Mercantile in Pulaski County.

## Section Inventory

---

The following portion of this study will break the route into sub-sections for easier discussion of amenities and issues observed upon the route. The items listed for each sub-section have been determined by public survey and interviews with locality staff, as well as by riding the route either by car or bicycle. The hazards, points of interest, and amenities will be listed in order of encounter if riding the route from north to south under their respective headings. Links to more information about these listed locations can be found in Sources and Related Works section of this document.

Figure 12, below, shows historical markers, which will be discussed as points of interest in this section. Tables 7 and 8 further demonstrate historic sites within Botetourt and Roanoke County.

Special thanks for assistance on gathering information for this section must go to Tim Miller and locality staff.

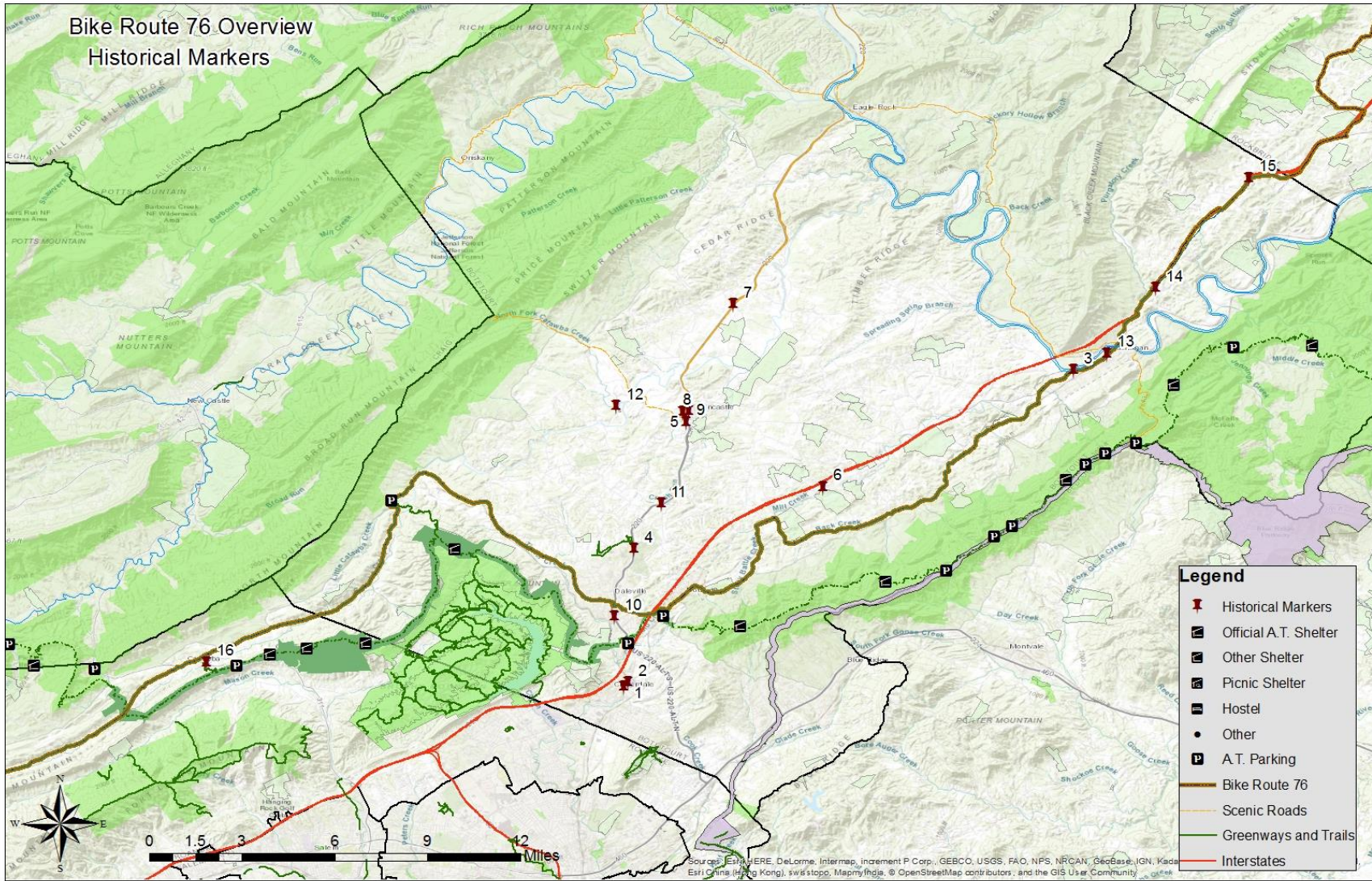


Figure 12: Historical Markers, VDHR, VDOT



**Table 7: Historical Markers, VDOT**

## Historical Markers

Id	Name	Location	Locality
1	Old Carolina Road	US 11 and Read Mountain Rd.	Botetourt County
2	Cloverdale Furnace	US 11 and Gibson	Botetourt County
3	Looney's Ferry	US 11 Buchanan	Town of Buchanan
4	Greenfield	US 220 near Greenfield Center	Botetourt County
5	Botetourt County Courthouse Fire	Fincastle	Town of Fincastle
6	Coming of the Railroad	US 11	Botetourt County
7	Roanoke Valley Baptist Association	US 220 at Mary Alice/681	Botetourt County
8	Fincastle	US 220 at Fincastle	Town of Fincastle
9	Santillane	US 220 Fincastle	Botetourt County
10	Daleville College	US 220 at Tinker Mill Rd.	Botetourt County
11	Fort William	US 220 at Trinity	Botetourt County
12	Breckinridge Mill	Breckinridge Mill Rd at Grove Hill Rd.	Botetourt County
13	Buchanan	Main St (US 11) near Washington	Botetourt County
14	Cartsmill Gap	Arcadia Rd at I-81	Town of Buchanan
15	Audley Pauls Fort	US 11 at Reid Holler	Botetourt County
16	Catawba Sanatorium	Rte. 311, near Rte. 779, at Catawba.	Roanoke County

**Table 8: Additional Historic Resources, VDHR**

Historic Resource	Locality	Historic Register
Catawba Furnace	Botetourt	Virginia Landmarks Register
Anderson-Doosing-McDonald House (Doosing-McNeil Farm)	Roanoke	Virginia Landmarks Register / National Register
Johnsville Old German Baptist Meetinghouse	Roanoke	Virginia Landmarks Register / National Register
Wilson Warehouse	Botetourt-Buchanan	Virginia Landmarks Register / National Register
Looney Mill Creek Site	Botetourt	Virginia Landmarks Register / National Register
Thomas D. Kinzie House	Botetourt	Virginia Landmarks Register / National Register
Nininger's Mill	Botetourt	Botetourt Comprehensive Plan
Buchanan Historic District	Botetourt-Buchanan	Virginia Landmarks Register / National Register

## Rockbridge County to Town of Buchanan

The study area begins at the border of Rockbridge County and Botetourt County. This section of the study area begins at Route 11, moves onto Overpass Road, continues onto Frontage Road into the Town of Buchanan, and then continues down Route 11 until the turn onto Lithia Road just past the Town of Buchanan's southern edge. The length of this section is approximately 10 miles.

### *Hazards*

Hazards of note on this section are limited. Per Tim Miller, the two elements of note on this section are the increased road noise, and an increase in traffic in the last mile before the turn onto Lithia Road. The increased road noise in this section is a product of paralleling Interstate 81.

### *Points of Interest*

There are several VDOT historical markers on this stretch of the route. Many of the historical markers are localized within the Town of Buchanan.

- Number 15: Audley Paul's Fort
- Number 14: Cartsmill Gap
- Number 13: Buchanan
- Number 3: Looney's Ferry

In addition there are VDHR recognized historic resource, Wilson Warehouse, now the Buchanan Community House, and the Looney Mill Creek Site.

### *Amenities*

Key amenities for this stretch are centered within the Town of Buchanan. In addition to three restaurants, several small convenience and dollar stores, and bed and breakfasts, the town contains the below amenities.

#### [Buchanan Post Office](#)

The Buchanan Post Office provides a place to conduct mail pickup on long-distance trips.

#### [Buchanan Library](#)

The Buchanan Library has free wifi to allow cyclists to connect to the internet.

#### [Twin River Outfitters](#)

Twin River Outfitters primarily provides rentals of river adventure equipment with which to experience the James River Water Trail. They also own and operate the James River House, an establishment which offers both private rooms and bunks.

#### [Town Park](#)

The town park offers seasonally open public restrooms, as well as camping for the long-distance cyclist.

#### [Blue Ridge Parkway Connection](#)

A connection to the Blue Ridge Parkway can be made through the Town of Buchanan via Parkway Drive (43). More information about this spur is available in Appendix B.

## Lithia Road to Town of Troutville

Continuing from the turn onto Lithia Road, the next subsection follows Lithia Road, Nace Road, U.S. Route 11 (Lee Highway), and Stoney Battery, to end in the Town of Troutville. This section is approximately 18.5 miles.

### *Hazards*

Hazards of note on this section are minor, as this is one of the more rural areas of the study with well-maintained roads. However, there are some places of note to cyclists. Lithia Road can flood in places with extreme rains. In addition, there are five railroad crossings that can catch the wheels of a bicycle, though they are all flat and well-maintained. Cyclists coming either direction may notice sharp, unmarked turns which could be confusing for navigation and are not clearly signed to indicate in which direction the cyclist should continue. There is a sharp, downhill curve under the train trestle on Nace Road, about half a mile from the turn onto Route 11 if coming back towards of which Buchanan cyclists should be aware.

### *Points of Interest*

There are no historical markers along this section of the route.

### *Woodpecker Ridge Bird Sanctuary*

This is a privately owned property which contains trails for bird watching and is under conservation easement as a bird sanctuary. Cyclists and other persons visiting this property should be respectful of the owners.

### *Amenities*

Notable along this corridor are the below amenities.

### *Fincastle Vineyard & Winery*

This winery is located off of Lithia Road. There are often concerts and other special events here on the weekends during the summer.

### *Camp Bethel*

Camp Bethel offers overnight accommodations with a prior reservation.

### *Greenwood Restaurant*

This restaurant is located on Route 11, and takes cash only.

### *Troutville*

The town of Troutville contains several amenities which are listed below.

### *Pomegranate*

A fine dining restaurant with good ratings. This is a good place to stop for cyclists looking for a culinary adventure, though it is accordingly expensive.

### *Troutville Grocery and Goods*

This is a good location for cyclists to stop to stock up on necessary food items.

### *Troutville Town Park*

Troutville Town Park offers camping to cyclists and through-hikers on the Appalachian Trail.

### *Troutville Post Office*

Another stop which cyclists can use to for mail pick-up on long trips.

## Town of Troutville to Roanoke Cement

Leaving the Town of Troutville, the cyclist continues into the next subsection, turning off of Route 11 onto Valley Road (779), which crosses under Interstate 81 and continues to a junction with U.S. Route 220. After making the notable crossing of U.S. 220, the route continues onto Catawba Road (779) until reaching Roanoke Cement, owned by Titan Industries. This stretch is approximately 9 miles.

### *Hazards*

Major hazards on this subsection include the crossing of U.S. 220, a multi-lane highway with high traffic volume during peak hours, and the truck traffic generated by Titan Industries on Catawba Road. This road is a narrow, two-lane road which shares many competing modes of traffic, including farm vehicles, cars, and cement trucks. While traffic volume is not as high as on U.S. 220, it can be intimidating for some cyclists.

### *Points of Interest*

VDOT Markers of interest include the Daleville College, which is not directly on USBR 76 but south on U.S. 220. Additional sites of interest include VDHR designated historical sites Nininger's Mill and the Thomas D. Kinzie House.

### *Amenities*

Amenities along this stretch include the below.

#### [Flying Mouse Brewery](#)

This is a small, locally owned brewery which caters specifically to outdoor adventurers of all stripes.

#### [Catawba Corner](#)

This short strip of stores contains a Subway and a Papa John's, for those needing a quick meal and is at the junction of U.S. 220 and Catawba Road (779).

## Roanoke Cement to 311 Junction

Passing Roanoke Cement/Titan Industries, the cyclist continues on Catawba Road (779), follows it onto Catawba Creek Road, and then reaches the junction with Catawba Valley Road (311). This stretch is approximately 10 miles.

### *Hazards*

There are numerous hazards on this section, though it is predominantly rural in nature. Most of those hazards are to do with the narrowness of the roadway and the patchy paving on this stretch, especially on Catawba Creek Road. There can also be limited visibility in stretches, as the road is curvy and narrow. Truck traffic from Roanoke Cement, while less frequent, is still present near that location.

### SPOTLIGHT: DALEVILLE

Daleville is RVTPO Study Area, and is characterized by dense commercial development. There are numerous restaurants and businesses which may appeal to cyclists should they choose to leave the route and continue north or south on U.S. 220. These include businesses at Botetourt Commons to the south, including an outfitter, grocery store, an urgent care location, and several restaurants; as well as at Daleville Town Center to the north, which contains a taproom and other restaurants. Daleville Town Center will eventually connect to the Daleville Greenway.



### *Points of Interest*

There is a VDOT Historical Marker at the entrance of Catawba Hospital, which was previously known as Catawba Sanatorium (number 16 on the Historical Markers map). Catawba Hospital does not have emergency services.

### *VT Catawba Sustainability Center*

This is a farm owned by Virginia Tech which works to educate local farmers and to experiment with and demonstrate sustainable growing practices. It is directly adjacent to the Catawba Community Center, discussed further below.

### *Amenities*

#### *Andy Layne Trailhead*

This trail leads to the Appalachian Trail and the popular peak of Tinker Cliffs, part of the Triple Crown.

#### *Catawba Community Center*

Roanoke County owns and operates this property. There is a bathroom on the property, and Roanoke County is working to expand the parking and bathroom facilities. This is the future trailhead of a greenway connection to McAfee's Knob, a part of the Triple Crown. It also hosts the Catawba Farmer's Market on Thursdays from 3-6pm, May through October.

#### *Catawba Post Office*

This post office sits at the Route 311 junction, and can be used for mail pick-up.

## *311 Junction to Montgomery County*

The last stretch of the route within the study area continues along Catawba Valley Road (311), before turning onto Blacksburg Road and following this road to the Montgomery County line. This stretch is approximately 10 miles.

### *Hazards*

This area of the route is predominantly rural. Hazards include the high speeds on Catawba Valley Road, which has narrow or nonexistent shoulders. They also include the unguarded left-hand turn across the same rapidly moving traffic to reach Blacksburg Road. Once on Blacksburg Road, hazards are relatively limited, but cyclists should watch for water on the roads in places following heavy rains. In addition, weekend traffic on Blacksburg Road can be higher than expected.

### *Points of Interest*

There are two VDHR-recognized historical sites on this route. These are the Johnsville Meetinghouse and the Doosing-McNeil Farm.

### *Amenities*

There are two notable amenities on this section of the route, listed below.

## SPOTLIGHT: 311 JUNCTION

If a cyclist is interested in visiting more of the Roanoke Valley, they may turn south at the Rt. 311 Junction. This route can connect cyclists to Just the Right Gear. This road will also take cyclists to the City of Salem and the 311 Park and Ride. More information about this spur route is available in **Appendix A**.

### Homeplace Restaurant

This restaurant serves copious amounts of home-cooked southern food in an idyllic setting.

### Parking Lot

There is a gravel parking lot for cyclists wishing to do short day-trips or shuttle at the junction of Blacksburg Road and Route 311.

# Survey Responses

---

An online survey was created to target perception of needed improvements on this stretch of USBR 76. Survey responses were limited, with seven respondents providing information. All respondents lived locally. Responses from the survey are available in Appendix A.

Suggested improvements included:

- More USBR 76 signage
- More Share the Road signage
- Paved shoulders/widened shoulders
- Better paved surface
- Striped or wider lanes
- Reduced speed limits

Respondents were asked to choose which of these improvements would be better applied to which section of the study area.

While the number of responses was too small to gain consensus, at least four of the seven respondents identified the following improvements as important:

- Paved shoulders/widened shoulders in the Roanoke Cement to 311 junction subsection (5 responses); and in the 311 junction to Montgomery County subsection;
- More Share the Road signage in the Troutville to Roanoke Cement subsection and the Roanoke Cement to 311 junction subsection.

Additionally, at least three of the seven identified other improvements of:

- More Share the Road signage from Buchanan to Troutville and from the 311 junction to Montgomery County;
- Striped or wider lanes from Troutville to Roanoke Cement.

Desire for the majority of improvements was centered around the two sections to either side of Roanoke Cement.

In terms of amenities, the focus of Question 3, bathrooms and a phone app received the most interest, followed by convenience stores. Additionally, a recommendation was made regarding a routing kiosk to access downtown Roanoke and the greater Roanoke Valley. This suggestion could have positive benefits for the economic impact of USBR 76 in the region.

# Recommendations

---

USBR 76 likely has a positive impact on the region's economy, fueled primarily by bicycle tourism, though further studies are needed. Most of the benefits of this route are currently focused in Botetourt County and the Town of Buchanan, as there are more opportunities for a traveling cyclist to find food or lodging available.

While there is no data on the ratio of local cyclists from the surrounding area to cyclists traveling from further away to visit the Roanoke Valley – Alleghany Region, it is fair to assume that improvements to the corridor will appeal to both groups. Better connections to the Roanoke Valley may additionally encourage more local cyclists to travel to USBR 76 and the communities surrounding it.

Recommendations are grouped below.

## Safety

- **Install Share the Road and related safety signage along the entire corridor.** Share the Road signs are a good way of informing drivers about the presence of cyclists on the road, and are more visible to drivers than USBR 76 signage.
- **Improve paved shoulders to provide shelter for cyclists.** A wide paved shoulder provides a safe area for cyclists to shelter should they need to leave the vehicle travel lane. This improvement is especially necessary in the areas surrounding Roanoke Cement and continuing to the Montgomery County line.
- **Better stripe or widen lanes as needed between Troutville and Roanoke Cement.** While paved shoulders are an ideal accommodation for rural bikeways, better striping and widening of lanes would be a helpful safety improvement throughout the corridor. The area from Troutville to Roanoke Cement is especially in need of additional lane width.
- **Improve the crossing of U.S. 220.** One of the most hazardous stretches of USBR 76 within the study area is the brief stretch along U.S. 220. The intersection of USBR 76 and U.S. 220 is characterized by a sharp right turn onto U.S. 220 followed by a near-immediate left turn at a light onto Catawba Road. To make the left turn, a cyclist must cross two lanes of traffic moving at posted speeds of up to 45 mph. Further study of this intersection is needed, and possible improvements could include increased warning signage for cars, better wayfinding signage for cyclists, widened shoulders on the left-hand side of U.S. 220 to allow for cyclists to shelter from traffic, and striping which could create a shelter space for cyclists within the turn lane.

## Wayfinding

- **Improve wayfinding and directional signage along USBR 76.** While much of the corridor is navigable for a cyclist, wayfinding signage can also serve to bring cyclists into areas where amenities might be available. One way to do this is to create a kiosk at a convenient stopping location, such as the Town of Buchanan, which could provide information in how to reach the various communities of the Roanoke Valley and what friendly infrastructure may exist further along the trail.
- **Work with area agencies such as Roanoke Outside and Visit Virginia's Blue Ridge.** Advertising and access to information are important aspects of leveraging tourism dollars. Partnerships with these agencies could help to inform area and visiting cyclists of opportunities along the USBR 76 corridor.

- **Improve alternate access to area communities.** The Roanoke Valley and downtown Roanoke, as well as other communities, may be key draws for cyclists. Alternate route information is available in Appendix B informing access to the more urbanized areas of the Roanoke Valley for cyclist travelers. It will also be important to link future projects such as Daleville and Tinker Creek Greenways to the USBR 76 corridor, as this may provide for access to several important locations such as Botetourt Commons, communities in northern Roanoke County, and, eventually, an alternative route to downtown Roanoke.

## Other

- **Improve USBR 76 signage at the 311 junction.** The 311 junction is characterized by a nontraditional intersection which requires two successive turns for the cyclist, and may be confusing if not familiar with the route.
- **Continue with plans to provide bathrooms at the Catawba Community Center.** Bathrooms are a key amenity for cyclists, and were the top-rated response in the survey.
- **Create a bicycle app.** Smartphone applications remain a positive way for people to easily navigate their surroundings. A regional or multi-region application that would incorporate the USBR 76 corridor amenities may be a powerful way of driving tourism and informing users.
- **Explore shuttle services for cyclists.** Local cyclists may be more likely to access USBR 76 if they knew they could park at one end and be ferried back to their car. Through cyclists may prefer a shuttle services for access to the Cities of Roanoke or Salem. Exploring the viability of a shuttle program or transit options to connect to the corridor could be a valuable way to encourage use of this route.

## Sources and Related Works

---

“A Description of the Geology of Virginia,” The Geological Evolution of Virginia and the Mid-Atlantic, Accessed June 2017, <http://csmres.jmu.edu/geollab/vageol/vahist/PhysProv.html#provinces>.

*Bike Route 76 Corridor Study*, Thomas Jefferson Planning District Commission, September 2015, Accessed June 2017, [http://www.tjpd.org//media/Route76\\_CorridorStudy\\_Full.pdf](http://www.tjpd.org//media/Route76_CorridorStudy_Full.pdf).

“Climate of Roanoke – Virginia,” U.S. Climate Data, Accessed June 2017, <http://www.usclimatedata.com/climate-on-your-site.php?id=usva0659>.

“Historical Highway Markers,” Virginia Department of Historic Resources, Accessed June 2017, [http://dhr.virginia.gov/hiway\\_markers/hwmarker\\_info.htm](http://dhr.virginia.gov/hiway_markers/hwmarker_info.htm).

“National Corridor Plan,” Adventure Cycling Association, Accessed June 2017, <http://www.adventurecycling.org/routes-and-maps/us-bicycle-route-system/national-corridor-plan/>.

*The Economic Impact of Bicycling in the Central Shenandoah Valley*, Central Shenandoah Planning District Commission, August 2016, Accessed June 2017, [http://www.hrvampo.org/sites/hrvampo.org/files/FINAL%20Bike%20EIA\\_Aug2016\\_CSPDC.pdf](http://www.hrvampo.org/sites/hrvampo.org/files/FINAL%20Bike%20EIA_Aug2016_CSPDC.pdf).

*U.S. Bike Route 76: 2014 New River Valley Report*, New River Valley Planning District Commission, Accessed June 2017, [https://issuu.com/nrvregionalcommission/docs/nrv\\_br76\\_report](https://issuu.com/nrvregionalcommission/docs/nrv_br76_report).

*U.S. Bicycle Route Corridor Plan*, Adventure Cycling Association, November 2005, Accessed June 2017, <http://atfiles.org/files/pdf/usbrcorridorplan.pdf>.

“U.S. Bicycle Route System,” Adventure Cycling Association, Accessed June 2017, <http://www.adventurecycling.org/routes-and-maps/us-bicycle-route-system/>.

## Links to Restaurants and Other Amenities

Fincastle Winery, Botetourt County - <http://www.fincastlewine.com/>.

Flying Mouse Brewery, Botetourt County - <http://flyingmousebrewery.com/>.

The Homeplace Restaurant, Roanoke County - <https://www.facebook.com/The-Homeplace-Restaurant-115564841808913/>.

Twin River Outfitters, Town of Buchanan - <https://canoeverginia.net/>.

# Appendix A: Survey and Survey Responses

---

The Survey Questions are included below, followed by answers received.

## Questions

### 1. How often do you bicycle the Bike Route 76 corridor in Botetourt County and/or Roanoke

County?

- Occasionally
- Weekly
- Monthly
- Yearly
- Never

### 2. What improvements do you feel are needed on the following sections?

	Rockbridge/Botetourt County line to Town of Buchanan	Town of Buchanan to Town of Troutville	Town of Troutville to Roanoke Cement	Roanoke Cement to Route 311	Route 311 to Roanoke/Montgomery County line
More Bike Route 76 signage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More Share the Road signage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paved shoulders/widened shoulders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better paved surface	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Striped or wider lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduced speed limits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have any additional comments about recommended improvements?

**3. What amenities would cyclists be likely to use on this route?**

- Bathrooms
- Convenience stores
- Overnight accommodations
- Restaurants
- Bicycle shops
- Bicycle fixit stations
- Bicycle racks
- Bike Route 76 guide phone app
- Other (please specify)

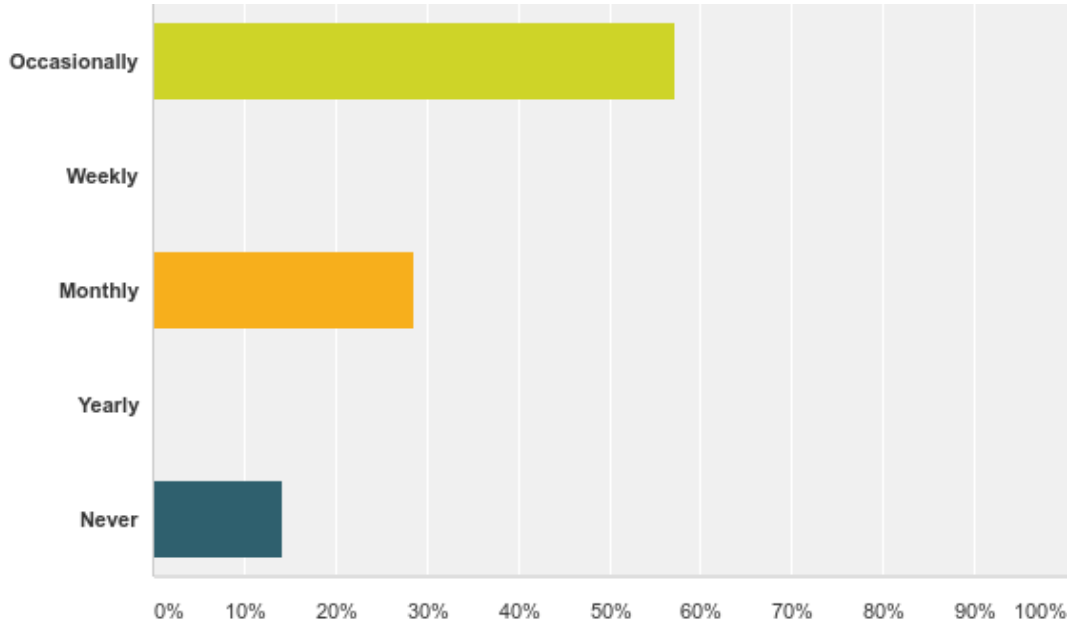
**4. Do you have any additional comments regarding Bike Route 76 in Roanoke and Botetourt Counties? (Open-ended)**

**5. Please provide your zip code to aid in our analysis. (Open-ended)**



# Answers

## 1. How often do you bicycle the Bike Route 76 corridor in Botetourt County and/or Roanoke County?



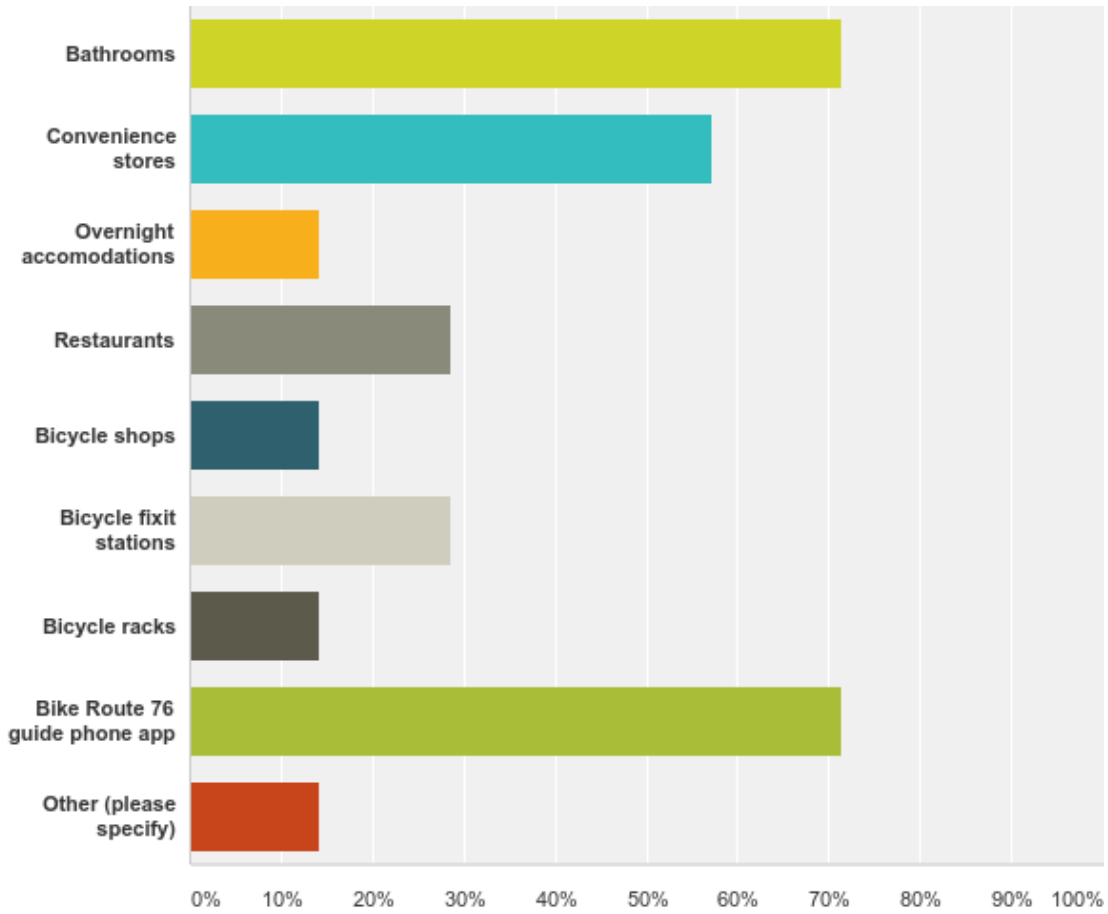
## 2. What improvements do you feel are needed on the following sections?

	Rockbridge/Botetourt County line to Town of Buchanan	Town of Buchanan to Town of Troutville	Town of Troutville to Roanoke Cement	Roanoke Cement to Route 311	Route 311 to Roanoke/Montgomery County line	Total Respondents
More Bike Route 76 signage	25.00% 1	50.00% 2	50.00% 2	25.00% 1	25.00% 1	4
More Share the Road signage	33.33% 2	50.00% 3	66.67% 4	66.67% 4	50.00% 3	6
Paved shoulders/widened shoulders	33.33% 2	33.33% 2	33.33% 2	83.33% 5	66.67% 4	6
Better paved surface	25.00% 1	25.00% 1	50.00% 2	25.00% 1	25.00% 1	4
Striped or wider lanes	25.00% 1	50.00% 2	75.00% 3	50.00% 2	50.00% 2	4
Reduced speed limits	0.00% 0	50.00% 1	100.00% 2	50.00% 1	50.00% 1	2

### 3. What amenities would cyclists be likely to use on this route?

Answer Choices	Responses	
Bathrooms	71.43%	5
Convenience stores	57.14%	4
Overnight accommodations	14.29%	1
Restaurants	28.57%	2
Bicycle shops	14.29%	1
Bicycle fixit stations	28.57%	2
Bicycle racks	14.29%	1
Bike Route 76 guide phone app	71.43%	5
Other (please specify)	14.29%	1
<b>Total Respondents: 7</b>		

Other: Routing kiosk to downtown Roanoke with western connections to rejoin Route 76



**4. Do you have any additional comments regarding Bike Route 76 in Roanoke and Botetourt Counties?**

Nice to have this in our area.

**5. Please provide your zip code to aid in our analysis.**

- 24014
- 24014
- 24012
- 24018
- 24964 (\*believed to be 24064)
- 24184
- 24070

## Appendix B: Spurs and Alternate Routes

---

This appendix shows several potential spur routes that could connect riders to the broader Roanoke Valley.

### Catawba Valley Road (311) (west to east) – Roanoke County, Salem, City of Roanoke

- From Blacksburg Road (785) turn left on Catawba Valley Road (311). Continue south climbing over Catawba Mountain for x miles
- Turn right on Old Catawba Road
- Continue on Old Catawba Road, descending Catawba Mountain, to Bradshaw (624)
- Turn left onto Bradshaw Road
- Continue to Catawba Valley Road (311)
- Turn right onto Catawba Valley Road
- Continue to intersection of North Electric Road (419)
- Turn right on Thompson Memorial (311), then immediate left onto Kessler Mill Road
- Continue on Kessler Mill Road (or Hanging Rock Battlefield Trail Greenway) to Main St. approximately one 0.75 miles east of downtown City of Salem
- Turn Right onto Main Street to continue to downtown Salem, turn left onto Main Street to continue to the City of Roanoke
- Continue on Main Street (460, 11) for x miles to Melrose Avenue
- Continue straight on Melrose to Madison Avenue
- Continue on Madison Avenue to 8th Street NW
- Turn right onto 8th Street and continue for x miles to Harrison Avenue
- Turn left onto Harrison Avenue and continue for x mile to Gainsboro Road and downtown City of Roanoke
- Turn right onto Gainsboro Road and continue to downtown

### Blue Ridge Parkway from Downtown Roanoke to Town of Buchanan (west to east)

- From downtown Roanoke City access the Blue Ridge Parkway (Route 24, Mill Mountain)
- Travel North to mile marker
- Parkway Drive (Route 43) to USBR 76 (Main Street / US 11) in the Town of Buchanan
- Continue east on USBR 76

### US 11/460 (west to east) – Christiansburg to Roanoke Valley

- From Depot St. turn right onto Pepper St.
- Continue on Pepper St. to Main St.
- Turn right on Main St., then immediate right onto Roanoke St (US 11)
- Continue on Roanoke St (US 11) into Roanoke Valley

# Appendix C: VDOT Roadway Functional Classification System

---

## Rural Functional Classification System

### Rural principal arterial

- Serves corridor movements of substantial statewide or interstate travel
- Serves all urban areas of 50,000 and over population and a majority of those over 25,000
- Provide an integrated network without stub connections
- Rural minor arterial
- Link cities and large towns (and other generators, such as major resorts)
- Spaced at such intervals so that all developed areas of the state are within a reasonable distance of an arterial highway
- Provide service to corridors with trip lengths and travel density greater than those served by rural collectors or local systems
- Design should be expected to provide for relatively high overall speeds, with minimum interference to through movement

### Rural major collector

- Provide service to any county seat not on an arterial system, to larger towns not directly served by higher systems
- Link the above to nearby larger towns or routes of higher classification
- Serve the more important intra-county travel corridors
- Rural minor collector
- Spaced at intervals, consistent with population density
- Collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road
- Provide service to the remaining smaller communities
- Link local traffic generators with their rural hinterland

### Rural local

- Serves primarily to provide direct access to adjacent land
- Provide service to travel over relatively short distances as compared to collectors or other higher systems
- All facilities not on one of the higher systems

## Urban Functional Classification System

### Urban principal arterial

- Serves the major centers of activity of a metropolitan area
- Highest traffic volume corridors
- Roads serving the longest trip desires

- Carry a high proportion of the total urban area travel on a minimum of mileage
- Carry significant amounts of intra-area travel

### Urban minor arterial

- Interconnect with and augment the urban principal arterial system and provide service to trips of moderate length at a lower level of travel mobility than principal arterials
- Include all arterials not classified as a principal and contains facilities that place more emphasis on land access, and offer a lower level of traffic mobility
- Urban collector
- Provides land access and traffic circulation within residential neighborhoods, commercial, and industrial areas
- Distributes trips from the arterials through these areas to their ultimate destination
- Collects traffic from local streets and channels it to the arterial system

### Urban local

- All facilities not on one of the higher systems
- Serves primarily as direct access to abutting land
- Serves as access to the higher order systems
- Through traffic movement is deliberately discouraged

Source: [http://www.virginiadot.org/projects/fxn\\_class/definitions.asp](http://www.virginiadot.org/projects/fxn_class/definitions.asp)



