NRVMPO 2045

Long-Range Transportation Plan

APPROVED
5 NOV 2020

AMENDED
4 NOV 2021

Contents

Tables

Maps

Appendices

Acknowledgments

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Plan Development

The 2045 Long-Range Transportation Plan Update was developed through a collaborative partnership, between the New River Valley Metropolitan Planning Organization (NRVMPO) and the New River Valley Regional Commission (NRVRC).

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Background Information

The New River Valley Metropolitan Planning Organization (MPO) is one of 14 MPOs in the Commonwealth of Virginia and one of 384 MPOs across America. The first MPO established in the United States was the Greensboro Urban Area MPO in 1960. The first MPO in Virginia arrived in 1965 (the National Capital Region Transportation Planning Board). The National Capital Region Transportation Planning Board also includes Washington DC and neighboring urbanized parts of the State of Maryland.

How MPOs are established

MPOs are established based on population reported by the US Census Bureau every ten years. Areas that have a population of 50,000 or greater are required to establish an MPO by the Federal-Aid Highway Act of 1962. MPOs receive federal funding and ensure regional cooperation in transportation planning. MPOs direct federal transportation infrastructure/service and planning dollars towards projects identified in its Transportation Improvement Program and Unified Planning Work Program.

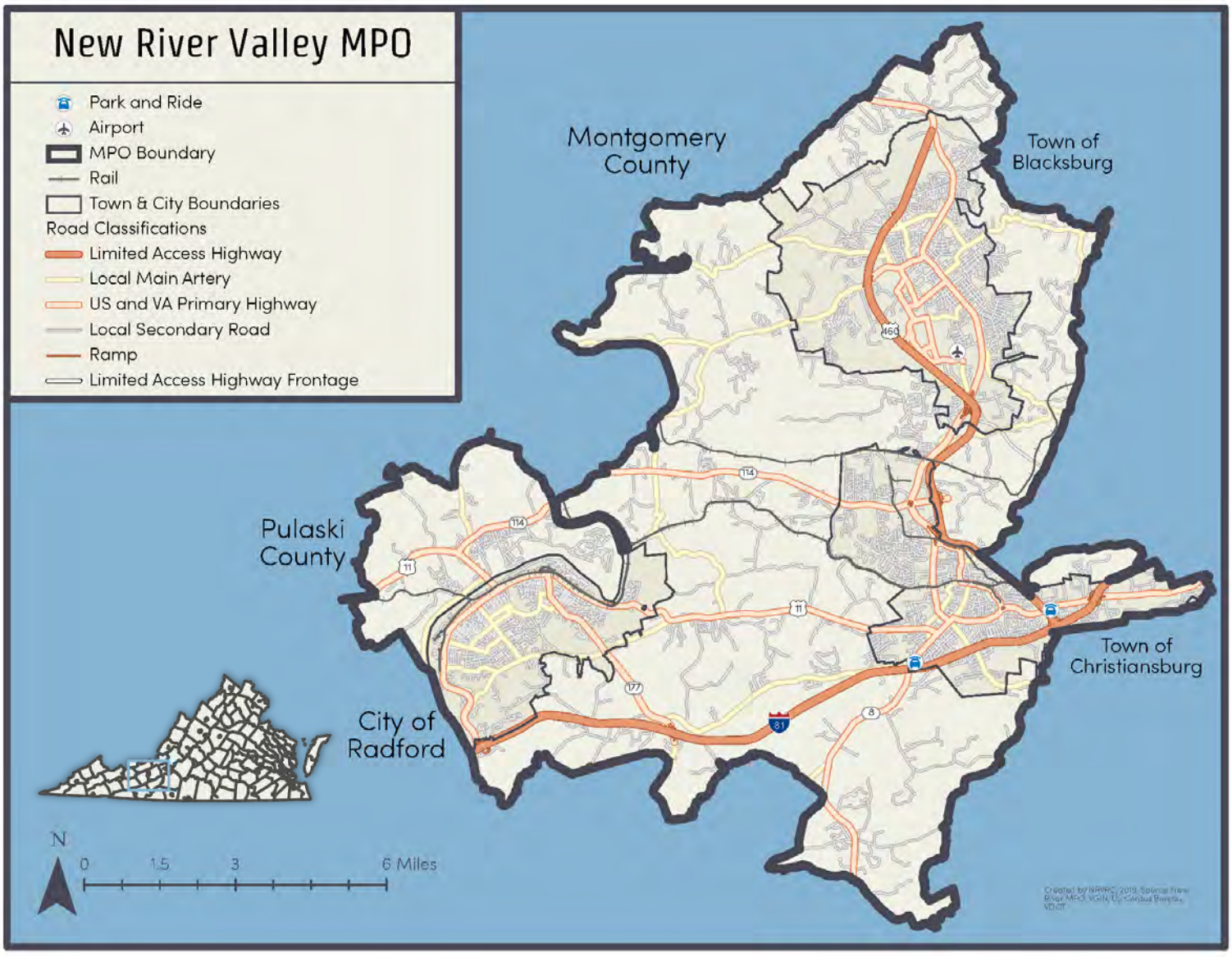
The Transportation Improvement Program (TIP) includes projects that are anticipated to be implemented in the MPO region over a four-year schedule. The TIP is constrained to anticipated funding and projects that are not consistent with the goals of the MPOs Long-Range Transportation Plan cannot be funded. Project examples include infrastructure such as roads, bridges, trails; and capital improvements including new transit buses, shelters, bike sharing stations/racks and more. TIPs are reviewed and updated each year.

The Unified Planning Work Program (UPWP) is a one-year schedule of all transportation planning activities to be funded in whole or part by state and federal planning funds. Project ideas originate with members of the Technical Advisory Committee and Policy Board. Some of the additional transportation planning work undertaken by the MPO includes: the Long-Range Transportation Plan, Bicycle and Pedestrian Master Plan, Passenger Rail Study, Bus Stop Safety and Accessibility Studies, Regional Freight Plan, and corridor studies for several communities.

The Long-Range Transportation Plan is the New River Valley's fiscally constrained multimodal plan, which identifies major roadway, transit, non-motorized system improvements, and travel demand management projects. Projects that are identified in the TIP and UPWP are required to be included in this plan.

New River Valley MPO Boundary

The New River Valley MPO was originally established following the 2000 Decennial Census. The original planning area boundary included the Towns of Blacksburg and Christiansburg, and urbanized potions of Montgomery County. Following the 2010 Decennial Census, the urbanized boundary grew to include the City of Radford and urbanized areas of Pulaski County. The MPO planning area includes both the entire existing urbanized area, as defined by the Bureau of the Census, and the area that is expected to be urbanized within a 20-year forecast period. A map of the New River Valley MPO planning area is shown below.



About the LRTP

Long-Range Transportation Plans (LRTPs) are required by federal law and must be updated every five years to keep consistent with existing conditions, confirm proposed plans and projects, and validate performance measures. The NRVMPO 2045 LRTP builds on the strategies and initiatives identified in the 2040 plan update and includes projects that are anticipated to occur over the next 25 years. Transportation projects must be included in the constrained portion of the NRVMPO LRTP to be eligible for federal funding.

The LRTP includes a comprehensive list of existing and planned highway, bicycle, pedestrian, transit, transportation demand management, rail, and air transport systems. An effective transportation system should accommodate the safe and efficient movement of people and goods throughout the region.

Since the completion of the 2040 LRTP, the MPO has completed a number of transportation improvements, including:

- Southgate Drive relocation and interchange construction (pictured below)
- Research Center Drive new lane construction
- Park Road and Second Avenue Improvements, Radford
- Downtown Christiansburg streetscape improvements
- US Route 460 and North Main Street intersection R-Cut, Blacksburg
- Relocation of Interstate 81, exit 118 park-and-ride lot
- Huckleberry Trail extension
- Safe Routes to School improvements in Blacksburg and the community of Auburn, located in southern Montgomery County
- Virginia Tech-Montgomery Regional Airport runway extension

2045 Plan Requirements

The U.S. Code of Federal Regulations §23, 450.322 requires MPOs to develop a transportation plan that addresses at least a twenty-year planning horizon. The plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods. The plan shall be reviewed and updated at least every five years to verify proposed improvements and consistency with current local plans. The LRTP must be approved by the MPO, and in addition shall:

1. Identify the projected transportation demand over the planning horizon.
2. Identify adopted congestion management strategies that demonstrate a systematic approach in addressing current and future transportation demand.
3. Identify pedestrian walkway and bicycle facilities.
4. Assess capital investment and other measures necessary to preserve the existing transportation system and make the most efficient use of existing facilities to relieve congestion and enhance the mobility of people and goods.
5. Include design concept and scope descriptions of all existing and proposed transportation facilities, regardless of source of funding.
6. Reflect a multimodal evaluation of the transportation, socioeconomic, environmental, and financial impact of the plan.
7. Take consideration of land use plans and metropolitan development objectives; national, State, and local housing goals and strategies; community development and employment plans and strategies; and environmental resource plans; goals and objectives such as linking low income households with employment opportunities; and the area's overall social, economic, environmental, and energy conservation goals and objectives.
8. Inventory proposed transportation enhancement activities.
9. Include a financial plan that demonstrates consistency of proposed transportation investments with already available and projected sources of revenue that can reasonably be expected. The existing and proposed estimated revenue by source.
10. Provide adequate opportunity for public involvement in the development of the transportation plan before it is approved by the MPO.
11. Integrate the Federal Highway Administration's performance measures, including: safety, infrastructure, innovation, and accountability.

Financially Constrained Plan

The MPO partnered with the Virginia Department of Transportation to forecast funding levels through the 2045 planning horizon. Projects that are included in the constrained long-range plan are to be given priority. The list of projects is developed utilizing historical funding patterns and reflects a budget that could likely be invested within the NRVMPO area through the planning horizon. Funding projections are based on historical project allocations in the current Six-Year Improvement Program and will be updated no less than every five years.

2045 NRVMPO Constrained Long-Range Plan Project Descriptions (1 of 6)					Anticipated Funding Source			
Route	Road Name	Jurisdiction	Project Description	Estimate	Current SYIP FY20-FY25	CLRTP FY26-FY45	Transit (Constrained TDP)	I81 Corridor (CIP)
	Clay Street	Blacksburg	Sidewalk and roadway improvements, Church to Jefferson	$1,250,000		$1,250,000		
	Harding Avenue	Blacksburg	Stormwater drainage improvements, Green Meadow Drive to Patrick Henry Drive	$3,113,000	$2,977,000	$124,000		
	Industrial park	Blacksburg	Industrial Park Trail Master Plan and Construction	$184,000		$184,000		
	Mountain Breeze Drive	Blacksburg	Full depth reclamation, Heartwood Xing to Mountain Breeze Drive	$1,320,000	$800,000	$520,000		
460B	South Main Street	Blacksburg	Main Street pedestrian improvements, Roanoke Street to Washington Street	$851,000	$780,000	$71,000		
	Draper Road	Blacksburg	Draper Road streetscape improvements, College Ave. to Miller Street	$5,000,000		$5,000,000		
	Meadowbrook Drive	Blacksburg	Meadowbrook Drive Trail, Heritage Park to Glade Road	$1,870,000		$1,870,000		
	Eheart Street	Blacksburg	Ehart Street Improvements , Main Street to Huckleberry Trail, interim project	$30,000		$30,000		
	Prices Fork Road	Blacksburg	Prices Fork Road improvements, Turner to North Main	$1,970,000		$1,970,000		
460	Prices Fork Road	Blacksburg	US Route 460 Bypass/Prices Fork Road interchange modification w/ bike/ped features	$20,000,000		$20,000,000		
	Perry Street	Blacksburg	Virginia Tech Campus Multi-Modal Transportation Facility	$40,000,000			$40,000,000	
314	Duck Pond Drive	Blacksburg	Replace bridge over Stroubles Creek	$472,105		$472,105		

Table 1: Constrained Long-Range Plan (1 of 6)

2045 NRVMPO Constrained Long-Range Plan Project Descriptions (2 of 6)					Anticipated Funding Source			
Route	Road Name	Jurisdiction	Project Description	Estimate	Current SYIP FY20-FY25	CLRTP FY26-FY45	Transit (Constrained TDP)	I81 Corridor (CIP)
460B	North Main Street	Blacksburg	North Main Road Diet, interim project includes pavement markings only	$145,000		$145,000		
New	Town Limits	Blacksburg	Sidewalk missing links, Town Limits	$312,000		$312,000		
New	Town Limits	Blacksburg	OBMS Cycle Track - Willard Drive to South Main	$682,000	$682,000			
	Duck Pond Drive	Virginia Tech	Realign Duck Pond Drive to Perry Street intersection	$7,000,000		$7,000,000		
	Southgate Drive	Virginia Tech	Install crosswalk and sidewalks at Maintenance Lot(3)	$200,000		$200,000		
	Campus Wide	Virginia Tech	Campus wide sidewalk improvements	$2,000,000		$2,000,000		
	Campus Wide	Virginia Tech	Campus wide install bike shelters	$100,000		$100,000		
	Campus Wide	Virginia Tech	Campus wide trail improvements	$1,000,000		$1,000,000		
	Prices Fork Road	Virginia Tech	Intersection improvements at Stanger Street	$500,000		$500,000		
	Blacksburg Transit	Blacksburg	Total new/replacement vehicles, baseline FY2019-FY2028	$36,231,000			$36,231,000	
	Blacksburg Transit	Blacksburg	Major system maintenance and operations facility upgrades	$1,513,974			$1,513,974	
	Blacksburg Transit	Blacksburg	Passenger amenities, bus stop shelter and concrete pad at 40 locations (beyond FY2028)	$1,200,000			$1,200,000	
	Blacksburg Transit	Blacksburg	New technology systems or upgrades, FY2019-FY2023	$4,860,719			$4,860,719	
	Blacksburg Transit	Blacksburg	FY26-45, replacement vehicles, technology, and passenger amenities	$17,510,601			$17,510,601	
	Town Limits	Blacksburg	FY19 RS - Roadway hazard mitigation - guardrail installation	$60,000	$60,000			
	Town Limits	Blacksburg	RS - Sidewalk tripping hazard removal	$50,000	$50,000			
	Town Limits	Blacksburg	FY21 RS - Reconstruct curb, gutter and sidewalks	$120,000	$120,000			

Table 2: Constrained Long-Range Plan (2 of 6)

2045 NRVMPO Constrained Long-Range Plan Project Descriptions (3 of 6)					Anticipated Funding Source			
Route	Road Name	Jurisdiction	Project Description	Estimate	Current SYIP FY20-FY25	CLRTP FY26-FY45	Transit (Constrained TDP)	I81 Corridor (CIP)
	Town Limits	Blacksburg	Street paving, milling	$650,000		$650,000		
460B	Franklin Street	Christiansburg	Intersection improvement, Franklin Street and Depot Street	$5,087,000	$5,087,000			
460B	Franklin Street	Christiansburg	Sidewalk, curb and gutter, and street lighting, Independence Boulevard to Depot Street	$4,000,000		$4,000,000		
460B	Franklin Street	Christiansburg	Sidewalk and lighting, North Franklin Street - Elm to Mill	$2,119,000	$2,119,000			
460B	Franklin Street	Christiansburg	Sidewalk and lighting, North Franklin Street - Mill to Depot	$3,115,175		$3,115,175		
460B	Franklin Street	Christiansburg	Pedestrian improvements, Franklin Street and Wades Lane	$167,773	$167,773			
460B	Franklin Street	Christiansburg	Pedestrian improvements, Franklin Street and First Street	$162,634	$162,634			
460B	Franklin Street	Christiansburg	North Franklin bridge deck rehab over Crab Creek	$1,800,000		$1,800,000		
460B	Roanoke Street	Christiansburg	Intersection reconstruction, Tower Road and Hampton Boulevard	$1,942,000	$1,574,000	$368,000		
460B	Roanoke Street	Christiansburg	Sidewalk improvements at Route 460 Bypass, Falling Branch Road to Hubble Drive	$996,000	$996,000			
460B	Roanoke Street	Christiansburg	North Franklin Street sidewalk in-fill	$3,728,444		$3,728,444		
460B	Roanoke Street	Christiansburg	Resurfacing - 460B to Tower Road	$1,634,000	$1,634,000			
	Hickock Street	Christiansburg	Street improvements, mitigation of water pollution due to highway runoff	$2,987,000	$2,987,000			
	Huckleberry Trail	Christiansburg	Extend the southern terminus to downtown	$2,300,000		$2,300,000		
81	Interstate 81	Christiansburg	Exit 114 approaches and bridge replacement over Route 8	$34,014,000	$34,014,000			
81	Interstate 81	Christiansburg	Exit 114 interchange improvements	$9,974,038		$9,974,038		
81	Interstate 81	Christiansburg	New park and ride lot at I-81 Exit 114	$7,743,000	$7,743,000			

Table 3: Constrained Long-Range Plan (3 of 6)

2045 NRVMPO Constrained Long-Range Plan Project Descriptions (4 of 6)					Anticipated Funding Source			
Route	Road Name	Jurisdiction	Project Description	Estimate	Current SYIP FY20-FY25	CLRTP FY26-FY45	Transit (Constrained TDP)	I81 Corridor (CIP)
111	Route 111	Christiansburg	Replace bridge over Walnut Branch	$619,678		$619,678		
114	Peppers Ferry Road	Christiansburg	Intersection reconstruction, Arbor Drive	$1,838,000	$1,838,000			
114	Peppers Ferry Road	Christiansburg	Stafford Drive signal at Peppers Ferry Road	$2,593,257		$2,593,257		
114	Peppers Ferry Road	Christiansburg	New Village Drive signal at Peppers Ferry Road	$2,267,931		$2,267,931		
8	Riner Road	Christiansburg	Intersection Safety Improvement at Life Drive, Route 1295	$500,000		$500,000		
11	Roanoke Street	Christiansburg	Pedestrian improvements, Roanoke Street and First Street	$358,893		$358,893		
11	Roanoke Street	Christiansburg	Pedestrian improvements, Roanoke Street and Depot Street	$721,333		$721,333		
11	Roanoke Street	Christiansburg	Roanoke Street sidewalk in-fill	$1,219,251		$1,219,251		
11	Roanoke Street	Christiansburg	Roanoke Street pedestrian crossing and sidewalk	$789,371		$789,371		
11	Roanoke Street	Christiansburg	Resurfacing - Route 11 to 460B	$951,911	$951,911			
New	New	Christiansburg	Cambria Street to North Franklin Street Connector Route	$14,000,000		$14,000,000		
New	New	Christiansburg	Peppers Ferry Road to Cambria Street Connector Route	$29,159,938		$29,159,938		
New	Parkway Drive	Christiansburg	Extend Parkway Drive and construct a multi-use trail, Technology Drive to Franklin Street.	$9,226,794		$9,226,794		
New	Cambria Trail	Christiansburg	Construct a multi-use trail, Cambria Square to Christiansburg Aquatic Center	$4,262,207	$2,349,000	$1,913,207		
81	at Tyler Road	Montgomery Co.	Install signals at Exit Ramps	$400,000		$400,000		
81	Interstate 81	Montgomery Co.	Replace north-bound bridge over the New River and Route 232 bridges	$73,108,000	$67,745,000	$5,363,000		
81	Interstate 81	Montgomery Co.	Replace south-bound bridge over New River	$50,186,000	$50,186,000			

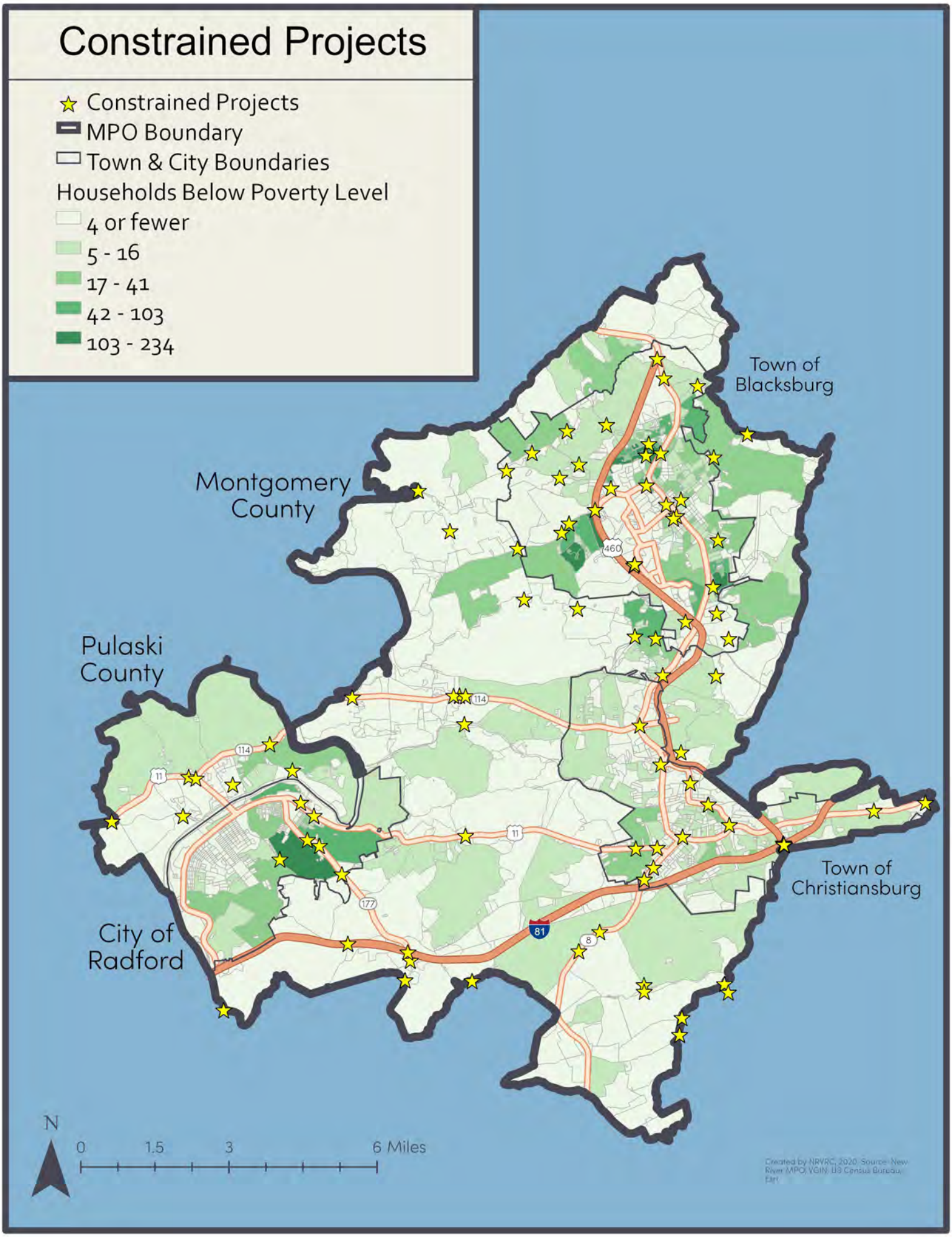
Table 4: Constrained Long-Range Plan (4 of 6)

2045 NRVMPO Constrained Long-Range Plan Project Descriptions (5 of 6)					Anticipated Funding Source			
Route	Road Name	Jurisdiction	Project Description	Estimate	Current SYIP FY20-FY25	CLRTP FY26-FY45	Transit (Constrained TDP)	I81 Corridor (CIP)
657	Merrimac Road	Montgomery Co.	Improve Intersection with Hightop Road	$500,000		$500,000		
663	Walton Road	Montgomery Co.	Replace bridge over Crab Creek	$700,000		$700,000		
11	Radford Road	Montgomery Co.	Intersection Safety Improvement at Walton Road, Route 663	$500,000		$500,000		
8	Route 8	Montgomery Co.	Roadway widening and pedestrian improvements	$6,386,493		$6,386,493		
8	Route 8	Montgomery Co.	Pedestrian and curb improvements - Five Points to Fairview Church	$1,088,000	$1,088,000			
11/460	Route 11/US 460	Montgomery Co.	Reversable lane, widening and operational improvements	$52,667,790		$15,345,277		
81	Interstate 81	Montgomery Co.	Widen to three lanes, from MM 116 to Exit 128	$260,000,000				$260,000,000
81	Interstate 81	Montgomery Co.	Extend I-81 Exit 105 NB acceleration lane	$11,361,000				$11,361,000
114	Peppers Ferry Road	Montgomery County	Turn lane improvements at the Route 114 and Route 685 intersection	$8,107,246		$5,107,246		
114	Peppers Ferry Road	Montgomery County	Pedestrian Improvements on Route 114, from Belview Drive to Prices Fork Road	$3,663,480		$3,663,480		
81	Interstate 81	Pulaski Co.	Exit 89 acceleration lane extension	$818,000				$818,000
81	Interstate 81	Pulaski Co.	Exit 94 SB acceleration lane extension	$3,672,000				$3,672,000
81	Interstate 81	Pulaski Co.	I-81 Southbound bridge replacement over New River	$56,908,000				
11	Lee Highway	Pulaski Co.	Route 11/Kroger intersection improvements	$1,650,000		$1,650,000		
11	Lee Highway	Pulaski Co.	Route 11 traffic improvements project	$1,330,138	$1,330,138			
11	Lee Highway	Pulaski Co.	Route 11/Route 114 intersection improvements	$4,121,000	$4,121,000			
11	Lee Highway	Pulaski Co.	Route 11 safety improvements at Warden Court	$5,926,123	$5,926,123			

Table 5: Constrained Long-Range Plan (5 of 6)

2045 NRVMPO Constrained Long-Range Plan Project Descriptions (6 of 6)					Anticipated Funding Source			
Route	Road Name	Jurisdiction	Project Description	Estimate	Current SYIP FY20-FY25	CLRTP FY26-FY45	Transit (Constrained TDP)	I81 Corridor (CIP)
114	Peppers Ferry Road	Pulaski Co.	Reconstruct with added capacity turn lane, intersection of Mason Street	$944,619		$944,619		
	New	Pulaski Co.	Construct a new roadway, US Route 11 to Hatcher Road	$8,405,000	$7,050,000	$1,355,000		
	New	Pulaski Co.	Riverlawn Court Trail, bridge connector to Deadmon Center/Randolph Park	$2,000,000		$2,000,000		
	Pulaski Area Transit	Pulaski Co.	Total new/replacement vehicles, baseline FY2019-FY2028	$1,167,430			$1,167,430	
	Pulaski Area Transit	Pulaski Co.	Passenger amenities, Pulaski-Dublin route bus stop safety and access improvements	$81,000			$81,000	
	Pulaski Area Transit	Pulaski Co.	FY26-45, replacement vehicles, technology, and passenger amenities	$1,360,037			$1,360,037	
81	Interstate 81	Radford	I81 detour improvements - Christiansburg, Radford, and Pulaski	$2,831,000				$2,831,000
11	East Main Street	Radford	Sidewalk improvements downtown	$4,000,000	$339,000	$3,661,000		
	12th Street	Radford	SRTS sidewalk improvements along 12th Street and Preston Street	$2,500,000		$2,500,000		
	New	Radford	Tyler Avenue (177) to East Main Street (US11) Connector	$17,500,000		$17,500,000		
	Radford Transit	Radford	Locate and construct a new operations and maintenance facility	$12,000,000			$12,000,000	
	Radford Transit	Radford	Total new/replacement vehicles, baseline FY2019-FY2028	$3,954,627			$3,954,627	
	Radford Transit	Radford	New technology systems or upgrades, FY2020-FY2024	$110,000			$110,000	
	Radford Transit	Radford	Passenger amenities, 150 new bus stop signs	$31,750			$31,750	
	Radford Transit	Radford	FY26-45, replacement vehicles, technology, and passenger amenities	$4,980,112			$3,980,112	

Table 6: Constrained Long-Range Plan (6 of 6)


Constrained Projects
Constrained Projects
MPO Boundary
Town & City Boundaries
Households Below Poverty Level
4 or fewer
5 - 16
17 - 41
42 - 103
103 - 234
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Esri

Funding Forecast

The financially constrained plan includes projects from four sources: 1) projects currently programmed for funding in the Virginia Department of Transportation's Six-Year Improvement Program (SYIP); 2) projects that could likely be funded in a constrained long-range transportation plan (CLRTP) based on historical funding streams; 3) projects that would be funded by the Virginia Department of Rail and Public Transportation (DRPT) federal programs; and 4) the new Interstate 81 Capital Improvement Program. Estimated funding levels are included in the table (below).

Table 7: CLRTP Funding Forecast

FY20-FY45 SOURCE OF REVENUE CLRTP FUNDING FORECAST	est.
Six-Year Improvement Program (FY20-FY25)	
SYIP (assumes projects are fully funded)	$188,660,045
Subtotal:	*$188,660,045*
Constrained Long-Range Transportation Plan (FY26-FY45)	
District Program	$26,227,780
High Priority Projects	$26,227,780
Other Discretionary Construction	$15,155,004
State of Good Repair	$42,918,789
Subtotal:	*$110,528,748*
Transit	
Constrained Transit Development Plans (FY19-FY28)	$50,800,500
CLRTP (FY29-FY45)	$73,200,750
Subtotal:	*$124,001,250*
Interstate 81 Capital Improvement Program	
I-81 CIP (FY19-FY39)	$271,000,000
Subtotal:	*$271,000,000*
Total Anticipated Funding (FY20 – FY45):	**$694,190,043**

Recommendations included in the Constrained Long-Range Transportation Plan were selected by local government officials and are higher priority. Projects of lesser priority are included in the Transportation Vision Plan.

2045 NRVMPO Transportation Vision Plan (1 of 5)				
Route	Road Name	Jurisdiction	Project Description	Estimate FY45+
	Glade Road	Blacksburg	Replace bridge over Toms Creek	$923,545
	Heather Drive	Blacksburg	Corridor extension w/ bike/ped features, Prices Fork to Glade Road	$6,500,000
	Meadowbrook Drive	Blacksburg	Corridor improvements, bicycle routes, trail, and sidewalks	$3,900,000
	Mount Tabor Road	Blacksburg	Corridor improvements w/bike/ped features, Main Street to town limits, realign to Givens Lane	$4,000,000
	North Main	Blacksburg	North Main Trail, from Vineyard Avenue to US Route 460	$750,000
	North Main	Blacksburg	Road diet from Progress Street to Red Maple Drive, final project includes full rebuild	$24,900,000
	Patrick Henry Drive	Blacksburg	Road diet from N. Main Street to Toms Creek Road, interim project includes pavement markings only	$100,000
	Patrick Henry Drive	Blacksburg	Road diet from N. Main Street to Toms Creek Road, final project includes full rebuild	$11,250,000
	Progress Street	Blacksburg	Corridor extension w/bike/ped features, Givens Lane to North Main Street	$4,000,000
	Shadow Lake Road	Blacksburg	Re-align roadway from Basil Lane to Lakewood Street, w/bike/ped features	$2,200,000
	Toms Creek Road	Blacksburg	Corridor improvements w/bike/ped features, Route 460 Bypass to town limits	$2,100,000
	US Route 460 Bypass	Blacksburg	Construct a grade-separated interchange, US 460 Bypass and North Main Street	$45,000,000
	Eheart Street	Blacksburg	Eheart from Main to Huckleberry, final project including bike/ped features with additional ROW, one-way road, sidewalk and grade-separated bike facility	$750,000
	Harding Avenue	Blacksburg	Stormwater and pedestrian improvements	$2,989,000
		Blacksburg	Huckleberry Trail bridge at Sheffield Drive	$4,134,000
		Blacksburg	Old Blacksburg Middle School Cycle Track, South Main to Willard	$700,000

Table 8: Transportation Vision Plan (1 of 5)

2045 NRVMPO Transportation Vision Plan (2 of 5)				
Route	Road Name	Jurisdiction	Project Description	Estimate FY45+
		Blacksburg	Park Drive sidewalk from Palmer to Grissom Lane	$500,000
	Commerce Street	Blacksburg	Commerce Street extension to Jennelle Road, bicycle routes, trail, and sidewalks	$1,600,000
	Ellett Road	Blacksburg	sidewalks, bicycle trail, South Main to town limits	$5,900,000
	Farmview Drive	Blacksburg	Huckleberry Trail connection to Park at South Point, safety, sidewalks, and trail	$837,000
	Old Glade Road	Blacksburg	Glade Road to Prices Fork Road, realignment	$1,375,000
	Glade Road	Blacksburg	Corridor improvements, bicycle routes, trail, and sidewalks	$1,700,000
	Blacksburg Transit	Blacksburg	Total new/replacement vehicles, expansion	$39,500,000
	New	Blacksburg/ Montgomery	Proposed 460 Connector Road, Southgate Drive to Prices Fork Road	$114,000,000
	New	Blacksburg/ Montgomery	Proposed 460 Connector Road parallel multipurpose trail along whole connector, Southgate Drive to Prices Fork Road	$430,249
	Cambria Street	Christiansburg	Intersection Improvements, Cambria Street (111) and Ellett Road	$170,000
	East Main Street	Christiansburg	Intersection Improvements, East Main Street and Roanoke Street (460BUS)	$400,000
	Franklin Street	Christiansburg	Intersection Improvement, Franklin Street (460B) and Peppers Ferry Road (114)	$2,300,000
New	Huckleberry Trail	Christiansburg	Extend the southern terminus to downtown	$2,300,000
	New	Christiansburg	Amtrak Passenger Rail Station, track improvements	$50,000,000
	Radford Street	Christiansburg	Intersection Improvements, Radford Street (11) and Depot Street	$1,200,000
	Radford Street	Christiansburg	Widen to 4-lanes, from West Main (8) to Silver Lake Road (661)	$37,300,000
8	West Main	Christiansburg	Intersection Improvements, West Main (8) and Moose Drive	$1,900,000
8	West Main	Christiansburg	Widen to 4-lanes, from I-81 to US Route 11	$14,500,000
81	Interstate 81	Christiansburg	South-bound Collector bridge replacement over US Route 460 Bypass	$7,504,728
81	Interstate 81	Christiansburg	North-bound Collector bridge replacement over US Route 460 Bypass	$7,504,728

Table 9: Transportation Vision Plan (2 of 5)

2045 NRVMPO Transportation Vision Plan (3 of 5)				
Route	Road Name	Jurisdiction	Project Description	Estimate FY45+
81	Interstate 81	Christiansburg	I-81 south-bound bridge replacement over US Route 460	$8,589,745
81	Interstate 81	Christiansburg	I-81 north-bound bridge replacement over US Route 460	$8,604,940
460B	US Route 460 Business	Montgomery/ Blacksburg/ Christiansburg	Bike/Ped/Transit improvements along US Route 460 Business, from Industrial Park Road to Peppers Ferry Road	$6,500,000
	Smart Highway	Montgomery County	Construct new 2-lane roadway on 4-lane ROW, Route 723 to Interstate 81	$157,000,000
8	Riner Road	Montgomery County	Widen road and improve intersections from Route 669 to I 81 (to Christiansburg)	$62,000,000
8	Riner Road	Montgomery County	Widen road and improve intersections from Route 669 to MPO Study Area Boundary	$12,000,000
11	US Route 11/460	Montgomery County	SMART Scale Project	$7,312,974
11	US Route 11/460	Montgomery County	Reversable Lane, widening and operational improvements	$36,954,723
11	Lee Highway	Montgomery County	Paved shoulder for bicyclists, Radford CL to Christiansburg TL	$764,659
81	at Route 177, Tyler Road	Montgomery County	Install signals at exit ramps	$400,000
114	Peppers Ferry Road	Montgomery County	Widen to 4 lanes from the Christiansburg Corporate Limits to 0.5 miles east of Route 685	$51,000,000
114	Peppers Ferry Road	Montgomery County	Widen to 4 lanes from the Radford Army Ammunition Plant to 0.5 miles east of Route 685	$27,000,000
114	Peppers Ferry Road	Montgomery County	Paved shoulder for bicyclists, eastern Belview Village boundary to Christiansburg TL	$1,110,597
114	Peppers Ferry Road	Montgomery County	Multiuse trail adjacent to Peppers Ferry Road, Belview to Christiansburg TL	$528,910
177	Tyler Road	Montgomery County	Paved shoulder for bicyclists, 26,906 ft south of Radford CL	$2,293,125
460	US Route 460	Montgomery County	Paved shoulder for bicyclists, Shawsville to Elliston	$735,085
615	South Franklin Street	Montgomery County	Paved shoulder for bicyclists, 11,825 ft south of Christiansburg TL	$1,143,239
615	Pilot Road	Montgomery County	Paved shoulder for bicyclists, 18,629 ft east of Jones Street	$1,587,669
637	Alleghany Spring Road	Montgomery County	Paved shoulder for bicyclists, Georges Run Road to Kirk Hollow Road	$1,202,898

Table 10: Transportation Vision Plan (3 of 5)

2045 NRVMPO Transportation Vision Plan (4 of 5)				
Route	Road Name	Jurisdiction	Project Description	Estimate FY45+
654	Brooksfield Road	Montgomery County	Paved shoulder for bicyclists, Prices Fork Road to Toms Creek	$1,120,398
412	Prices Fork Road	Montgomery County	Intersection improvements at Merrimac Road and Prices Fork Road	$8,000,000
657	Merrimac Road	Montgomery County	Reconstruct roadway to meet current design standards	$5,000,000
	New	Montgomery County	Multiuse trail/greenway, Shawsville Middle School to Seneca Hollow	$292,404
	New	Montgomery County	Multiuse trail/greenway, Stroubles Creek along road/Slate Branch to Prices Fork	$458,374
	New	Montgomery County	Paved shoulder for bicyclists, Wayside Road	$600,767
605	Little River Dam Road	Montgomery County	Replace bridge over Little River	$4,411,186
808	High-top Road	Montgomery County	Replace bridge over Slate Branch	$500,000
658	Meadow Creek Road	Montgomery County	Replace bridge over Meadow Creek	$750,000
655	Mount Zion Road	Montgomery County	Replace bridge over Toms Creek	$734,233
679	Nolley Road	Montgomery County	Replace bridge over Elliot Creek, 1932 F12305	$453,391
679	Nolley Road	Montgomery County	Replace bridge over Elliot Creek, 1978, F12303	$687,225
679	Nolley Road	Montgomery County	Replace bridge over Elliot Creek, 1932, F12304	$461,785
11	Roanoke Road, 460BUS	Montgomery County	Replace bridges over S Fork Roanoke River	$9,448,949
177	Tyler Road	Montgomery County	Replace bridges over Interstate 81	$16,118,579
460	US Route 460	Montgomery County	Replace bridges over Norfolk Southern Railroad	$8,707,304
643	Yellow Sulphur Road	Montgomery County	Replace bridge over Wilson Creek	$500,000
643	Yellow Sulphur Road	Montgomery County	Replace bridge over Mill Branch	$209,654
719	Dry Valley Road	Montgomery County	Replace bridge over Crab Creek	$461,785
787	Dry Valley Road	Montgomery County	Replace bridge over I-81	$5,538,943

Table 11: Transportation Vision Plan (4 of 5)

2045 NRVMPO Transportation Vision Plan (5 of 5)				
Route	Road Name	Jurisdiction	Project Description	Estimate FY45+
815	Happy Hollow Road	Montgomery County	Replace bridge over Indian Run	$527,559
1330	Eaglebrook Road	Montgomery County	Replace bridge over Smith Creek	$808,500
1330	Eaglebrook Road	Montgomery County	Replace bridge over Branch Smith Creek	$443,898
624	New River Road	Pulaski County	Replace bridge over Morgan Spring Branch	$521,892
747	Old Route 11	Pulaski County	Replace bridge over Norfolk Southern Railroad	$2,007,254
	Viscoe Road	Pulaski County	Viscoe Road bicycle lanes and multipurpose trail	$5,000,000
11	US Route 11	Radford	Lee Highway sidewalk improvements along north-side, University Drive to 500 ft. east of Robey	$2,000,000
177	Tyler Avenue	Radford	Intersection improvement, potential round-a-bout at intersection w/ Rock Road	$8,500,000
	University Drive	Radford	SHARROW and sidewalk improvements across University Drive bridge	$5,000,000
	Park Road	Radford	Corridor improvements	$2,500,000
	New	Radford	Tyler Avenue to Park Road connector	$20,000,000

Transportation Vision Plan Total:	**$902,310,894**

Table 12: Transportation Vision Plan (5 of 5)

Planning Process

The 2045 Long-Range Transportation Plan update was officially kicked-off on March 21, 2019 at the regularly scheduled Technical Advisory Committee meeting. The MPO partnered with the New River Valley Regional Commission to update the plan. The planning process is illustrated below and is also documented on a project website: www.nrvtransportationplan.org.

Key Milestones

To begin, the Commission collected statewide transportation plans, local comprehensive plans, transit development plans, transportation studies, and other small area plans. In October 2019, one-on-one local meetings were held to ground truth data and to also build the constrained project list. A public survey was launched to allow residents, business owners, and visitors to contribute input; on December 4, 2019, a public meeting was held at the Montgomery County Government Center. Throughout the planning process, the Virginia Department of Transportation assisted with identifying safety issues, bridge conditions, and existing transportation system-performance data. Through this planning process, the 2045 Long-Range Transportation Plan received a comprehensive update.

Regional Demographic Information

Transportation planners use information that is provided through the US Census to begin local conversations about mode choice and level of needs. Demographic data includes information about households, age, income, employment, and workforce. Demographic data are available at different geographic scales, but even the smallest level covers an area that is several city-blocks wide and tall. Data is often used as a conversation starter that requires a boots-on-the-ground assessment to ensure accuracy and to also pinpoint transportation related challenges.

Population

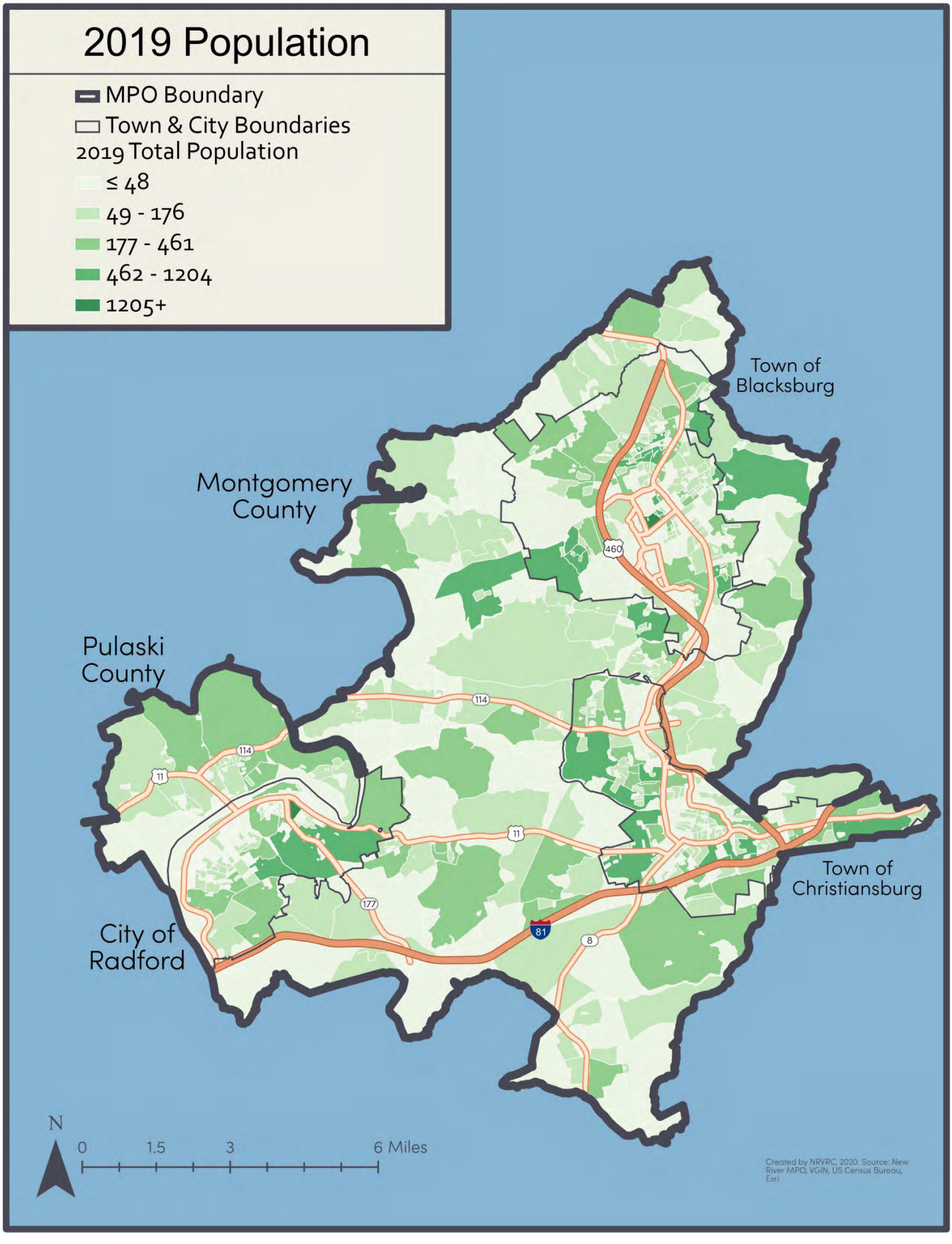
Basic population data includes: total population estimate, sex, and racial composition. This data can be used to determine the level of diversity that is present within the planning area.

Table 13: Demographic Overview

Year DEMOGRAPHIC OVERVIEW	2017	2015	2013	Δ% 2013-2017
Total population	92,757	91,702	89,596	3.5%
Native Estimate	85,105	83,186	81,053	5.0%
Foreign born Estimate	7,652	8,516	8,543	-10.4%
Foreign born Naturalized citizen Estimate	2,424	2,507	2,175	11.4%
Foreign born Not a U.S. citizen Estimate	5,228	6,009	6,368	-17.9%
Total Male Population*	51.1%	51.0%	51.4%	-0.6%
Total Female Population*	48.9%	49.0%	48.6%	0.6%
White*	83.4%	83.7%	84.9%	-1.8%
Black or African American*	6.3%	6.4%	5.5%	14.5%
American Indian and Alaska Native*	0.3%	0.2%	0.1%	200.0%
Asian*	6.8%	6.6%	6.3%	7.9%
Native Hawaiian and Other Pacific Islander*	0.0%	0.0%	0.0%	0.0%
Some other race*	1.0%	1.0%	1.0%	0.0%
Two or more races*	2.2%	2.0%	2.1%	4.8%

* Estimated percentage of total population.

Source: American FactFinder, retrieved from: factfinder.census.gov. Blacksburg, VA Urbanized Area (2010).


2019 Population
MPO Boundary
Town & City Boundaries
2019 Total Population
≤ 48
49 - 176
177 - 461
462 - 1204
1205+
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Esri

Housing

Household data shown on Table 13 includes: total occupied housing units, whether or not the unit is owner or renter occupied, expense for housing, number of vehicles available, and general income information. These data can be used to determine the composition of housing stock and how housing and transportation needs overlap within the planning area.

Table 14: Housing

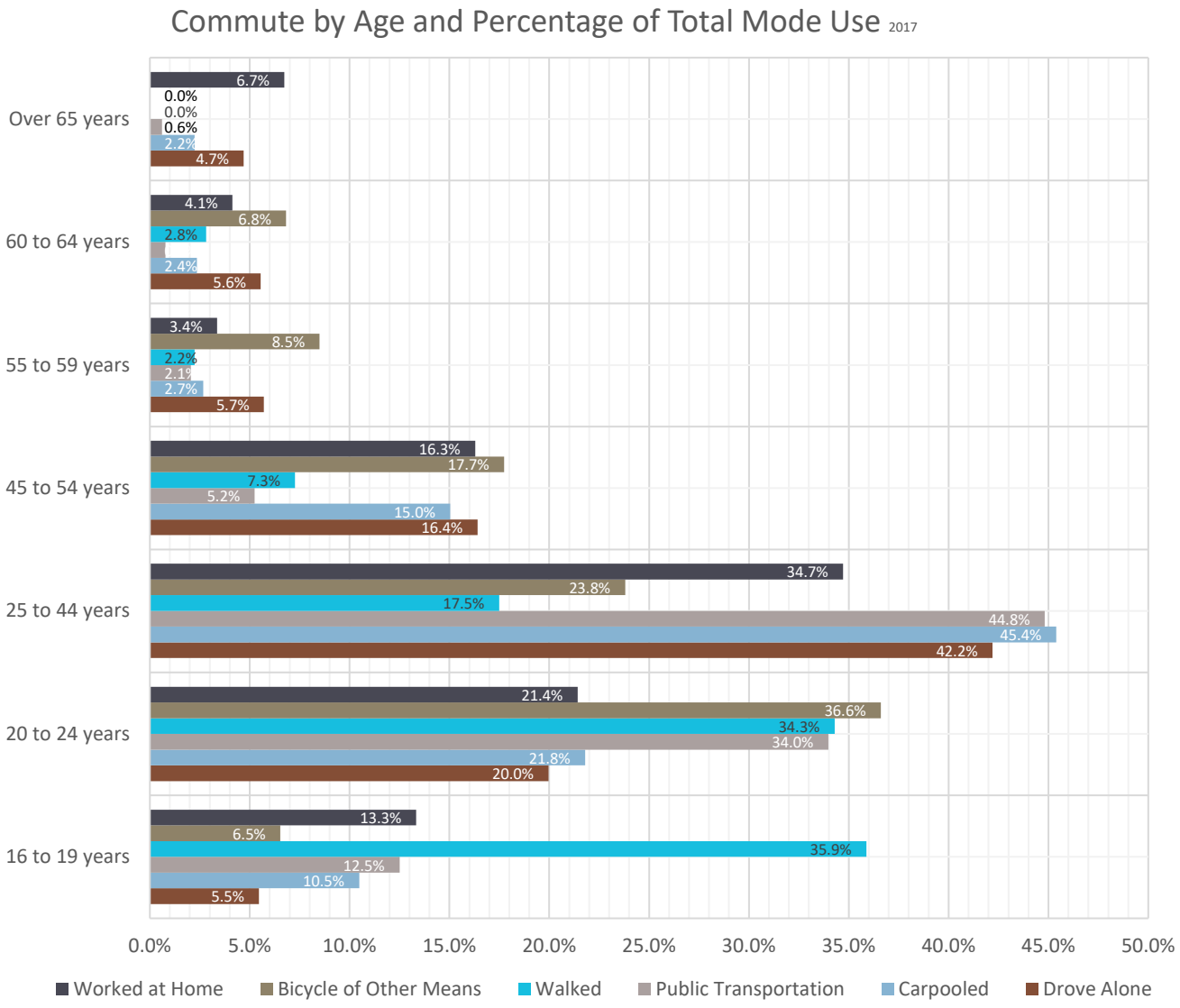
2013 5YR AVERAGES HOUSING	2017	2015	2013	Δ% 2013-2017
Estimated Number of Workers Per Household	1.19%	1.19%	1.18%	0.8%
Population Below 100% of the Poverty Level	29.70%	31.60%	31.80%	-6.6%
Population 100 to 199% of the Poverty Level	15.10%	17.40%	17.60%	-14.2%
Population at or Above 200% of the Poverty Level	55.20%	51.00%	50.60%	9.1%
Occupied Housing Units	32,744	32,330	31,784	3.0%
Owner-Occupied Housing Units	46.00%	44.60%	45.50%	1.1%
Renter-Occupied Housing Units	54.00%	55.40%	54.50%	-0.9%
Average Household of Owner-Occupied Unit	2.49	2.49	2.41	3.3%
Average Household of Renter-Occupied Unit	2.44	2.44	2.42	0.8%
Households with No Vehicles Available	6.50%	6.90%	6.20%	4.8%
Native Population without access to Vehicles	6.00%	5.80%	4.70%	27.7%
Foreign Born Citizen without access to Vehicles	7.30%	16.60%	16.60%	-56.0%
Not a U.S. Citizen without access to Vehicles	14.50%	17.20%	20.40%	-28.9%
One or More Vehicles Available	93.50%	93.10%	93.80%	-0.3%
Native Population with access to Vehicles	92.70%	83.40%	83.40%	11.2%
Foreign Born Citizen with access to Vehicles	85.50%	82.80%	79.60%	7.4%
Not a U.S. Citizen with access to Vehicles	2.40%	2.70%	2.90%	-17.2%
Housing Cost Less Than 30% - Owner-Occupied	82.10%	81.70%	80.30%	2.2%
Housing Cost Less Than 30% - Renter-Occupied	49.80%	44.10%	41.60%	19.7%
Housing Cost More Than 30% - Owner-Occupied	17.90%	18.30%	19.70%	-9.1%
Housing Cost More Than 30% - Renter-Occupied	50.20%	55.90%	58.40%	-14.0%

Source: American FactFinder, retrieved from: factfinder.census.gov. Blacksburg, VA Urbanized Area (2010).

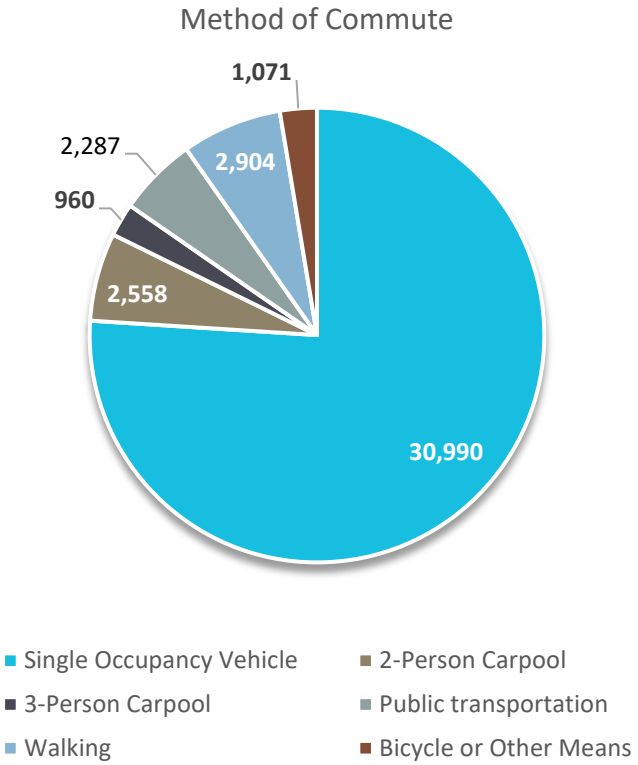
Daily Commuting

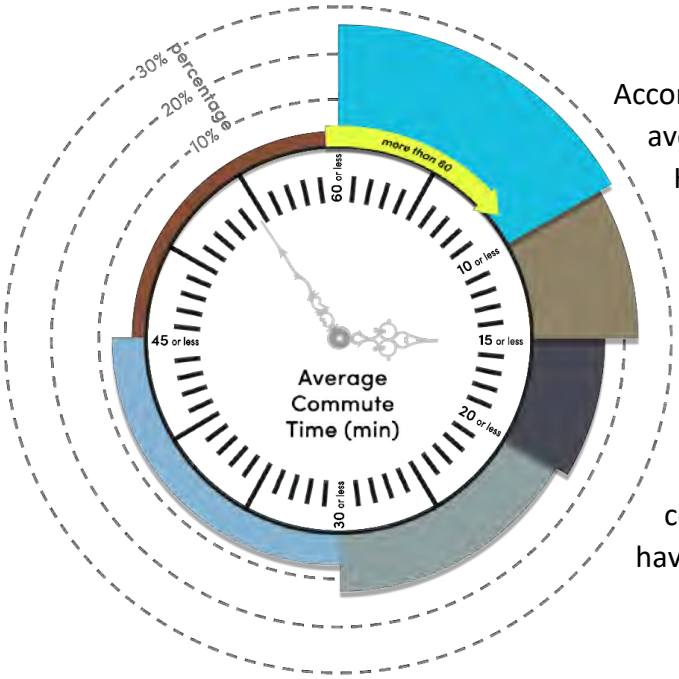
Nearly 41,000 NRVMPO residents commute to work each day. The table below examines each mode of transportation and the percentage of use (for that individual mode) for different segments of population based on age group. For example, 6.7% of the total population working from home is over the age of 65 years. Conversely, 44.8% of those who choose public transit for their daily commute is between the age of 25 and 44 years old. The largest segment of the daily workforce is coincidentally between 25 and 44 years old, so logically this population segment absorbs a significant amount of each mode share. However, what is interesting is the effect that different populations have on the overall use of each mode.

In general, most people may assume that a large percentage of commuters that walk to work might be between 16 and 19 years old. Interestingly, over 30% of those who choose to bike or use some other mode of transportation (within the NRVMPO planning area) are 45 years or older.



In general, three out of every four daily commuters drive solo between home and work each day. Nationally, the private vehicle is also the predominant form of transportation for work. In 2013, 86% of all workers commuted to work by driving alone or carpooling.[1] The New River Valley MPO planning area has a similar percentage (84.5%) when carpooling figures are combined with single occupancy vehicles. In the United States, commutes make up less than 20% of all trips taken, but have a significant impact on daily peak-hour travel demand across transportation systems.[2]





According to the United States Census Bureau, the average commute time in the US is 26 minutes. However, commute time varies between MPO planning areas. For example, the Washington DC area has a one-way average commute time of 34 minutes, while the Walla Walla Washington area is less than half, at 15 minutes. The New River Valley urbanized area splits the difference, with an average one-way commute of about 22 minutes. The visualization (left) shows the percentage of commuters by travel time. About 50% of workers have a commute less than 15 minutes.

[1] United States Census Bureau, *Who Drives to Work? Commuting by Automobile in the United States: 2013.* Report Number ACS-32, August 13, 2015. Retrieved from: https://www.census.gov/library/publications/2015/acs/acs-32.html

[2] American Association of State Highway and Transportation Officials, "Commuting in America 2013: Brief 12 Auto Commuting 2013," Washington, DC, 2015, <traveltrends.transportation.org>.

Economy and Employment

Economic and employment data includes: total workforce-aged population, participation and unemployment rates, educational attainment, occupational sectors, and worker earnings. These data can be used to determine gaps in employment and where people might be traveling to for work within the planning area.

Table 15: Labor Force

2017 5YR AVERAGES LABOR FORCE	Total	Participation Rate	Unemployment Rate
Total Population 16 Years and Over	81,289	57.1%	5.1%
White alone	68,228	57.6%	4.8%
Black or African American alone	5,059	56.9%	10.7%
American Indian and Alaska Native alone	285	61.8%	0.0%
Asian alone	5,406	53.4%	2.0%
Native Hawaiian and Other Pacific Islander alone	42	81.0%	0.0%
Some other race alone	679	46.8%	3.6%
Two or more races	1,590	49.3%	9.4%
Below Poverty Level	18,504	40.1%	9.8%
At or Above Poverty Level	36,704	85.4%	2.6%
With Any Disability	4,090	42.4%	15.6%
Total Population Age 25 to 64	36,921	79.1%	3.8%
Less than High School Graduate	2,271	46.6%	20.4%
High School Graduate	6,165	72.7%	5.3%
Some College or Associate's Degree	8,847	78.2%	4.7%
Bachelor's Degree or Higher	19,638	85.3%	1.9%

Source: American FactFinder, retrieved from: factfinder.census.gov. Blacksburg, VA Urbanized Area (2010).

Between 2013 and 2017, full-time worker earnings significantly improved for individuals making less than $25,000 annually. According to the US Census, only naturalized male citizens saw a decrease in 5-year annual earnings. During the same 5-year period, naturalized female citizen earnings grew nearly 32%. However, the average full-time female worker earnings were still around 20% less than the average working male.

Table 16: Full-Time Worker Earnings

Year FULL-TIME WORKER EARNINGS	2017	2015	2013	Δ% 2013-2017
$1 - $9,999	1.9%	2.6%	3.1%	-38.7%
$10,000 - $14,999	3.9%	5.4%	7.0%	-44.3%
$15,000 - $24,999	13.6%	15.4%	18.4%	-26.1%
$25,000 - $34,999	15.1%	16.6%	15.7%	-3.8%
$35,000 - $49,999	21.7%	20.7%	20.8%	4.3%
$50,000 - $74,999	20.5%	20.1%	17.7%	15.8%
$75,000 or more	23.3%	19.2%	17.4%	33.9%
Male	$49,917	$47,298	$42,652	17.0%
Native - Male	$49,928	$47,167	$42,567	17.3%
Naturalized citizen - Male	$52,070	$55,809	$61,932	-15.9%
Not a U.S. citizen - Male	$42,311	$41,205	$40,222	5.2%
Female	$41,430	$37,291	$34,298	20.8%
Native - Female	$41,236	$37,090	$34,026	21.2%
Naturalized citizen - Female	$57,250	$41,518	$43,393	31.9%
Not a U.S. citizen - Female	$41,374	$40,491	$38,537	7.4%

Source: American FactFinder, retrieved from: factfinder.census.gov. Blacksburg, VA Urbanized Area (2010).

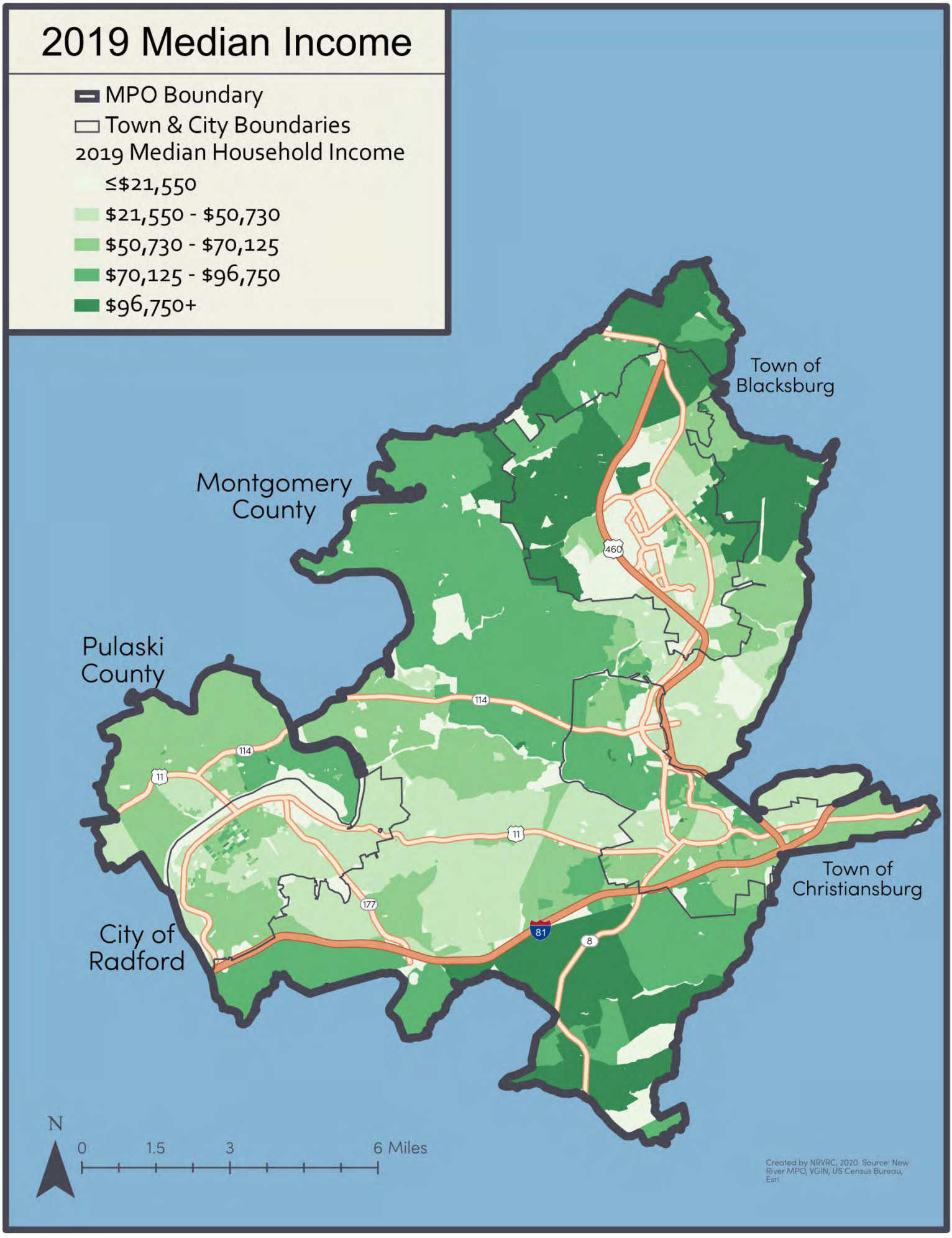

2019 Median Income
MPO Boundary
Town & City Boundaries
2019 Median Household Income
≤$21,550
$21,550 - $50,730
$50,730 - $70,125
$70,125 - $96,750
$96,750+
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Esri

Table 17: Workforce by Occupation

Year WORKFORCE BY OCCUPATION	2017	2015	2013	Δ% 2013-2017
Private Wage and Salary Workers	68.5%	66.8%	65.6%	4.4%
Government Workers	28.5%	29.9%	31.0%	-8.1%
Self-Employed Workers in Own Unincorporated Business	3.1%	3.2%	3.3%	-6.1%
Unpaid Family Workers	0.0%	0.1%	0.1%	-100.0%
Population Employed 16 Years and Over, Occupation:	43,870	41,341	40,444	8.5%
Management, Business, Science, and Arts	46.0%	46.6%	45.0%	2.2%
Service	20.9%	21.0%	21.8%	-4.1%
Sales and Office	21.2%	21.8%	21.8%	-2.8%
Natural Resources, Construction, and Maintenance	3.7%	3.0%	4.1%	-9.8%
Production, Transportation, and Material Moving	8.2%	7.6%	7.3%	12.3%

Source: American FactFinder, retrieved from: factfinder.census.gov. Blacksburg, VA Urbanized Area (2010).

Within the larger Blacksburg – Christiansburg Metropolitan Statistical Area (MSA), the top employment industry is Colleges, Universities, and Professional Schools. As of the end of 2019's third quarter, the five-year average number of those employed at a College or University was about 9,800.[3] Rounding out the Top 5, industries included: restaurants and other eating places (5,655), elementary and secondary schools (3,848), motor vehicle manufacturing (3,647), and general medical and surgical hospitals (1,978). Over the next ten-years, a potential annual workforce gap is forecasted for both education and healthcare related occupations.

[3] JobsEQ, 2019 Q3, *4-Digit NAICS Industry Snapshot.* Blacksburg-Christiansburg MSA. Retrieved March 24, 2020.

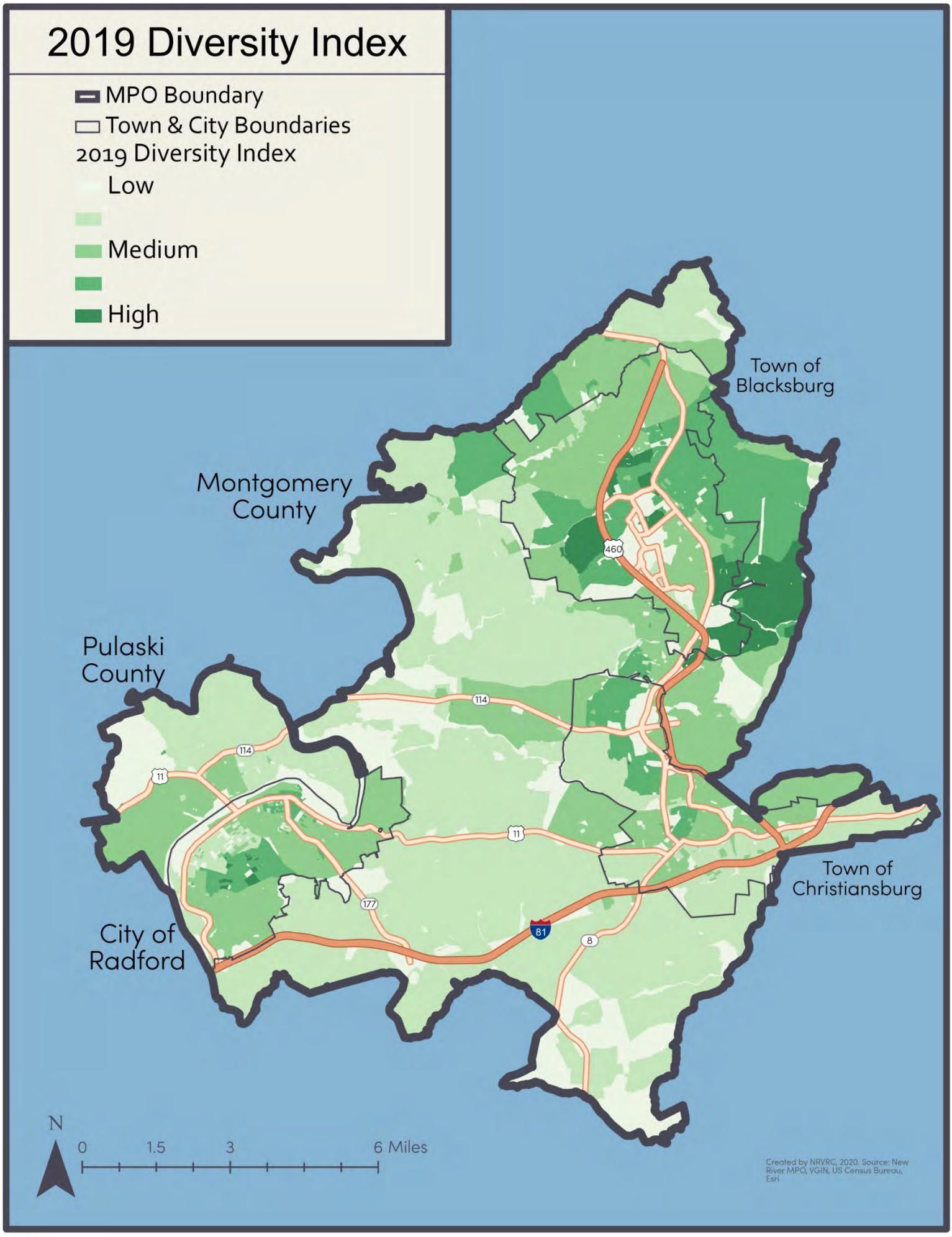
Disadvantaged and Minority Populations

Disadvantaged and minority population data includes: limited English-speaking households, minorities, elderly, and disabled. This data can be used to ensure equality and inclusion within the planning area.

Table 18: Disadvantaged Populations

2017 5YR AVERAGES DISADVANTAGED POPULATIONS	2017
Total Estimated Households	32,744
Number of Limited English-Speaking Households	570
Households Speaking Spanish	8.8%
Households Speaking European Languages	13.5%
Households Speaking Asian and Pacific Island Languages	65.3%
Households Speaking Other Languages	12.5%
Total Estimated Population	92,142
Number of People with a Disability	8,873
Percentage of Population with a Disability	9.6%
With a Disability - Male	46.6%
With a Disability - Female	53.4%
With a Disability - Under 5 Years	0
With a Disability - 5 to 17 Years	545
With a Disability - 18 to 34 Years	2,167
With a Disability - 35 to 64 Years	3,145
With a Disability - 65 to 74 Years	1,108
With a Disability - Over 75 Years	1,908
Hearing Difficulty	2,550
Vision Difficulty	1,727
Cognitive Difficulty	3,551
Ambulatory Difficulty	3,893
Self-Care Difficulty	1,495
Independent Living Difficulty	2,616

Source: American FactFinder, retrieved from: factfinder.census.gov. Blacksburg, VA Urbanized Area (2010).


2019 Diversity Index
MPO Boundary
Town & City Boundaries
2019 Diversity Index
Low
Medium
High
Town of Blacksburg
Montgomery County
Pulaski County
City of Radford
Town of Christiansburg
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Esri

Population and Employment Projections

According to the United States Census Bureau, population growth has slowed every year since 2015. Prior to 2015, the population was growing at a rate of 0.73% (relative to the previous year) compared to an annual average of 0.97% the previous decade. While National population trends stem from natural differences between births and deaths, migration is the primary driver at the local and regional levels. In the New River Valley, growth is anticipated to remain above the National average; however, for the purposes of this plan, the rate of growth was kept at 0.73%/yr. Population is anticipated to grow from 114,891 in 2016 to 142,174 in 2045.

Employment is also anticipated to grow within the metropolitan planning area. In 2016, the total employment was 46,817. By 2045, the employment is anticipated to increase by 59,541, creating more than 106,000 jobs in the region. If employment opportunities grow at the projected rate, the region could attract nearly 50,000 additional daily commuters by 2045. According to data sourced from JobsEQ, educational services, manufacturing, retail trade, health care and social assistance, and accommodation and food services are the top five industries anticipated to grow, based on a historical four-quarter moving average. Combined, the top five industries are projected to have a total demand of more than 53,000 jobs by 2030.

Existing Transportation Systems

The New River Valley Metropolitan Planning Organization features a robust transportation network and next-gen systems that are likely to change how we choose to travel in the future. The existing transportation network consists of two Corridors of Statewide Significance (Interstate 81 and US Route 460), downtowns that accommodate bicyclists and pedestrians, five public transit providers, bike and scooter share programs, a regional commuter carpool program, an executive airport, the only drone delivery community in the Nation, and a future passenger rail station. This forward-thinking region meets regularly to discuss how to improve interconnectivity across modes and how future land use will create new demands. In addition, the NRVMPO area is home to the Virginia Tech Transportation Institute.

Roadways

The functionally classified urban thoroughfare system includes a series of arterial and collector routes that interconnect the Towns of Blacksburg and Christiansburg, the City of Radford, and designated urban growth areas of Montgomery and Pulaski Counties. Two of Virginia's Corridors of Statewide Significance converge at the Town of Christiansburg. The north-south running Interstate 81 and the west-east running US Route 460 serve as the major traffic-carrying facilities in the area.

Many of the downtown streets also include on-street parking, sidewalks for pedestrians, separated and shared bicycle lanes, and turn-outs and shelters for public transportation – all within the public roadway right-of-way. Adding capacity in the most urbanized areas can be challenging due to the built environment and prevalent low vacancy rates. This section explores the different types of roadways and the fundamental role each plays in the NRVMPO.

Roadway Classification

The roadway network within the NRVMPO is categorized into three categories: interstates and freeways/expressways, arterials, and collectors. Interstates and freeways/expressways have controlled access and serve to move traffic quickly at high speeds. Arterial roads carry the major traffic in the MPO area and through traffic, while collector roads carry a smaller volume of traffic from local roads to the arterial routes.

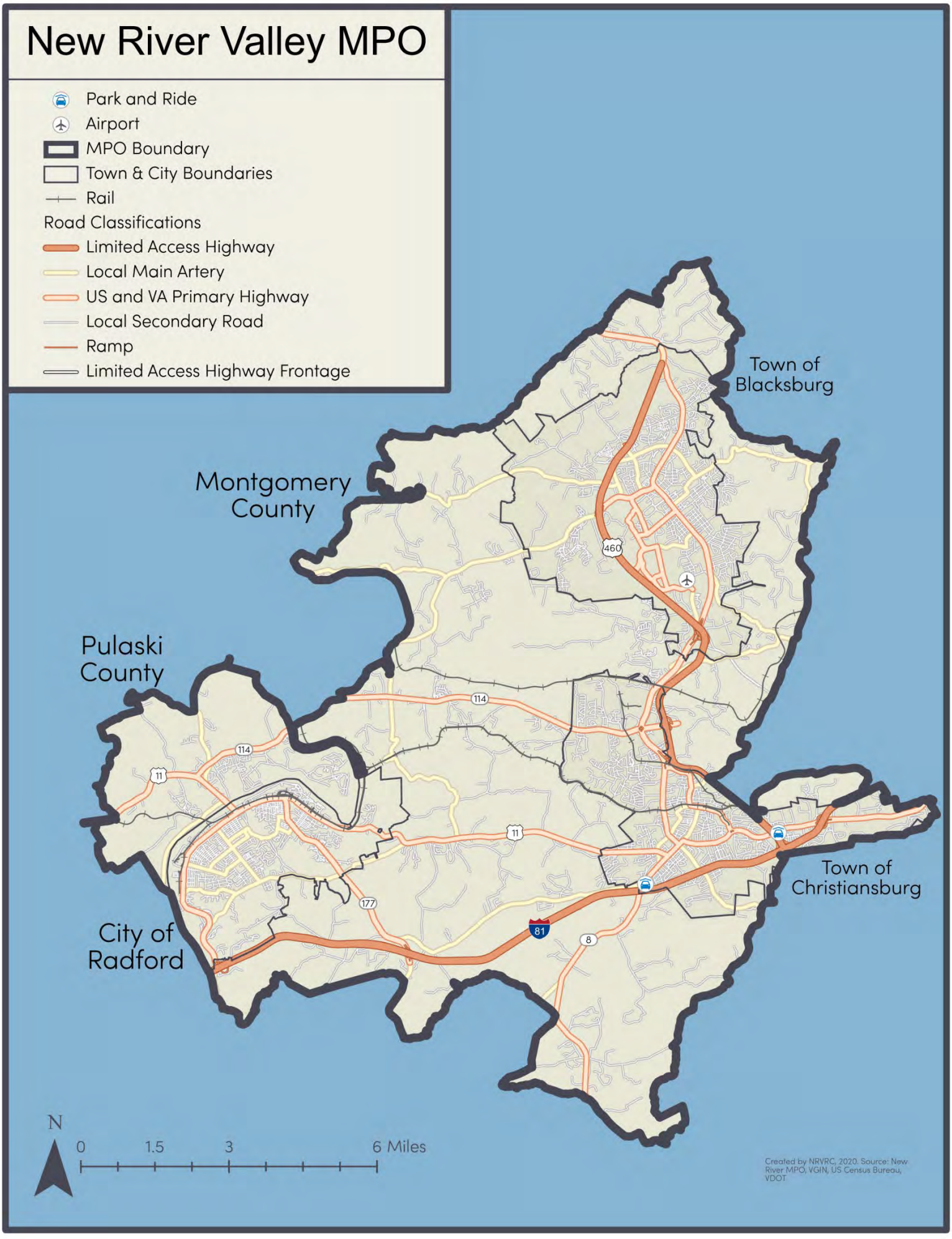
Roadways within the MPO

Interstates and freeways/expressways include Interstate 81. I-81 is a north-south interstate (passing mostly east-to-west through the southern portion of the MPO) situated along the outer skirts of the City of Radford and the Town of Christiansburg. The Interstate is designated as a Corridor of Statewide Significance (CoSS), also known as the Crescent Corridor, by Virginia's statewide multimodal transportation plan (VTrans). I-81 begins in Dandridge, Tennessee and ends at the Canadian border in New York. The interstate has the highest percentage of truck volume in the Commonwealth and serves a small percentage of commuting traffic. I-81 has four exits within the MPO area (105, 109, 114 and 118) and serves as a connecting route with the City of Roanoke to the north and the City of Bristol to the south.

There are several arterial routes within the NRVMPO planning area. The largest, US 460, is a major east-west route that passes predominantly north-to-south within the MPO. VTrans designates US 460 as a Corridor of Statewide Significance, also known as the Heartland Corridor. The route splits into U.S. 460 bypass and U.S. 460 business within the Towns of Blacksburg and Christiansburg. US 460 Business in Blacksburg is designated as Main Street, and as Franklin Street in Christiansburg.

US Route 11 is primarily a north-south arterial highway, that generally runs parallel to I-81 throughout the Commonwealth. Part of the Crescent Corridor, as designated by VTrans, US Route 11 is considered a Corridor of Statewide Significance because of its ability to serve as an alternate route for the interstate. From the south, US Route 11 passes through Pulaski County to the City of Radford, and then on to the Town of Christiansburg.

Additional arterial roadways within the NRVMPO planning area include, but are not limited to: Virginia Primary Route 177, the north-south link road originating at I-81 Exit 109 and terminating at US Route 11 in the City of Radford; Virginia Primary Route 8, a north-south road connecting the Town of Christiansburg to the Village of Riner in Montgomery County, and continuing south into Floyd County; Virginia Primary Route 114, an east-west road originating at the US 460 bypass in Christiansburg that continues west until ending in the Fairlawn area of Pulaski County at US Route 11; and Virginia Primary Route 111, also known as Depot Street, a link road running east to west in the Town of Christiansburg.


New River Valley MPO
Park and Ride
Airport
MPO Boundary
Town & City Boundaries
Rail
Road Classifications
Limited Access Highway
Local Main Artery
US and VA Primary Highway
Local Secondary Road
Ramp
Limited Access Highway Frontage
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, VDOT

Public Transportation

The MPO planning area is currently served by several local and regional bus operators. Service providers include: Blacksburg Transit, Radford Transit, Pulaski Area Transit, Smart Way Commuter Service, Virginia Breeze, New River Valley Senior Services, and Community Transit. Public Transportation options also include a bike share program, ROAM NRV that began in 2019.

Blacksburg Transit

Originally established in 1983, Blacksburg Transit (BT) has grown tremendously from its original fixed route service that featured three local routes. Although the Town of Blacksburg operates the public transit system, the service is fully funded by federal and state transit grants, fare box revenues, partnerships, advertising, and a portion of Virginia Tech student activity fees. BT is managed by a Transit Director and six managers overseeing 26 full-time and 157 part-time employees.

In FY19, BT provided 4.7 million passenger trips and served over 28 square miles that included nearly 280 bus stops. Services include fixed-route, demand response, and special event services within the Blacksburg, Christiansburg, and Montgomery area. Ridership generally consist of 90 percent students, five percent staff and five percent from the local community. In full Service, BT operates over fourteen fixed routes on weekdays.

Maintaining adequate service and vehicles with passenger service loads is a continuous effort as Virginia Tech continues to grow. Currently, if a route experiences overcrowding, BT employs extra buses to pick up individuals who were left behind when the regular route bus became full. In addition to balancing vehicle needs to meet demand, BT is also partnering with Virginia Tech to build a multi-modal transit facility. The facility would integrate connections to Home Ride and Smart Way buses, provide access to campus bike share, and serve as a hub for on-campus transit services.

Radford Transit

Originally established in 2009, Radford Transit (RT) provides transit circulation for both Radford University and area residents. Although the bus system is jointly administered by RU and the City, the City owns the vehicle fleet and contracts with New River Valley Community Services for operations. The service is fully funded by federal and state grants, fare box revenues, partnerships, and advertising. The transit department is one of nine departments which are overseen by the City Manager. A Policy Board, consisting of representatives from the City, RU, and contracted operator oversees the system to ensure mutual interests.

The City of Radford and Radford University have a memorandum of understanding (MOU) that sets out how the transit system is operated, evaluated, and how the costs are shared. The MOU designates "University routes," "City routes," and "University/City shared routes." Each entity is responsible for capital and operating costs based upon those routes, ridership reports, and service hours.

The initial service began with five routes and 100 stops. Contractual services with New River Valley Community Services (NRVCS) were awarded for a new five-year term in 2017. Today, Radford Transit operates all routes as a "deviated fixed-route" which enables deviations up to ¾-mile of the nearest bus stop. Approximately 80 percent of system riders are affiliated with the University, 13 percent local residents, and the remainder are visitors from Christiansburg and Blacksburg.

Pulaski Area Transit

Originally established in 2003, the Town of Pulaski began targeting a new service that catered to non-driving populations that were increasingly more dependent on other means of travel. The Town partnered with the New River Valley Agency on Aging/Senior Services (NRVSS). Approximately half of PAT's funding comes from federal sources, twenty percent from state, and thirty percent from local entities. PAT is governed by the NRVSS Board of Directors and the PAT Advisory Council, which represent stakeholders from the local service area.

PAT operates a scheduled "deviated fixed-route" service within the Town of Pulaski and to other communities in Pulaski County, including the Town of Dublin and Fairlawn areas. In addition to the deviated fixed-route service, PAT also operates the New River Express Route. The service begins in Downtown Pulaski and includes stops at New River Community College, Fairlawn area grocery stores, and the NRV Mall.

PAT currently provides service Monday through Saturday, from 7:00 am to 5:00 pm. On average, around 60 percent of ridership is on weekdays and the remainder on Saturdays. On the busiest days, PAT staff reports up to 700 calls for pick-ups. During the weekdays, PAT operates nine vehicles, which decreases to seven on Saturdays. Between FY15 and FY17, ridership increased around 40 percent.

Smart Way Commuter Service

The Smart Way is a commuter bus service that links the Roanoke Valley to the New River Valley. The service begins in downtown Roanoke at Valley Metro's Campbell Court Transportation Center and ends at the Virginia Tech Squires Student Center in Blacksburg. In addition to the Smart Way, Valley Metro operates a second route known as the Smart Way Express. The express route connects the Virginia Tech Main campus in Blacksburg with the Virginia Tech Carilion School of Medicine and Research Institute in Roanoke.

Virginia Breeze

The Virginia Breeze is an intercity bus service connecting Blacksburg, Virginia with Union Station in Washington DC. The daily route includes several stops in the New River Valley, Shenandoah Valley, and Northern Virginia. The service is open to the public and operates on a regularly scheduled fixed-route and all buses are capable of carrying luggage. In addition, there is one north-bound and one south-bound trip offered seven days a week, and 365 days a year except for inclement weather. Ticket prices range from $15-$50, depending on the selected trip.

New River Valley Senior Services

Senior Services has been providing transportation for qualifying seniors for over 40 years. The service footprint includes the entire New River Valley footprint (PDC 4). It is a private non-profit organization that is governed by a Board of Directors.

NRVSS operates 35 vehicles, all of which are ADA accessible and equipped with safety equipment. Primary service involves transportation services to six friendship cafés throughout the region. The program also provides shopping assistance to the Agency on Aging clients and general public who are 60 years of age or older, who have no transportation available.

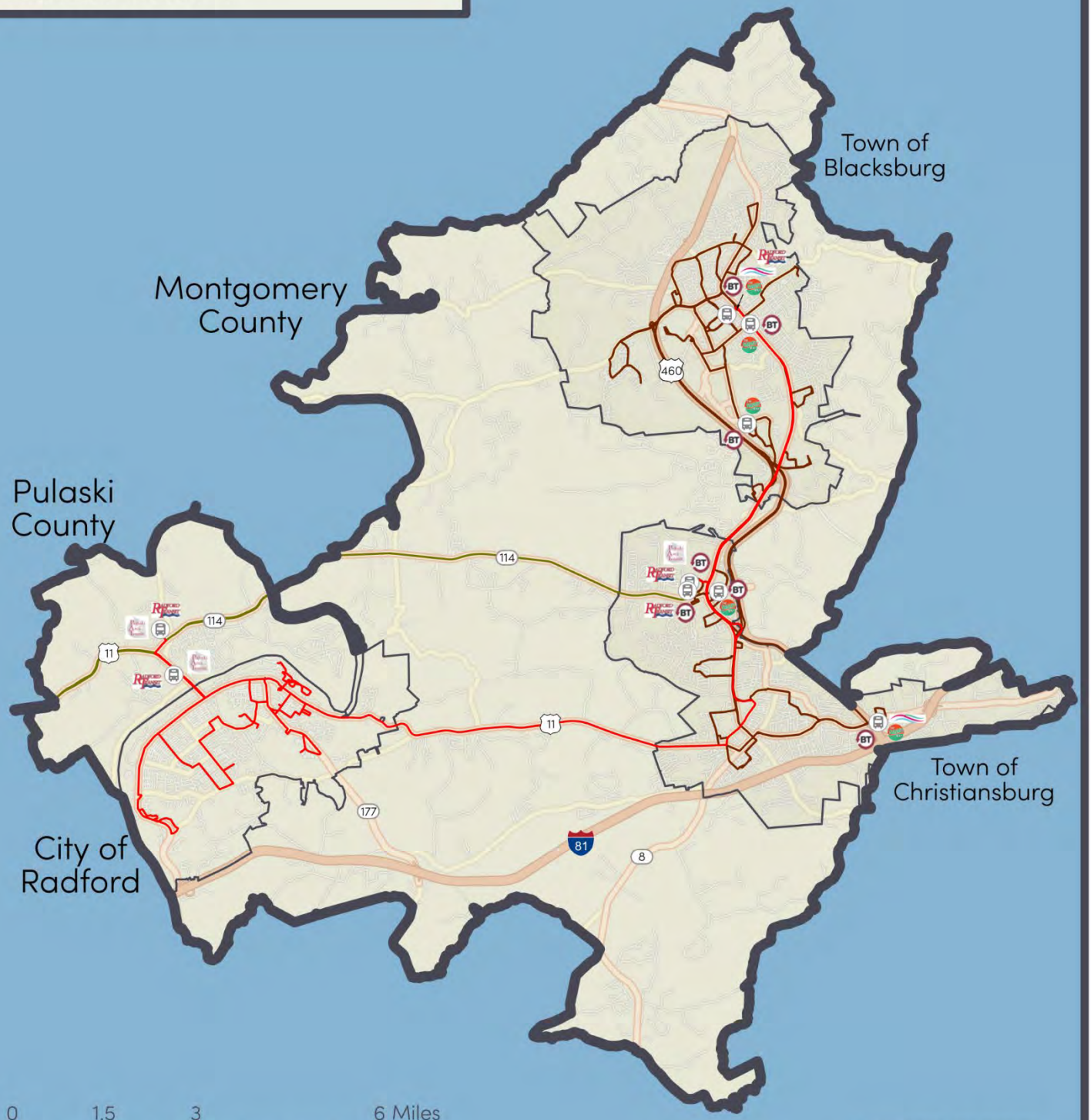
Community Transit

Community Transit (CT) serves individuals in the community who live with behavioral health issues. Specifically, transportation is provided to and from day support and treatment programs. In addition, CT provides transportation to hospital and doctors' visits for individuals with Medicaid funds. The service area includes the entire New River Valley footprint (PDC 4).

CT has a fleet of 10 buses and six minivans. All vehicles are accessible with wheelchair lifts or ramps and securement areas. In addition, all CT drivers are certified in Passenger Service and Safety (PASS) training.

Transit Network

- Town & City Boundaries
- MPO Boundary
- Radford Transit
- Blacksburg Transit
- Pulaski Area Transit
- Route Connections



N

0 1.5 3 6 Miles

Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Blacksburg Transit, Pulaski Area Transit, Radford Transit

Bicycle and Pedestrian

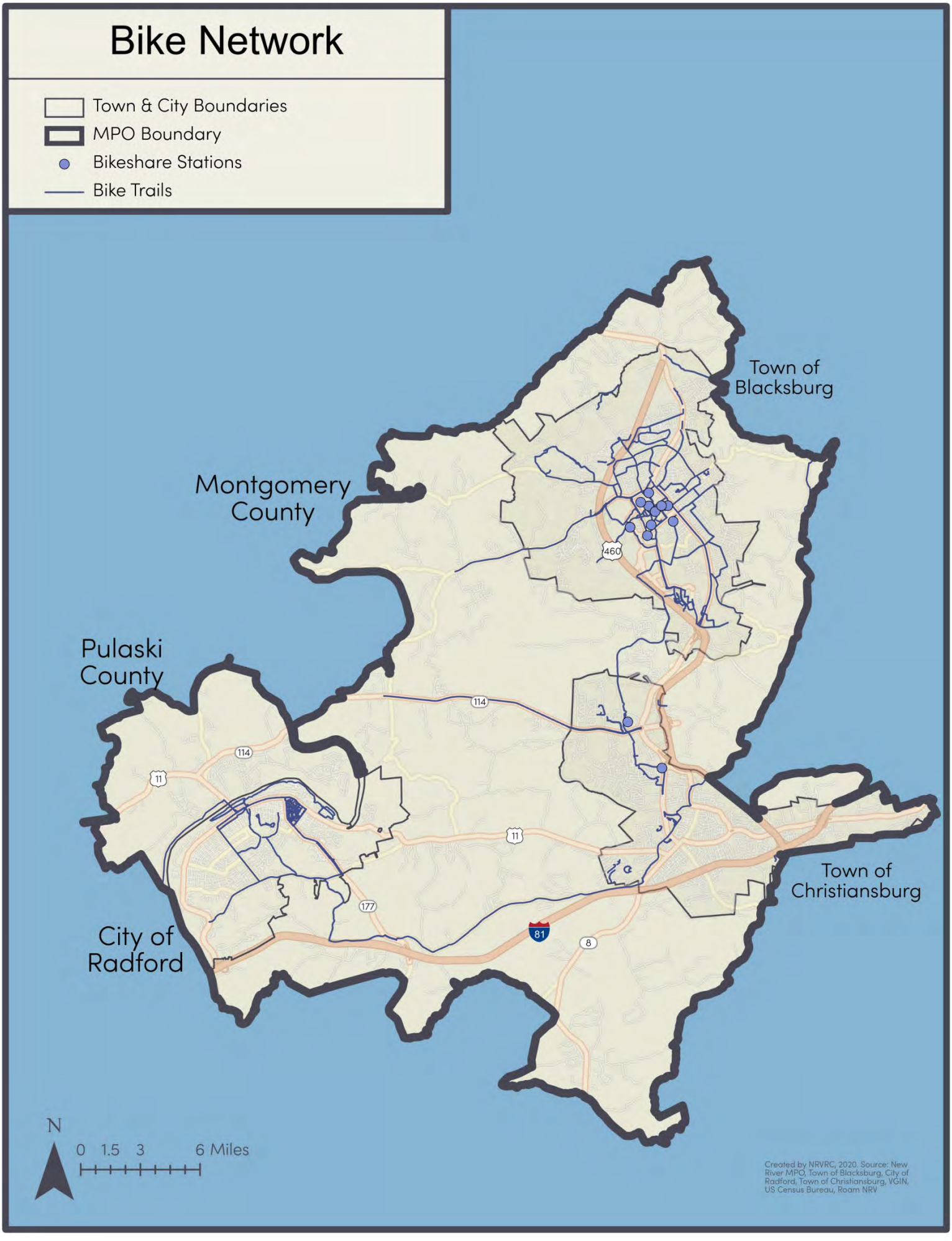
March 18, 2004, the Commonwealth Transportation Board (CTB) adopted the Policy for Integrating Bicycle and Pedestrian Accommodations. The policy acknowledged that bicycling and waking are fundamental and integral components of an efficient transportation network. Further, that accommodations provide the entire public with access to the network, connectivity with other modes, and independent mobility.

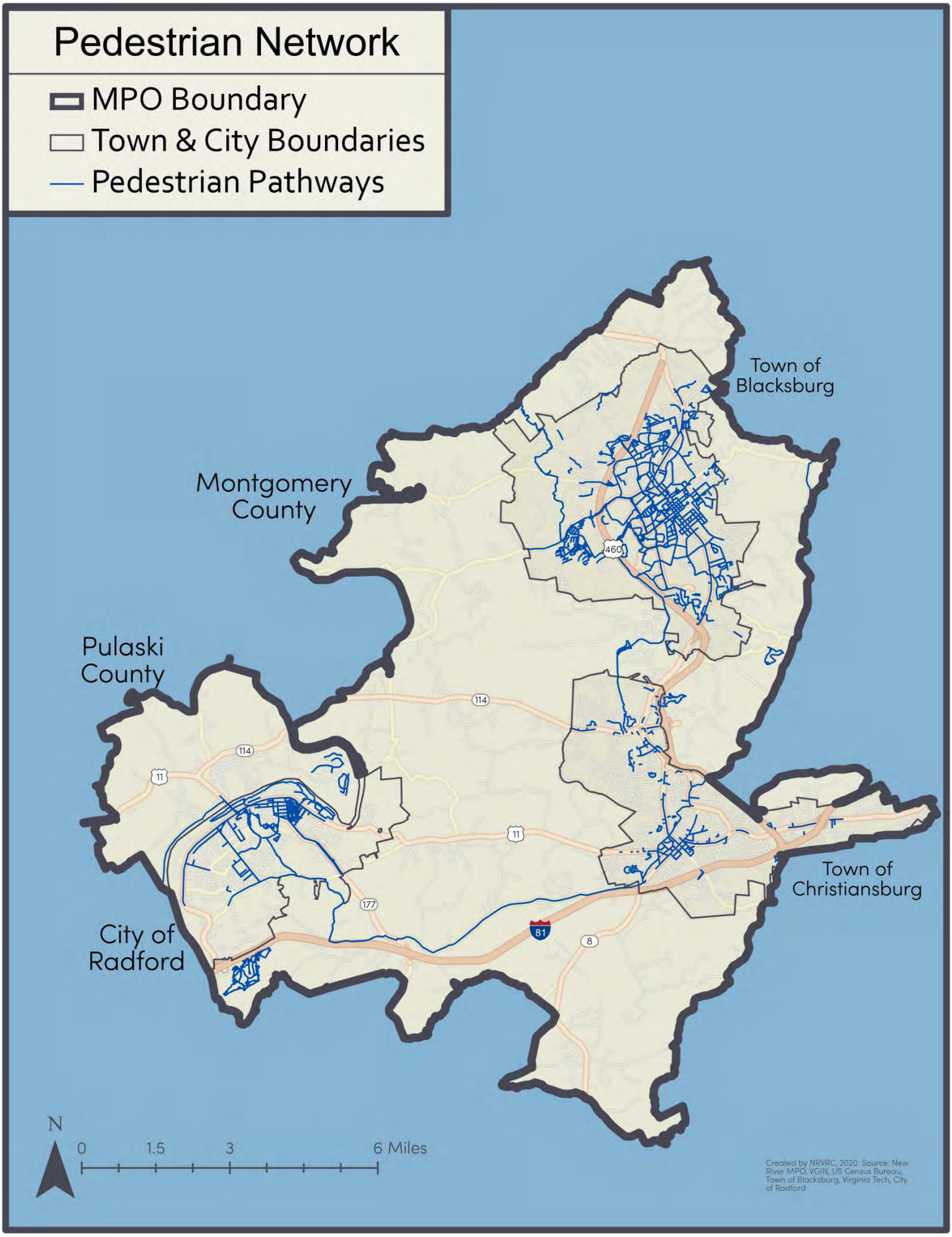
Electric Scooters

Originally launched in the fall of 2019 as an 18-month research project, Virginia Tech partnered with the company SPIN to start a scooter sharing program on the Virginia Tech Blacksburg campus. The initiative was part of a study being conducted by the Virginia Tech Transportation Institute (VTTI) to study naturalistic driving behaviors. During the study, scooter use was limited to the Virginia Tech campus and was enforced through geofencing. Scooters could be used during daylight hours and were removed from campus at night and during high traffic events. Some of the scooters were equipped with cameras to better document behaviors on and around the equipment. The cost to use the scooter was $1 to unlock and $0.15 per minute of use. The scooters were on campus through August 2020 and VTTI expects to present the findings of the research project after examining the data collected.

ROAM NRV

ROAM NRV is a bike share program (new for 2019) that is available for the public to use who are in the Blacksburg/Christiansburg area. Operated by the Gotcha Group, ROAM NRV is a partnership between Montgomery County, the Town of Christiansburg, the Town of Blacksburg, and Virginia Tech. Bike hubs are located throughout both towns and can easily be located on an interactive map. Bikes can be used via yearly or monthly subscription, and by renting for day use or a single trip. Annual use is $60 for 120 minutes of ride time per day, $20 a month for 90 minutes of ride time per day, a 24-hour day pass is $10, and a single trip is $1 per 15 minutes.


Bike Network
Town & City Boundaries
MPO Boundary
Bikeshare Stations
Bike Trails
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0 1.5 3 6 Miles
Created by NRVRC, 2020. Source: New River MPO, Town of Blacksburg, City of Radford, Town of Christiansburg, VGIN, US Census Bureau, Roam NRV


Pedestrian Network
MPO Boundary
Town & City Boundaries
Pedestrian Pathways
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Town of Blacksburg, Virginia Tech, City of Radford

Travel Demand Management

According to the Federal Highway Administration, travel demand management is about providing travelers, regardless of whether they drive alone, with travel choices, such as: work location, route, time of travel, and mode. In the broadest sense, demand management is defined as providing travelers with effective choices to improve travel time reliability.

RIDE Solutions

RIDE Solutions is a Transportation Demand Management Agency, connecting commuters and businesses to transportation options in the New River Valley, Roanoke Valley, Alleghany Highlands, Central Virginia, and West Piedmont regions. The program provides carpool matching services, information about electric car charging stations, park and ride locations, bicycle and pedestrian routes, and public transit options including Blacksburg Transit, Radford Transit, Pulaski Area Transit, Smart Way Bus, and Amtrak. The program also offers a guaranteed ride home service.

Public Park-and-Ride Lots

Virginia currently maintains nearly 300 park-and-ride lots across the Commonwealth. The lots are open for public use; however, parking areas are primarily used by commuters and students who are traveling longer distances. Two locations are currently offered within the NRVMPO planning area: 1) Interstate 81, Exit 118, and 2) Interstate 81 Exit 114. The lot at Exit 118 was recently improved and features a large paved parking area that can accommodate 270 vehicles, connects to public transit services, and provides shelters and lighting. The lot at Exit 114 is currently privately owned and features a gravel parking area that is suitable for 30 vehicles.

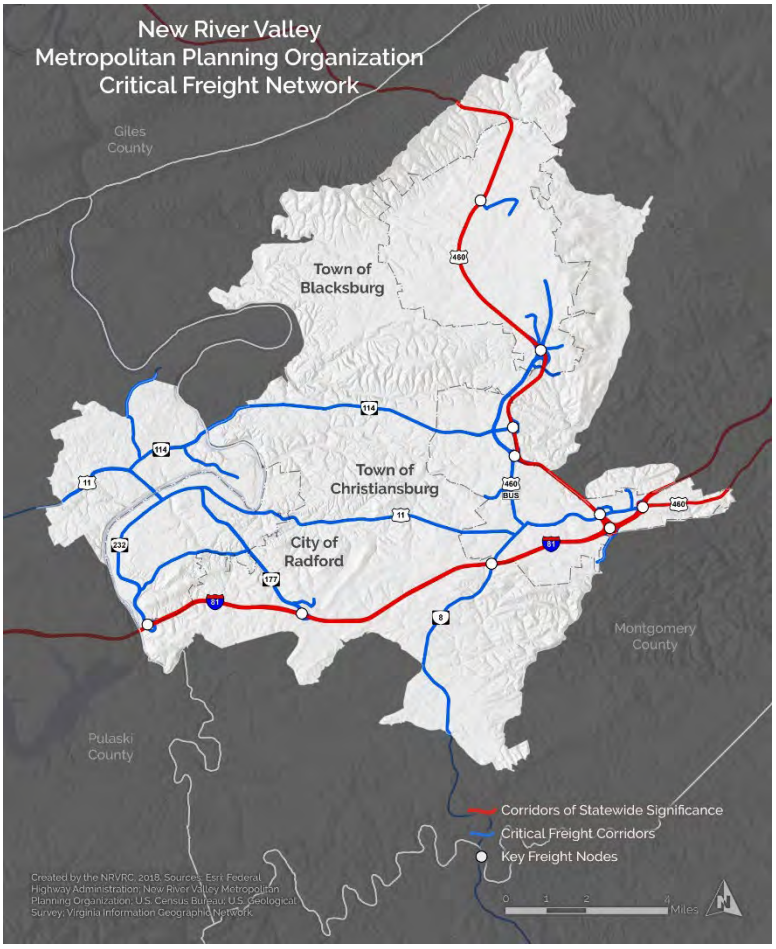
The Virginia Department of Transportation provides park-and-ride lot information online. The site features a mobile-friendly map that is designed to locate lots nearest you. The site also provides information about commuter resource agencies across the Commonwealth.

Freight

In the United States, trucks continue to dominate the bulk of freight shipments, moving nearly 70% of all tonnage. Rail comes in a distant second, moving around 10%, while pipeline and multiple modes tie for third, at slightly less than 8%. Freight is anticipated to grow across all transportation modes to meet the future needs of a growing population. The growth in freight will represent a growing economy while also placing increased pressure on infrastructure throughout the country. In the New River Valley, the value of exported goods is about $6.4 Billion annually.

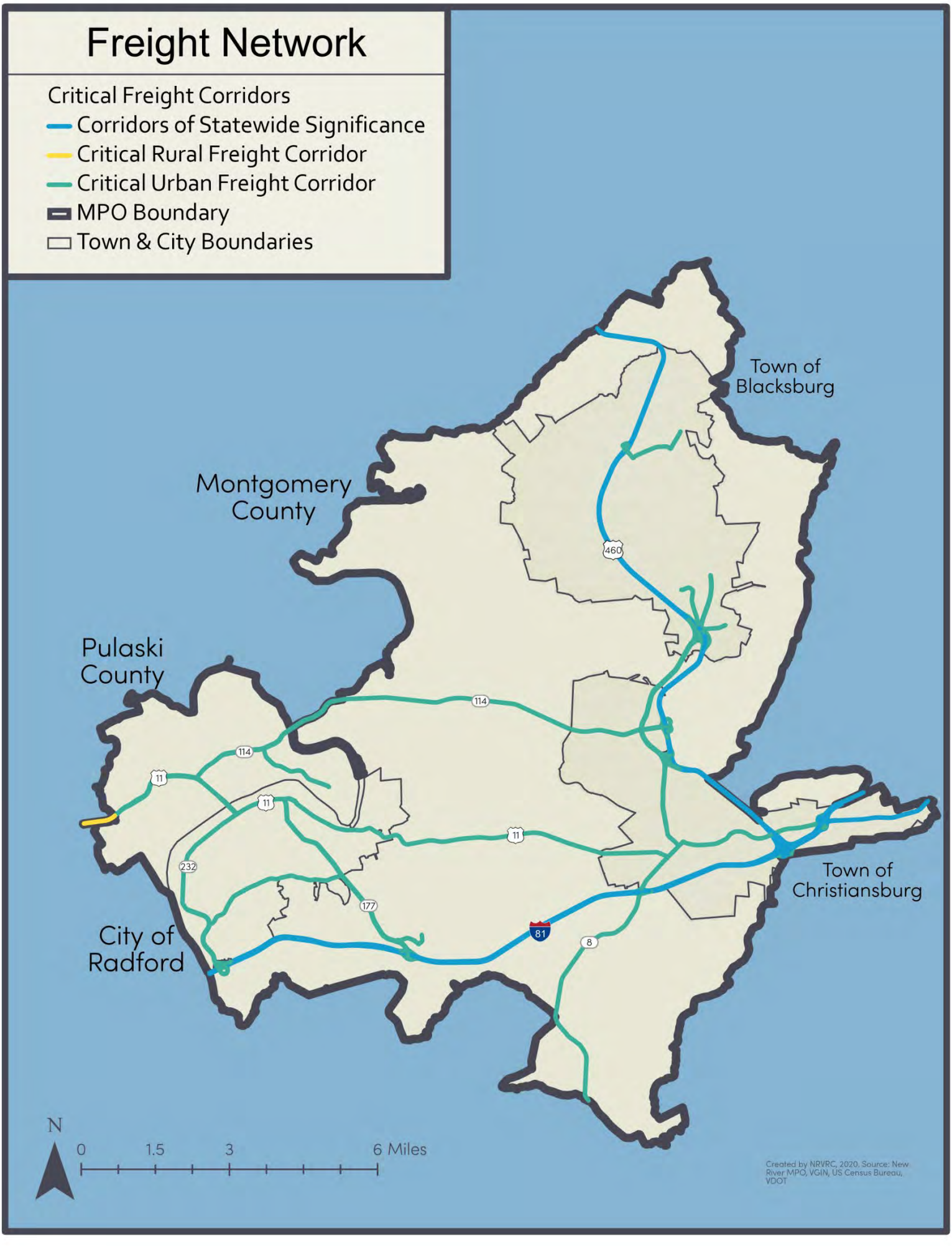
Regional Freight Network

In general, the region benefits from the presence of two Virginia Corridors of Statewide Significance (CoSS). Both, Interstate 81 and US Route 460, serve as gateways for regional freight distribution. The corridors are also known as the Crescent Corridor (I-81) and the Heartland Corridor (US Route 460). In Virginia, I-81 has the highest truck volume and hauls more tonnage than any other corridor in the Commonwealth. Other key freight trucking routes in the New River Valley include US Route 11 and Virginia Primary Routes 8, 100, 114, 177, and 232.



The majority of freight movement in the New River Valley is performed by trucks; however, some of the region's largest employers do utilize rail and air modes of transportation. Norfolk Southern is the Class 1 rail freight operator within the MPO boundary. Few spur tracks exist for the generation or consumption of quarry/mined products by local businesses and transport of solid waste. Two key rail corridors, the Crescent (main north/south route) and the Heartland (main east/west route) intersect just outside of the Radford.

There is currently not an option for import/export via air within the NRVMPO.


Freight Network
Critical Freight Corridors
Corridors of Statewide Significance
Critical Rural Freight Corridor
Critical Urban Freight Corridor
MPO Boundary
Town & City Boundaries
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
232
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, VDOT

The Port of Virginia

The Port of Virginia is an asset of the Commonwealth that promotes economic growth within the MPO and across the state. The region's freight transportation system is dependent on an interconnected system of rail, highways, and local roads for the movement of goods.

The Port of Virginia is the third largest port on the east coast and has experienced vast growth in annual container volumes. The construction projects at Virginia International Gateway and Norfolk International Terminals will add an additional 1 million annual TEU capacity to the terminals, and therefore, on the transportation system across the Commonwealth. Expansions at the Virginia Inland Port in Front Royal and projected growth of Richmond Marine Terminal will also add more freight to the transportation system. The freight fluidity within the transportation system is crucial for the economic growth of the region as well as the projected growth of The Port of Virginia and other private terminals in the Commonwealth.

It is important to consider the growth of freight within the transportation system for long-range planning of the region due to the positive contribution to the communities. Economic growth is paramount for a thriving region; however, addressing externalities of freight movements, including consideration of the health impacts of air pollution, noise, and vibration impacts of heavy trucks and trains must be part of the planning process.

Virginia's economic impact is estimated to be over $88 Billion, supports more than 9% of the entire statewide workforce, and equals nearly 7% of the Gross State Product. Around 25 businesses in the New River Valley currently utilize the Port. In 2016, the estimated cargo value was about $33.5 Million and more than 10,500 tons were shipped. Some of the top industries shipping cargo include: Volvo Trucks North America, United Pet Group, Korona Candles, Celanese Acetate, Cathay Industrial Biotech, Rapid Cool Trading USA, Hollingsworth and Vose Company, and Wolverine Advanced Materials.

Airport

The Virginia Tech Montgomery Executive Airport (VTMEA), in Blacksburg, accommodates business and personal travel via private charter and corporate aircraft. The Federal Aviation Administration classifies it as a general aviation airport. The Virginia Tech-Montgomery Airport Authority operates the airport and is made up of representatives from Montgomery County, the Towns of Blacksburg and Christiansburg, and Virginia Tech.

Operating two runways, each 5,500 feet long and 100 feet wide, with instrument approach available on both ends (13 & 31), the airport is located approximately 1 mile from the academic region of Virginia Tech's campus, two miles from downtown Blacksburg, and four miles from Christiansburg. The Airport Capital Improvement Program (CIP) is below.

Table 19: Airport Capital Improvement Program

2020 - 2025

VTMEA Airport CIP

	2020	2021	2022	2023	2024	2025
Extend Runway, Land Acquisition, Phase II	$1,150,000	-	-	-	-	-
Extend Runway, Land Acquisition, Phase III	-	$2,822,380	-	-	-	-
Extend Runway, Land Acquisition, Phase IV	-	-	$1,212,866	-	-	-
Extend Runway, Land Acquisition, Phase V	-	-	-	$2,163,418	-	-
Rehabilitate Apron, Design	-	-	-	$180,000	-	-
Rehabilitate Apron, Construction	-	-	-	-	$1,620,000	-
Airport Master Plan Update	-	-	-	-	$150,000	-
Expand Apron, Design	-	-	-	-	-	$118,750
CIP Totals:	$1,150,000	$2,822,380	$1,212,866	$2,343,418	$1,770,000	$118,750

Future Transportation Needs

Over $1 Billion in transportation improvements were identified through the process of this plan update. Projects were collected from statewide transportation partners, local 1-on-1 meetings with individual municipalities, and public engagement activities. If funding remains consistent with historical levels, less than 10% of the projects will be selected and funded through the 2045 planning horizon. Expanding and diversifying the local transportation system will continue to be increasingly difficult without additional funding options. Municipalities within the MPO planning area are placing more emphasis towards alternative transportation options to help mitigate travel reliability.

Passenger Rail

Attracting a new Amtrak passenger rail service extension from Roanoke is a regional priority for the New River Valley. In 2019, regional partners went so far as to develop an ownership strategy and revenue plan for the construction and ongoing maintenance of a new station in Christiansburg. Conceptual site plans and cost estimates were developed at a preliminary engineering level and regional partners have tentatively agreed to cost share the anticipated $360,000 annual operational costs. The projected ridership for the new station is estimated at 40,000 ons + offs. In 2016 the Department of Rail and Public Transportation awarded the MPO $350,000 to evaluate infrastructure needs along the Norfolk Southern main line, between Roanoke and Christiansburg.

Multimodal Systems

In 2014, the MPO developed a Bicycle and Pedestrian Master Plan that identifies activity densities and multimodal centers that are interconnected by corridors with modal emphasis. The MPO is encouraged to update the original plan and place more emphasis on linking public transit hubs and bus stops, bike share stations, and park and ride locations with a continuous bicycle and pedestrian network. The plan update should conform to the most current version of the Virginia Department of Rail and Public Transportation's Multimodal Design Guidelines.

Since the original plan was developed in 2014, several alternative transportation improvements were made within the metropolitan planning boundary. Improvements include, but are not limited to:

- Exit 118 Park and Ride Lot/Transit Hub
- ROAM NRV Bike Share Program
- The Virginia Breeze
- Transit Development Plan updates
- Valley to Valley Trail Initiative
- Expansion of the Huckleberry Trail network
- Identification of the future Passenger Rail Station

Maintaining a System of Good Repair

Pavement conditions in the New River Valley are relatively good when compared against other parts of Virginia. Statewide there is only 130 lane-miles of pavement categorized as poor, which accounts for less than a half-percent total pavement. About 38% of the pavement in the NRV planning area is categorized as good and there is a total of 123 lane-miles currently categorized as fair. The percentage of fair versus good is comparable to other metro areas in Virginia; however, the Hampton Roads planning area has nearly 2,000 lane-miles of fair or poorly rated pavement. Despite having zero lane-miles of poor categorized pavement, the New River Valley currently falls short of the 'good' federal performance target of 45%.

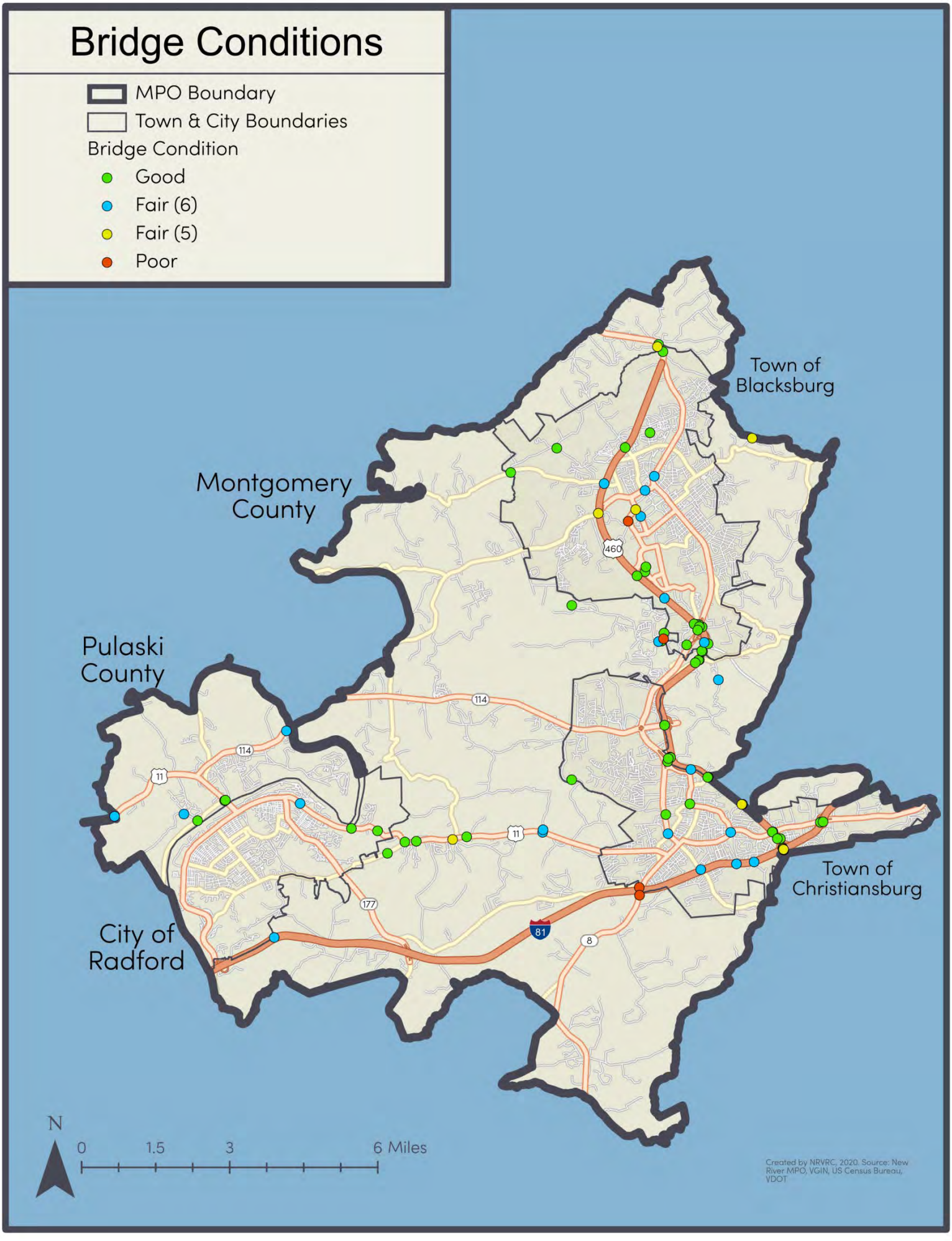
There are currently 165 bridges within the MPO planning area, nearly 20% of which are currently rated poor or fair and will likely need replaced before 2045. The cost to replace all deficient structures would require the full allocation of every projected transportation dollar anticipated through the planning horizon ($110M). As of March 2020, only 2.43% of the total deck area is in poor condition and requires immediate attention today. The total deck area percentage meets the current federal performance target of less than 3%. A map of bridge conditions is located on the next page.

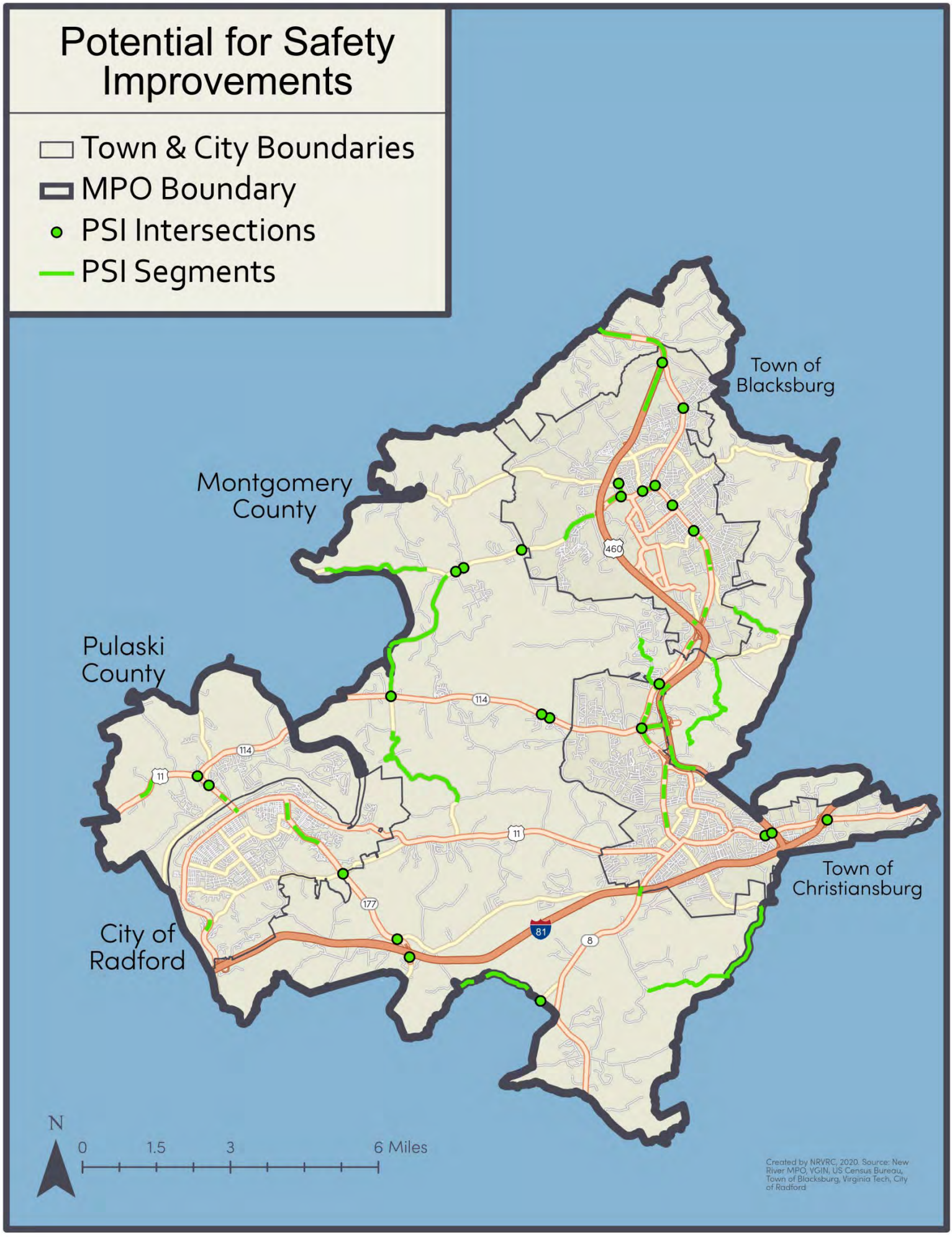
Safety & Accessibility

The Virginia Department of Transportation and the Department of Motor Vehicles is responsible for maintaining records of crashes, fatalities, and injuries that occur statewide. Higher risk roadway segments and intersections are ranked by DOT districts and referred to as Potential for Safety Improvement (PSI) areas. A map for PSI areas is shown on page 41. In addition to maintaining and ranking safety improvements at the district level, the MPO is also responsible for establishing performance targets to meet federal requirements.

When comparing the total miles traveled against the number of serious injuries and fatalities that occur regionally, the overall percentage of incidents has trended downward since 2006. Unfortunately, the total number of incidents has generally increased over the same period of time due to increasing vehicle miles traveled. In 2017, there were 7 fatalities and 907 injuries within the planning area.

Accessibility is a primary focus area at the local and regional levels within the planning area. There are several standing committees that focus on bicycle, pedestrian, bike share, transit, and TDM initiatives. As an example, between 2016 and 2018 each NRV transit service provider evaluated and prioritized bus stop safety and accessibility improvements across individual systems. In addition, Urban Development Areas have been identified and established as required by the Code of Virginia throughout the MPO planning area. In 2021, the NRVMPO will also complete a Multimodal Systems Plan update for the urbanized planning area.


Bridge Conditions
MPO Boundary
Town & City Boundaries
Bridge Condition
Good
Fair (6)
Fair (5)
Poor
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, VDOT


Potential for Safety Improvements
Town & City Boundaries
MPO Boundary
PSI Intersections
PSI Segments
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Town of Blacksburg, Virginia Tech, City of Radford

Economic Development

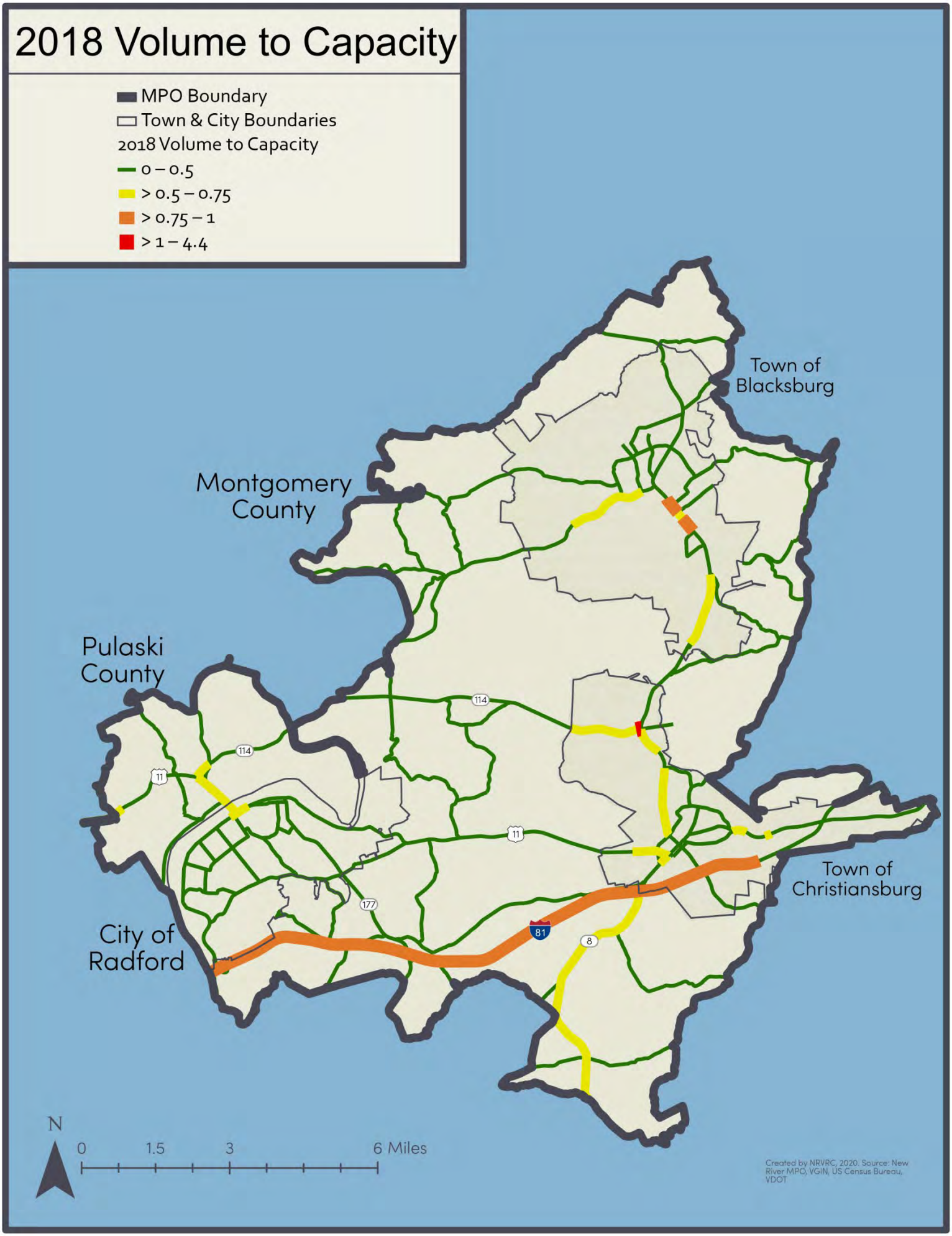
The New River Valley Metropolitan Planning Organization's multimodal transportation system plays a significant role in supporting the local economy. Common benefits of transportation improvements include improving accessibility to jobs, increasing employment opportunities, supporting new economic development, and increasing efficiencies. Many of the projects included in the 2045 constrained plan involve expanding mode choice, creating more opportunities for commercial, industrial, and residential development, expanding technology, and improving access to Virginia Corridors of Statewide Significance.

Congestion Mitigation

The transportation system performance is relatively good across the New River Valley, with the exception of peak-hour morning and evening travel. Statewide the four-year percentage of person-miles traveled that are reliable is 82%. In 2018, the NRV fell short of the performance target on non-interstate roadways (77%). A map illustrating the volume to capacity ratio is shown on page 50. Hotspots that experience heavier congestion include downtown commercial areas and Interstate 81.

Environmental Quality

The New River Valley planning area currently conforms to air quality goals as administered by the Federal Highway Administration. In 1990, the Clean Air Act was passed and one year later the Intermodal Surface Transportation Efficiency Act (ISTEA). Today, environmental modeling is authorized under the Congestion Mitigation and Air Quality Improvement Program (CMAQ). Areas that cannot meet air quality standards for ozone, carbon monoxide, particulate matter, or nitrogen dioxide are known as non-attainment areas.

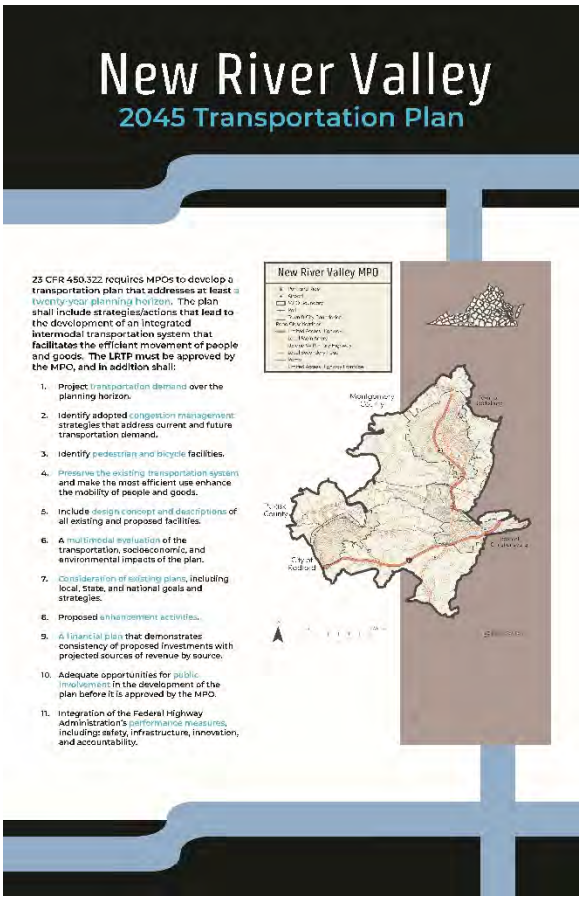

2018 Volume to Capacity
MPO Boundary
Town & City Boundaries
2018 Volume to Capacity
0 – 0.5
> 0.5 – 0.75
> 0.75 – 1
> 1 – 4.4
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
114
11
81
177
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, VDOT

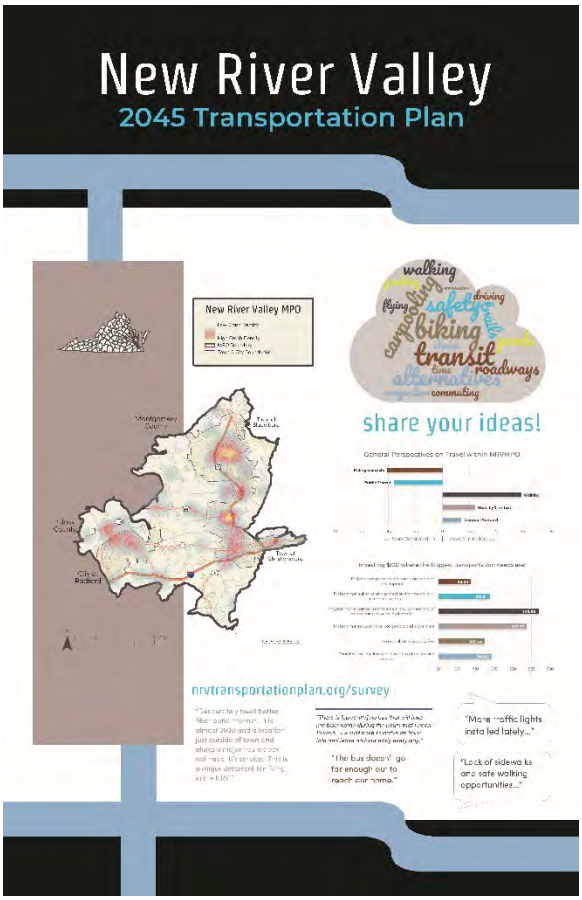
Public Engagement

Public engagement was conducted through a project website, online survey, interactive map, and in-person meetings. Around 700 people contributed ideas about what the future transportation system needed most and what areas could use more attention today. The New River Valley Metropolitan Planning Organization (NRVMPO) encouraged everyone to participate in the 2045 plan update and received tremendous input, despite seeking input during the COVID-19 pandemic.

Public Meetings

On December 4, 2019, a public meeting was held at the Montgomery County Government Center. A total of six participants attended the meeting to share their individual ideas. Key takeaways from the meeting included: 1) introducing electric vehicles across transit systems; 2) expanding transit services beyond town/city boundaries; and 3) improving busy intersections by adding turn lanes and increasing sight distance. Input was received via an interactive web map and through paper surveys made available at the meeting. Sample meeting display boards are sown below.

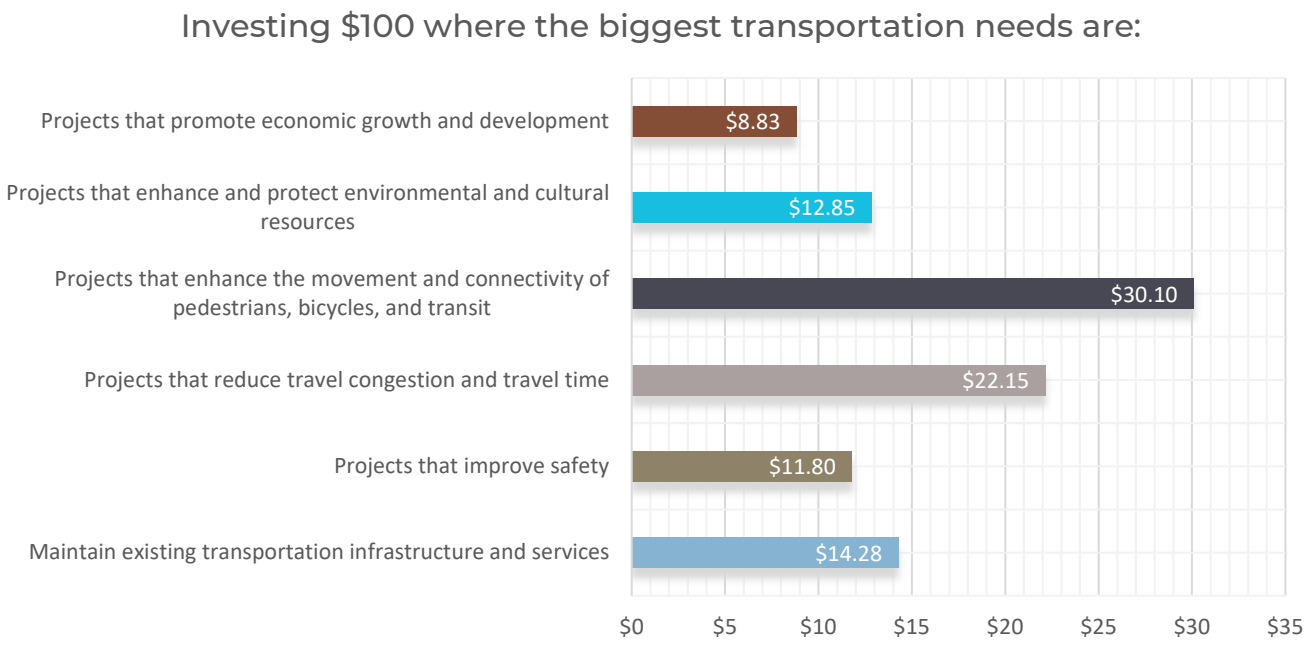




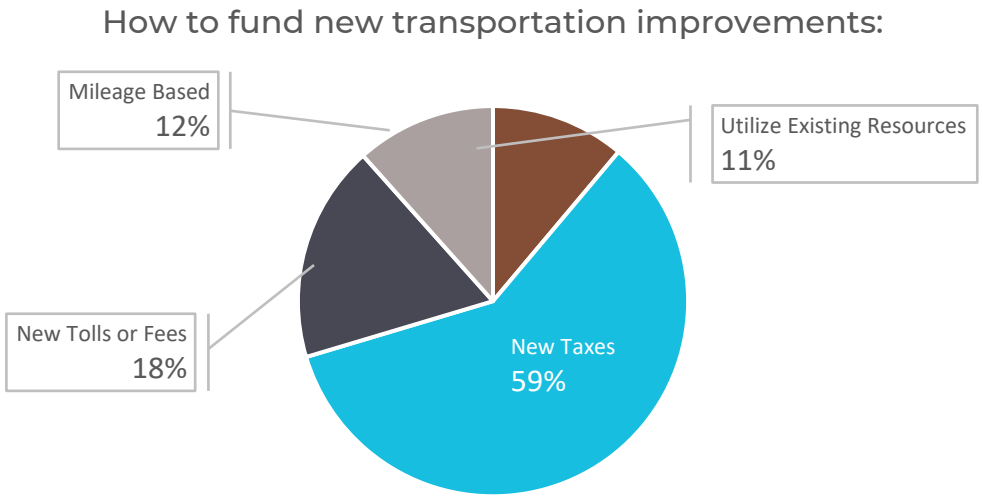
Although additional in-person public meetings were anticipated, the COVID-19 pandemic disrupted planned activities. Representatives of the NRVMPO Technical Advisory Committee continued to encourage online survey participation.

Online Survey

The public survey was launched in April 2019 and closed in September 2020 with nearly 650 responses. Here is a summary of what we heard:



Transportation improvements are known to be expensive. Many who completed the survey are open to the following methods of increasing transportation revenues:



Those who have taken the survey so far are currently experiencing gaps in public services or types of infrastructure to complete travel between home and work. Here's what people are saying:

"There is [currently] no bus that will take me from home during the hours that I need to work. I would have to arrive an hour late and leave an hour early every day."

"Lack of sidewalks and safe walking opportunities..."

"Desperately need better fiber optic internet. It is almost 2020 and a location just outside of town and along a major route does not have this service. This is a Major deterrent for living in the NRV."

"The bus doesn't go far enough out to reach our home."

"More traffic lights installed lately..."

"No bike lanes in critical areas with high bike traffic, no buses past a certain point or ride-share lots at the outskirts of bus services."

"The feds need to step up and increase overall infrastructure funding..."

"I think if we had safer ways for people to get around, like more bike lanes, more people would travel that way."

"Please don't institute tolls, I'd rather pay more at the pump..."

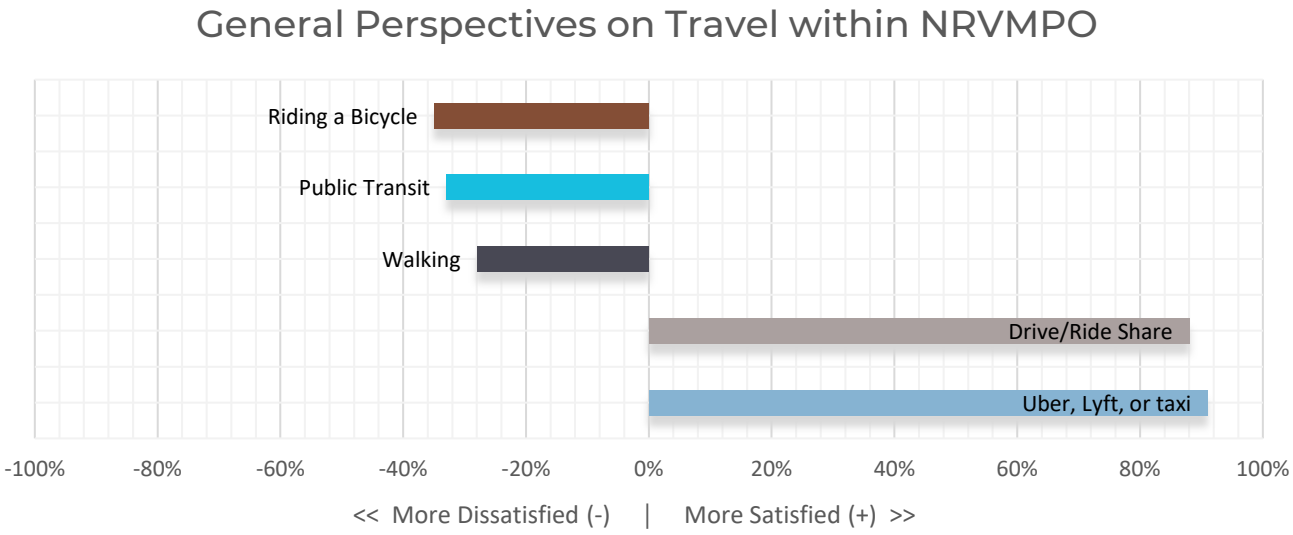
"We need more sidewalks!"

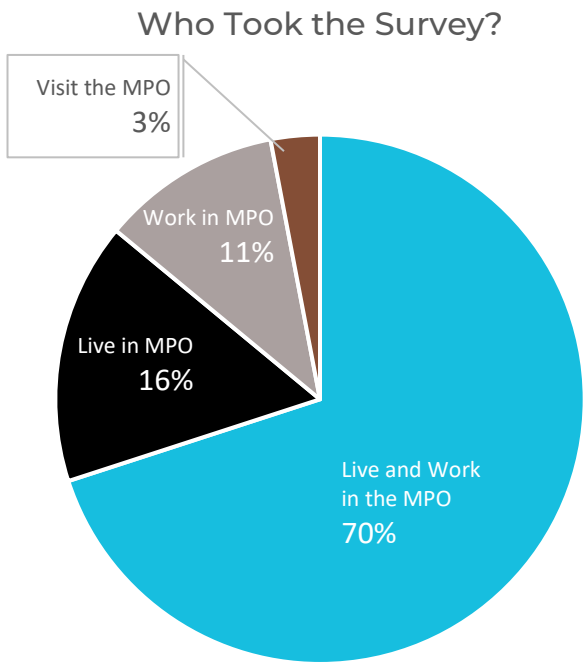
"The bus system remains focused on the student population. With the tech industry expanding in the whole NRV, the bus system needs to be overhauled to expand services to working professionals."

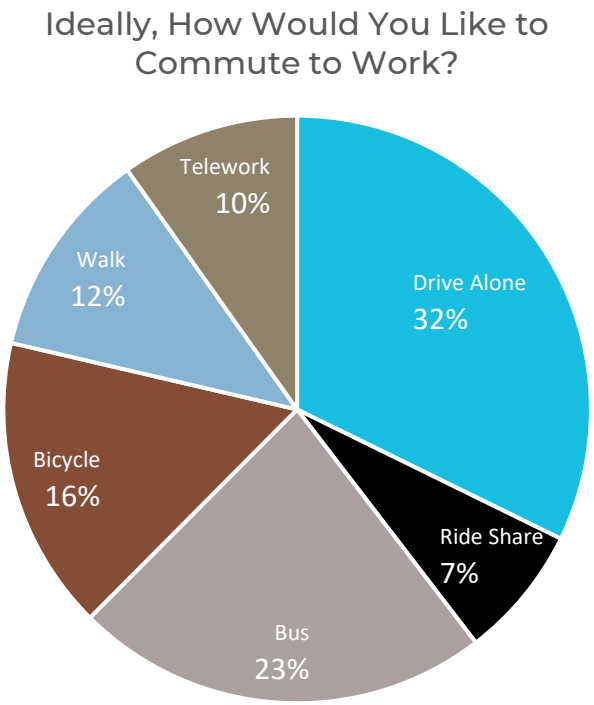
"There needs to be coordinated public transportation between all of the NRV and Roanoke, as well as passenger rail everywhere else!"

"Too much land is taken up by parking spaces, and too many land use decisions are driven by cars."

Further transportation input revealed survey respondent perspectives about general travel within the NRVMPO:







2045 Long-Range Transportation Plan

This section provides key strategies and performance-based planning goals for the 2045 LRTP.

2045 Planning Goals

The United States Department of Transportation established seven broad national goals under 23 USC § 150(b). In Virginia, the Office of Intermodal Planning and Investment has integrated these broad goals in to the statewide multimodal transportation plan, also known as VTrans. The national and statewide goals include:

- **Safety** – to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. *VTrans 2040* – provide safe and secure transportation system for passengers and goods on all travel modes.
    - *VTrans 2040, Safety for All Users, Objective 1:* reduce the number and rate of motorized fatalities and severe injuries.
    - *VTrans 2040, Safety for All Users, Objective 2:* reduce the number of non-motorized fatalities and sever injuries.
- **Infrastructure Condition** – to maintain the highway infrastructure asset system in a state of good repair. *VTrans 2040* – maintain the transportation system in good condition and leverage technology to optimize existing and new infrastructure.
    - *VTrans 2040, Proactive System Management, Objective 1:* improve the condition of all bridges based on deck area.
    - *VTrans 2040, Proactive System Management, Objective 2:* increase the lane miles of pavement in good or fair condition.
    - *VTrans 2040, Proactive System Management, Objective 3:* increase percent of transit vehicles and facilities in good or fair condition.
- **Congestion Reliability** – to improve the efficiency of the surface transportation system. *VTrans 2040* – increase the opportunities for people and businesses to efficiently access jobs, services, activity centers, and distribution hubs.
    - *VTrans 2040, Accessible and Connected Places, Objective 1:* reduce average peak-period travel times in metropolitan areas.
    - *VTrans 2040, Accessible and Connected Places, Objective 2:* reduce average daily trip lengths in metropolitan areas.
    - *VTrans 2040, Accessible and Connected Places, Objective 3:* increase the accessibility to jobs via transit, walking, and driving in metropolitan areas.
- **Freight Movement and Economic Vitality** – to improve the national freight network, strengthen the ability of rural communities to access national and international trade

markets, and support regional economic development. *VTrans 2040* – invest in a transportation system that supports a robust, diverse, and competitive economy.

- *VTrans 2040, Economic Competitiveness and Prosperity, Objective 1:* reduce the amount of travel that takes place in severe congestion.
- *VTrans 2040, Economic Competitiveness and Prosperity, Objective 2:* reduce the number and severity of freight bottlenecks.
- *VTrans 2040, Economic Competitiveness and Prosperity, Objective 3:* improve reliability on key corridors for all modes.

- **Environmental Sustainability** – to enhance the performance of the transportation system while protecting and enhancing the natural environment. *VTrans 2040* – support a variety of community types promoting local economies and healthy lifestyles that provide travel options, while preserving agriculture, natural, historic, and cultural resources.
  - *VTrans 2040, Healthy Communities and Sustainable Transportation Communities, Objective 1:* reduce per-capita vehicle miles traveled.
  - *VTrans 2040, Healthy Communities and Sustainable Transportation Communities, Objective 2:* reduce transportation related NOX, VOC, PM, and CO emissions.
  - *VTrans 2040 – Healthy Communities and Sustainable Transportation Communities, Objective 3*: increase the number of trips traveled by active transportation (bicycling and walking).

- **Reduced Project Delivery Delays** – to reduce project costs, promote jobs and the economy an expedite the movement of people and goods by accelerating project completion through eliminating days in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices. *VTrans 2040* – Virginia's multimodal transportation system will be good for business, good for communities, and good to go.
  - *VTrans 2040 Guiding Principle 1:* optimize return on investments.
  - *VTrans 2040 Guiding Principle 2:* ensure safety, security, and resiliency.
  - *VTrans 2040 Guiding Principle 3:* efficiently deliver programs.
  - *VTrans 2040 Guiding Principle 4:* consider operational improvements and demand management first.
  - *VTrans 2040 Guiding Principle 5:* ensure transparency and accountability, and promote performance management.
  - *VTrans 2040 Guiding Principle 6:* improve coordination between transportation and land use.
  - *VTrans 2040 Guiding Principle 7:* ensure efficient intermodal connections.

Performance Measures

The United States Federal Highway Administration established National performance measures for the Highway Safety Improvement Program (HSIP) in March 2016. The Safety Performance rulemaking requires MPOs to agree to contribute to meeting the State DOT targets or to establish its own. Under 23 CFR 490, safety measures include: number of fatalities, rate of fatalities per 100 million vehicle miles traveled, number of serious injuries, rate of series injuries, and non-motorized fatalities and serious injuries. The NRVMPO currently supports statewide targets established by the Virginia Department of Transportation.

Performance Measure Targets

Performance measure targets are outlined below, specific to the MPO planning area. The NRVMPO has adopted the measures used by the State. Currently measures have been established for safety and other measures will be adopted later in 2020. In accordance with federal requirements, Virginia has established safety performance objectives as published in the 2017 – 2021 Strategic Highway Safety Plan (SHSP). The measures adopted by the NRVMPO are below.

Table 20: 2017-2021 Strategic Highway Safety Plan Performance Objectives

	Performance Target	**Per Year Reduction**
1	Number of Fatalities	2%
2	Rate of Fatalities per 100 Million Vehicle Miles Travelled	3%
3	Number of Serious Injuries	5%
4	Rate of Serious Injury per 100 Million Vehicle Miles Travelled	7%
5	Number of Non-Motorized Fatalities and Serious Injuries	4%

Annual targets are developed collaboratively by the Department of Motor Vehicles Highway Safety Office and DOT Highway Safety Improvement Program Staff for measures 1-3. The measures are included in the Department of Motor Vehicles submits the measures to the National Highway Traffic Safety Administration (NHTSA) every June.

The Commonwealth Transportation Board (CTB) approves all five annual targets and the DOT submits an annual report to the Federal Highway Administration (FHWA) every August. Within 180 days, MPOs must indicate their support of statewide targets or submit their own unique regional targets for one or more of the safety measures.

At the federal level, a comprehensive safety plan focused on reducing fatalities and serious injuries on all public roads serves as the coordinating document for all other plans and programs that involve traffic safety. The Federal Strategic Highway Safety Plan has a planning horizon of five years. The integration of federal plans and metropolitan planning organization plans improves overall safety coordination amongst various partners.

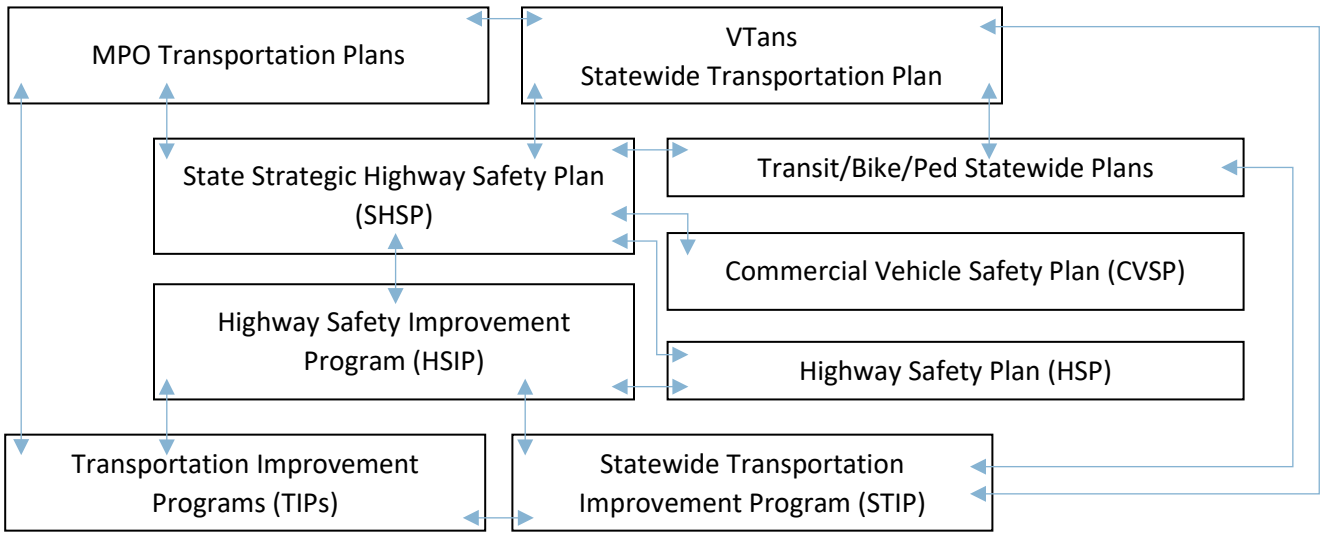
The Connection Between Federal, State, and Regional Plans

VTrans, the statewide long-range transportation plan, guides the Commonwealth's investment decisions for transportation improvements. Safety and performance management is included in the VTrans Vision, Goals and Objectives, and Guiding Principles, which includes:

- Guiding Principle 2: Ensure Safety, Security, and Resiliency – provide a transportation system that is safe for all users, responds immediately to short-term shocks such as weather events or security emergencies, and adapts effectively to long-term stressors such as sea level rise.
- Guiding Principle 5: Ensure Transparency and Accountability, and Promote Performance Management – work openly with partners and engage stakeholders in project development and implementation, and establish performance targets that consider the needs of all communities, measure progress towards targets, and to adjust programs and policies as necessary to achieve the established targets.

Metropolitan Planning Organization (MPO) Long-Range Plans are similar to VTrans; however, a MPO plan covers a specific metropolitan planning area. The plans include goals and objectives for their respective areas/regions and identify strategies for advancing long-term transportation investments that are consistent with VTrans.

The Highway Safety Plan (HSP) is an annual plan to address highway user behaviors that will improve safety through education and enforcement campaigns. The National Highway Traffic Safety Administration and HSP grant funding is administered through the Highway Safety Office at the Department of Motor Vehicles. Furthermore, each year the Virginia State Police submits a Commercial Vehicles Safety Plan to Federal Motor Carrier Safety Administration as a requirement of obtaining related enforcement grants. The relationship between the various plans is shown below.



Funding for Safety Projects

Safety targeted improvements are implemented through the Highway Safety Improvement Program (HSIP) projects. Each year, Virginia is allocated around $55M for HSIP and $5M for Railway Grade Crossing improvements. Virginia is also subject to a penalty transfer provision, Section 154 'open container', such that 2.5% of funds are reserved for either alcohol-impaired driving or HSIP projects. The State determines what proportion goes to each program. About 10 percent of HSIP funds are set aside for non-motorized safety projects and 20 percent of the remainder for improvements on locally maintained highways.

Highway Safety Improvement Projects are selected for inclusion in the STIP through the following project planning and delivery steps:

1. Highway segments and intersections that have the highest potential for safety improvements are identified based on the previous five years of traffic crash and volume data. Above average locations are identified annually and provided to each VDOT District in order to determine appropriate locations for HSIP funded projects.
2. HSIP project proposals are submitted through the SMART Scale Portal for the appropriate safety program.
3. VDOT and locality submitted proposals are reviewed and prioritized based on the number of targeted crashes and the benefit to cost ratio or the potential risk reduction for non-motorized and rail highway grade crossing improvements.
4. Projects are selected and programmed for the last two or three years of the Six-Year Improvement Program. There are currently over $100M of safety improvement proposals that remain unfunded, despite expected benefits.

In recent years, HSIP projects have shifted from being higher-cost intersection and segment improvements to lower cost systemic improvements that target specific crash types and/or factors across the network. Examples of systemic improvements include traffic signal devices and timing at intersections, curve signage, higher friction surfaces and rumble strips along segments.

Projects that include safety improvements can be funded with non-HSIP sources. The SMART Scale scoring and prioritization process considers safety benefits from improvements addressing travel of all modes. Additional sources include the Transportation Alternatives Program, Safe Routes to School, and Revenue Sharing. Projects that align with Virginia's safety objectives are consistent with the statewide multimodal systems plan, VTrans.

Performance Targets for Motorized and Non-Motorized Safety

The New River Valley Metropolitan Planning Organization has identified the following targets for general motorized and non-motorized safety:

Table 21: Future Target Annual Percent Change

Target Description	Statewide Target Annual Percent Change
Fatalities	+4.29%
Serious Injuries	-0.58%
Non-Motorized Fatalities and Serious Injuries	-0.84%
Vehicle Miles Traveled (VMT)	+1.70%

Table 22: 2020 Safety Performance Targets

Target Description	Target Value
Fatalities	6.00
Fatality Rate	0.76
Serious Injuries	75.00
Serious Injury Rate	9.19
Non-Motorized Fatalities and Serious Injuries	13.00

Table 23: 2018 Asset Condition Performance Targets

Measure	4-Year Target
Percent of pavement in good condition (Interstate)	45%
Percent of pavement in poor condition (Interstate)	3%
Percent of pavement in good condition (non-Interstate NHS)	25%
Percent of pavement in poor condition (non-Interstate NHS)	5%
Percent of deck area of bridges in good condition (NBI on NHS)	33%
Percent of deck area of bridges in poor condition (NBI on NHS)	3%
Percent of person-miles traveled that are reliable (Interstate)	82%
Percent of person-miles traveled that are reliable (non-Interstate NHS)	82.5%
Truck travel time reliability index	1.56
Precent of non-SOV travel	N/A
Annual hours of peak hour excessive delay per capita	N/A
CMAQ program emissions: total emission reductions for VOC	N/A
CMAQ program emissions: total emission reductions for NOx	N/A

Performance Based Planning and Programming for Transit

The new federal performance measurement requirement for transit agencies focuses on one area: transit asset management (TAM). The measures look specifically at Useful Life Benchmarks (ULB) for vehicles and equipment; and percentage of fatalities with a condition below the Federal Transit Administration's scale. All transit agencies receiving federal grants are required to complete a Transit Asset Management Plan.

Table 24: Transit Asset Management Rolling Stock and Facilities Targets

Asset Category – Performance Measure	**Asset Class**	**2020 Target**
Revenue Vehicles		
Age – Percent of revenue vehicles within a particular asset class that have been met or exceeded their Useful Life Benchmark (ULB)	AB – Articulated Bus	15%
	BU – Bus	10%
	CU – Cutaway	10%
	MB – Minibus	20%
	BR – Over-the-Road Bus	15%
	TB – Trolley Bus	10%
	VN – Van	25%
Equipment		
Age – Percent of vehicles that have met or exceeded their Useful Life Benchmark (UBL)	Non-Revenue/ Service Automobile	25%
	Trucks and other Rubber Tire Vehicles	25%
Facilities		
Condition – Percent of facilities with a condition rating below 3.0 on the FTA TERM Scale	Administrative and Maintenance Facility	10%
	Administrative Office	10%
	Maintenance Facility	10%
	Passenger Facility	10%

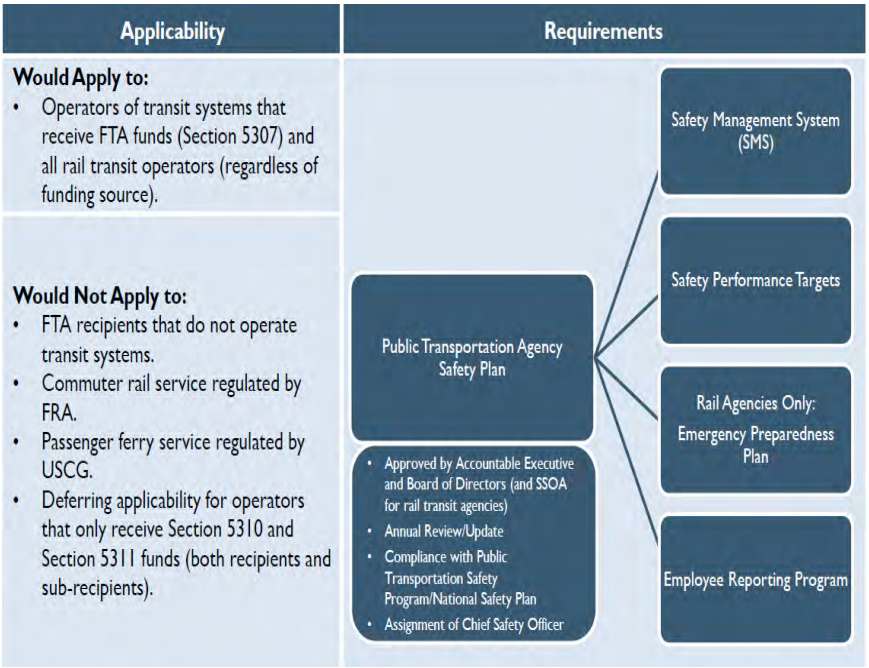
The New River Valley's planning process will integrate, either directly or by reference, the goals, performance measures, and targets described for Tier II agencies. Transit agencies currently operating within the MPO planning area have 100 vehicles or less to meet the Tier II requirement. The National Transit Asset Management System Final Rule (49 U.S.C. 625) specifies four performance measures that are described in the table below.

Additional information and guidance regarding performance measures is available on the Federal Transit Administration's Transit Asset Management website, here: www.transit.dot.gov/TAM.

Federal transportation laws establish performance measure requirements to ensure states and metropolitan planning organizations are investing transportation funds in projects that collectively contribute towards the achievement of national goals. The United States Department of Transportation recently published new rules for states and MPOs to collect data and establish performance targets that will support performance and outcome-based investment decisions.

The Public Transportation Agency Safety Plan (PTASP) final rule (49 C.F.R. Part 673) intends to improve public transportation safety by guiding transit agencies to more effectively and proactively manage safety risks in their systems. It requires certain recipients and sub-recipients of Federal Transit Administration (FTA) grants that operate public transportation to develop and implement safety plans that, establish processes and procedures to support the implementation of Safety Management Systems (SMS).

The rule applies to all operators of public transportation systems that are recipients and sub-recipients of FTA grant funds. Specifically, recipients or sub-recipients who operate public transportation and are a recipient or sub-recipient of Urbanized Area Formula Grant Program funds under 49 U.S.C. § 5307.



DRPT Role

DRPT has drafted a PTASP on behalf of small Tier II transportation providers. Under the PTASP rule a small tier II transportation provider is defined as meeting all of the following criteria:

- Is a recipient or sub-recipient of FTA's Urbanized Area Formula Program,
- Operates 100 or fewer vehicles in peak revenue service, and
- Does not operate rail/fixed-guideway public transportation

As part of PTASP requirements, transit agencies must set safety performance targets in their safety plans for each mode (Fixed route and paratransit) based on the following safety performance measures that Federal Transit Administration (FTA) has established in the National Public Transportation Safety Plan (NSP):

Table 25: Federal Transit Administration Measures and Targets

Measure	Target Type		Desired Direction
Fatalities	Total number	Rate per revenue miles	Decreasing number and rate
Injuries	Total number	Rate per revenue miles	Decreasing number and rate
Safety events	Total number per year	Rate per revenue miles	Decreasing number and rate
System reliability	Distance between major failures	Distance between minor failures	Decreasing number and rate

MPOs must reference performance targets and plans within the MPO transportation improvement program (TIP) and long-range plan. The Safety performance targets and performance-based plans should inform a transit agency's investment priorities, and those investment priorities should be carried forward within the MPO's and State DOT's planning processes. MPOs should also make reference to the PTASP plan in their TIP.

MPO Role

The PTAPS rule states that each transit provider must provide the MPO with safety performance targets to assist the MPO with capital program planning process (Long Range Transportation Plan and TIP). The MPO will need to incorporate the performance targets and safety plan(s) (by reference) into the TIP and LRTP. Additional resources on the MPOs role in PTAS is available from the FTA's MPO frequently asked questions page.

MPOs with tier II transit agencies(s) participating in the group plan, DRPT is providing the agency specific targets developed for the Statewide Tier II group PTASP plan to the MPOs for consideration and inclusion in MPO TIPs. MPOs may consider adopting the targets provided in the group plan or adopting regionally specific targets of their own. For additional guidance please refer to FTA's Safety performance Targets Guide. In many cases MPOs can add the targets to the TIP via an administrative update instead of an amendment.

As with other performance measures under MAP-21, MPOs will have 180 days from the date the plans are certified to adopt measures into the TIP and LRTP. With the publication date of the Tier II group plan being 8/11/2021, MPOs will have to adopt initial targets by 2/7/2021. Once complete, transit agencies will be required to review their PTASP annually by July 20th.

The Virginia Department of Rail and Public Transportation (DRPT) is the sponsor for the Statewide Tier II Group Plan. Both Blacksburg and Radford transit agencies are currently categorized as Tier II agencies which participate in the sponsored group Transit Asset Management Plan. The MPO has integrated the goals, measures, and targets described in the Federal Group Transit Asset Management Plan into the rolling stock and facilities targets.

Table 26: Blacksburg Transit Agency PTASP Performance Targets

Performance Measures	Fixed Route Targets	Paratransit/Demand Response Targets
Fatalities (total number of reportable fatalities per year)	0	0
Fatalities (rate per total vehicles revenue miles by mode)	0	0
Injuries (total number of reportable injuries per year)	5	0
Injuries (rate per total vehicle revenue miles by mode)	Less than 0.5 injuries per 100,000 miles	Less than 0.5 injuries per 100,000 miles
Safety events (total number of safety events per year)	10	1
Safety (rate per total vehicle revenue miles by mode)	Less than 1 reportable event per 100,000 miles	Less than 1 reportable event per 100,000 miles
Distance between manor failures	10,000 miles	10,000 miles
Distance between minor failures	3,200 miles	3,200 miles

Table 27: Radford Transit Agency PTASP Performance Targets

Performance Measures	Fixed Route Targets	Paratransit/Demand Response Targets
Fatalities (total number of reportable fatalities per year)	0	NA
Fatalities (rate per total vehicles revenue miles by mode)	0	NA
Injuries (total number of reportable injuries per year)	2	NA
Injuries (rate per total vehicle revenue miles by mode)	Less than 0.5 injuries per 100,000 miles	NA
Safety events (total number of safety events per year)	3	NA
Safety (rate per total vehicle revenue miles by mode)	Less than 1 reportable event per 100,000 miles	NA
Distance between manor failures	10,000 miles	NA
Distance between minor failures	3,200 miles	NA

Table 28: Tier II Transit Agencies Participating in DRPT Group Plan

Transit Agency	MPO
Blacksburg Transit	New River Valley
Blue Ridge Intercity Transit Express (BRITE)	Staunton Augusta Waynesboro
Charlottesville Area Transit	Charlottesville Albemarle
City of Bristol Transit	Bristol
City of Harrisonburg Transit	Harrisonburg Rockingham
City of Radford Transit	New River Valley
City of Suffolk Transit	Hampton Roads TPO
City of Winchester Transit	Winchester-Frederick County
Fredericksburg Regional Transit	Fredericksburg Area
Greater Lynchburg Transit	Central Virginia
Greater Roanoke Transit	Roanoke Valley TPO
JAUNT	Charlottesville Albemarle
Mountain Lynx Transit (District 3 Transit)	Bristol Tennessee-Virginia Area MPO
Petersburg Transit	Tri-Cities
Williamsburg Area Transit	Hampton Roads TPO

Public Transportation Program Funding

Federal grants for public transportation programs are authorized by the FAST Act signed into law in December. Brief descriptions of funding categories for capital and operating expenses are given below for the programs typically used by transit agencies in the NRVMPO. Descriptions are posted at https://www.transit.dot.gov/grants.

- Section 5310 Enhanced Mobility of Seniors & Individuals with Disabilities (formerly section 16) - Formula funding to states for the purpose of assisting private nonprofit groups in meeting transportation needs of the elderly and persons with disabilities.
- Section 5311 Formula Grants for Rural Areas (formerly Section 18) - Provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations less than 50,000, where many residents often rely on public transit to reach their destinations.
- Section 5339(a) Grants for Buses and Bus Facilities Formula Program - Provides funding to states and transit agencies through a statutory formula to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. In addition to the formula allocation, this program includes two discretionary components: The Bus and Bus Facilities Discretionary Program and the Low or No Emissions Bus Discretionary Program.
- Grants for Buses and Bus Facilities Program - Provides funding through a formula and competitive allocation process to states and transit agencies to replace, rehabilitate and purchase buses and related equipment and to construct bus-related facilities. The competitive allocation provides funding for major improvements to bus transit systems that would not be achievable through formula allocations.
- Section 5307 Urbanized Area Formula Grants - Provides funding to public transit systems in Urbanized Areas (UZA) for public transportation capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances. Up to 80% of capital improvements and up to 50% for operating expenses may be federally funded. Project priority is determined by the state.

The Federal Transit Administration has several other funding programs that are for planning and other specialized purposes and are generally not referred to in the Transportation Planning and Research Program.

APPENDIX A
PUBLIC INPUT

2045 NRVMPO Plan

Tuesday, October 06, 2020

652

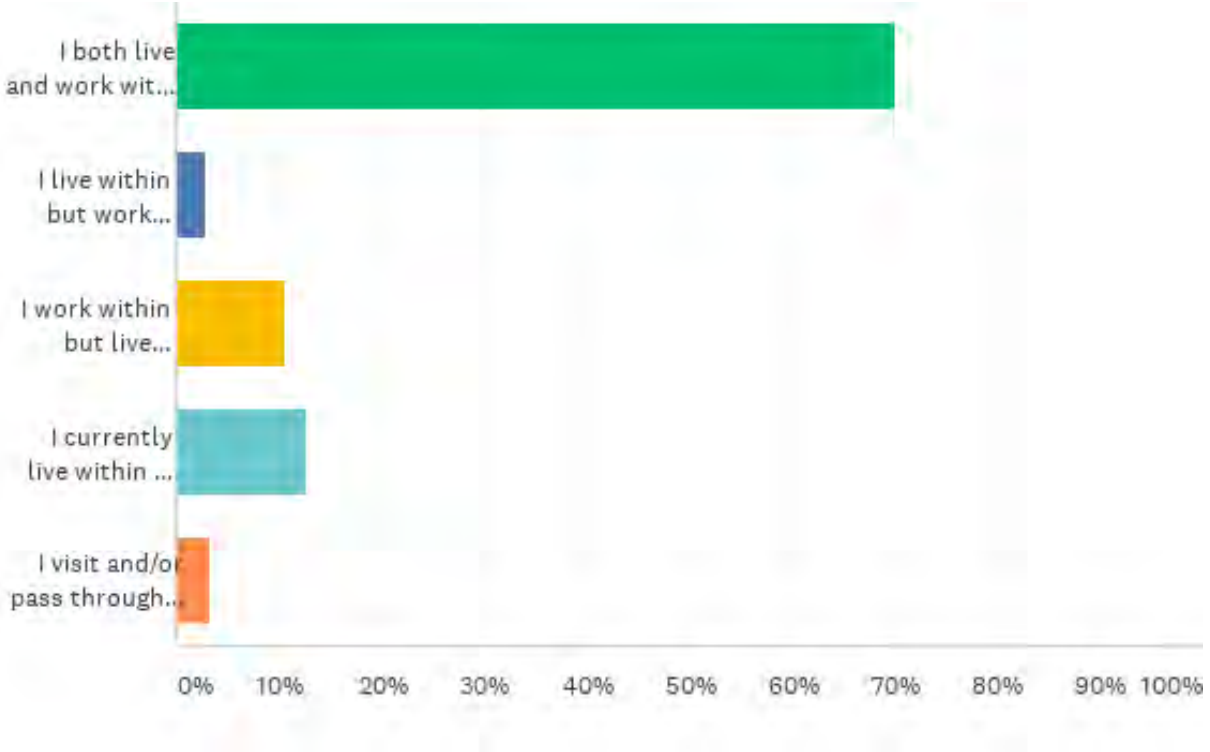
Total Responses

Date Created: Tuesday, April 23, 2019

Complete Responses: 530

Q1: How would you describe your relationship to the communities within the NRVMPO boundary?

Answered: 652 Skipped: 0



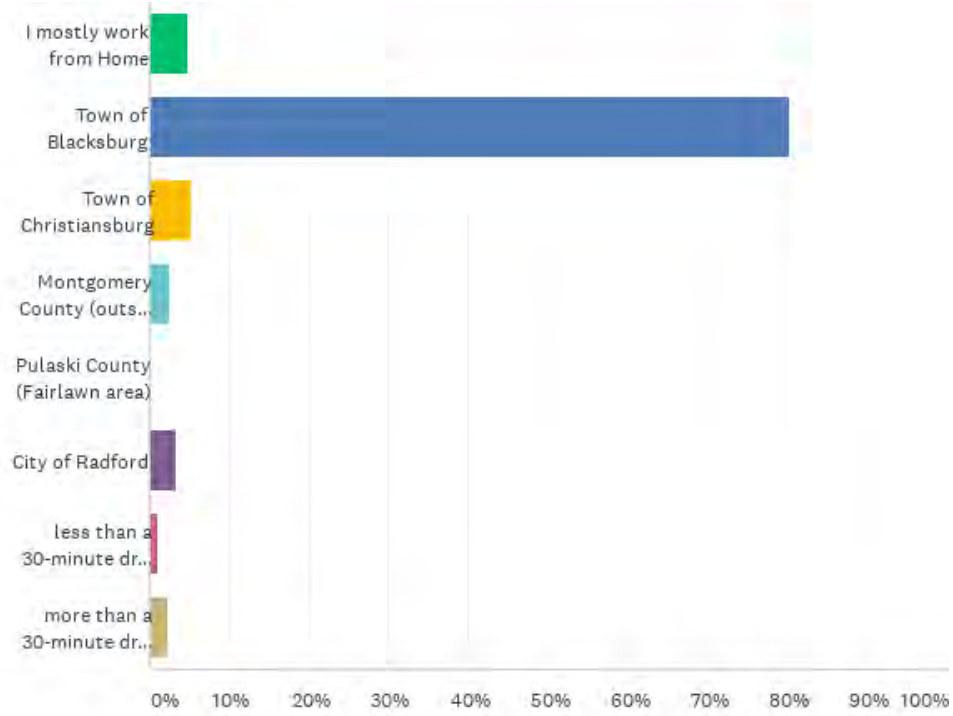
Q1: How would you describe your relationship to the communities within the NRVMPO boundary?

Answered: 652 Skipped: 0

ANSWER CHOICES	RESPONSES	
I both live and work within the NRVMPO boundary	70.25%	458
I live within but work outside of the NRVMPO boundary	2.91%	19
I work within but live outside of the NRVMPO boundary	10.74%	70
I currently live within the NRVMPO boundary	12.73%	83
I visit and/or pass through communities within the NRVMPO boundary	3.37%	22
TOTAL		652

Q2: Which locality do you work in?

Answered: 471 Skipped: 181



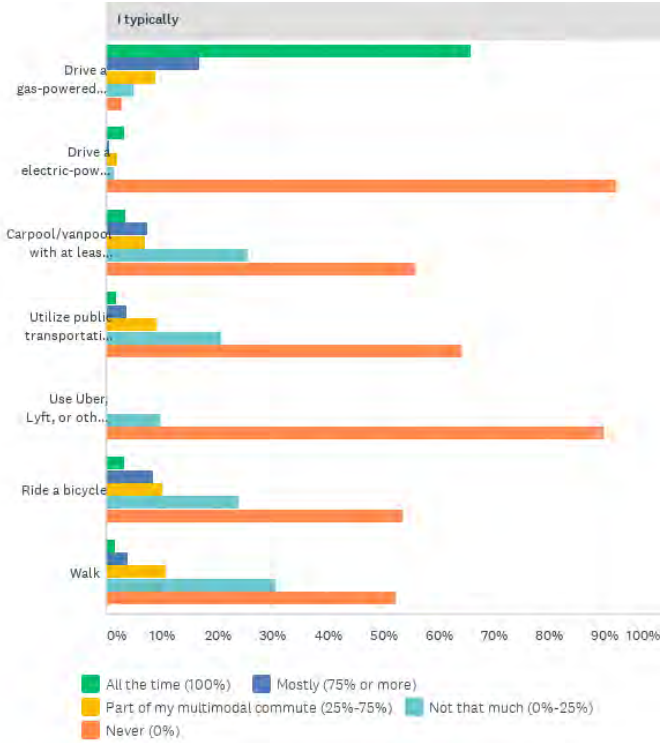
Q2: Which locality do you work in?

Answered: 471 Skipped: 181

ANSWER CHOICES	RESPONSES	
I mostly work from Home	4.88%	23
Town of Blacksburg	80.25%	378
Town of Christiansburg	5.31%	25
Montgomery County (outside of Blacksburg and Christiansburg)	2.55%	12
Pulaski County (Fairlawn area)	0.21%	1
City of Radford	3.40%	16
less than a 30-minute drive from home (outside of NRVMPO)	1.06%	5
more than a 30-minute drive from home (outside of NRVMPO)	2.34%	11
TOTAL		471

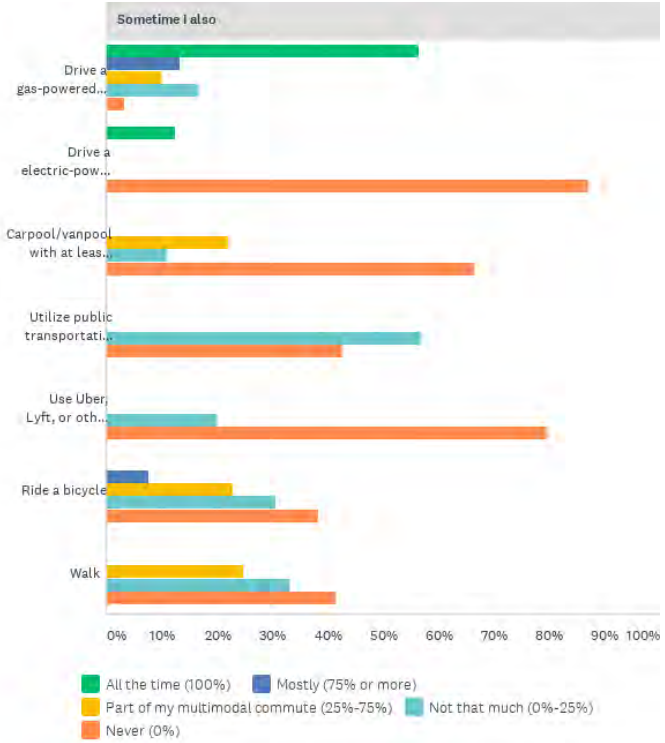
Q3: On an annual basis, how would you break down your travel between home and work?

Answered: 463 Skipped: 189



Q3: On an annual basis, how would you break down your travel between home and work?

Answered: 463 Skipped: 189



Q3: On an annual basis, how would you break down your travel between home and work?

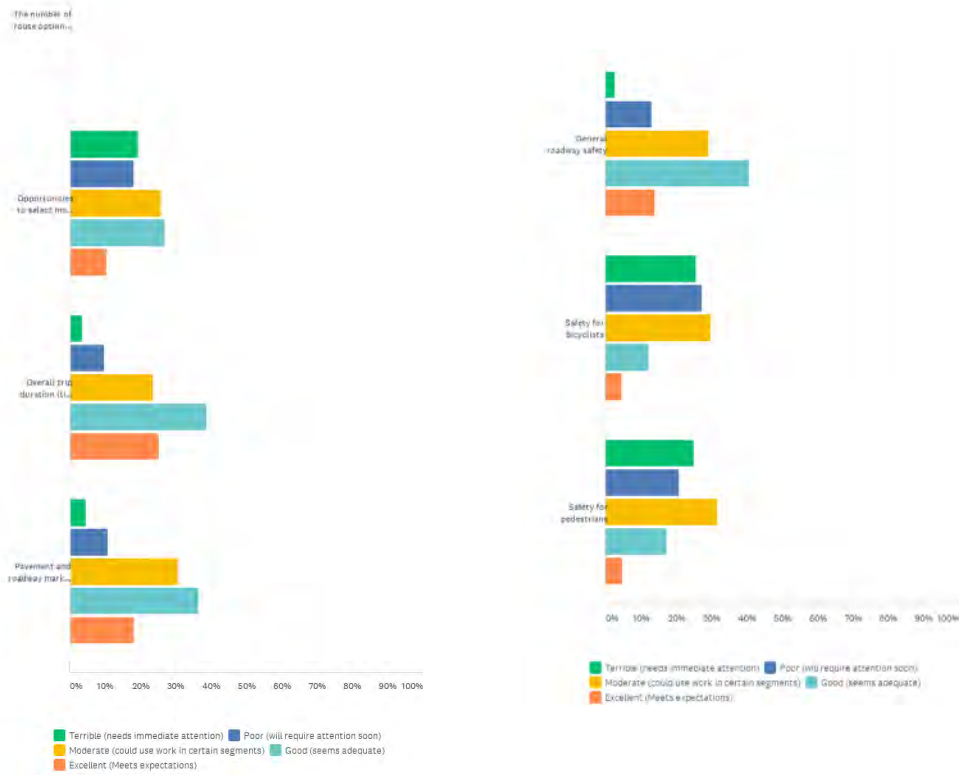
Answered: 463 Skipped: 189

I typically	ALL THE TIME (100%)	MOSTLY (75% OR MORE)	PART OF MY MULTIMODAL COMMUTE (25%-75%)	NOT THAT MUCH (0%-25%)	NEVER (0%)	TOTAL
Drive a gas-powered vehicle alone	66.10% 273	16.95% 70	8.96% 37	5.08% 21	2.91% 12	413
Drive a electric-powered vehicle alone	3.40% 5	0.68% 1	2.04% 3	1.36% 2	92.52% 136	147
Carpool/vanpool with at least one other person	3.51% 6	7.60% 13	7.02% 12	25.73% 44	56.14% 96	171
Utilize public transportation (ride the bus)	1.84% 3	3.68% 6	9.20% 15	20.86% 34	64.42% 105	163
Use Uber, Lyft, or other private taxi services	0.00% 0	0.00% 0	0.00% 0	9.93% 14	90.07% 127	141
Ride a bicycle	3.43% 6	8.57% 15	10.29% 18	24.00% 42	53.71% 94	175
Walk	1.71% 3	4.00% 7	10.86% 19	30.86% 54	52.57% 92	175

Sometime I also	ALL THE TIME (100%)	MOSTLY (75% OR MORE)	PART OF MY MULTIMODAL COMMUTE (25%-75%)	NOT THAT MUCH (0%-25%)	NEVER (0%)	TOTAL
Drive a gas-powered vehicle alone	56.67% 17	13.33% 4	10.00% 3	16.67% 5	3.33% 1	30
Drive a electric-powered vehicle alone	12.50% 1	0.00% 0	0.00% 0	0.00% 0	87.50% 7	8
Carpool/vanpool with at least one other person	0.00% 0	0.00% 0	22.22% 2	11.11% 1	66.67% 6	9
Utilize public transportation (ride the bus)	0.00% 0	0.00% 0	0.00% 0	57.14% 8	42.86% 6	14
Use Uber, Lyft, or other private taxi services	0.00% 0	0.00% 0	0.00% 0	20.00% 2	80.00% 8	10
Ride a bicycle	0.00% 0	7.69% 1	23.08% 3	30.77% 4	38.46% 5	13
Walk	0.00% 0	0.00% 0	25.00% 3	33.33% 4	41.67% 5	12

Q4: How would you describe your typical travel between home and work?

Answered: 466 Skipped: 186



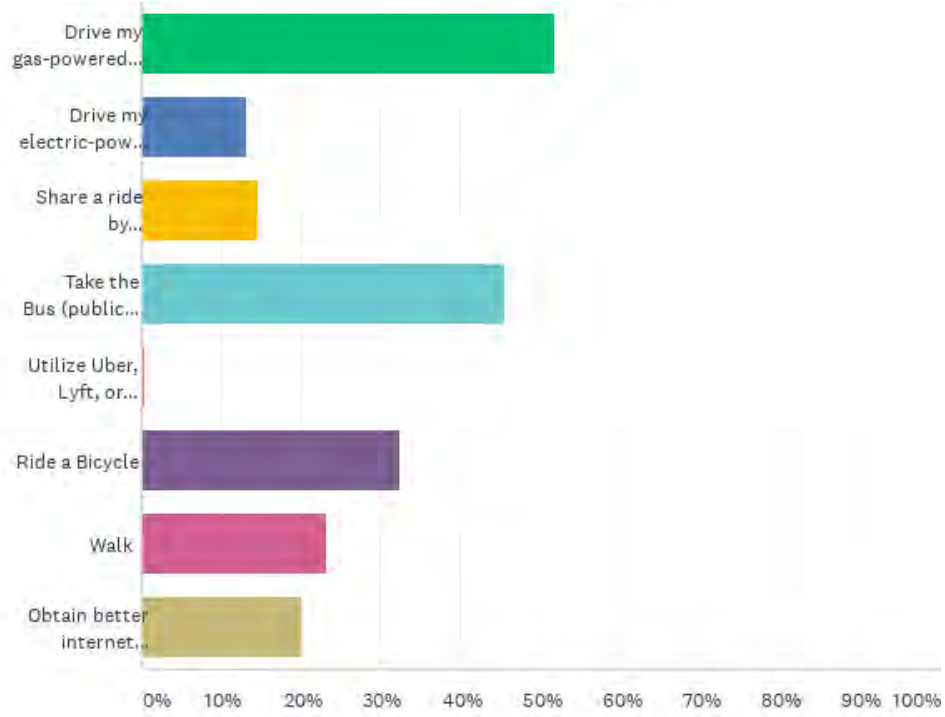
Q4: How would you describe your typical travel between home and work?

Answered: 466 Skipped: 186

	TERRIBLE (NEEDS IMMEDIATE ATTENTION)	POOR (WILL REQUIRE ATTENTION SOON)	MODERATE (COULD USE WORK IN CERTAIN SEGMENTS)	GOOD (SEEMS ADEQUATE)	EXCELLENT (MEETS EXPECTATIONS)	TOTAL	WEIGHTED AVERAGE
The number of route options between destinations	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0	0.00
Opportunities to select mode choice (access to transit or other alternative transportation options)	19.30% 88	17.98% 82	25.66% 117	26.75% 122	10.31% 47	456	2.91
Overall trip duration (time delay and congestion)	3.25% 15	9.52% 44	23.38% 108	38.74% 179	25.11% 116	462	3.73
Pavement and roadway marking conditions	4.34% 20	10.63% 49	30.59% 141	36.44% 168	18.00% 83	461	3.53
General roadway safety	2.80% 13	13.15% 61	29.31% 136	40.73% 189	14.01% 65	464	3.50
Safety for bicyclists	25.82% 118	27.35% 125	29.98% 137	12.25% 56	4.60% 21	457	2.42
Safety for pedestrians	25.05% 114	20.88% 95	31.87% 145	17.36% 79	4.84% 22	455	2.56

Q5: Ideally, how would you like to travel between home and work? (check all that apply)

Answered: 465 Skipped: 187



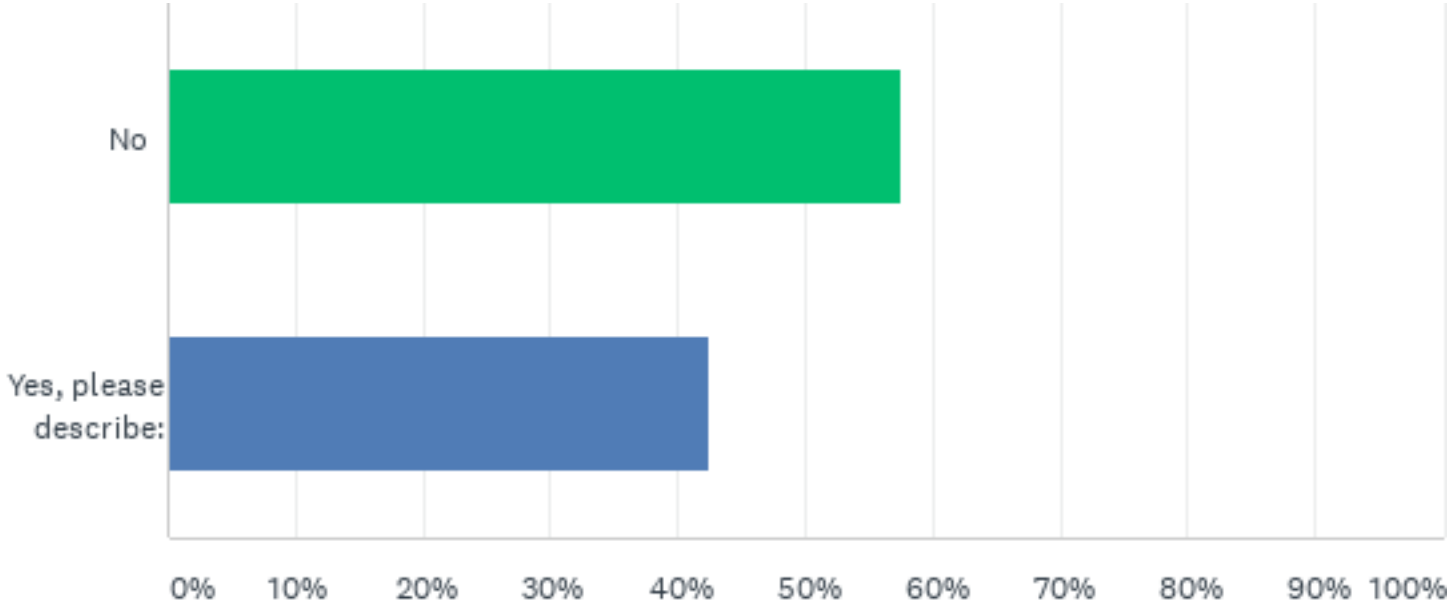
Q5: Ideally, how would you like to travel between home and work? (check all that apply)

Answered: 465 Skipped: 187

ANSWER CHOICES	RESPONSES	
Drive my gas-powered vehicle alone	51.83%	241
Drive my electric-powered vehicle alone	13.12%	61
Share a ride by Carpooling/vanpooling	14.62%	68
Take the Bus (public transit)	45.59%	212
Utilize Uber, Lyft, or private taxi	0.43%	2
Ride a Bicycle	32.47%	151
Walk	23.23%	108
Obtain better internet service to reduce certain types of trips	20.00%	93
Total Respondents: 465		

Q6: Do you experience gaps in public services or types of infrastructure to complete your travel between home and work?

Answered: 461 Skipped: 191



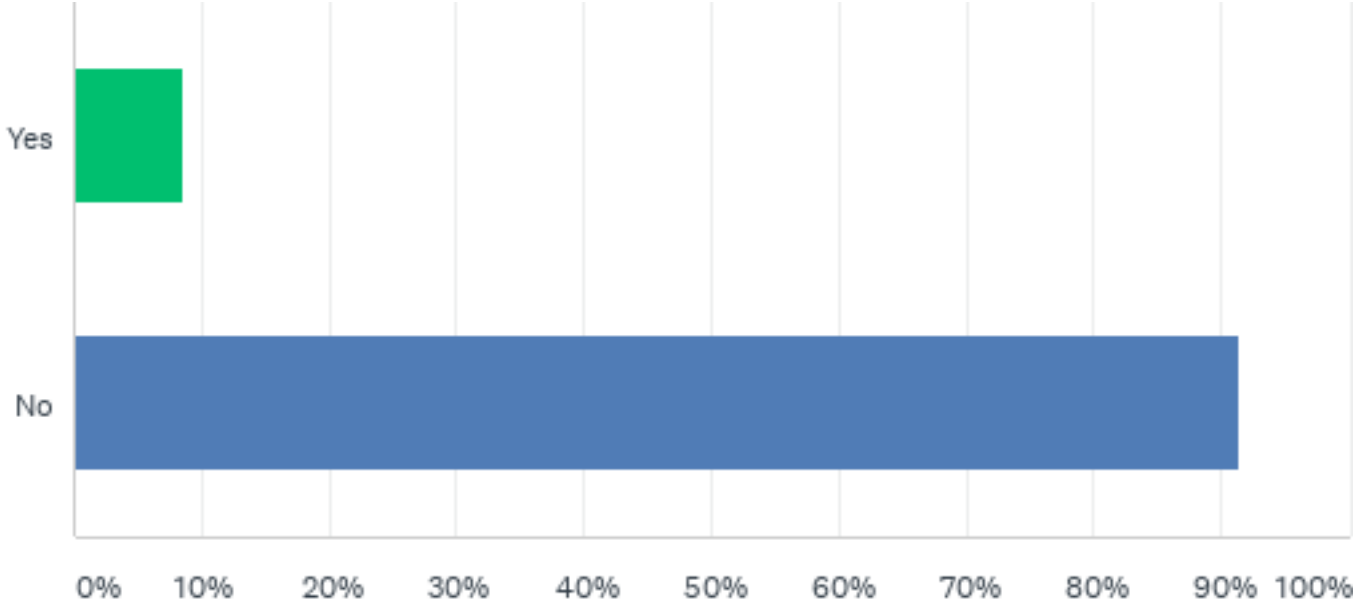
Q6: Do you experience gaps in public services or types of infrastructure to complete your travel between home and work?

Answered: 461 Skipped: 191

ANSWER CHOICES	RESPONSES	
No	57.48%	265
Yes, please describe:	42.52%	196
TOTAL		461

Q7: Do you currently own a business within the NRVMPO boundary?

Answered: 551 Skipped: 101



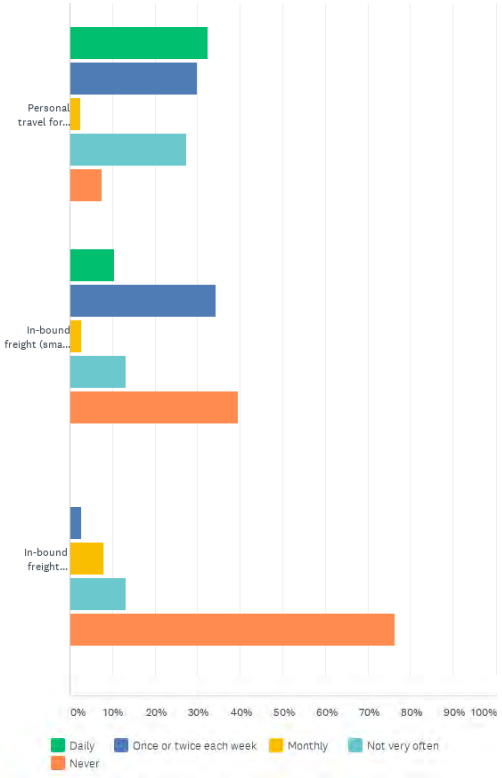
Q7: Do you currently own a business within the NRVMPO boundary?

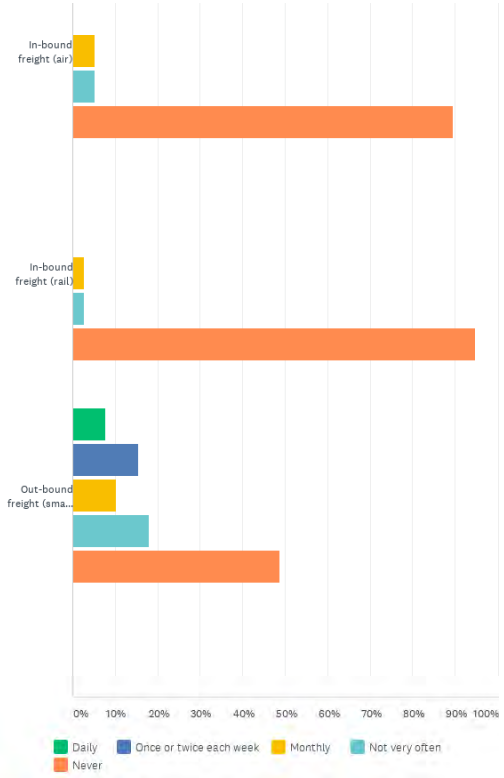
Answered: 551 Skipped: 101

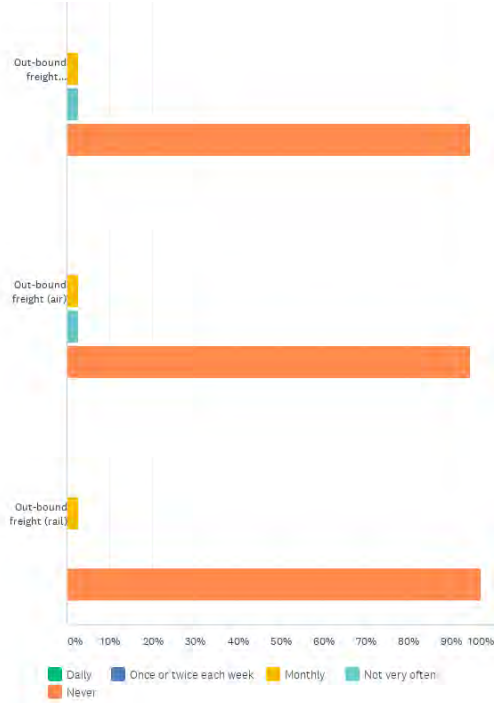
ANSWER CHOICES	RESPONSES	
Yes	8.53%	47
No	91.47%	504
TOTAL		551

Q8: Tell us a little about your business travel habits? (check all that apply)

Answered: 40 Skipped: 612





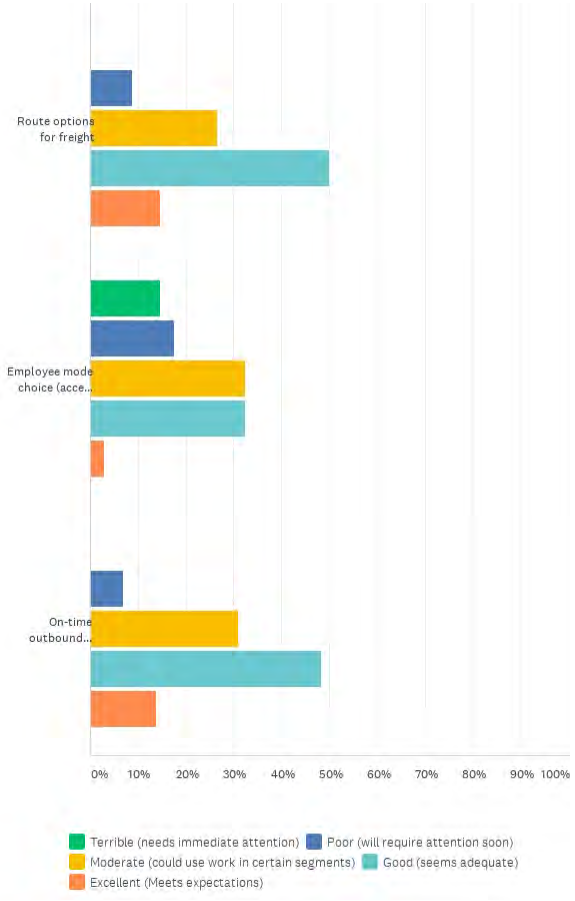


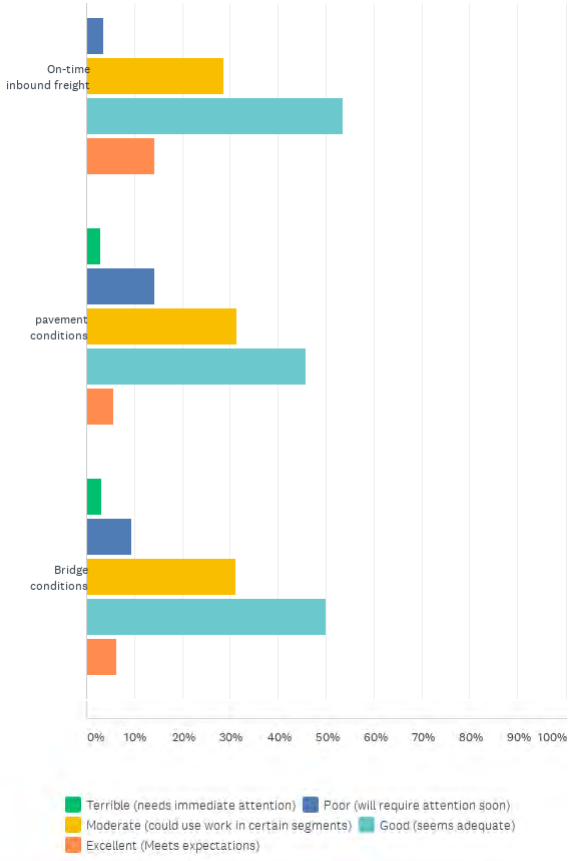
Q8: Tell us a little about your business travel habits? (check all that apply)

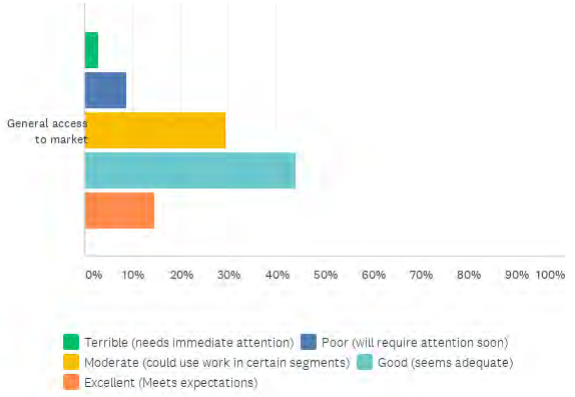
Answered: 40 Skipped: 612

	DAILY	ONCE OR TWICE EACH WEEK	MONTHLY	NOT VERY OFTEN	NEVER	TOTAL	WEIGHTED AVERAGE
Personal travel for business	32.50% 13	30.00% 12	2.50% 1	27.50% 11	7.50% 3	40	3.52
In-bound freight (small vehicle)	10.53% 4	34.21% 13	2.63% 1	13.16% 5	39.47% 15	38	2.63
In-bound freight (tractor trailer)	0.00% 0	2.63% 1	7.89% 3	13.16% 5	76.32% 29	38	1.37
In-bound freight (air)	0.00% 0	0.00% 0	5.26% 2	5.26% 2	89.47% 34	38	1.16
In-bound freight (rail)	0.00% 0	0.00% 0	2.63% 1	2.63% 1	94.74% 36	38	1.08
Out-bound freight (small vehicle)	7.69% 3	15.38% 6	10.26% 4	17.95% 7	48.72% 19	39	2.15
Out-bound freight (tractor trailer)	0.00% 0	0.00% 0	2.63% 1	2.63% 1	94.74% 36	38	1.08
Out-bound freight (air)	0.00% 0	0.00% 0	2.63% 1	2.63% 1	94.74% 36	38	1.08
Out-bound freight (rail)	0.00% 0	0.00% 0	2.63% 1	0.00% 0	97.37% 37	38	1.05

Q9: How would you describe the NRVMPO transportation system as it relates to supporting your business?







Answered: 38 Skipped: 614

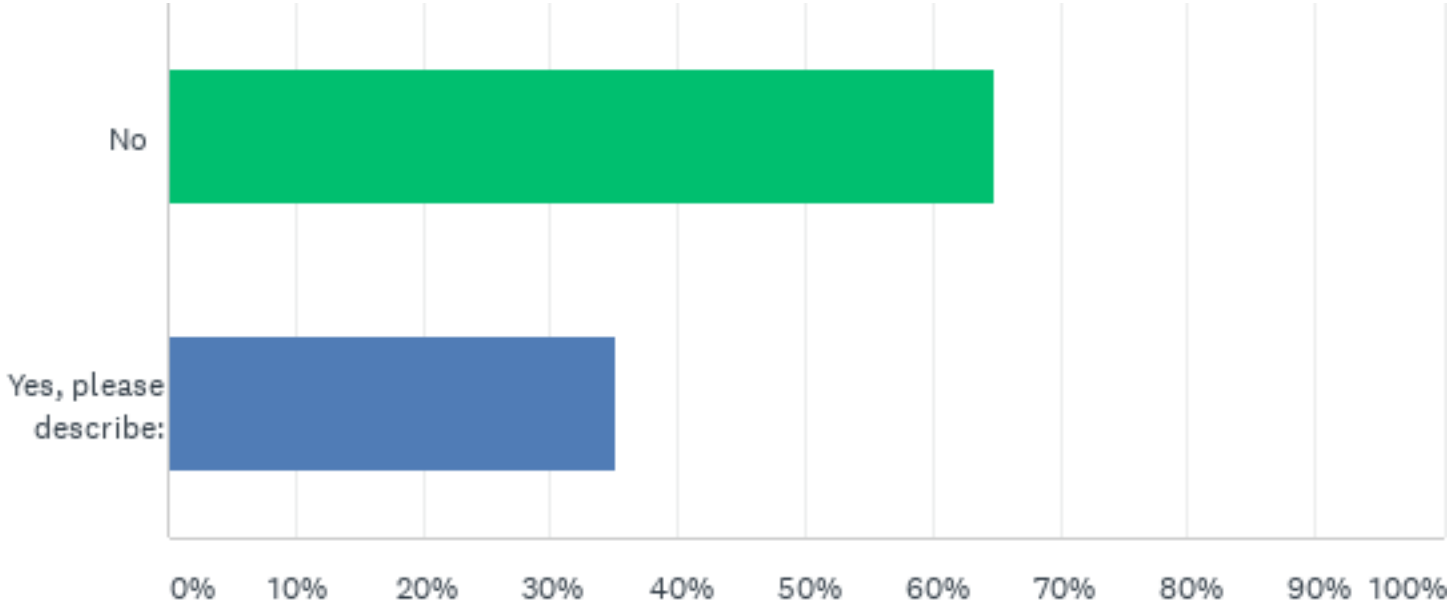
Q9: How would you describe the NRVMPO transportation system as it relates to supporting your business?

Answered: 38 Skipped: 614

	TERRIBLE (NEEDS IMMEDIATE ATTENTION)	POOR (WILL REQUIRE ATTENTION SOON)	MODERATE (COULD USE WORK IN CERTAIN SEGMENTS)	GOOD (SEEMS ADEQUATE)	EXCELLENT (MEETS EXPECTATIONS)	TOTAL	WEIGHTED AVERAGE
Route options for freight	0.00% 0	8.82% 3	26.47% 9	50.00% 17	14.71% 5	34	3.71
Employee mode choice (access to transit or other alternative transportation options)	14.71% 5	17.65% 6	32.35% 11	32.35% 11	2.94% 1	34	2.91
On-time outbound freight	0.00% 0	6.90% 2	31.03% 9	48.28% 14	13.79% 4	29	3.69
On-time inbound freight	0.00% 0	3.57% 1	28.57% 8	53.57% 15	14.29% 4	28	3.79
pavement conditions	2.86% 1	14.29% 5	31.43% 11	45.71% 16	5.71% 2	35	3.37
Bridge conditions	3.13% 1	9.38% 3	31.25% 10	50.00% 16	6.25% 2	32	3.47
General access to market	2.94% 1	8.82% 3	29.41% 10	44.12% 15	14.71% 5	34	3.59

Q10: Do you experience gaps in public services or types of infrastructure to serve your business needs?

Answered: 37 Skipped: 615



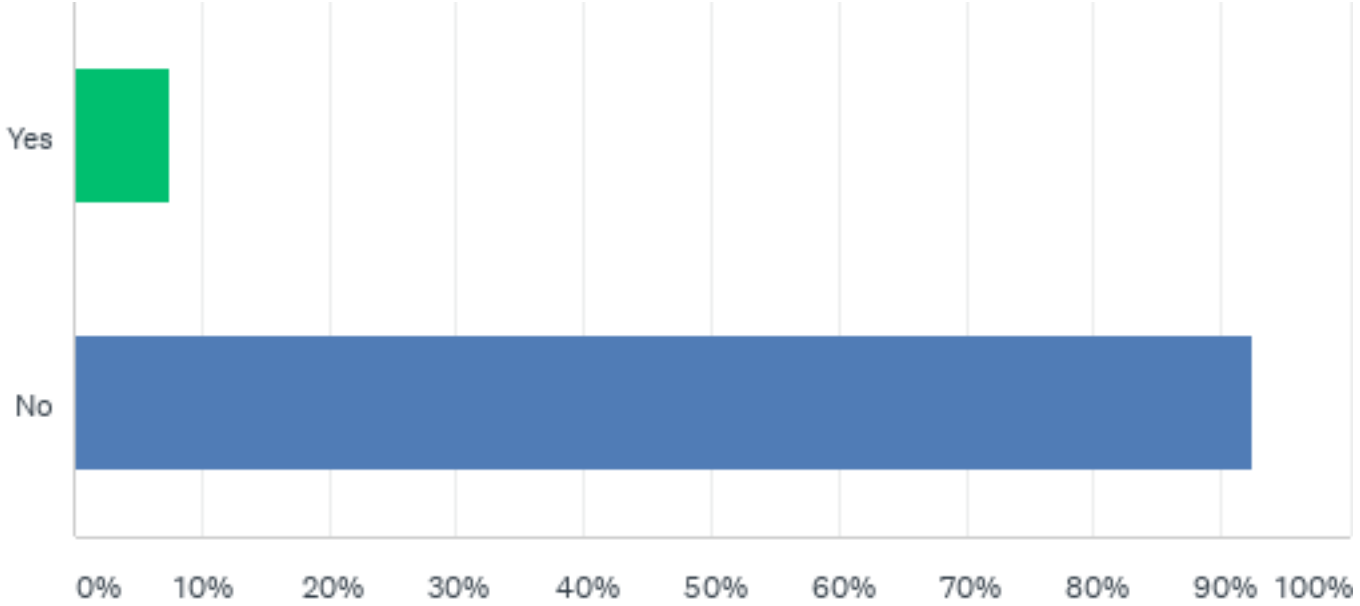
Q10: Do you experience gaps in public services or types of infrastructure to serve your business needs?

Answered: 37 Skipped: 615

ANSWER CHOICES	RESPONSES	
No	64.86%	24
Yes, please describe:	35.14%	13
TOTAL		37

Q11: Are you currently enrolled in a college or university within the NRVMPO boundary?

Answered: 541 Skipped: 111



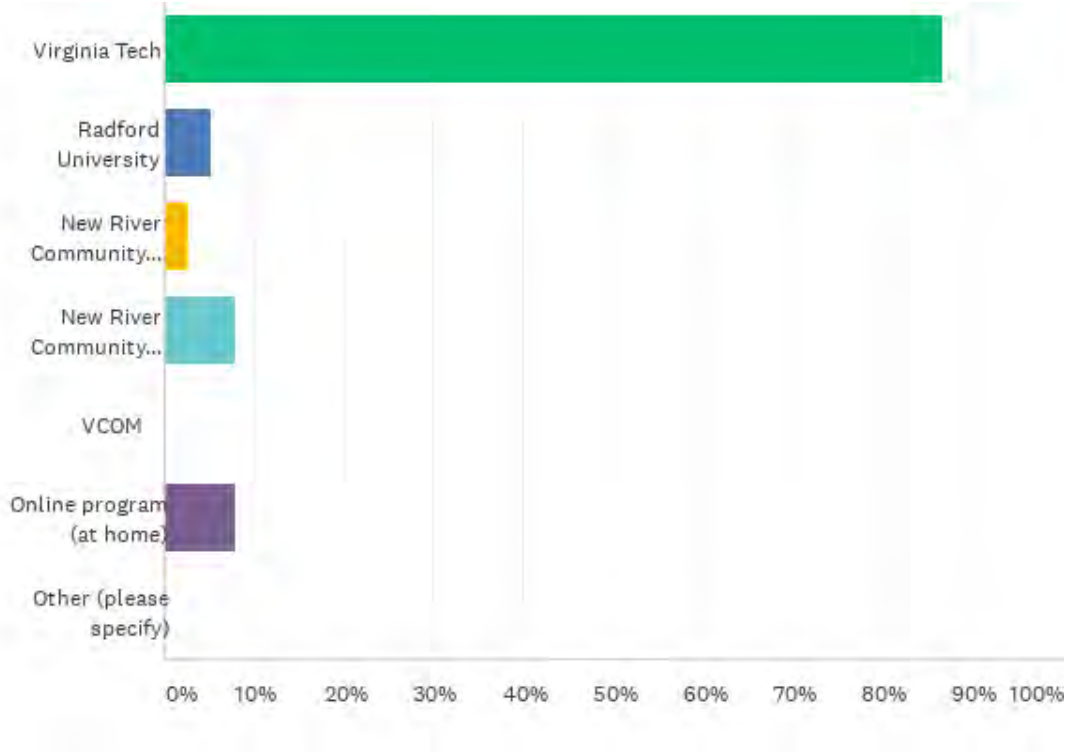
Q11: Are you currently enrolled in a college or university within the NRVMPO boundary?

Answered: 541 Skipped: 111

ANSWER CHOICES	RESPONSES	
Yes	7.58%	41
No	92.42%	500
TOTAL		541

Q12: Which college or university do you attend? (check all that apply)

Answered: 38 Skipped: 614



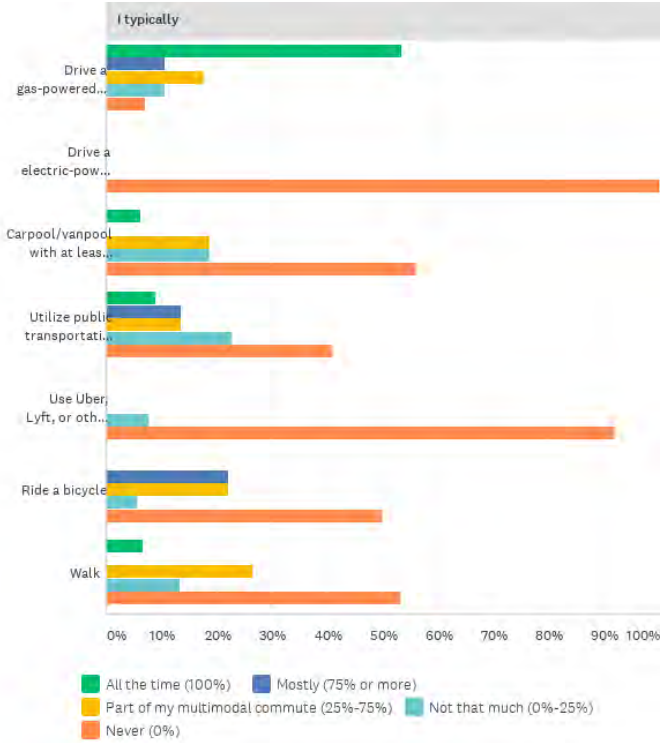
Q12: Which college or university do you attend? (check all that apply)

Answered: 38 Skipped: 614

ANSWER CHOICES	RESPONSES	
Virginia Tech	86.84%	33
Radford University	5.26%	2
New River Community College (Dublin Campus)	2.63%	1
New River Community College (NRV Mall site)	7.89%	3
VCOM	0.00%	0
Online program (at home)	7.89%	3
Other (please specify)	0.00%	0
Total Respondents: 38		

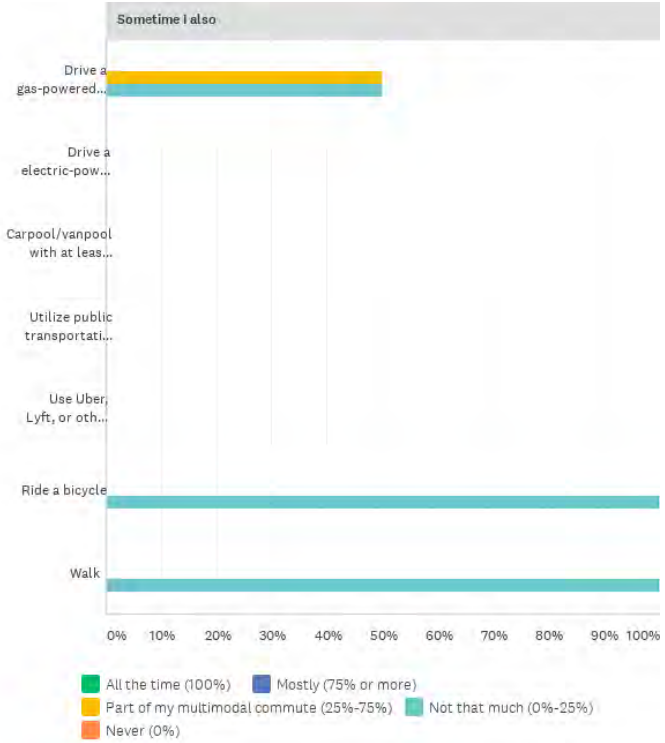
Q13: On an annual basis, how would you break down your travel between home and school?

Answered: 36 Skipped: 616



Q13: On an annual basis, how would you break down your travel between home and school?

Answered: 36 Skipped: 616



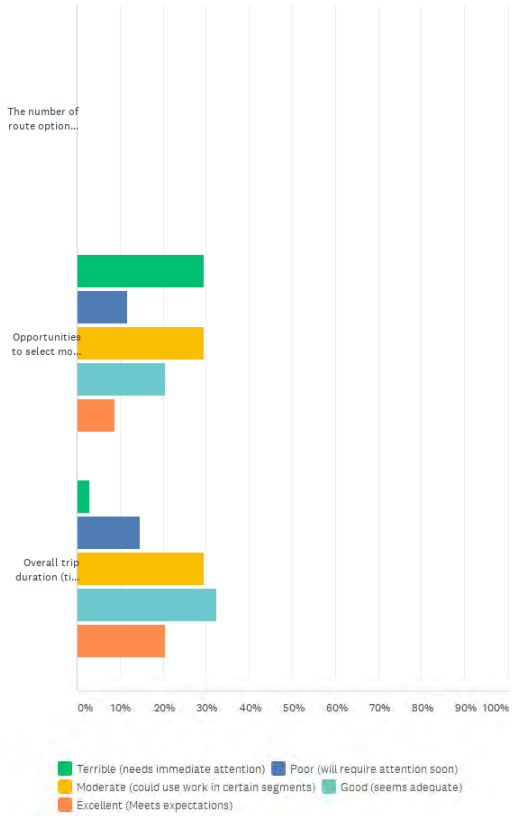
Q13: On an annual basis, how would you break down your travel between home and school?

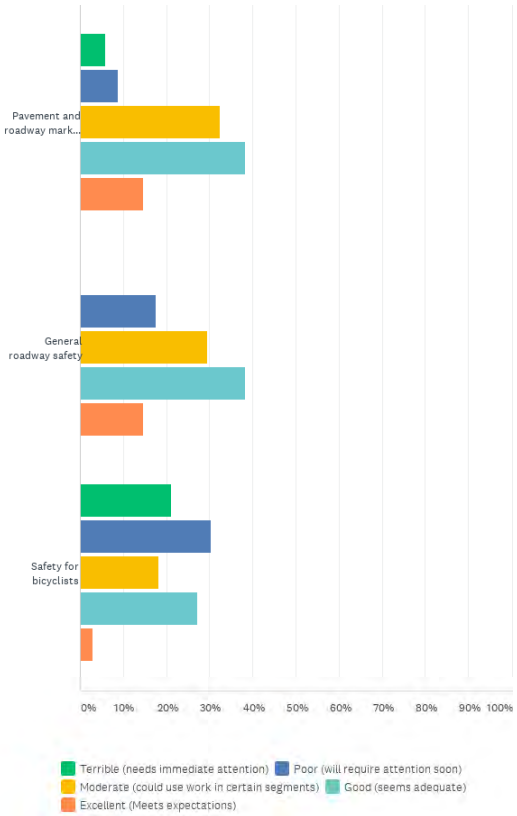
Answered: 36 Skipped: 616

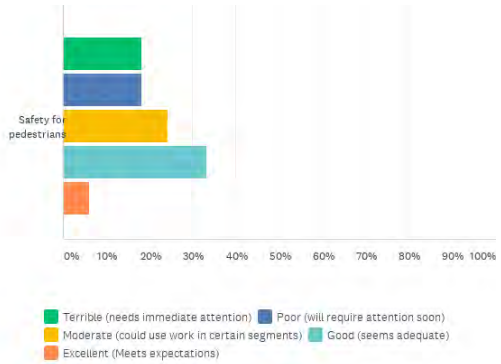
I typically	ALL THE TIME (100%)	MOSTLY (75% OR MORE)	PART OF MY MULTIMODAL COMMUTE (25%-75%)	NOT THAT MUCH (0%-25%)	NEVER (0%)	TOTAL
Drive a gas-powered vehicle alone	53.57% 15	10.71% 3	17.86% 5	10.71% 3	7.14% 2	28
Drive a electric-powered vehicle alone	0.00% 0	0.00% 0	0.00% 0	0.00% 0	100.00% 13	13
Carpool/vanpool with at least one other person	6.25% 1	0.00% 0	18.75% 3	18.75% 3	56.25% 9	16
Utilize public transportation (ride the bus)	9.09% 2	13.64% 3	13.64% 3	22.73% 5	40.91% 9	22
Use Uber, Lyft, or other private taxi services	0.00% 0	0.00% 0	0.00% 0	7.69% 1	92.31% 12	13
Ride a bicycle	0.00% 0	22.22% 4	22.22% 4	5.56% 1	50.00% 9	18
Walk	6.67% 1	0.00% 0	26.67% 4	13.33% 2	53.33% 8	15

Sometime I also	ALL THE TIME (100%)	MOSTLY (75% OR MORE)	PART OF MY MULTIMODAL COMMUTE (25%-75%)	NOT THAT MUCH (0%-25%)	NEVER (0%)	TOTAL
Drive a gas-powered vehicle alone	0.00% 0	0.00% 0	50.00% 1	50.00% 1	0.00% 0	2
Drive a electric-powered vehicle alone	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Carpool/vanpool with at least one other person	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Utilize public transportation (ride the bus)	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Use Uber, Lyft, or other private taxi services	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0
Ride a bicycle	0.00% 0	0.00% 0	0.00% 0	100.00% 1	0.00% 0	1
Walk	0.00% 0	0.00% 0	0.00% 0	100.00% 1	0.00% 0	1

Q14: How would you describe your typical travel between home and school?







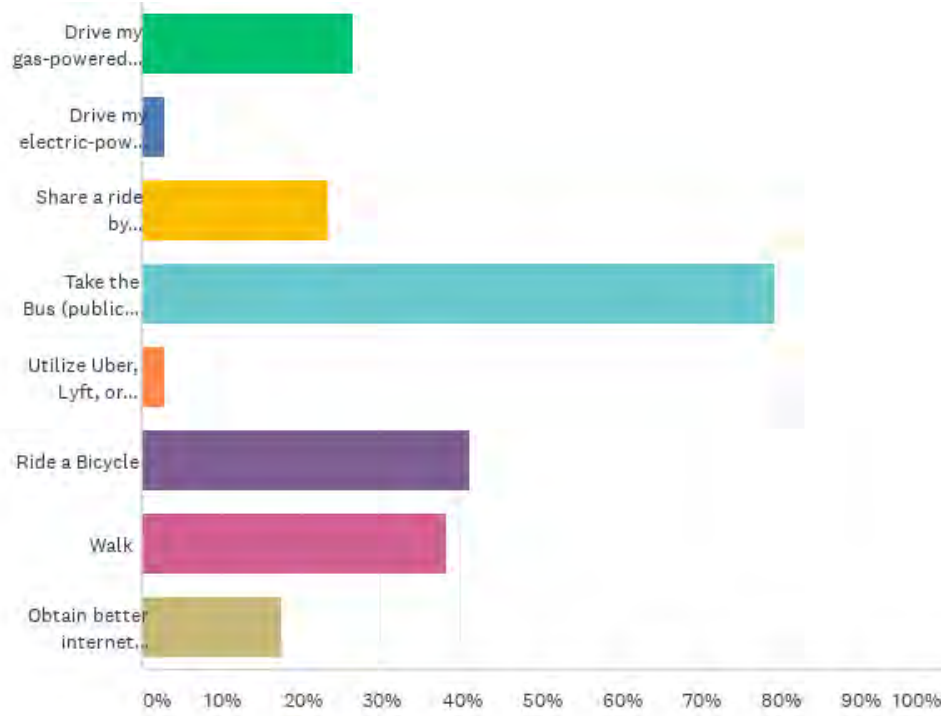
Q14: How would you describe your typical travel between home and school?

Answered: 34 Skipped: 618

	TERRIBLE (NEEDS IMMEDIATE ATTENTION)	POOR (WILL REQUIRE ATTENTION SOON)	MODERATE (COULD USE WORK IN CERTAIN SEGMENTS)	GOOD (SEEMS ADEQUATE)	EXCELLENT (MEETS EXPECTATIONS)	TOTAL	WEIGHTED AVERAGE
The number of route options between destinations	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0	0.00
Opportunities to select mode choice (access to transit or other alternative transportation options)	29.41% 10	11.76% 4	29.41% 10	20.59% 7	8.82% 3	34	2.68
Overall trip duration (time delay and congestion)	2.94% 1	14.71% 5	29.41% 10	32.35% 11	20.59% 7	34	3.53
Pavement and roadway marking conditions	5.88% 2	8.82% 3	32.35% 11	38.24% 13	14.71% 5	34	3.47
General roadway safety	0.00% 0	17.65% 6	29.41% 10	38.24% 13	14.71% 5	34	3.50
Safety for bicyclists	21.21% 7	30.30% 10	18.18% 6	27.27% 9	3.03% 1	33	2.61
Safety for pedestrians	18.18% 6	18.18% 6	24.24% 8	33.33% 11	6.06% 2	33	2.91

Q15: Ideally, how would you like to travel between home and school? (check all that apply)

Answered: 34 Skipped: 618



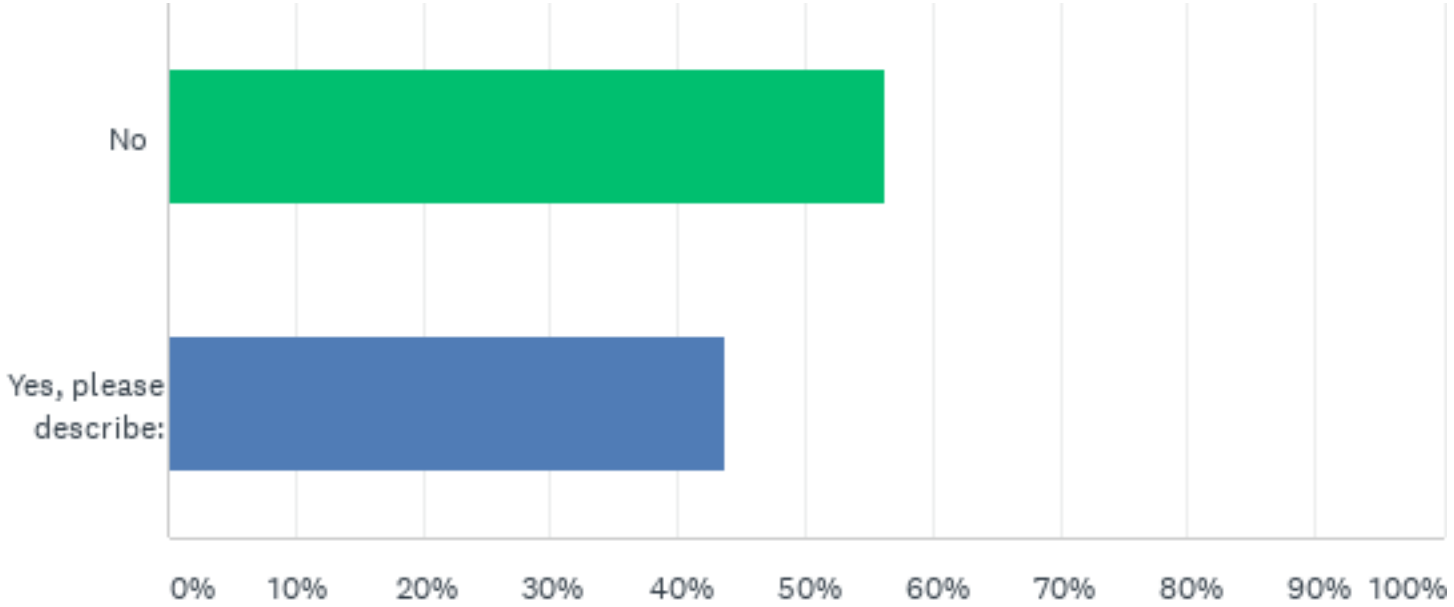
Q15: Ideally, how would you like to travel between home and school? (check all that apply)

Answered: 34 Skipped: 618

ANSWER CHOICES	RESPONSES	
Drive my gas-powered vehicle alone	26.47%	9
Drive my electric-powered vehicle alone	2.94%	1
Share a ride by Carpooling/vanpooling	23.53%	8
Take the Bus (public transit)	79.41%	27
Utilize Uber, Lyft, or private taxi	2.94%	1
Ride a Bicycle	41.18%	14
Walk	38.24%	13
Obtain better internet service to reduce certain types of trips	17.65%	6
Total Respondents: 34		

Q16: Do you experience gaps in public services or types of infrastructure to complete your travel between home and school?

Answered: 32 Skipped: 620



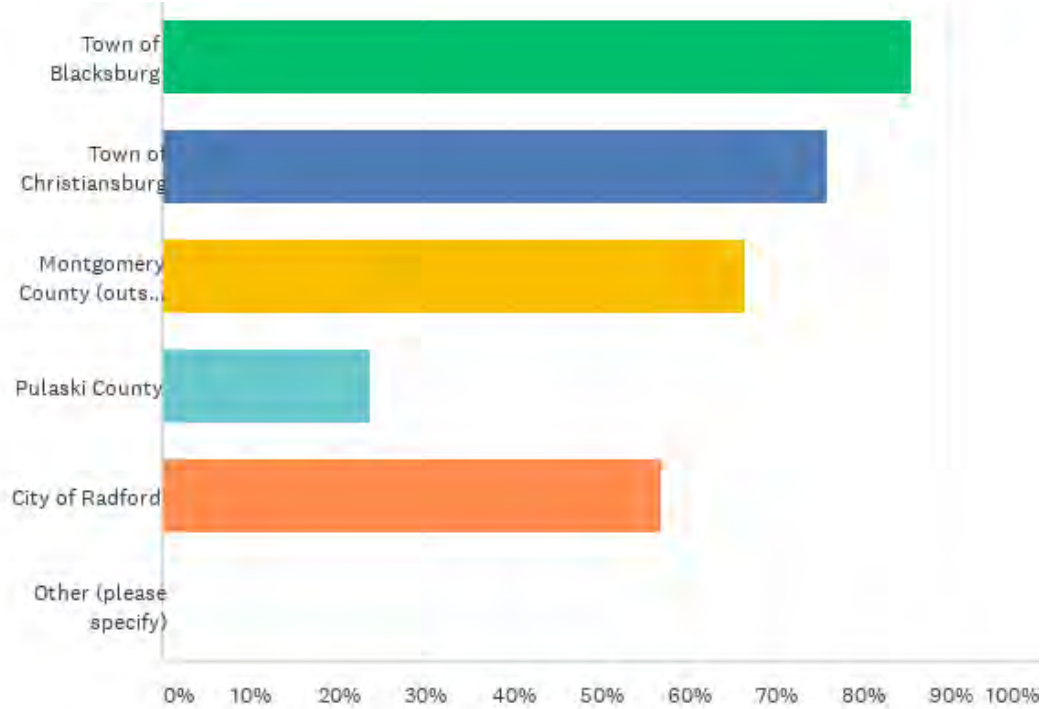
Q16: Do you experience gaps in public services or types of infrastructure to complete your travel between home and school?

Answered: 32 Skipped: 620

ANSWER CHOICES	RESPONSES	
No	56.25%	18
Yes, please describe:	43.75%	14
TOTAL		32

Q17: Which NRVMPO area communities do you visit? (check all that apply)

Answered: 21 Skipped: 631

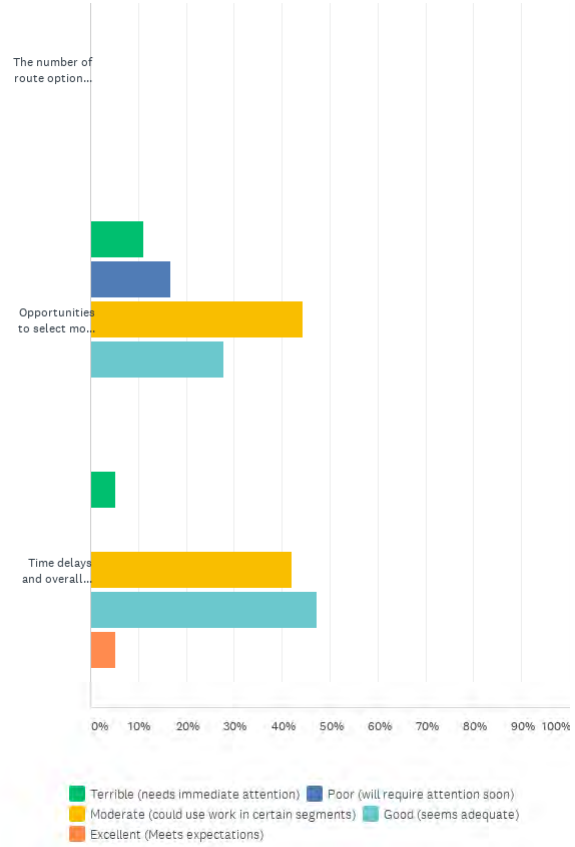


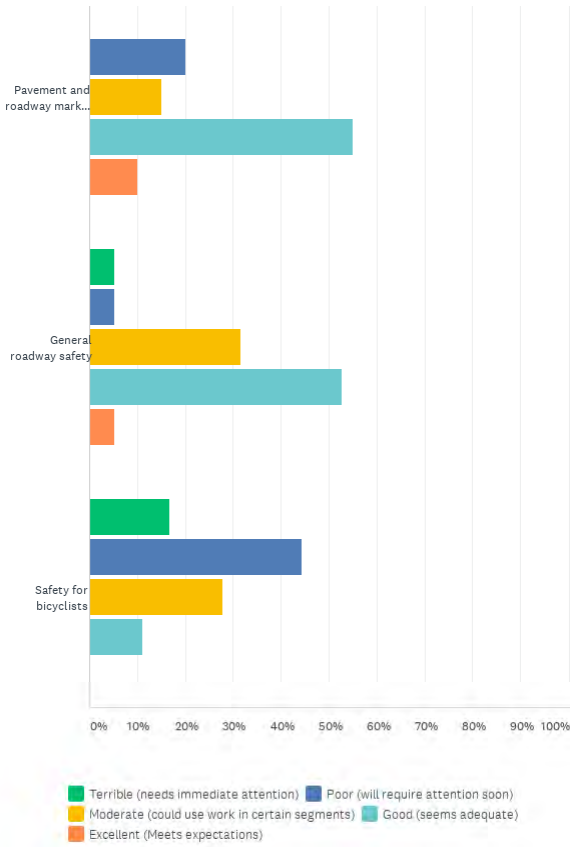
Q17: Which NRVMPO area communities do you visit? (check all that apply)

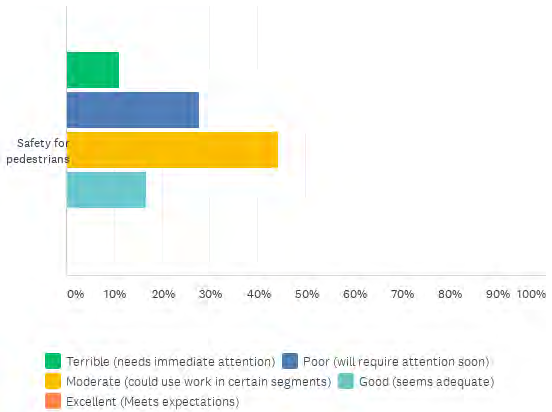
Answered: 21 Skipped: 631

ANSWER CHOICES	RESPONSES	
Town of Blacksburg	85.71%	18
Town of Christiansburg	76.19%	16
Montgomery County (outside of Blacksburg and Christiansburg)	66.67%	14
Pulaski County	23.81%	5
City of Radford	57.14%	12
Other (please specify)	0.00%	0
Total Respondents: 21		

Q18: How would you describe the NRVMPO's transportation system?







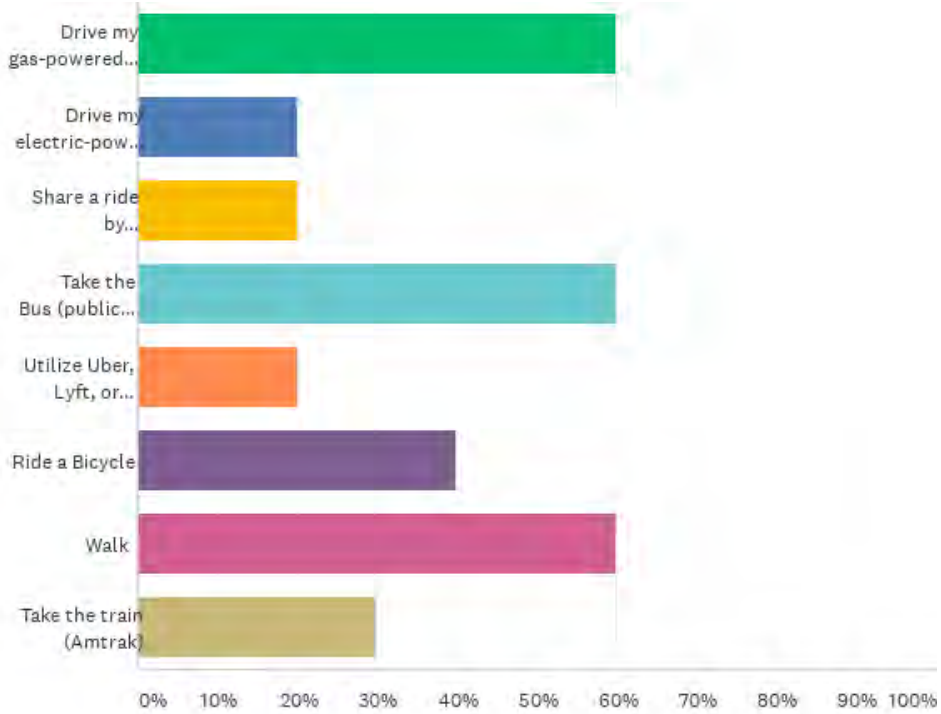
Q18: How would you describe the NRVMPO's transportation system?

Answered: 20 Skipped: 632

	TERRIBLE (NEEDS IMMEDIATE ATTENTION)	POOR (WILL REQUIRE ATTENTION SOON)	MODERATE (COULD USE WORK IN CERTAIN SEGMENTS)	GOOD (SEEMS ADEQUATE)	EXCELLENT (MEETS EXPECTATIONS)	TOTAL	WEIGHTED AVERAGE
The number of route options between destinations	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0	0.00
Opportunities to select mode choice (access to transit or other alternative transportation options)	11.11% 2	16.67% 3	44.44% 8	27.78% 5	0.00% 0	18	2.89
Time delays and overall congestion	5.26% 1	0.00% 0	42.11% 8	47.37% 9	5.26% 1	19	3.47
Pavement and roadway marking conditions	0.00% 0	20.00% 4	15.00% 3	55.00% 11	10.00% 2	20	3.55
General roadway safety	5.26% 1	5.26% 1	31.58% 6	52.63% 10	5.26% 1	19	3.47
Safety for bicyclists	16.67% 3	44.44% 8	27.78% 5	11.11% 2	0.00% 0	18	2.33
Safety for pedestrians	11.11% 2	27.78% 5	44.44% 8	16.67% 3	0.00% 0	18	2.67

Q19: Ideally, how would you like to travel around the NRVMPO? (check all that apply)

Answered: 20 Skipped: 632



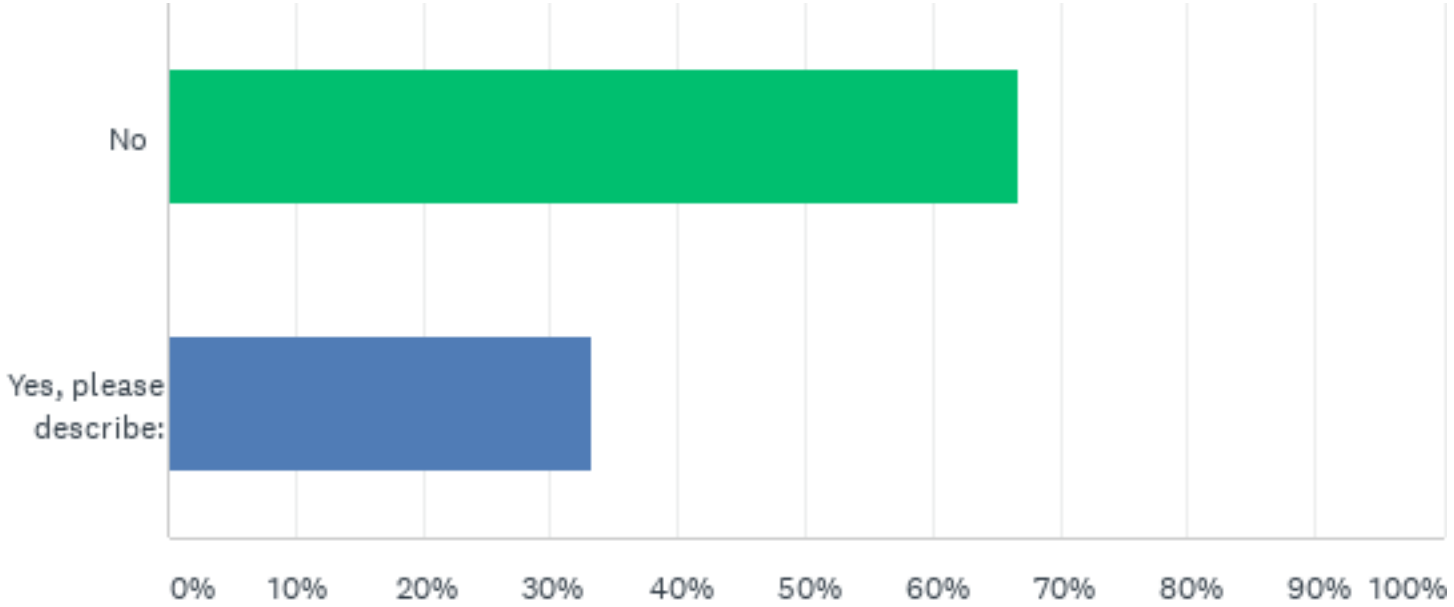
Q19: Ideally, how would you like to travel around the NRVMPO? (check all that apply)

Answered: 20 Skipped: 632

ANSWER CHOICES	RESPONSES	
Drive my gas-powered vehicle alone	60.00%	12
Drive my electric-powered vehicle alone	20.00%	4
Share a ride by Carpooling/vanpooling	20.00%	4
Take the Bus (public transit)	60.00%	12
Utilize Uber, Lyft, or private taxi	20.00%	4
Ride a Bicycle	40.00%	8
Walk	60.00%	12
Take the train (Amtrak)	30.00%	6
Total Respondents: 20		

Q20: Do you experience gaps in public services or types of infrastructure to complete your travel between destinations?

Answered: 18 Skipped: 634



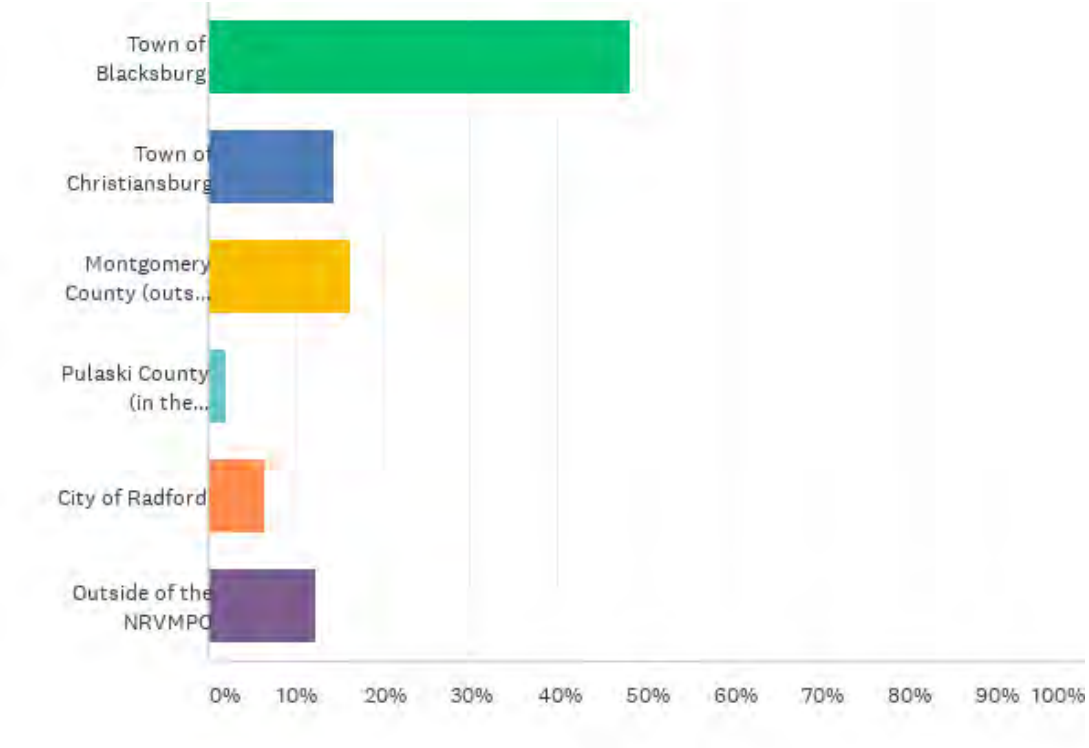
Q20: Do you experience gaps in public services or types of infrastructure to complete your travel between destinations?

Answered: 18 Skipped: 634

ANSWER CHOICES	RESPONSES	
No	66.67%	12
Yes, please describe:	33.33%	6
TOTAL		18

Q21: Where do you live?

Answered: 537 Skipped: 115

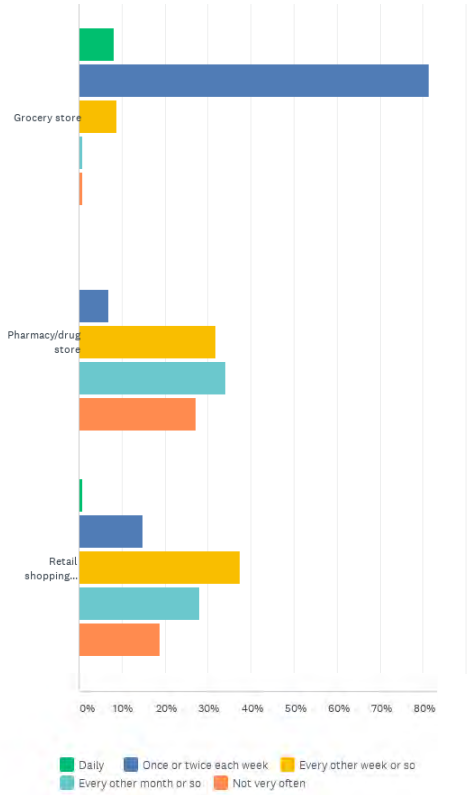


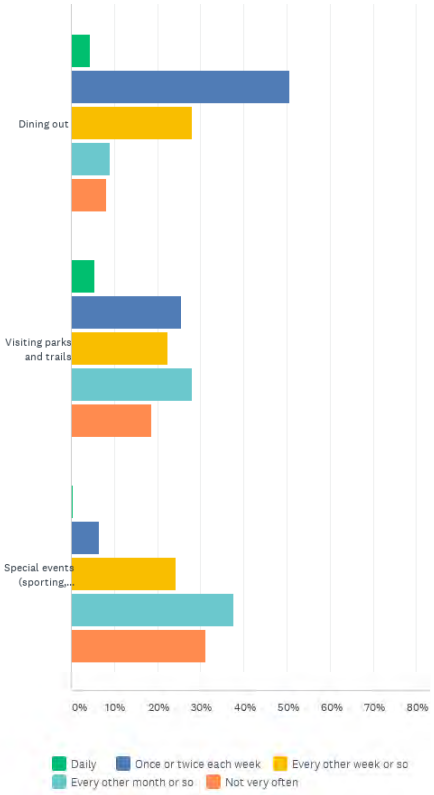
Q21: Where do you live?

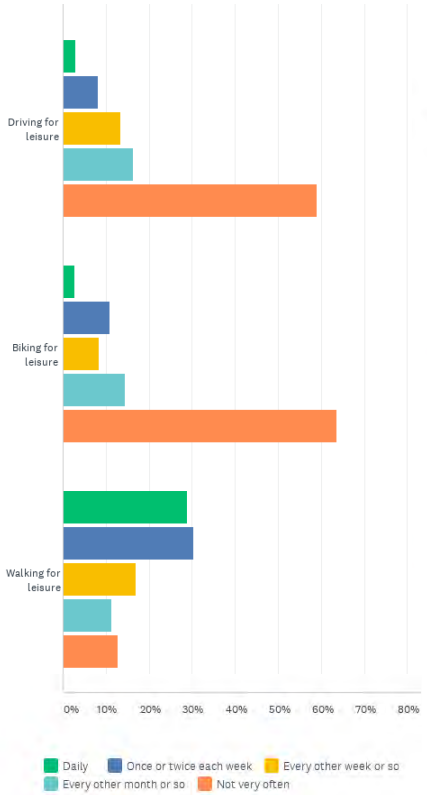
Answered: 537 Skipped: 115

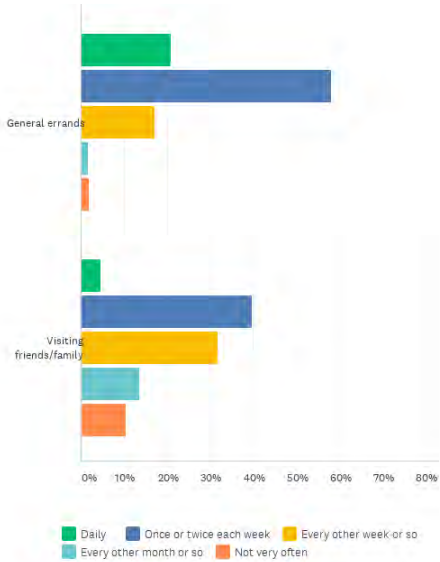
ANSWER CHOICES	RESPONSES	
Town of Blacksburg	48.42%	260
Town of Christiansburg	14.34%	77
Montgomery County (outside of Blacksburg and Christiansburg)	16.39%	88
Pulaski County (in the Fairlawn area)	2.05%	11
City of Radford	6.52%	35
Outside of the NRVMPO	12.29%	66
TOTAL		537

Q22: Tell us a little more about your personal travel habits? (check all that apply)







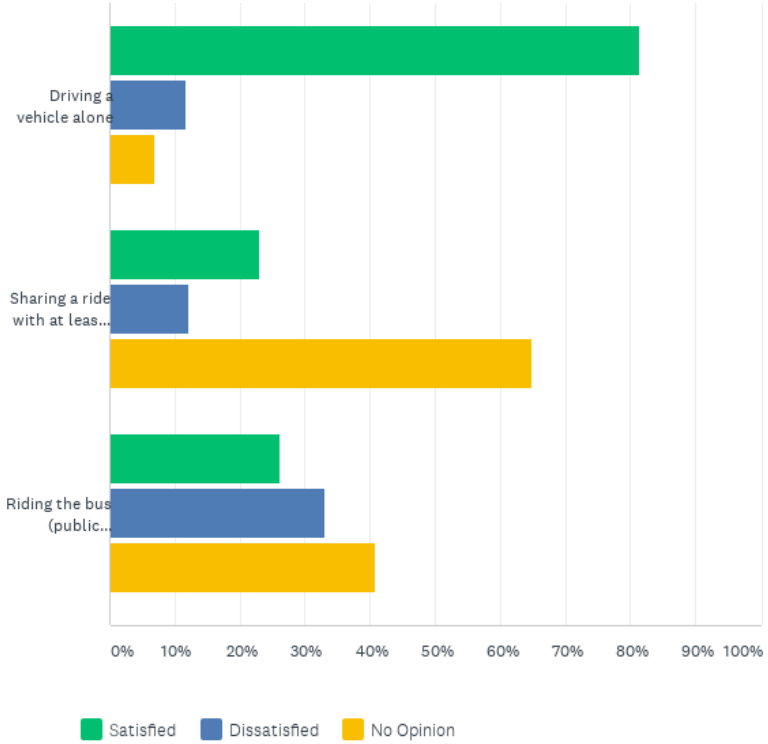


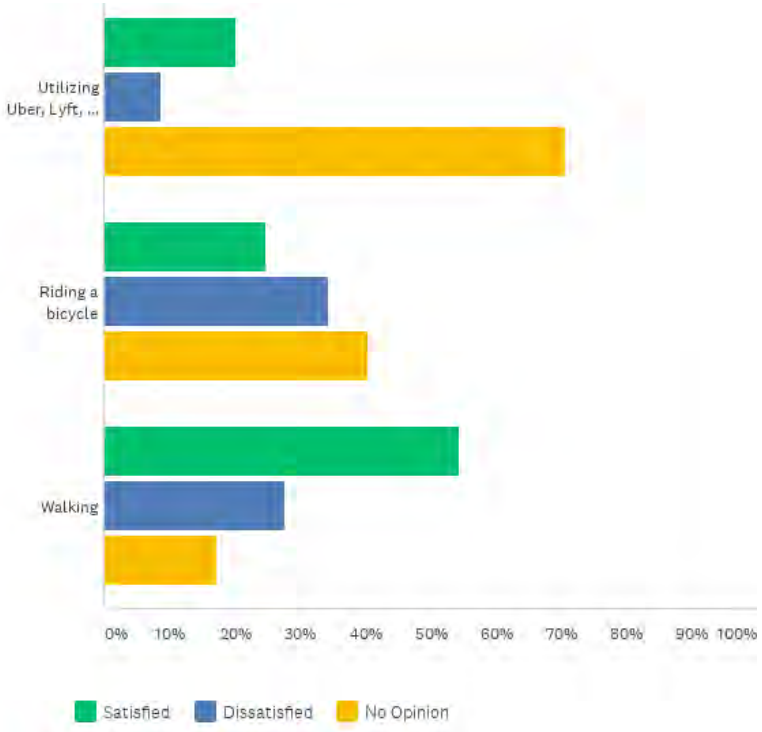
Q22: Tell us a little more about your personal travel habits? (check all that apply)

Answered: 538 Skipped: 114

	DAILY	ONCE OR TWICE EACH WEEK	EVERY OTHER WEEK OR SO	EVERY OTHER MONTH OR SO	NOT VERY OFTEN	TOTAL	WEIGHTED AVERAGE
Grocery store	8.19% 44	81.38% 437	8.75% 47	0.74% 4	0.93% 5	537	3.95
Pharmacy/drug store	0.00% 0	6.83% 36	31.88% 168	34.16% 180	27.13% 143	527	2.18
Retail shopping (clothing, gifts, etc.)	0.74% 4	14.90% 80	37.43% 201	28.12% 151	18.81% 101	537	2.51
Dining out	4.29% 23	50.56% 271	27.99% 150	8.96% 48	8.21% 44	536	3.34
Visiting parks and trails	5.42% 29	25.42% 136	22.43% 120	28.04% 150	18.69% 100	535	2.71
Special events (sporting, festivals, etc.)	0.37% 2	6.53% 35	24.25% 130	37.69% 202	31.16% 167	536	2.07
Driving for leisure	2.99% 16	8.21% 44	13.43% 72	16.42% 88	58.96% 316	536	1.80
Biking for leisure	2.63% 14	10.88% 58	8.44% 45	14.45% 77	63.60% 339	533	1.74
Walking for leisure	28.79% 154	30.28% 162	17.01% 91	11.21% 60	12.71% 68	535	3.51
General errands	20.97% 112	58.24% 311	17.23% 92	1.69% 9	1.87% 10	534	3.95
Visiting friends/family	4.50% 24	39.77% 212	31.71% 169	13.51% 72	10.51% 56	533	3.14

Q23: What are your overall perspectives on travel within the NRVMPO boundary? (consider all types of travel and check all that apply)





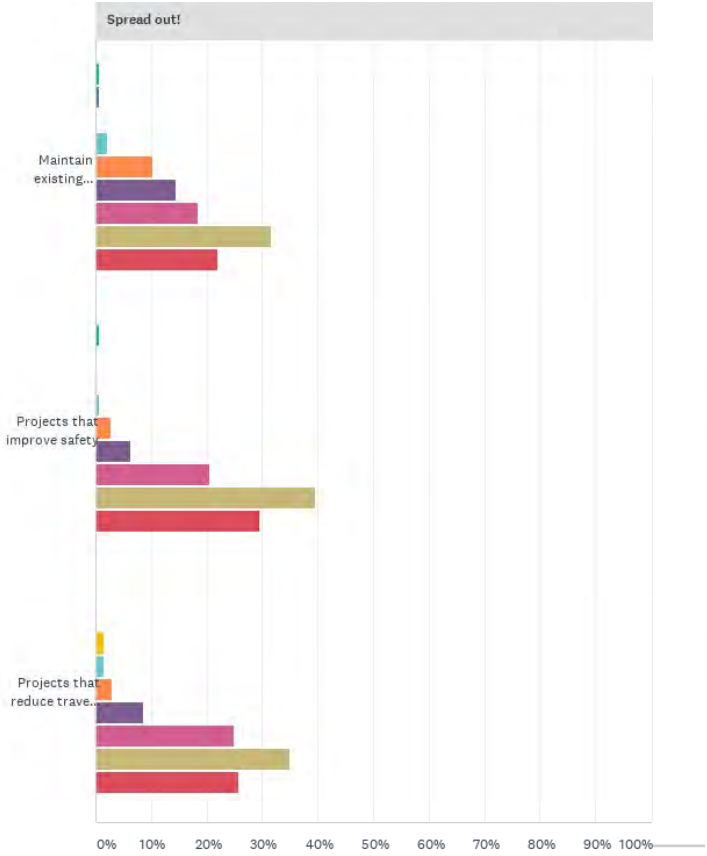
Q23: What are your overall perspectives on travel within the NRVMPO boundary? (consider all types of travel and check all that apply)

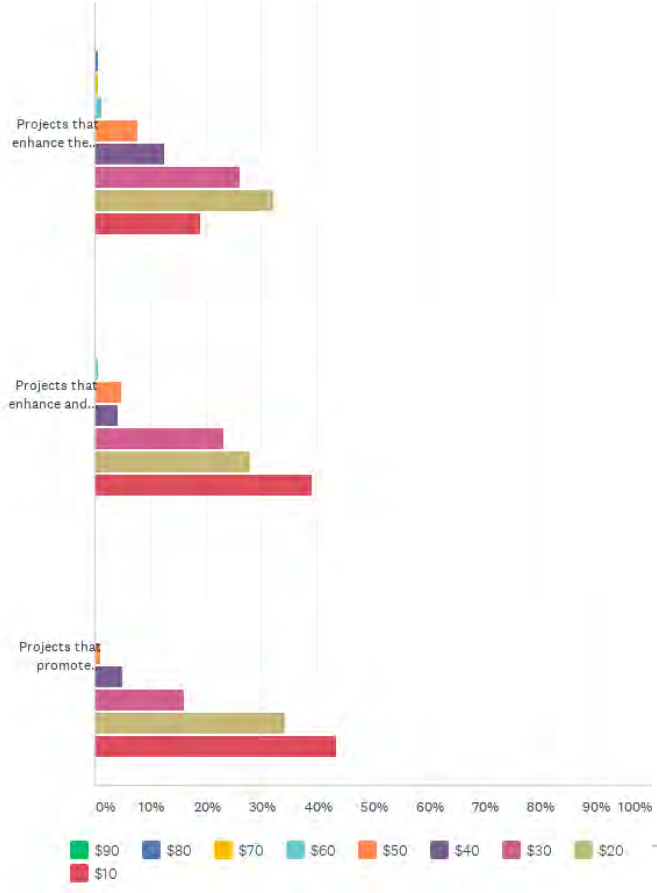
Answered: 527 Skipped: 125

	SATISFIED	DISSATISFIED	NO OPINION	TOTAL	WEIGHTED AVERAGE
Driving a vehicle alone	81.37% 428	11.79% 62	6.84% 36	526	2.56
Sharing a ride with at least one other person (carpool/vanpool)	23.08% 120	12.12% 63	64.81% 337	520	0.81
Riding the bus (public transit)	26.20% 137	33.08% 173	40.73% 213	523	1.12
Utilizing Uber, Lyft, or private taxi	20.35% 106	8.83% 46	70.83% 369	521	0.70
Riding a bicycle	24.90% 130	34.48% 180	40.61% 212	522	1.09
Walking	54.70% 285	27.83% 145	17.47% 91	521	1.92

Q24: You have $100, invest it where you think the biggest transportation needs are within the NRVMPO boundary! (go all in for one topic area, pick a top two, or spread the funding out in the third column)

Answered: 520 Skipped: 132





Q24: You have $100, invest it where you think the biggest transportation needs are within the NRVMPO boundary! (go all in for one topic area, pick a top two, or spread the funding out in the third column)

All in!

	$100	TOTAL
Maintain existing transportation infrastructure and services	100.00% 19	19
Projects that improve safety	100.00% 16	16
Projects that reduce travel congestion and travel time	100.00% 53	53
Projects that enhance the movement and connectivity of pedestrians, bicycles, and transit	100.00% 70	70
Projects that enhance and protect environmental and cultural resources	100.00% 21	21
Projects that promote economic growth and development	100.00% 12	12

Answered: 520 Skipped: 132

Q24: You have $100, invest it where you think the biggest transportation needs are within the NRVMPO boundary! (go all in for one topic area, pick a top two, or spread the funding out in the third column)

Top two!	$50	TOTAL
Maintain existing transportation infrastructure and services	100.00% 49	49
Projects that improve safety	100.00% 45	45
Projects that reduce travel congestion and travel time	100.00% 85	85
Projects that enhance the movement and connectivity of pedestrians, bicycles, and transit	100.00% 121	121
Projects that enhance and protect environmental and cultural resources	100.00% 47	47
Projects that promote economic growth and development	100.00% 42	42

Answered: 520 Skipped: 132

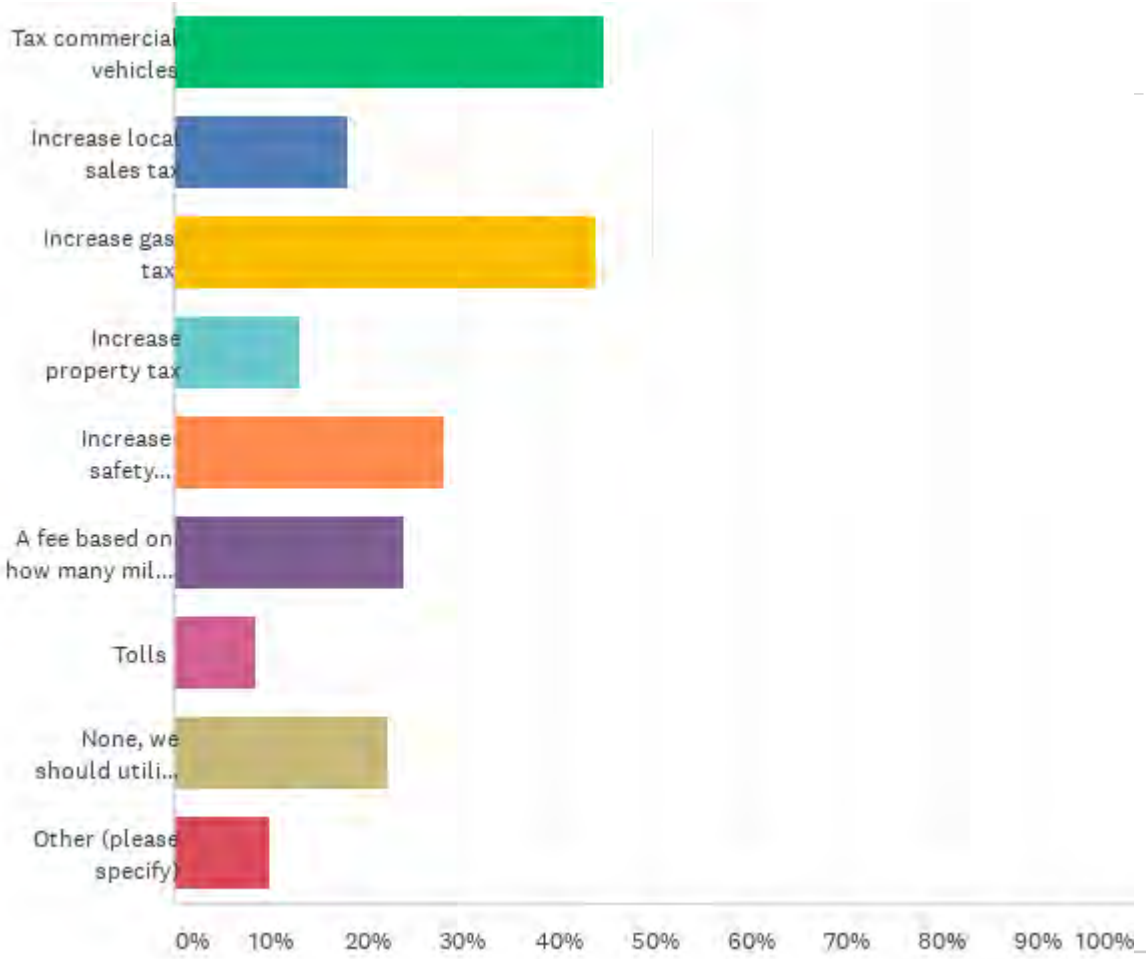
Q24: You have $100, invest it where you think the biggest transportation needs are within the NRVMPO boundary! (go all in for one topic area, pick a top two, or spread the funding out in the third column)

Spread out!

	$90	$80	$70	$60	$50	$40	$30	$20	$10	TOTAL
Maintain existing transportation infrastructure and services	0.68% 1	0.68% 1	0.00% 0	2.05% 3	10.27% 15	14.38% 21	18.49% 27	31.51% 46	21.92% 32	146
Projects that improve safety	0.70% 1	0.00% 0	0.00% 0	0.70% 1	2.82% 4	6.34% 9	20.42% 29	39.44% 56	29.58% 42	142
Projects that reduce travel congestion and travel time	0.00% 0	0.00% 0	1.43% 2	1.43% 2	2.86% 4	8.57% 12	25.00% 35	35.00% 49	25.71% 36	140
Projects that enhance the movement and connectivity of pedestrians, bicycles, and transit	0.00% 0	0.60% 1	0.60% 1	1.19% 2	7.74% 13	12.50% 21	26.19% 44	32.14% 54	19.05% 32	168
Projects that enhance and protect environmental and cultural resources	0.00% 0	0.00% 0	0.00% 0	0.68% 1	4.79% 7	4.11% 6	23.29% 34	28.08% 41	39.04% 57	146
Projects that promote economic growth and development	0.00% 0	0.00% 0	0.00% 0	0.00% 0	1.01% 1	5.05% 5	16.16% 16	34.34% 34	43.43% 43	99

Answered: 520 Skipped: 132

Q25: Transportation improvements are often expensive. Which of the following options would you likely support for future transportation improvements? Please check all that apply.



Answered: 526 Skipped: 126

Q25: Transportation improvements are often expensive. Which of the following options would you likely support for future transportation improvements? Please check all that apply.

Answered: 526 Skipped: 126

ANSWER CHOICES	RESPONSES	
Tax commercial vehicles	45.06%	237
Increase local sales tax	18.25%	96
Increase gas tax	44.11%	232
Increase property tax	13.12%	69
Increase safety inspection fee	28.33%	149
A fee based on how many miles a vehicle is driven	23.95%	126
Tolls	8.56%	45
None, we should utilize existing sources	22.43%	118
Other (please specify)	10.08%	53
Total Respondents: 526		

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ANSWER CHOICES	RESPONSES	
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Increase local sales tax	18.25%	96
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Tolls	8.56%	45
None, we should utilize existing sources	22.43%	118
Other (please specify)	10.08%	53
Total Respondents: 526		

When people were asked about overall perspectives on travel within the NRVMPO:

1. This question is difficult to answer because in different parts of the MPO I feel differently
2. It really depends where- the area is not at all homogeneous
3. Traffic circles do not work as intended. Bus stop on north main next to wendys should NOT block traffic while at the stop.
4. Walking and biking could always be improved. To get more people biking, ultimately you will need a separate lane with a barrier on most streets. Also I would like to mention Bike Route 76, which I think could be improved (pavement quality and wider lanes). VDOT should give more money to things like nationally designated routes.
5. At my age I often ask others to drive me, for which I am very grateful.I
6. Please extend walking space down glade road to meadowbrook
7. the wording of this question does not make sense--what do you mean by satisfied?
8. I drive my car everywhere I go. I have never used any other type of transportation in this area.
9. Need more sidewalks!
10. Need Amtrak in Christiansburg!
11. Mt. Tabor road is dangerous. But folks don't use the Woodbyne path.
12. Would like access to a close bus route to get to downtown
13. Not enough dedicated bike routes & accommodations
14. Surprised that Blacksburg's main thouroughfares (Main Street) lack bike lanes.
15. depending on weather, walking biking suits my downtown living lifestyle. Bus transfer in the middle of my 2 mile commute up Main Street is hassle.
16. electric bus fleet needed
17. rail
18. rail
19. love the expansion of trails!

20. ROAD RELATED: I used to travel daily to Roanoke from Blacksburg, but with technology, I work from home more days than not; and I am glad due to congestion on I-81. The reliability of on time trips to Roanoke has been dramatically reduced. Additionally, when the universities in the region let out for holidays, there is predictably multiple MVAs that result in serious traffic congestion. I don't go to Roanoke on those days. The university should explore options for getting students onto the NoVA bound buses and trains. BUS RELATED: The bus system remains focused on the student population. With the tech industry expanding in the whole NRV, the bus system needs to be overhauled to expand services to working professionals in the region and to reduce car congestion. BICYCLE RELATED: The Town of Blacksburg has a bicycle master plan but has done very little to implement the plan. It has not been funded. In Christiansburg, the focus has been on extending the Huckleberry Trail, but little has been done to improve the visibility of bicyclists on the main arteries. OVERALL: The Towns and City within the MPO need to be bold with their transportation plans and de-incentivize car travel and invest in bus, bike, and ped related infrastructure to entice people to switch modes.
21. It is hard to classify since I am grateful for what available through out Town of Blacksburg, but bike and transit opportunities can be a little more hit-or-miss throughout the NRVMPO as a whole
22. some sidewalks in Blacksburg need to be repaved.
23. Buses make about 4 mpg. I look forward to electric buses in the BT fleet. Making long-term planning decisions that minimize the need for buses, trucks and cars would benefit us.
24. Multi-modal transit between localities is infrequently possible, and needs to be improved; e.g. bus service between cburg/radford/bburg during evening and weekend hours
25. More bike lanes and promotion of bicycle use!
26. need safety mechanisms for other transportation devices (i.e., skateboards, electric stakeboards)
27. Bus centers on VT campus and not many routes in Christiansburg
28. Please make sidewalks and bicycle lanes. It is impossible to cross Franklin Street safely.
29. would like to bike toward Radford or Roanoke
30. Don't understand the question

31. I use the Huckleberry Trail as much as possible. The fact that there are no bike lanes in my part of the county (Riner) has contributed to the fact that I don't ride the bike anymore.
32. Too much land is taken up by parking spaces, and too many land use decisions are driven by cars.
33. We need to connect Radford, Christiansburg and Blacksburg with public transportation.
34. For parents who have children, these other options are impossible when you have to run around a lot. Parking on campus is hard for people who need to come and go. I also live 11 miles away.
35. Bicycle lanes are routed away from downtown where I need to go, often on very steep hills like on Progress St. Also, the high bus traffic has destroyed the pavement on Progress so it feels unsafe. The stoplight at Progress and Patrick Henry is insensitive to bikes; there needs to be a bike accessible button to cross. The bike lane on Patrick Henry Dr. on the sidewalk is unsafe for pedestrians and very uneven; I take my chances on the road even without bike lanes.
36. I would love the bus route to extend to Woodbine.
37. lack of train service
38. Better bike safety/infrastructure in urban areas, i.e., downtown Blacksburg and Christiansburg
39. The 460/Prices Fork intersection needs better accommodations for pedestrians and bicyclists. I'm nervous about being hit by a car, which is why I haven't tried walking to work.
40. With traffic in Blacksburg and climate change we need to focus the majority of our resources toward bikes and walking. The average person in Blacksburg is young and fit, there is no reason not to bike. Inexpensive electric assist bikes are available for anyone that needs help with holds and rain gear solves the occasional weather issue.
41. need more options transit from BBG to ROA and spots north
42. It's the Huckleberry Trail. If that system can continue to be extended per the plan, NRV will have a real GEM for leisure travel and even commuting.
43. I use oxygen so I find I don't get out as much as I used to. My husband was a right leg amputee and we found the bus service quite helpful.

44. the safety of pedestrians and bikers is very limited - I am hearing more and more of people around the nation being hit on the road by cars and SUV - and what about train or rail here
45. Need trains!
46. At some point I will need to ride the bus, am glad it services so many places, would like a few more bus stops
47. Walking areas are improving as new areas are modified/constructed, but older neighborhoods that do no have sidewalks need updating
48. There needs to be coordinated public transportation between all the NRV and Roanoke as well as passenger rail everywhere else!

When people who work in the NRVMPO were asked: do you experience gaps in public services or types of infrastructure to complete your travel between home and work?

1. Crosswalk safety on a main road outside of our neighborhood located in a school zone. Expressed concerns to city and was told they are doing all they are required to do. No skateboarding or bikes allowed on the sidewalks but cyclist safety is a concern. Route 76 is heavily traveled and a major ecotourism attraction.
2. nearest bus stop is over 1/2 mile walk
3. Bus service requires long walking distances, making the total trip length almost as long as walking.
4. There is no sidewalk where I live (Montgomery Street, Blacksburg) and no bus from industrial park drive to my workplace
5. There is no public transportation to my home
6. Bike paths feel too small on north Main street
7. No sidewalk along roadway for portion of travel.
8. Constant construction that takes entirely too long.
9. Frequency of bus stops decreases when VT students are not in town
10. An all bus trip would take 3 times as long as my current commute due to high bus headways in Roanoke.
11. I live outside the bounds of BT routes.
12. does not connect far enough down on Price's Fork Road for Transit
13. I would welcome more bike lanes

14. The BT line doesn't go all the way to the end of N Main, so those past Mt. Tabor Road have to walk a mile to get to the first stop.
15. no bike lane on south main st.
16. I live too far from the bus stops to actually use the bus to go to work.
17. Long walk to nearest bust stop. Takes 45 minutes by bus, 15 by car
18. There is not a reliable source of public transportation between Blacksburg and areas of Christiansburg
19. Bike paths and bus service do not extend to my neighborhood
20. No bus route on the closest major road to my house.
21. Bus doesn’t go to my house
22. Bus service does not go out as far as prices fork
23. I live in South Jefferson Forest Ln and there is no possibility to get to Blacksburg town without personal vehicle
24. Not safe to ride bicycle parts of my route.
25. The BT does not run all hours that I work
26. Taylor hollow rd floods due to a poorly designed bridge.
27. The bus doesn't go out Price's Fork Road far enough for me to use it. I live just beyond the BHS.
28. It would take 15 minutes just to walk to a bus stop, whereas it takes only 12 minutes to completely drive to work.
29. Buses fill with students at certain times and there are often waits for the next bus
30. There is no bus between Radford and MCPS
31. the walk from my house to the bus is too hilly
32. Reduced bus schedule when Tech is not in session
33. the commute time and bus transfers would make it absurd to use public transportation
34. I can access a bus fairly easily from my home, but a combination of trip length (connections) and other complications like picking kids up from daycare prevents me from using it.
35. Unclear when bus comes
36. Need more sidewalks
37. Weekend bus schedules have poor morning coverage.
38. safe bicycle routes

39. about 1 mile to the bus from home
40. Nearest bus stop to Clay street locations involves bushwacking or walking along sidewalkless poor-visibility roads for over a mile
41. would like more transpo to Radford and hospital
42. There is no public service
43. Live in Floyd, work in Blacksburg. No bus service available until I've drive more than halfway there already and that portion of the trip would take 3x longer by bus than just driving the rest of the way.
44. Inadequate bike lanes/paths
45. Buses don't go out to Prices Fork
46. There are no bike lanes or shoulders on the roads. There is no place to park near bus stops. There is no public transportation. The few sidewalks are almost in traffic and the paths are out of the way
47. no bus routes, no bike lanes, and no sidewalks/trails near my home
48. Definitely need better Internet coverage (Craig Creek Rd.). No commuter lot to park in even if I wanted to try to take a shuttle from Blacksburg to Radford.
49. no routes that will get me to work from home and back.
50. Bus is available but transit time is excessive compared to using my own vehicle.
51. No options available from my home
52. No bike lanes in downtown Blacksburg
53. Some of the walking areas along Prices Fork Road - at the bypass - are somewhat dangerous
54. transfers make bus a much longer travel time between home (off S. Main) and work (on Hethwood bus route) making bus un-usable for me most days
55. I drive my daughter to and from school (FBE) and there's no safe way to get from a bus stop to the school or to bike around that area due to the bypass and no sidewalks.
56. limited availability, route only runs once an hour, ends early
57. I could ride the BT from my home to my office in the CRC, but it would require switching on campus. This will make a 9 minute commute become a 40 minute commute.
58. cell coverage dropouts during commute to work (mostly en route to NRV MPO area)

59. The edges of TOB and Mont County are out of luck Public Transportation wise (towards Ellet Valley)
60. Lack of proper road maintenance. IE Snow, Ice and debris removal.
61. Closest bus stop is almost 2 miles away. There is no bus access in northern / Toms Creek area of town.
62. lack of public covered bicycle parking downtown
63. sidewalks
64. mode choice
65. Lack of bike lanes
66. the changes to the Huckleberry Trail due to the Airport runway extension are a travesty; the straightaway section of RT 11 in Plub Creek should be widened to include bike lanes; south main st in Blacksburg near the hospital is not bicycle friendly
67. not many bike lanes, and lack of knowledge of how vehicles should treat bicyclists on the road
68. Lack of or dangerous bike lanes. Also complete lack of traffic law enforcement.
69. On Roanoke end, the Valley Metro routes do not match up with the Smartway Bus stops. No opportunity to switch to Valley Metro except at Campbell Court, adding an hour plus to trip. Requires keeping car at VDOT park and ride lot to complete trip on that end. On the Blacksburg end, the BT routes are student focused and do not connect to single family neighborhoods creating a gap that requires a car on this end of the trip, too. Additionally, BT service schedule starts after I need to be on Smartway and runs a reduced schedule in summer.
70. More frequent and late night bus service would improve accessibility and ease of use
71. Blacksburg Transit routes and schedules do not connect to the part of Cburg I need to commute to (from Bburg); my work is also beyond the reach of the Huckleberry for safe bike travel and I therefore have no choice but to drive.
72. A park and ride between Pulaski/Radford and The Towns would be nice. Maybe at Exit 105 or 109?
73. Lack of direct routes between residential and some commercial areas makes driving the most reasonable choice due to inconvenience of waiting and transferring between bus routes.

74. Live outside town limits in the Prices Fork area with no option for public transportation
75. Taking the bus from Main Street Blacksburg to Main Street Christiansburg would take more than an hour. Driving my hybrid alone take 17 minutes.
76. What little bike infrastructure exists in the town of Blacksburg are either literally death traps (unprotected lanes >5ft wide; c.f. 3 ft of passing space) or take horribly unoptimized routes (there's an airport in the middle of town which has caused substantial lengthening of the huckleberry). Combine this with south main street being effectively inaccessible, and most people's ability to travel by bike is substantially kneecapped by their fear of drivers (understandably)
77. I can ride the huckleberry till about a mile from my work on Industrial Park drive but there are no safe bike lanes between the hospital and work.
78. Closest bus stop is over a mile from my home. That is why I do not use it.
79. Some parts of the Huckleberry could use maintenance.
80. No kroger between Blacksburg and Fairlawn.
81. I live in Giles County. There are no public transportation options. Driving is the only option. The North Main intersection from 460 is dangerous still even with the fixes!
82. No bus from my home to bus from Roanoke
83. no public transportation available
84. Bus doesn’t come close to my home, bike ride could be done, but not an easy route.
85. I live in Village at Toms Creek and the roads don't connect anywhere other than to Tom's Creek Road, which is the wrong direction if you want to get to VT or downtown. If there were a road or trail going in a straight line to campus, I'd definitely walk or bike more. Right now going the wrong direction out of the Village is too inconvenient.
86. We need a better rail system for passengers using the European/United Kingdom model. Cell service is sketchy during my commute.
87. Actual bicycle lanes, not a couple of feet marked off
88. The Explorer (BT line), which I partly rely on, does not run on weekends or into the evening
89. There is no other alternative transportation in this area.
90. BT Transit Commuter Route would quadruple my commute each way.

91. Lack of bike lanes and sidewalks.
92. There is no bus that will take me from downtown Christiansburg to downtown Blacksburg during the hours that I need to work. I would have to arrive late and leave early every day.
93. There is no public services for most of my travel between home and work
94. I live off of 460, so it is difficult to bike all the way home.
95. There is not currently a bus from Floyd to Bburg
96. No public transportation to/from my home
97. There is no public transit, no terrestrial fixed internet and even cell service has become spotty.
98. Service times, and types are not conducive to commuting on a varied schedule
99. when it is outside of Blacksburg --hard to safely bike out
100. No bus between work and home
101. not available to Riner area
102. There are no bus options that go north on 460 outside of Blacksburg.
103. BT service does not come to my Blacksburg neighborhood
104. Bus stop is over a mile from my home. Walking on Mt. Tabor Road is dangerous. Riding bike on Mt. Tabor Road and North Main Street is not real safe.
105. There is inadequate or non/existent sidewalks for walking or bike lanes. Sidewalks may end without any other option but to walk along the road.
106. I live too far from work to bike or walk and there is not a bus between Radford and Blacksburg
107. nearest bus stop is too far from house to use
108. No public transportation can take me from home to work
109. Bike lanes missing in some areas
110. No sidewalks on part of the route, and biking is downright dangerous.
111. No bus service on Tom's Creek outside of 460
112. No sidewalks in places, and no safe space for bikes.
113. On Rt. 460 by-pass (east bound) from the last Blacksburg exit for about 1 - 1 1/2 miles, the road has a huge dip in it and around the bridges the road is very rough.
114. Not frequent enough

115. Desperately need better fiber optic Internet on Brush Mountain Rd. It is ridiculous that it is almost 2020 and a location just outside town and along a major route (460) does not have this service. A MAJOR deterrent for living in NRV.
116. There's no real options outside of town limits for public transit
117. mode options are limited; weather conditions significantly impact travel ability
118. No cell phone coverage in several areas of travel
119. There is no public transit available between home and work for me.
120. Road work on Prices Fork Rd. Flooding on Glade Rd and poor road conditions on Glade Rd
121. No public transit from home to work is available
122. If not using a car do not have an alternative.
123. I live off of Glade Road and I would love to bike or walk, but the road is so narrow that with all the blind hills and curves, it is very dangerous for bikers and pedestrians.
124. No bus service where I live
125. Construction and roads that are closed.
126. no service between blacksburg and fairlawn/Radford
127. No bus near me
128. no commuter bus service between Radford/Fairlawn and Blacksburg. Also, no safe shoulder area for bicycles along most of Peppers Ferry or Prices Fork from Radford/Fairlawn area
129. Need smartway stops with free parking north of exit 140 without having to drive into the city of Roanoke
130. have to go to Christiansburg to get commuter bus poor schedule as well
131. There is no bus stop near my home, or within walking distance.
132. bus connections between Smart Way/local buses in C'burg could be better
133. I live too far out for public transportation. Also, the first 3 miles are just too dangerous to ride my bike to work and know I'll return safely to my family in the evening
134. The bus doesn't go far enough out to reach our home in Radford.
135. There is no bus service where I live or even a place to park to carpool from.

136. I would love to take a bus, as it allows me to plan and travel solo but not use a personal vehicle. However, the bus stops at least a 30 min walk from the neighborhood I currently live, on a good day. I would still consider this, except there are no sidewalks except for a few hundred yards near the bus stop on the one main road on the route. I will be moving across town, but will again experience this same bus issue. I can't ride a bike due to physical disability, so this eliminates public routes. I work strange hours most of the year, so all but a month or so in the summer I can't really ride share regularly, either.
137. the buses don't run as often during breaks which is hard for those of us who work on campus and need to get to work and to home at certain times
138. There is no public transportation
139. No bus service to Village at Tom's Creek or adequately nearby
140. The changes to the Huckleberry Trail have greatly reduced my ability to bike or even walk to work
141. no bus service to the community of Price's Fork
142. timing of bus services
143. More traffic lights installed lately
144. Parking space is the main problem
145. bus schedule reduction during summer
146. inadequate sidewalks for pedestrian safety
147. The earliest and latest bus that goes to downtown Christiansburg does not allow me to work my 8-5 job on campus.
148. Lack of sidewalks, safe walking opportunities.
149. I work at the CRC. I would have to commute to campus and then catch the bus. Not practical.
150. Only bus service is along main street, makes for a long walk for most neighborhoods.
151. Need option to ride bus with multiple route start times.
152. There is not enough sidewalk, crosswalks or bike lane from home to work. A side trail off the Huckleberry with addition of a safe crossing over 460 business is needed to make the trip safely
153. No bus stops near apartment complex, so only options are drive personal vehicle or walk on Huckleberry Trail.
154. I would like to use the BT, but the stops are too far from my home and work.

155. No regular transportation to/from work
156. More and more university employees cannot afford to live in Blacksburg. More buses into more parts of Christiansburg would be ideal.
157. It is not currently possible for me to use public transportation from my neighborhood in the county to my place of employment in Blacksburg
158. Nearest bus stop is over a mile from my house
159. The closest bus stop to my home is a 15 to 20-minute walk over an overpass. It feels unsafe plus adds an unacceptable amount of time to a bus commute that already takes 25-30 minutes. By contrast, it takes me 10 minutes by bike, 5 minutes by car, and about 40 minutes to walk! This is a huge disincentive to take the bus, though I would like to in rainy or snowy days.
160. There is no public transportation to Giles County
161. The Two Town Trolley has terrible hours for working people. The bus usually stops running too early and there is a very large gap between routes. It's at time impossible to use the service and I have to hitch rides. A lot of people don't use it because of that.
162. Better bus connection (closer to home and more frequent trips)
163. Bus on intermittent service when students are out of session
164. I find bus information confusing
165. bus / shuttle times do not line up with work schedule
166. Nearest bus stops are Montgomery Regional Hospital or New River Valley Mall, both of which are 1.75 miles from my home.
167. No last mile service to work
168. No bike lanes or sidewalks in critical areas with high bike and pedestrian traffic (Glade Rd), no buses past a certain point or ride-share lots at the outskirts of bus service
169. We need more dedicated bike Lanes
170. It would take waaaaay to long to take the bus
171. I can always ride my bike to work on the roads, but I would like to see more bike lanes/bike friendly roads. The traffic in Blacksburg is very aggressive and not always friendly to cyclist even thought it is often faster to get around that way.
172. the only option to get from work to home via transit is a 2-2.5 hr bus ride w multiple connections. Or I drive myself 20-25 minutes.

173. No BT Service to the part of Bbg I live in, Plus no sidewalks until I get to Main street
174. Bus service is too infrequent to be practical for a working parent picking up children. Cycling in many areas feels unsafe due to narrow road shoulders and inexperienced drivers.
175. Price's Fork Road needs so much TLC. My kids go to PFES, and the roadway around that area is busted up and terrible on rainy days.
176. i live on a narrow twisty road. no bike lane, no sidewalks, 2 miles to the bus
177. Busses are too full
178. Don't know - there is a bus but I need to transport a child to school so I can't use it and be at work on time
179. since the Tech Airport was extended, the Huckleberry is not as efficient: should add bike lanes on S. Main in Blacksburg to the hospital area
180. No bus service to the county area. I have no choice but to drive.
181. Not enough options between Christiansburg and Blacksburg. Good systems in each town, but bus between the two is very limited.
182. I would like more public transportation options, such as the bus. I have to be at work at Virginia Tech in the morning, like most people who live in Radford and work at Tech, but the only bus option doesn't leave until 2:40pm. I have a somewhat erratic schedule due to having a newborn at home, so I can't really carpool. Even if I could take the bus a few days a week, this would help cut down on costs for me, traffic for all, and stress in general (it's not a pleasant commute, no matter which route you take.)
183. I could not use public transportation to get to my job in Roanoke City if I tried.
184. Need public transit from Radford to the airport that runs both ways at all hours that flights arrive/depart.
185. Mass transit between Radford and Roanoke
186. safe bike ways
187. sometimes carpool cannot get to Blacksburg on days I need to work. There is no transit service in the summer that goes to Blacksburg
188. 114 is terrible!
189. Would love to have bus service in the morning and afternoon from Radford to Blacksburg
190. no bus system outside of the town limits of cburg & bburg

191. No Transit near home location
192. I would have to take three buses and take 1.5 hours to take the bus. It only takes me 10 minutes to drive.
193. Often encounter roadwork, roadblocks, traffic wrecks, etc.
194. There is no public transportation between my home and work period.
195. No sidewalks from bus stops to my workplace
196. Most of the "gaps" are literal - small gaps between roadway and ramps and multi-use trails, lack of bike lanes (S. Main St), or rough roadways/trails - multiple locations are adequate for cars/trucks/buses, but challenging for bikes, small vehicles, wheel chairs, scooters, or even pedestrians.

When people who attend school in the NRVMPO were asked: do you experience gaps in public services or types of infrastructure to complete your travel between home and school?

1. no sidewalks on Montgomery Street
2. Not available
3. I would welcome more bike lanes.
4. Bus only runs certain hours, no morning and evening service from Blacksburg to Radford
5. More frequent late night service would be nice and easier to use
6. I have had previous issues with drivers completing passing certain stops, buses not arriving on time or missing a stop entirely, and overcrowding that prevents me from accessing a certain bus at certain times
7. My comments about dangerous bike infrastructure in blacksburg stand here, too. VT campus has some particularly egregious death traps posing as "bike lanes" around their campus, and are substantially responsible for construction of horribly dangerous "traffic circles" on the trail.
8. The Explorer (BT line), which I rely on, does not run on weekends or into the evening
9. I live off 460 outside of town and cannot bike that portion of my commute
10. taking smartway to/from ROA means longer commute times and the need to leave really early

11. Getting VT is very easy, quick and seamless. HOWEVER, getting to the NRVCC Mall Site is horrible. I have to leave two hours early just to compensate for the weird times that the Two Town Trolley runs. I sadly had to schedule my courses around the bus so evening courses weren't an option. Luckily, I'll be full time at VT but my sister will be stuck doing the same thing I did which is having to schedule courses around when the two town trolley runs. I find it odd that the Radford bus seems to have more frequent routes than the two town trolley. Maybe send a smaller bus in between the bigger bus to increase the frequency of travel and especially extend the hours.
12. Bus service, road maintenance
13. again, only option is a 2-2.5 hr bus or 20-25 min in my car. no brainer in terms of if I spend an hour or 4-5 commuting a day
14. Bus

When people who visit the NRVMPO were asked: do you experience gaps in public services or types of infrastructure to complete your travel between destinations?

1. I have to drive to concerts at Moss Arts Center because the last Smartway bus leaves before the concert is over.
2. many bicycle and walking gaps, transit gaps or missing
3. congestion during rush hour on Prices Fork Road and Main Street in Blacksburg
4. We go to concerts at the Moss Arts Center. We could take the Smartway TO the concert but we couldn't get home to Roanoke after the concert because the bus doesn't run that late.
5. public transit is concentrated in the towns. Going to places within the county is not possible.
6. constant construction and congestion before and after work

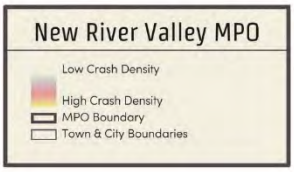
When people were asked about how best to fund transportation improvements in the NRVMPO:

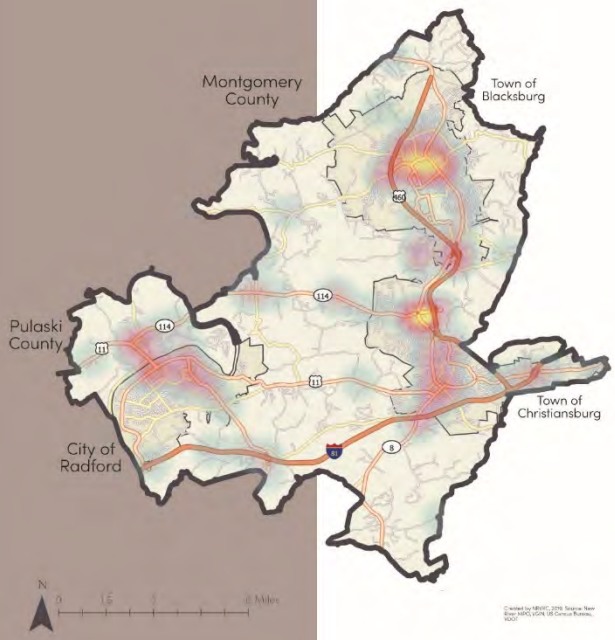
1. Put in a sugary drink and/or cigarette tax. Raise the health of the community, put money towards community needs, ie. schools, transportation, conserving our natural fit and save on healthcare costs. Radford E. Main St. only walking downtown and bring back passenger rail. (Wilmington/Charleston SC.)
2. Increase sales revenue tax on nonprofit businesses so they begin to pay a fair share.
3. Taxation is theft. Too many taxes already that are wasted.
4. general fund from fed/state taxes; gas tax if done at federal/state level
5. increase taxes on commercial property and builders
6. Believe cost should be spread over multiple revenue sources, to distribute evenly across the user base.
7. Please do not institute tolls. Toll booths are such a slow-down. I'd rather pay more at the pump
8. Tax Mid Town owners, as it is going to cause an incredible traffic problem in that part of Main Street and town.
9. VT should shoulder more fo the financial burden
10. a short term levy with a defined expiration (date or funds raised). Not a perpetual tax.
11. increase the fines related to transportation violations
12. Diverting funds from road redevelopment to prioritize connectivity of alternative transit
13. Find a way to tax more students who use our roads, but only pay their $ to VT
14. Tax Uber and Lyft services as well as food delivery services.
15. Luxury car tax.
16. Live within your means like the people do.
17. Use available federal grants for innovative transportation measures like Air taxis.
18. Emphasis on bonds & taxes to support convenience & access to public transport & taxi-like services, along with vehicle sharing & convenient rental
19. Increase vehicle registration fees

20. Annual Gas Guzzler tax on vehicles that don't get at least 25 mpg regardless of size or age
21. Expand/consolidate BT and RT transit to regional system w/ green buses. Expand routes, frequency, and capacity. Add Rail!
22. taxation that gives incentive to better transport options
23. Reduce demand for transportation and allow public/non-profit partnerships (63-20?)
24. Partnership with rail systems or air carriers who will be providing and benefitting from service.
25. tax out of state vehicles/students who live in the area
26. Fee from new construction that creates new needs
27. Increase bus fares for those who can pay. Do a sliding scale.
28. increased visitor tax on recreation (food/tickets/etc)
29. Stop subsidizing parking for private vehicles.
30. Note that since I do not live in the area, I am uncomfortable selecting property tax increases, but those seem like a good option
31. Fee for services
32. Factor certain transportation enhancements into commercial development negotiations.
33. Alcohol and Tobacco tax
34. increase state income tax and make more progressive
35. A fee based both on vehicle size and miles driven
36. We don't need as many students as we have. The roads can't handle all the traffic. I would prefer that Tech downsize the number of students so our roads aren't bumper to bumper, and use the funds to upkeep our current roads. Blacksburg use to be a nice place to live, but the town and Tech have ruined it
37. Start taxing bicycles, they should have a license plate of some kind.
38. None. I moved from California. Better transportation, less taxes, less corrupt councilmembers.
39. toll on 81 - make it at 81/77 & 81/64 exchanges - should you live in those areas and need to travel between those exchanges often offer a free sticker pass for that address zone - make passer through traffic pay

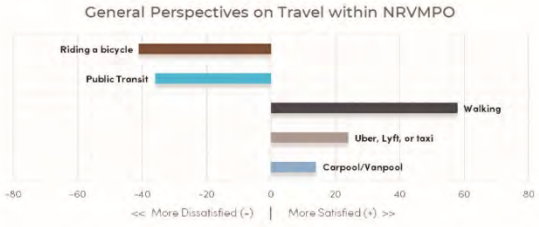
40. Higher fines for traffic / parking violations. / Increase in local sales tax should not be imposed on groceries and other essentials.
41. Combine bike trail expansion with other projects. If your repairing railroad tracks then put a bike trail next to it for example. Also combine bike trail expansion with various districts to ease cost to one area. So you can work with local, state and various local agencies to achieve one goal. Also raise commercial fees and taxes very slightly.
42. No opinion
43. Institute tax on sporting goods - most options above target drivers but cyclists and pedestrians should also contribute to cost of services and new infrastructure
44. Have new developments pay for improvements on the land they are developing. I also think if we had safer ways for people to get around, i.e. more bike lanes more people would travel that way.
45. Grants
46. more fees for students in B'burg area
47. remove inefficiencies within gov't spending
48. Conduct study of VT-affiliated drivers' impact and consider cost-sharing for alternative mobilities through VT parking fee structure. Let's be honest. Traffic in the NRV means primarily VT's students, faculty and staff--and this is going to get a LOT worse with the VT growth plan.
49. NO, NEVER TOLLS - research CT
50. Would prefer to use existing resources
51. This should be done with existing dollars. Too much is spent on parks and schools
52. The feds need to step up and fund overall infrastructure funding

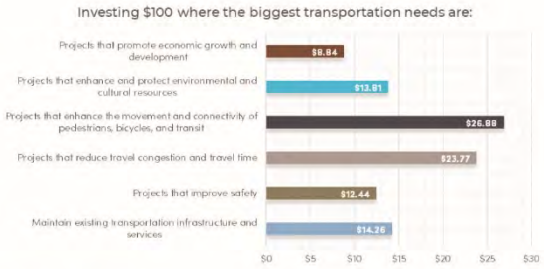
New River Valley
2045 Transportation Plan





share your ideas!





nrvtransportationplan.org/survey

"Desperately need better fiber optic internet. It is almost 2020 and a location just outside of town and along a major route does not have this service. This is a Major deterrent for living in the NRV."

"There is [currently] no bus that will take me from home during the hours that I need to work. I would have to arrive an hour late and leave an hour early every day."

"The bus doesn't go far enough out to reach our home."

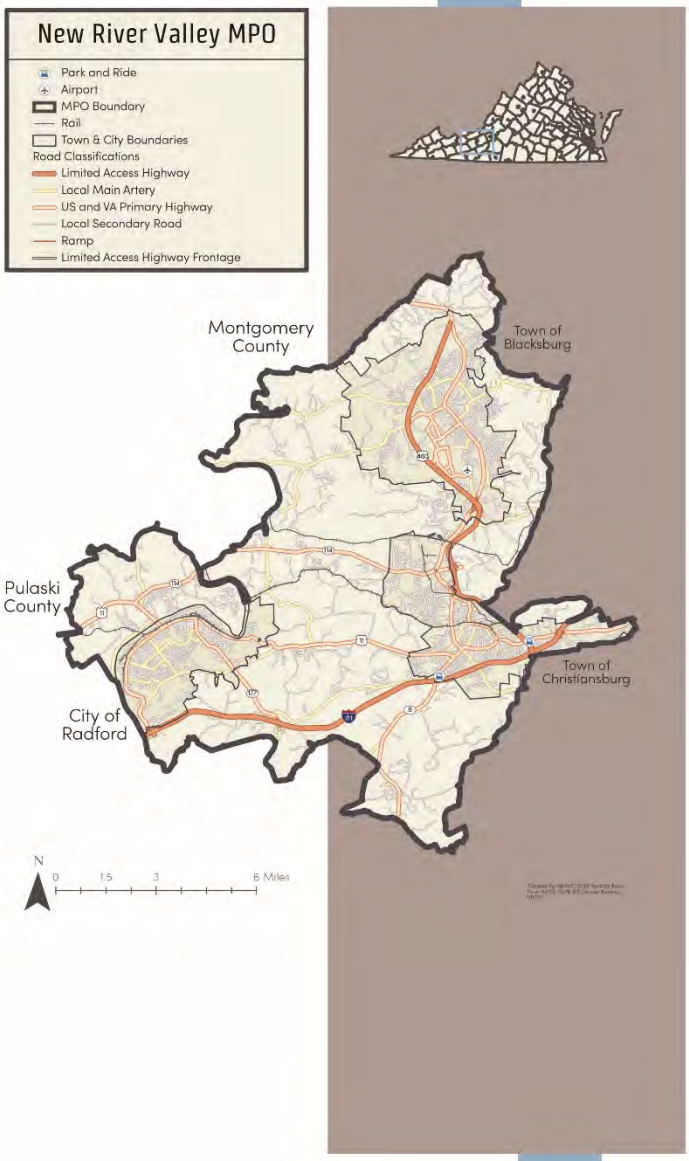
"More traffic lights installed lately..."

"Lack of sidewalks and safe walking opportunities..."

New River Valley
2045 Transportation Plan

23 CFR 450.322 requires MPOs to develop a transportation plan that addresses at least a twenty-year planning horizon. The plan shall include strategies/actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods. The LRTP must be approved by the MPO, and in addition shall:

1. Project transportation demand over the planning horizon.
2. Identify adopted congestion management strategies that address current and future transportation demand.
3. Identify pedestrian and bicycle facilities.
4. Preserve the existing transportation system and make the most efficient use enhance the mobility of people and goods.
5. Include design concept and descriptions of all existing and proposed facilities.
6. A multimodal evaluation of the transportation, socioeconomic, and environmental impacts of the plan.
7. Consideration of existing plans, including local, State, and national goals and strategies.
8. Proposed enhancement activities.
9. A financial plan that demonstrates consistency of proposed investments with projected sources of revenue by source.
10. Adequate opportunities for public involvement in the development of the plan before it is approved by the MPO.
11. Integration of the Federal Highway Administration's performance measures, including: safety, infrastructure, innovation, and accountability.



NRVMPO LRTP Public Meeting

December 4th, 2019 4:00 pm - 6:00 pm

	Name	Where are you from?	Email
1	Bob Beckman	Blacksburg	beckman.bbg@gmail.com
2	Steven Gillespie	Blacksburg	nrvgreens@gmail.com
3	GRAIG MEADOWS	MONTGOMERY COUNTY	-on file-
4	JERRY Smith	" Riner	jrs.hms5653@gmail
5	Margaret Smith	Riner	
6	Randall Gromm	Hillsville VA	you have it...
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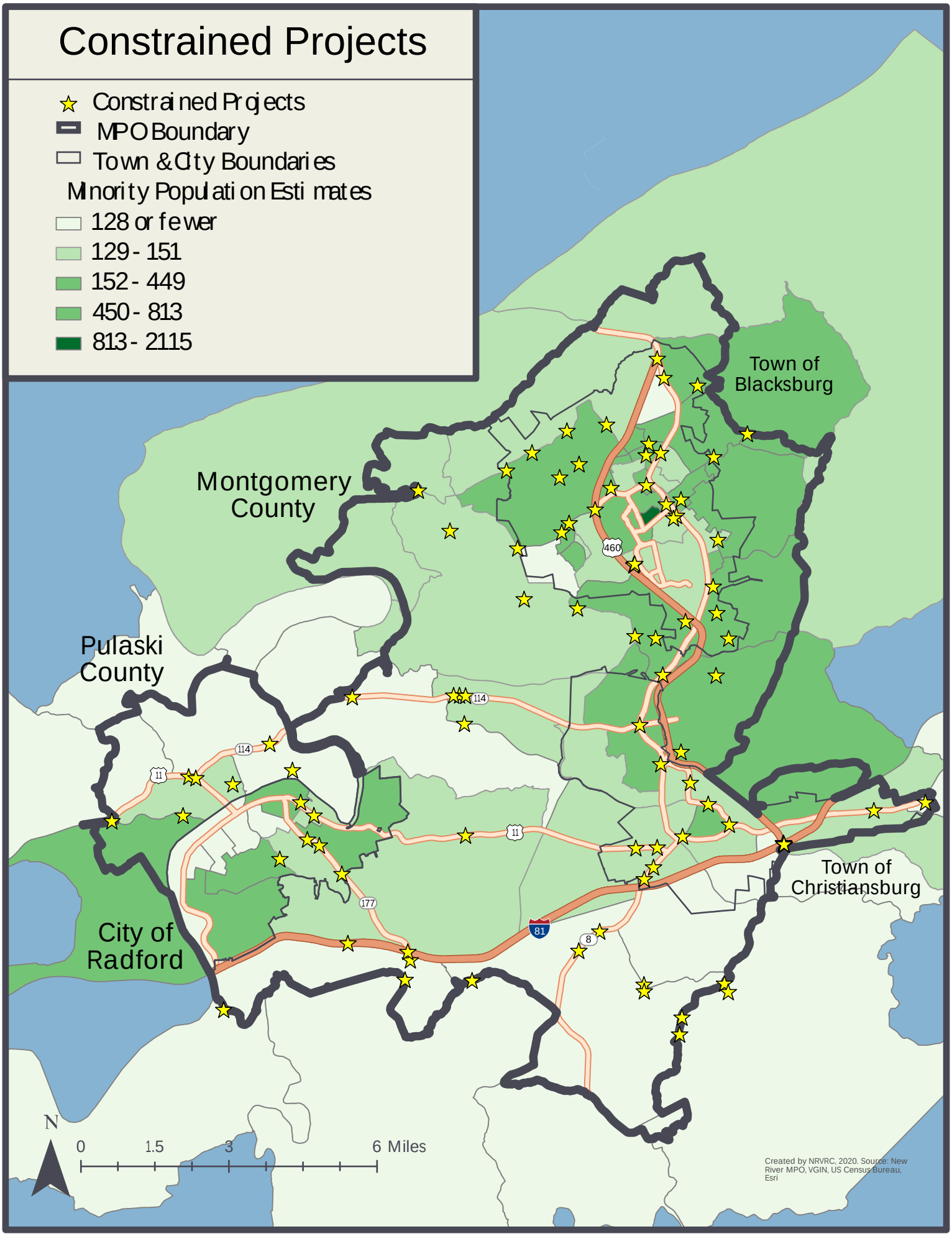
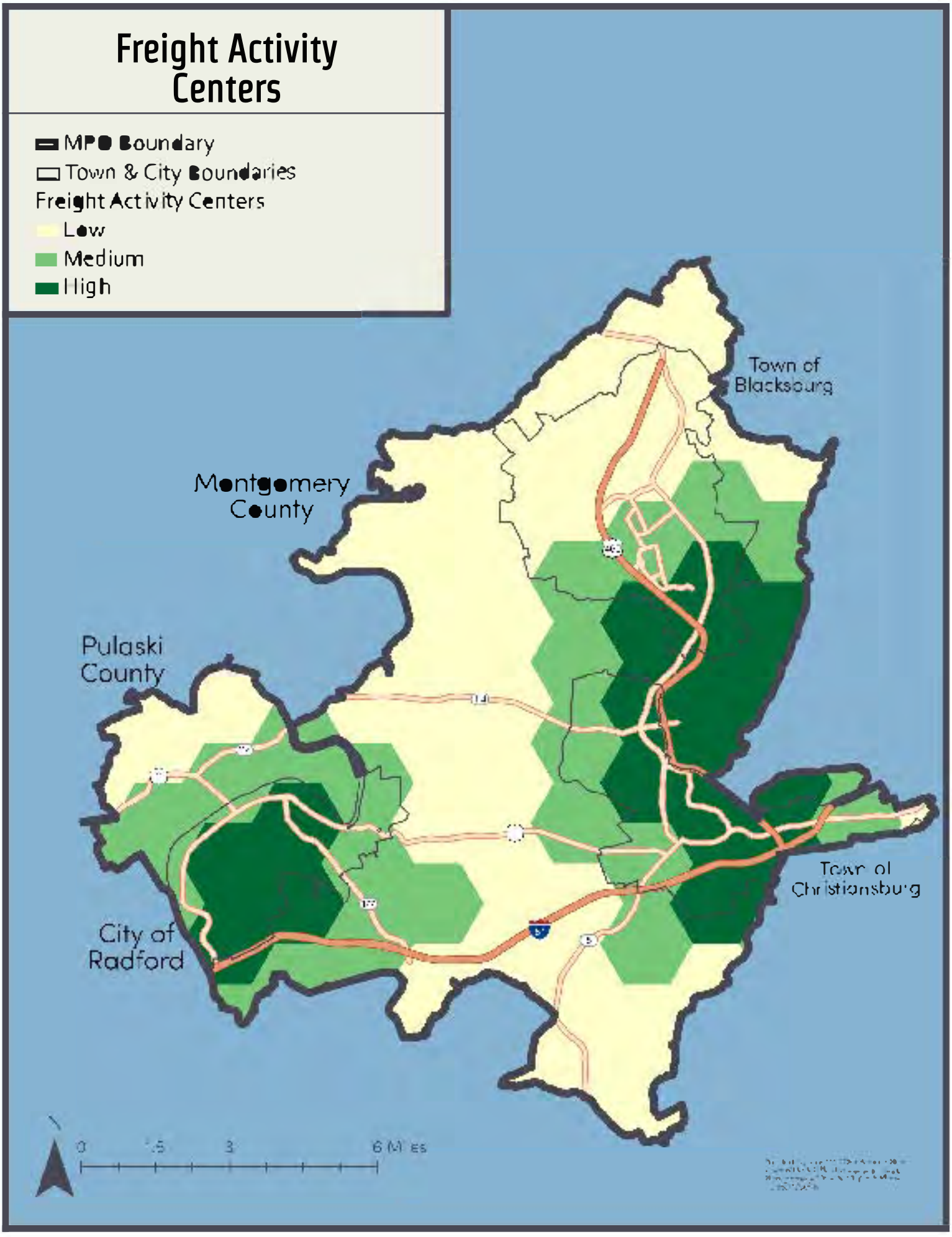
APPENDIX B

ADDITIONAL MAPPING & SUPPORTING DATA


Constrained Projects
Constrained Projects
MPO Boundary
Town & City Boundaries
Minority Population Estimates
128 or fewer
129 - 151
152 - 449
450 - 813
813 - 2115
Town of Blacksburg
Montgomery County
Pulaski County
City of Radford
Town of Christiansburg
460
114
11
177
81
8
N
0
1.5
3
6 Miles
Created by NRVRC, 2020. Source: New River MPO, VGIN, US Census Bureau, Esri

B-2


Freight Activity Centers
MPO Boundary
Town & City Boundaries
Freight Activity Centers
Low
Medium
High
Town of Blacksburg
Montgomery County
Pulaski County
Town of Christiansburg
City of Radford
0
1.5
3
6 Miles