

New River Valley Metropolitan Planning Organization

AGENDA

2:00 PM

May 3, 2018

I. DECLARATION OF A QUORUM AND CALL TO ORDER

II. APPROVAL OF AGENDA

III. APPROVAL OF MINUTES OF NOVEMBER 2, 2017 ([Attachment #1](#))

IV. PUBLIC ADDRESS

- A. Each speaker is limited to five minutes with a total of thirty minutes maximum for public address.

V. OLD BUSINESS –

- A. **Concurrence with the appointment of the Bikeshare Advisory Committee** – Chairman Meadows appointed a Committee to assist with the implementation of the Bikeshare Program. (Committee list and suggested resolution is in [Attachment # 2](#))

- B. **Concurrence with the appointment of the Rail Station Ownership & Maintenance Advisory Committee** – Chairman Meadows appointed a Committee to work with the Regional Commission (NRV RC) in developing costs, phasing, and possible models for construction and maintenance of a station for passenger rail. The TAC will oversee the study and will report back to the Policy Board. Since this involved financial considerations, this Committee is better suited to review and make recommendations to the TAC. (Committee list and suggested resolution is in [Attachment # 3](#))

VI. NEW BUSINESS

- A. **Approval of the 2018-19 UPWP-** The TAC has developed a draft UPWP for fiscal year 2018-19. The draft was advertised in the Roanoke Times, the News Journal, and the News Messenger, posted on the MPO website and sent to the MPO Interested Parties and Regulatory Agency lists. No public comments were received. The final funding shows a decrease from the current year for the PL funds as well as a slight increase in Transit Planning Funds. The TAC recommends approval. There are other supporting resolutions that are needed annually as well. (The 2017-18 UPWP as well as resolutions authorizing the Chairman/Executive Director to execute the annual agreements with VDOT and VDRPT, execute the annual Certifications and Assurances for FTA, execute the annual FTA Pass Through resolution, execute the authorizing resolution to file with VDRPT for grants of federal funds under FTA Section 5303, execute the annual Self Certification Statement, and execute the Designation Resolution are in [Attachment # 4](#))
- B. **Approval of the Bus Stop Safety and Accessibility Studies for Radford Transit and Pulaski Area Transit** – These studies, developed by the NRV RC for the MPO, are similar to one done previously for Blacksburg Transit. The RC used a working group for each study with the TAC providing oversight. Final documents rank the highest scoring for top 10 bus stops for each system. The TAC has reviewed the final drafts and recommends approval of the Studies. (Studies and suggested resolutions are in [Attachment # 5](#))
- C. **Approval of Amendment # 1 to the 2040 Long Range Transportation Plan (LRTP)** – The 2040 LRTP was approved in November 2015. When it was approved, the MPO did not have accurate funding projections so project estimated costs were left off. VDOT concurs with the revenue projections developed by the MPO and Amendment # 1 adds the revenue and specific project costs to the document. No other changes were made. This amendment was advertised in the Roanoke Times, the News Messenger, and the New Journal and sent to the MPO Interested Parties list as well as the governmental regulatory agencies seeking comment. No comments were received. The TAC has reviewed and recommends approval. (The 2040 LRTP with Amendment # 1 as well as a recommended resolution is in [Attachment # 6](#))

D. Approval of the NRV MPO Regional Freight Study - The NRV RC conducted this study for the MPO. This study coordinated well with the development of the State Rail Plan. Throughout the process, the RC worked with VDOT. They also received input from the business community regarding the needs they saw. There was some good information developed for the MPO and region. The TAC has reviewed the final document and recommends approval. (The 2018 NRV MPO Regional Freight Plan and a suggested resolution is in [Attachment # 7](#))

E. Terms for Chairman and Vice-Chairman – Our current Bylaws state that the term is for one year with an election in July each year. Since the MPO only meets around 4 times a year, consideration should be given to extending the term to 2 or 3 years. Other MPOs have longer terms. The Roanoke MPO is for 2 years. There is no requirement for the term length, so the Policy Board can decide. A change to the Bylaws requires a 30-day review by the voting membership.

VII. EXECUTIVE DIRECTOR’S REPORT

1. VDOT update – Ken King
2. Performance Measures update
3. Endorsement for Smart Scale projects
4. Other items

VIII. OTHER BUSINESS

IX. NEXT MEETING

The next scheduled meeting is June 7, 2018. The July meeting is scheduled for July 5, the MPO may want to look at another date.

X. ADJOURNMENT

**New River Valley
Metropolitan Planning Organization
755 Roanoke Street
Christiansburg, VA 24073**

Minutes

November 2, 2017

MEMBERS

PRESENT:	Craig Meadows	-Montgomery County
	Anne McClung	-Town of Blacksburg
	Michael Sutphin	-Town of Blacksburg
	Michael Barber	-Town of Christiansburg
	Randy Wingfield	-Town of Christiansburg
	Bruce Brown	-City of Radford
	Melissa Skelton	-City of Radford
	Jason Soileau	-Virginia Tech
	Kevin Byrd	-NRVRC
	Ken King	-VDoT
	Katie Schwing	-DRPT
	Tom Fox	-Blacksburg Transit
	Dan Brugh	-NRV MPO
	Randal Gwinn	-Recording Secretary
ABSENT:	Kevin Jones	-FHWA
	Joe Guthrie	-Pulaski County
	Fritz Streff	-New River Community College
	Tony Cho	-Federal Transit Administration-Region 111
	Michael St. Jean	-VA Tech/Montgomery Regional Airport Authority
	James Perkins	-Radford University
	Brian Booth	-Radford Transit
	Monica Musick	-Pulaski Transit
	Annette Perkins	-Montgomery County
	Michael Gray	-VDoT
OTHERS		
PRESENT:	Erik Olsen	-NRV MPO
	Jeri Baker	-Virginia Tech

DECLARATION OF A QUORUM AND CALL TO ORDER

Chairman Craig Meadows declared a quorum and called the meeting to order at 2 P.M.

APPROVAL OF AGENDA

Craig asked for comments on the proposed agenda. Hearing none, he asked to hear a motion for approval of the agenda.

On a motion by Michael Barber seconded by Ken King and carried unanimously, the proposed meeting agenda was approved.

APPROVAL OF MINUTES OF AUGUST 24, 2017 MEETING

Craig next asked for comments on or corrections to the meeting Minutes from the August 24, 2017 Policy Board meeting. Hearing none he then called for a motion to approve the Minutes.

On a motion by Ken King seconded by Anne McClung and carried unanimously, the Minutes dated August 24, 2017 were approved.

PUBLIC ADDRESS

There were no citizens wishing to address the group at this meeting.

OLD BUSINESS

Approval of Safety Performance Measures for the MPO

Dan reported that during the August meeting, some background information was presented regarding performance measures for the MPO. Adoption of performance measures by the MPOs is required by the federal government however MPOs are given a choice of creating their own or adopting the State measures. If a MPO creates their own set of measures, then they must also track their performance against those measures. Most small MPOs don't have adequate funding to support setting up and monitoring their own measures and choose to follow the State measures instead.

It was expected that the numeric values from VDOT would be available at this time and they were received shortly before this meeting. There are copies of that information on the table before you now in the form of a letter stating our intent to Mr. Raymond Khoury, P.E., and VDOT State Traffic Engineer. The TAC has discussed this and feels there is no reason for our MPO to develop anything different from VDOT; therefore, the TAC recommends that the MPO adopt the Performance Measures developed by VDOT. There is a recommended resolution included in the meeting packet.

Dan having finished his remarks, Craig asked for further comments or discussion on the suggested resolution included in the meeting packet for this item. Michael Barber moved to approve the resolution and Craig asked to hear a second which Randy Wingfield provided. There being no discussion on the item, Craig then stated that by approving the resolution it is assumed that we are also authorizing the MPO Executive Director to sign the letter to Mr. Khoury. Craig then called for a vote on the resolution.

On a motion by Michael Barber seconded by Randy Wingfield and carried unanimously, the resolution was approved and follows in its entirety:

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution Approving Safety Performance Measures for the NRV MPO

On a motion by Michael Barber seconded by Randy Wingfield and carried unanimously,

WHEREAS, all MPOs are required to set performance measures by FhWA, and

WHEREAS, MPOs can either set their own measures or adopt the performance measures set by the State, and

WHEREAS, due to the cost of setting measures and then actually measuring results, most small MPOs adopt the performance measures set by the State, and

WHEREAS, the TAC recommends approval.

NOW, THEREFORE BE IT RESOLVED that the New River Valley Metropolitan Planning Organization adopts the Safety performance measures set by the State.

F. Craig Meadows, Chairman

NEW BUSINESS

Approval of Amendment # 1 to the 2018-21 TIP

Dan next reported that Blacksburg Transit secured funding for bus replacements under the VDOT Smart Scale Program. Smart Scale project funding is generally added to the end of the Six Year Plan and therefore falls outside of the TIP. This funding however, has been moved into the 2017-18 fiscal year, therefore an amendment is needed to the approved TIP. The Amendment

has been advertised, sent to the MPO Interested Parties and the governmental regulatory agencies, and posted on the MPO website for comment, with no comments being received. The TAC recommends approval. Copies of Amendment # 1, the amended TIP, and suggested resolution are in Attachment # 3 of the meeting packet.

Dan having finished his remarks Craig asked for further comments or discussion on the suggested resolution included in the meeting packet for this item. Michael Barber moved to approve the resolution and Craig asked to hear a second which Melissa Skelton provided. Tom Fox offered words of appreciation to all involved in making this funding available to Blacksburg Transit. Craig then called for a vote on the resolution.

On a motion by Michael Barber seconded by Melissa Skelton and carried unanimously, the resolution was approved and follows in its entirety:

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution Approving Amendment # 1 for the 2018-21 TIP

On a motion by Michael Barber seconded by Melissa Skelton and carried unanimously,

WHEREAS, the MPO approved the 2018-2021 Transportation Improvement Program (TIP) on May 17, 2017, and

WHEREAS, Blacksburg Transit secured funding for bus expansion through the Smart Scale Program, and

WHEREAS, this funding has been moved to the 2017-18 fiscal year and needs to be included in the current TIP, and

WHEREAS, Amendment # 1 was advertised for public comment, sent to the MPO email list, posted on the MPO website and sent to the MPO Interested Parties and Governmental Review Agencies, and

WHEREAS, no comments were received,

WHEREAS, the TAC recommends approval.

NOW, THEREFORE BE IT RESOLVED that the New River Valley Metropolitan Planning Organization approves Amendment # 1 to the 2018-21 TIP.

F. Craig Meadows, Chairman

Approval of a Study Project under the Special Studies category using FhWA PL funding to optimize traffic signals within the Town of Christiansburg

Dan reported that our current budget contains unprogrammed funding to conduct studies within the MPO. The Town of Christiansburg requested a project to optimize signal operation to improve traffic flow. Other localities were also solicited to see if there were other projects that would qualify to be considered.

The City of Radford did request a similar study however the City needs to upgrade some equipment before this type of study would be beneficial. At the appropriate time, the City will request a similar study.

The MPO has \$50,000 available for the Christiansburg study. The MPO does not have an on call consultant at this time however the Town of Christiansburg does have four on call consultants and can perform this study for the MPO. This is okay with VDOT as long as the procurement was conducted in accordance with Federal Guidelines and it was. The TAC has reviewed this request and recommends approval. (A scope of work and suggested resolution are in Attachment # 4.)

Dan having finished his remarks Ken King then spoke briefly of VDOT's recent statewide efforts to standardize traffic signals, controllers and software. It is hoped that soon localities will be able to piggyback on VDOT's procurement contracts to purchase these items for their projects as well. More to follow on this as things develop.

Craig asked for further comments or discussion on the suggested resolution included in the meeting packet for this item. Jason Soileau moved to approve the resolution and Randy Wingfield provided the second. Craig then called for a vote on the resolution.

On a motion by Jason Soileau seconded by Randy Wingfield and carried unanimously, the resolution was approved and follows in its entirety:

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution to approve conducting a Traffic Signal Optimization Study for the Town of Christiansburg.

On a motion by Jason Soileau seconded by Randy Wingfield and carried unanimously,

Whereas, the Town of Christiansburg requested that a traffic signal optimization study be conducted for the traffic signals in the Town of Christiansburg; and

Whereas, this is an allowable use of FhWA PL funding, and

Whereas, VDOT has concurred in conducting this study, and

Whereas, \$50,000 is available under the Special Studies category of our 2017-18 UPWP; and

WHEREAS, this study will be conducted by the Town's On Call Consultant that was secured in accordance with the requirements set forth for federal funding, and

WHEREAS, the TAC has reviewed and recommends approval.

Now, therefore be it RESOLVED that:

The Policy Board approves the Traffic Signal Optimization Study for the Town of Christiansburg using their On Call Consultant in an amount not to exceed \$50,000; and

FURTHER, the NRV MPO authorizes the Executive Director to execute a contract on behalf of the NRV MPO with the Town of Christiansburg to accomplish this work.

F. Craig Meadows, Chairman

Approval of a Study using FTA 5303 funding to study Rail Station Ownership/Maintenance options

Kevin Byrd reported that the Passenger Rail 2020 Committee has requested that consideration be given to developing ownership/maintenance options for a potential future passenger station for the New River Valley as this is the next logical activity that can be done while Norfolk Southern does their work of evaluating the rail lines for suitability with passenger traffic.

This station will be significantly different from others such as Roanoke's due to the bulk of the ridership being generated from areas outside of Christiansburg. During early discussions concerning bringing passenger rail to the NRV, the need to have joint responsibility among the NRV localities for operations and maintenance of the station was identified. Now would be a good time to pursue a study to develop a number of Ownership/Maintenance options for consideration by the Localities. The Regional Commission has put together a Task Order and Budget for the study which is anticipated to take six to eight months to complete.

Dan added that this type of study is an acceptable use of transit planning 5303 funding and the funding is available. Since the NRV Regional Commission conducted the rail study previously done by the MPO, and have conducted similar ownership/maintenance studies, they are knowledgeable and well positioned to undertake this study for the MPO. The TAC has reviewed this and recommends approval. (Task Order and suggested resolution are in Attachment # 5.) Craig asked for further comments or discussion on the suggested resolution included in the meeting packet for this item.

Michael Barber moved to approve the resolution and Anne McClung provided the second. Craig then called for a vote on the resolution.

On a motion by Michael Barber seconded by Anne McClung and carried unanimously, the resolution was approved and follows in its entirety:

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution to approve conducting a Rail Station Ownership/Maintenance Study.

On a motion by Michael Barber seconded by Anne McClung and carried unanimously,

WHEREAS, the NRV Passenger Rail 2020 Committee has requested the MPO to look at a future passenger rail station in Christiansburg; and

WHEREAS, passenger rail stations are a responsibility of local governments that the State does not provide funding for, and

WHEREAS, this is the next phase that needs to be done locally, and

WHEREAS, VDRPT allows FTA 5303 funding to be used for this purpose; and

WHEREAS, there is funding available in the 2017-2018 UPWP that can be utilized, and

WHEREAS, the New River Valley Regional Commission is well positioned to conduct this study by performing the MPO Passenger Rail Study and also has experience with this type of study, and

Whereas, this study can be conducted for an amount not to exceed \$15,000, and

WHEREAS, the TAC has reviewed and recommends approval.

NOW, THEREFORE BE IT RESOLVED that:

The Policy Board approves the Passenger Rail Station Ownership/Maintenance Study; and

FURTHER, the NRV MPO authorizes the Executive Director to execute a contract on behalf of the NRV MPO with the New River Valley Regional Commission to accomplish this work.

F. Craig Meadows, Chairman

Support for VDOT TA Funding Requests for the Towns of Blacksburg and Christiansburg

Anne McClung reported that the Town of Blacksburg has requested TA funding for a project in the Town of Blacksburg with the purpose of completing the last piece of downtown sidewalk improvements aimed at increasing handicap accessibility and pedestrian safety.

Randy Wingfield then reported on similar requests that the Town of Christiansburg has made for four projects.

Dan added that support from the MPO is required. The TAC has reviewed and recommends approval. (Project identification and suggested resolutions are in Attachment # 6.)

Comments having ended Craig asked for a motion to act on the five resolutions included in the meeting packet for VDOT TA Funding Requests. Michael Barber moved to approve the resolutions as a group and Bruce Brown provided the second. Craig then called for a vote on the resolutions.

On a motion by Michael Barber seconded by Bruce Brown and carried unanimously, the five suggested resolutions were approved and follow in its entirety:

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution in support of Transportation Alternative (TA) program funding application for pedestrian safety and accessibility improvements along Main Street in the Town of Blacksburg

On a motion by Michael Barber seconded by Bruce Brown and carried unanimously,

WHEREAS, in accordance with the Commonwealth Transportation Board construction allocation procedures, local Metropolitan Planning Organization endorsement is required in order that the Virginia Department of Transportation program a Transportation Alternative (TA) program project for pedestrian safety and accessibility improvements along Main Street in the Town of Blacksburg; and,

WHEREAS, the improvements would be between Roanoke Street and Washington Street; and,

WHEREAS, the Transportation Alternative (TA) program and this project is supported by the Town of Blacksburg's Comprehensive Plan, and

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization supports this request and requests the Commonwealth Transportation Board to

approve funding for the Main Street Pedestrian Safety and Accessibility project in the Town of Blacksburg.

F. Craig Meadows, Chairman

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution in support of Transportation Alternative (TA) program funding application for sidewalk construction along Roanoke Street in the Town of Christiansburg.

On a motion by Michael Barber seconded by Bruce Brown and carried unanimously,

WHEREAS, in accordance with the Commonwealth Transportation Board construction allocation procedures, local Metropolitan Planning Organization endorsement is required in order that the Virginia Department of Transportation program a Transportation Alternative (TA) program project for construction of sidewalk along Roanoke Street in the Town of Christiansburg; and,

WHEREAS, this project would construct sidewalk along Roanoke Street between Falling Branch Road and Hubbell Drive, and

WHEREAS, this sidewalk will connect a residential area to a commercial area and provide safety for pedestrians; and,

WHEREAS, the Transportation Alternative (TA) program and this project is supported by the Town of Christiansburg's Comprehensive Plan, and

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization supports this request and requests the Commonwealth Transportation Board to approve funding for the Roanoke Street Sidewalk Project in the Town of Christiansburg.

F. Craig Meadows, Chairman

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution in support of Transportation Alternative (TA) program funding application for addition of sidewalk along East Main Street in the Town of Christiansburg

On a motion by Michael Barber seconded by Bruce Brown and carried unanimously,

WHEREAS, in accordance with the Commonwealth Transportation Board construction allocation procedures, local Metropolitan Planning Organization endorsement is required in order that the Virginia Department of Transportation program a Transportation Alternative (TA) program project for the addition of sidewalk along East Main Street in the Town of Christiansburg; and,

WHEREAS, the extension will connect to previously constructed sidewalk and provide safety and accessibility through a residential area; and,

WHEREAS, the Transportation Alternative (TA) program and this project is supported by the Town of Christiansburg's Comprehensive Plan, and

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization supports this request and requests the Commonwealth Transportation Board to approve funding for the East Main Street Sidewalk in the Town of Christiansburg.

F. Craig Meadows, Chairman

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution in support of Transportation Alternative (TA) program funding application for Phase 3 of the Downtown Enhancement Project in the Town of Christiansburg.

On a motion by Michael Barber seconded by Bruce Brown and carried unanimously,

WHEREAS, in accordance with the Commonwealth Transportation Board construction allocation procedures, local Metropolitan Planning Organization endorsement is required in order that the Virginia Department of Transportation program a Transportation Alternative (TA) program project for Phase 3 of the Downtown Enhancement Project in the Town of Christiansburg; and,

WHEREAS, this project would add sidewalk along Franklin Street from the Post Office at Main Street to Wades Lane/Kroger and add pedestrian signals and crosswalks at the Depot Street intersection; and,

WHEREAS, the Transportation Alternative (TA) program and this project is supported by the Town of Christiansburg's Comprehensive Plan, and

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization supports this request and requests the Commonwealth Transportation Board to approve funding for Phase 3 of the Downtown Enhancement Project in the Town of Christiansburg.

F. Craig Meadows, Chairman

***New River Valley
Metropolitan Planning Organization***

November 2, 2017

Resolution in support of Transportation Alternative (TA) program funding application for the Huckleberry Trailhead project in the Town of Christiansburg

On a motion by Michael Barber seconded by Bruce Brown and carried unanimously,

WHEREAS, in accordance with the Commonwealth Transportation Board construction allocation procedures, local Metropolitan Planning Organization endorsement is required in order that the Virginia Department of Transportation program a Transportation Alternative (TA) program project for the Huckleberry Railhead project in the Town of Christiansburg; and,

WHEREAS, this project will extend the Huckleberry Trail between Independence Boulevard and Scattergood Drive and provide a parking area at Scattergood Drive; and,

WHEREAS, the Transportation Alternative (TA) program and this project is supported by the Town of Christiansburg's Comprehensive Plan, and

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization supports this request and requests the Commonwealth Transportation Board to approve funding for the Huckleberry Trailhead Project in the Town of Christiansburg.

F. Craig Meadows, Chairman

Appointment of a Representative to the SmartWay Advisory Committee

Dan reported that the voting membership of the SmartWay Advisory Committee is made up of two members from the New River Valley and two members from the Roanoke Valley. Jerri

Baker was recently appointed to replace Steve Mouras on the Committee. Ron Rordam has served as one of our representatives since the Committee was formed however since he will be leaving office at the end of the year, a replacement needs to be selected. This appointment can be a member of the MPO or other representative. The TAC has not reviewed this item.

Dan also commented that he had reached out to Anne McClung and Michael Sutphin to see if either was interested in serving on the Committee. Anne deferred to Michael who agreed to serve on the Committee in the spot vacated by Ron.

Discussions having ended Craig called for a motion to appoint Michael Sutphin as the replacement for Ron Rordam on the SmartWay Advisory Committee. Michael Barber moved to approve the appointment and Bruce Brown provided the second. Craig then called for a vote on the appointment.

On a motion by Michael Barber seconded by Bruce Brown and carried by a vote of seven ayes and no nays and one abstention (Michael), the appointment of Michael Sutphin to the SmartWay Advisory Committed was approved.

EXECUTIVE DIRECTOR'S REPORT

VDOT Report – Ken King

The Southgate Interchange opens in early December with a ribbon cutting ceremony, although the project will continue into 2018 as it will be best to do the landscaping once the winter weather is over as there is a warranty period on the plants to consider. The existing traffic signal at the old intersection will be removed.

The replacement of the Northbound New River Bridge on I-81 is progressing on schedule and it is anticipated that in the spring and summer of 2019 the northbound traffic will be shifted to the new construction on the median side of the Southbound Bridge and then the old Northbound Bridge will be demolished. The Southbound Bridge is still adequate as it has for some reason held up better than the Northbound Bridge however plans still continue with the aim of replacing it as well. The anticipated final completion date is sometime in the fall of 2020.

There is now a RFP out for the design/build of the I-81 over Rt. 8 bridge replacements and the project should be under contract by spring. The first year will be mainly design and site prep work with actual construction beginning in the second year.

The U.S. 460 By-pass / Franklin Street East Bound Ramp should go out to advertisement in the spring of next year, perhaps as early as February. Construction will need to be coordinated with other work ongoing in Cambria during the same time frame to avoid traffic grid lock.

The North Main Street in Blacksburg project is moving toward advertisement this winter and the start of construction in the spring.

Updates on Bike Share and TDPs – Erik Olsen

Erik reported on the Regional Bike Share System, we are beginning to have negotiations with the first choice of vendors and have now bumped the kick off timeline back to spring of next year (2018). No name has yet been picked and colors are being discussed. The four partners in this regional effort are the Town of Blacksburg, the Town of Christiansburg, VA Tech and Montgomery County. At least one private developer has expressed an interest in operating a bike care station in Blacksburg so this could be something to consider looking into next year. DRPT has been supplying the seed money for this project. More to come as things continue to develop.

The first public outreach event for our TDPs is tomorrow at Squires on the VA Tech campus and also in Pulaski. There will be a number of events ongoing during the next eight days including on-board and on-line surveys.

Update on Intercity Bus Service from Blacksburg to Washington DC – Katie Schwing

Katie commented that the Amtrak service officially started in Roanoke on Tuesday after a ceremony on Monday and the first public trip lacked only two seats of selling out. This effort has been really positive for all involved and it's taken four to five years to bring this service to Roanoke so there is understandably a lot of excitement about it.

Katie also gave updates on an ongoing Statewide process to study Metro Rail Services and a demo project that DRPT is starting which will entail installing driver assistance equipment on fifty buses in an effort to improve the drivers' ability to operate the buses more safely.

Katie then distributed handouts of her presentation materials on the Intercity Bus Service then proceeded to explain its genesis and purpose to the group. Intercity Bus Service is a requirement of the state under the 5211 Federal Rural Transportation Funding Program and at least 15% of funding received from that program is supposed to be used for Intercity Bus Services. These services are defined as being regularly scheduled, open to the general public and operating in two or more areas not in close proximity as they are intended to be for longer trips and not for commuter service. These will utilize fixed routes and will be capable of carrying baggage and must provide meaningful connections with the National Intercity Bus Service which at this time means Greyhound. Previously DRPT did not provide this service as there was an assumption that you could send an assurance to the FTA that a need for Intercity Bus Services had not been identified within the state. In 2013 DRPT performed a study to determine demand and possible routes for establishing an Intercity Bus Service. There were sixteen possible bus routes identified and the one chosen for the first service was the route from Blacksburg, VA to Washington, DC. After a long period of negotiation and procurement DRPT selected Dillion Bus Service which is working in partnership with Mega Bus to provide the service. The service starts in December and will utilize a coach bus to make one trip daily from Blacksburg to Washington and back seven days a week. The trip will take a little less than six hours. The bus will be branded with its own name, The VA Breeze. Information concerning routes, stops, tickets and fares will be available for the service online at the Mega Bus website. DRPT will be actively monitoring the service to determine what if any changes need to occur over time and if additional services should be initiated.

Katie closed her presentation by stating that she will send Dan information on the service to distribute once the marketing agent has provided it to her.

Update on MPO Freight Study and Transit Bus Stop Studies for Radford Transit and Pulaski Area Transit – Kevin Byrd

Kevin reported on the recent progress of the Freight Study. The top ten importers and exporters of freight by volume, tonnage and value have now been identified and discussions have occurred with those companies to find out what their major issues are. We've also received some good rail data from DRPT as they now have their State Wide Plan in draft form and are able to share the information. Completion of this study is anticipated to occur next March.

Kevin then reported on the recent progress of the Transit Bus Stop Studies. The top ten bus stop sites for both Pulaski Area Transit and Radford Transit have been identified and some concepts developed earlier have been updated and improved. The next group meetings will occur in November and the plan is to complete the studies in December. The TAC has really been involved in this study process and we really appreciate the assistance.

Smart Scale Project Requests

Dan reported that the Smart Scale Project request process is going to start a little earlier this cycle so those who will be making project requests next year should start early on the concepts.

One of the projects that the MPO submitted last year was the interchange improvement at Route 81 and Rt. 8. That may be split into two separate project requests for next year, one for the interchange improvements and another for the Park & Ride. A question has arisen on that project, that being whether including both in one project pushes it into the class of projects that require sound walls or at least would require a study to see if it needs sound walls. The resulting requirement to add three million dollars for sound walls to the estimate of the project has a big impact on its scoring so what we may end up doing is splitting this into two projects in the hope that we can avoid three million dollars' worth of sound walls. In addition, if you do a study on the need for sound walls on a project then in all likelihood you will end up having them. There will be more to follow on this as we move forward with it.

Ken also commented on the requirements of when to do a sound wall study. It is an FHWA requirement, not a VDOT requirement and apparently the scale of the project requested was what caused the requirement to apply to it thus we hope that by separating the one large project into two smaller ones with help us avoid the additional three million dollars for sound walls.

Other Items

There were no other items in the Executive Directors report.

OTHER BUSINESS

There were no other items of business to discuss.

NEXT MEETING

The next scheduled meeting is December 7, 2017 at 2:00 pm.

ADJOURNMENT

There being no more items on the agenda for discussion Craig adjourned the meeting at 3:00 PM

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution of concurrence with appointment of a NRV MPO Bikeshare Advisory Committee.

On a motion by _____ seconded by _____ and carried unanimously,

WHEREAS, a Bikeshare Program is being developed through a grant from VDRPT in three (3) of the member localities; and

WHEREAS, decisions need to be made regarding initial startup and financing, and

WHEREAS, a regional advisory committee is needed to guide the program, and

WHEREAS, the affected localities submitted names for their representatives.

WHEREAS, future expansion will require expansion of the committee.

NOW, THEREFORE BE IT RESOLVED that:

The New River Valley MPO Policy Board concurs with the Chairman in appointment of the Bikeshare Advisory Committee.

F. Craig Meadows, Chairman

New River Valley MPO Bikeshare Advisory Committee

Emily Gibson, Planning Director Montgomery County

Steve Ross, Deputy Town Manager Blacksburg

Brad Epperley, Director of Parks & Recreation Christiansburg

Jeri Baker, Director of Parking & Transportation Virginia Tech

Tom Fox, Blacksburg Transit Director (non-voting)

Erik Olsen, MPO Transportation Planner & Blacksburg Transit Planner (non-voting)

Christy Straight, Regional Planner II NRV RC (non-voting)

Dan Brugh, Executive Director NRV MPO (non-voting)

Randal Gwinn, NRV MPO (staff)

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution of concurrence with appointment of a NRV MPO Rail Station Ownership and Maintenance Advisory Committee.

On a motion by _____ seconded by _____ and carried unanimously,

WHEREAS, the NRV MPO has approved conducting a study to determine options for development of a passenger rail station and future maintenance; and

WHEREAS, the NRV MPO has issued a task order to the New River Valley Regional Commission (NRV RC), and

WHEREAS, decisions need to be made regarding options for development, ownership, and future maintenance of a station, and

WHEREAS, a regional advisory committee is needed to assist the TAC in developing options, and

WHEREAS, this committee will work with and report to the TAC, and

WHEREAS, the affected localities submitted names for their representatives.

NOW, THEREFORE BE IT RESOLVED that:

The New River Valley MPO Policy Board concurs with the Chairman in appointment of the Rail Station Ownership and Maintenance Advisory Committee.

F. Craig Meadows, Chairman

NRV MPO Rail Station Ownership and Maintenance Advisory Committee.

Craig Meadows – Montgomery County

Anne McClung – Blacksburg

Randy Wingfield – Town of Christiansburg

Melissa Skelton – City of Radford

Joe Guthrie - Pulaski County

Chris Kiwus – Virginia Tech

Stephanie Jenelle – Radford University

Ray Smoot – New River Valley Rail 2020 Committee

Wally Nelson - New River Valley Rail 2020 Committee

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution approving the NRV MPO FY 2018-19 Unified Planning Work Program

On a motion by _____ seconded by _____ and carried unanimously,

WHEREAS, the 2018-19 Unified Planning Work Program (UPWP) will serve as the basis for all Federal (FHWA, FTA) funding participation and will be included in all requests for transportation planning funds, and

WHEREAS, the UPWP details all transportation and transportation related planning activities anticipated in the upcoming fiscal year; and

WHEREAS, the Request for Comment was advertised in The Roanoke Times, The News Journal, and News Messenger for thirty days; and

WHEREAS, Comments were also solicited from the MPO Email list, the MPO Interested Parties, and the Governmental Regulatory Agencies; and

WHEREAS, one comment was received and given due consideration, and

WHEREAS, the Technical Advisory Committee recommends approval.

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization Policy Board hereby approves the FY 2018-19 Unified Planning Work Program and authorizes the Executive Director to make any administrative changes as requested by the Federal Highway Administration, Federal Transit Administration, VDRPT, or VDOT.

F. Craig Meadows, Chairman

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution to authorize the Executive Director/ Chairman to execute annual agreements with VDoT, VDRPT, and Montgomery County

On a motion by _____, seconded by _____ and carried unanimously,

WHEREAS, the MPO receives funding from VDoT for expenditures made for MPO activities; and

WHEREAS, the Policy Board has approved the Unified Planning Work Program (UPWP) for 2018-19; and

WHEREAS, an agreement needs to be executed for expenditure of these funds.

NOW, THEREFORE, BE IT RESOLVED, the MPO Policy Board authorizes the Executive Director/Chairman to execute agreements with VDoT, VDRPT, and Montgomery County as fiscal agent, subject to approval by Montgomery County, the Montgomery County Attorney, the MPO Chairman and the MPO Executive Director.

F. Craig Meadows, Chairman

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

**Resolution to authorize the Executive Director/ Chairman to execute annual FTA
Certifications and Assurances.**

On a motion by _____, seconded by _____ and carried unanimously,

WHEREAS, the MPO receives funding from FTA for expenditures made for MPO activities;
and

WHEREAS, the MPO needs to annually certify that the MPO is adhering to all Federal
Regulations.

NOW, THEREFORE, BE IT RESOLVED, the MPO Policy Board authorizes the Executive
Director/Chairman to execute the annual Certifications and Assurances for FTA.

F. Craig Meadows, Chairman

*New River Valley
Metropolitan Planning Organization*

May 3, 2018

Designation Resolution

On a motion by _____, seconded by _____ and carried unanimously,

BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization authorizes the New River Valley Metropolitan Planning Organization Policy Board Chairperson to authorize the Town of Blacksburg and City of Radford as the designated recipients for the receipt and eligible use of available FTA and VDRPT Operating and Capital Funds.

Certification

The undersigned duly qualified and acting as authored officials of the New River Valley Metropolitan Planning Organization certifies that the foregoing is a true and correct copy of a resolution, adopted at a legally convened meeting of the Policy Board of the New River Valley Metropolitan Planning Organization on May 3, 2018.

F. Craig Meadows, Chairman

J. Dan Brugh, Executive Director

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution authorizing the filing of an application with the Virginia Department of Rail and Public Transportation, for grants of federal funds under the Federal Transit Act Section 5303 program and state matching funds.

On a motion by _____, seconded by _____ and carried unanimously,

WHEREAS, the contract for financial assistance will impose certain obligations upon this Body, including the provision of the local funds to support project costs; and

WHEREAS, a recipient of Federal Transit Administration Funding is required to provide certifications and assurances that all pertinent Federal statutes, regulations, executive orders and directives will be obeyed and it is the intent of this Body to comply fully with all required certifications and assurances; and

WHEREAS, it is the goal of this Body that minority business enterprises (disadvantaged business enterprise and Women business enterprise) be utilized to the fullest extent possible in connection with this project, and that definitive procedures shall be established and administered to ensure that minority business shall have the maximum feasible opportunity to compete for contracts and purchase orders when procuring construction contracts, supplies, equipment contracts, or consultant and other services:

NOW THEREFORE, BE IT RESOLVED BY THE NEW RIVER VALLEY METROPOLITAN PLANNING ORGANIZATION,

1. That the Chairperson of the Policy Board is authorized to prepare and file an application on behalf of New River Valley Metropolitan Planning Organization with the Virginia Department of Rail and Public Transportation for federal and state financial assistance under the Federal Transit Administration Section 5303 Program and State Aid Program.
2. That the Chairperson of the Policy Board is authorized to execute and file with such application all necessary certifications and assurance or any other document required by Virginia Department of Rail and Public Transportation in connection with the application or the project.
3. That the Chairperson of the Policy Board is authorized to set forth and execute Minority business enterprise (disadvantaged enterprise business and woman enterprise) policies and procedures in connection with procurements under this project.

4. That the Chairperson of the Policy Board is authorized to execute a grant agreement on behalf of the New River Valley Metropolitan Planning Organization, with the Virginia Department of Rail and Public Transportation to aid in the financing of the project.

5. That the Chairperson of the Policy Board hereby certifies that the local share of the project costs identified in the application shall be made available to the project from resources available to this Body.

The undersigned duly qualified and acting Executive Director of the New River Valley Metropolitan Planning Organization Policy Board certifies that the foregoing is a true and correct copy of a resolution, adopted at a legally convened meeting of the New River Valley Metropolitan Planning Organization held on May 3, 2018.

F. Craig Meadows, Chairman

**NEW RIVER VALLEY
METROPOLITAN PLANNING ORGANIZATION**

FY 2018-19

Unified Planning Work Program (UPWP)

DRAFT

This Unified Planning Work Program was adopted by the New River Valley MPO Policy Board at its meeting of -----.

This Unified Planning Work Program was approved as a Final Report by the New River Valley Metropolitan Planning Organization on ----- . It was prepared for the New River Valley Metropolitan Planning Organization by the Technical Advisory Committee of the New River Valley Metropolitan Planning Organization through a cooperative process involving the Towns of Blacksburg and Christiansburg, the City of Radford, the Counties of Montgomery and Pulaski, Blacksburg Transit, Radford Transit, Pulaski Area Transit, the Virginia Tech - Montgomery Executive Airport Authority, Virginia Tech, Radford University, New River Community College, the Virginia Department of Transportation, the Department of Rail and Public Transportation, the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA).

The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation. The NRV MPO ensures nondiscrimination and equal employment in all programs and activities in accordance with Title VI and Title VII of the Civil Rights Act of 1964. If you need more information or special assistance for persons with disabilities or limited English proficiency, contact Dan Brugh at 540-394-2145, TTY/TDD 711.

FY 2018 - 19

Unified Planning Work Program (UPWP)

Introduction and Summary of Planning Process

Structure/General Organization

The Unified Planning Work Program (UPWP) defines the transportation planning processes and programs used by the Metropolitan Planning Organization and is normally developed and adopted on an annual basis. The overall authority for transportation planning in the Metropolitan Planning Area is in the hands of the Metropolitan Planning Organization (MPO) which is made up of locally elected and administrative officials of the local government members (the Towns of Blacksburg and Christiansburg, the City of Radford, and the Counties of Montgomery and Pulaski) and representation from the Virginia Department of Transportation (VDOT). These members make up the Policy Board and are the voting entity for the MPO. There are eleven eligible votes on the Policy Board with two being from each local government member and one being from the Virginia Department of Transportation. The Towns, City, Counties, and VDOT have provided for alternate voting members from staff and administration. The MPO Policy Board also includes non-voting representation from key transportation organizations in the region including Blacksburg Transit, Radford Transit, Pulaski Area Transit, the NRV Regional Commission, the Virginia Tech - Montgomery County Executive Airport Authority, Virginia Tech, Radford University, New River Community College, the Virginia Department of Rail and Public Transportation (VDRPT), the Federal Highway Administration, and the Federal Transit Administration. The MPO also has a Technical Advisory Committee (TAC), appointed by the MPO Policy Board, consisting of individuals who are primarily administrative and planning personnel from the area.

Planning Sources and Processes

With the establishment of the MPO, Blacksburg, Christiansburg, Radford, and Montgomery and Pulaski Counties have available to them an organization for transportation planning which can provide a forum to bring together comprehensive and cooperative planning approaches that may lead to new, worthwhile project alternatives. These project ideas may eventually find their way into the Transportation Improvement Program (TIP) at some future point in time if funding can be identified for implementation. The planning efforts managed by the MPO include provisions for citizen participation in accordance with Fixing America's Surface Transportation (FAST) Act.

The UPWP in the Process

The UPWP attempts to set out the planning efforts being undertaken by the various entities of which it has knowledge. To date, the primary efforts listed originate with citizens, the local governments, VDOT, the MPO Policy Board, and Blacksburg Transit with projects/tasks subject to approval by the Federal Highway Administration and/or Federal Transit Administration. Transit Planning efforts in this fiscal year will be coordinated with Blacksburg Transit, Radford Transit, and Pulaski Area Transit. Project development and recommended planning project activity generally proceed through Technical Advisory Committee (TAC) consideration and then to the MPO Policy Board, which, after consultation and public comment, makes final changes and project/task selection and approves the Plan.

UPWP and the TIP

As implied, the UPWP annually sets out the transportation planning activities for which authorization and funding support is to be sought. Activities included normally are presented on a one year schedule. The MPO Policy Board is also responsible for developing the annual TIP. The projects considered in the TIP are different from those in the UPWP in that items for inclusion in the TIP: have reached the project development level, involve capital improvements, have been selected for implementation, funding sources have been determined, and cover an extended time period of at least four years. Further, the UPWP is a planning activities administration tool, whereas the TIP sets out a schedule of actual projects for implementation; projects on the TIP may also be end-products of planning work carried out under the UPWP.

Meeting National Goals for Transportation Planning

The UPWP, and the planning process it engenders, allows the MPO to participate in and meet requirements from the national perspective of conducting a continuing, cooperative, and comprehensive transportation planning process that results in plans and programs that consider all modes of transportation and supports metropolitan community development and social goals. This is widely known as the "3-C Process". The policy in MAP-21/ Fast Act is to promote consistency between transportation improvements and the State and local planned growth and economic development patterns while involving the public and other interested/affected groups in the process.

Metropolitan Planning Area

The New River Valley Metropolitan Planning Area consists of the entirety of the Towns of Blacksburg and Christiansburg and the City of Radford, as well as the surrounding urbanized portions of Montgomery and Pulaski Counties (see attached map for illustration of the region). The MPO study area is intended to depict the areas that are expected to be urbanized within the next twenty years. Based on the 2010 Census, the New River Valley MPO study area population was 99,552 and encompasses a land area of approximately 170 square miles.

Air Quality

In 1997, the Environmental Protection Agency (EPA) sponsored an amendment to the Clean Air Act's National Ambient Quality Standards (NAAQS). The amendment essentially replaced the 1-hour ozone standard with a more stringent 8-hour standard. The ozone levels for the New River Valley MPO do not exceed these limits and therefore is not considered to be a non-attainment area.

If at such time in the future ozone levels for the New River Valley MPO do exceed these new limits, the EPA will require that all areas that exceed the standards establish a non-attainment boundary to be submitted for EPA review. If the EPA should designate the New River Valley MPO as an air quality non-attainment area, the MPO will include activities to address the issue as it develops the Long Range Transportation Plan update and annual Transportation Improvement Program.

Primary Topics for MPO Consideration

- ***The Existing Thoroughfare System***

Primary Arterials

Interstate 81 (within Christiansburg and Montgomery County) with Exits 105, 109, 114 and 118 within the MPO is a heavily traveled north-south interstate with a high percentage of truck traffic. Roanoke lies to the north on I-81 and Dublin and Pulaski are to the south.

U.S. Route 460 is the primary east west route through the MPO. Route 460 connects the MPO with Giles County and West Virginia to the west and Salem and Roanoke to the east. The portion of route 460 between I 81 and Blacksburg is the highest traveled primary in the MPO. Business Route 460 runs through both Blacksburg and Christiansburg.

State Route 114 connects Route 460 in Christiansburg in Montgomery County to Route 11 in Pulaski County. This 2 lane primary is the main connector between Pulaski County and Radford to the west and Montgomery County, Blacksburg, and Christiansburg to the east and serves the Radford Army Ammunition Plant (RAAP). It also provides a link from Pulaski County to the commercial area in Christiansburg.

U.S. Route 11 (stretching through the MPO as Radford Road/Radford Street, East and West Main Street, and Roanoke Street in Christiansburg and Montgomery County, Main Street in the City of Radford, and Lee Highway in Pulaski County) connects the MPO to Dublin and the Town of Pulaski on the west and Shawsville/Elliston to the east.

U.S. Route 460 is comprised of Business Routes through the two Towns and the recently connected Bypasses. U.S. Route 460 Business is North and South Main Street in Blacksburg and Roanoke Street, East Main Street, and North Franklin Street in Christiansburg. Shawsville/Elliston lie to the east along U.S. Route 460 and Giles County and West Virginia lie to the west along U.S. Route 460.

U.S. Route 177 is a major connector between I 81 and the City of Radford. This area is scheduled for significant development in both the City of Radford and Montgomery County. The MPO will continue to work with Montgomery County and the City of Radford regarding development in the area. Currently the County and City are developing an update to the Route 177 Corridor Plan. The MPO will participate in this project.

State Route 8 (originating as West Main Street in Christiansburg and becoming Riner Road in Montgomery County) connects the MPO with Riner and Floyd.

State Route 111 (Depot Street, NE and Cambria Street, NE in Christiansburg) serves to connect Roanoke Street (U.S. Route 11/460) to N. Franklin Street (U.S. Route 460).

State Route 114 (Peppers Ferry Road in Christiansburg and Montgomery County) originates at U.S. Route 460 and links the MPO to Radford and Pulaski (Fairlawn) on the west.

State Route 314 (Southgate Drive in Blacksburg) connects the Route 460 Bypass to Airport Road.

State Route 412 (Prices Fork Road in Blacksburg) become State Secondary 685 at the Town limits and continues to Route 114.

The “Smart Road” is a joint project of the Virginia Department of Transportation (VDOT) and it’s Transportation Research Council with Virginia Tech’s Transportation Institute and the Federal Highway Administration (FHWA). The Smart Road will be a 5.7-mile stretch of I-73 linking Blacksburg directly to I-81. The 2.0 mile first phase was completed in the Fall of 1999, officially opened in March 2000, and cost \$32.7 million. The Smart Road will be opened to traffic as traffic demands.

- ***Blacksburg Transit (BT)***

Started in 1983, Blacksburg Transit, a department of the Town of Blacksburg, has routes in three of the MPO member jurisdictions and provides over 3,735,000 rides per year. Currently, all Blacksburg Transit routes lie within the MPO study area, and BT has been active in discussions regarding the potential expansion of service both within the current service area, and to adjoining areas within Montgomery County. The MPO will work with Blacksburg Transit in completing the Transit studies currently underway and assist in selecting other areas for planning level study. In November 2011, BT initiated bus service to the Warm Hearth retirement community area of Montgomery County, providing a connection between Warm Hearth and existing BT routes that serve Blacksburg and Christiansburg. This service is funded by DRPT's Senior Transportation Program.

A Transit Development Plan (TDP), required by DRPT, was completed for Blacksburg Transit to identify future needs and to give a priority order for transit expansion and enhancement as funding becomes available. The final report was completed in June 2011 and spanned the years 2011 – 2017, and was included in the MPO 2035 Long Range Plan. BT is currently in development of an updated TDP, in conjunction with PAT and RT, to support improved regional coordination

and communication among all three MPO transit providers. Three separate TDPs will be developed for BT, PAT, and RT with a completion date during Summer 2018.

Blacksburg Transit also operates service in the Town of Christiansburg. These services, including a fixed-route, a demand-response service, and a commuter route, are evaluated and refined on a regular basis. The MPO continues to work with Blacksburg Transit and the Town of Christiansburg to evaluate the service and implement refinements to increase ridership. Now in its sixth year, ridership on Christiansburg routes has increased steadily from approximately 1,000 trips per month to approximately 2,400 as of July, 2017. These services provide an affordable public transit option for citizens. The commuter service provides a daily connection between the Town of Christiansburg and the Town of Blacksburg and provided over 3,000 passenger trips during FY17.

- ***Radford Transit (RT)***

Radford Transit is a joint partnership between The City of Radford, Radford University, and New River Valley Community Services (as operators). The system was launched August 8th, 2011 and serves the entire City of Radford, Radford University campus, Fairlawn and Carillion New River Valley Medical Center. Connecting routes exist to Blacksburg, Christiansburg as well as to connect with the SmartWay bus. Annual ridership is approximately 350,000 passenger trips per year. The system operates nine small (9) body-on-chassis (Cutaway) style buses, five (5) medium duty body-on-chassis (Cutaway) style buses, and six (6) low floor heavy duty transit buses.

In the coming year Radford Transit will continue to replace its original fleet of seven (7) buses as they have surpassed their end of useful life. The system will be seeking a more viable long-lasting solution to these vehicles based on system utilization and load based needs.

The system has finalized its Transit Development Plan (TDP) which fully identifies future growth needs including operating and capital requirements.

Minor expansions took effect for FY 2016 to include extending the Route 20 (providing service to Fairlawn) by 2 hours daily during our full service schedule. Route 40 (providing service between Radford, Christiansburg, and Blacksburg) was redirected off of Route 114 and utilize Route 11 due to safety concerns with the Route 114 corridor. Route 40 was also expanded to provide service daily, Monday through Saturday during the full service schedule.

- ***Pulaski Area Transit (PAT)***

Pulaski Area Transit was established in 2003 to provide the community with public transportation including a mixture of deviated fixed route and demand response service. PAT provides Fixed Route service from the Town of Pulaski to Dublin, including New River Community College, and the Fairlawn area of Pulaski County. PAT meets Radford Transit at Wal-Mart in Fairlawn and picks up passengers and transports them to Dublin and New River Community College. The Fixed Route service makes 4 trips per day and is available Monday through Friday. PAT also offers 24 hour Demand Response service to the Fairlawn Area. In FY 2016, PAT provided 133,696 passenger trips covering 265,263 vehicle miles. PAT operates 11 body on chasis 12 passenger buses. In addition, PAT has received several awards recognizing their success.

- ***Regional Transit***

Continue to support and enhance service provided by the SmartWay bus connecting the New River Valley to the Airport in Roanoke and downtown Roanoke. Also support the Virginia Breeze and its regional service to Washington DC. Support and participate in the regional Transit Coordinating Council that was created as a result of an MPO study. The purpose of the Council is for regional stakeholders to meet regularly to discuss public transportation and serve as a coordinator for governmental entities, stakeholders, and service providers.

- ***Safety in Planning***

To incorporate concepts of Safety Conscious Planning (SCP) as a primary factor in the transportation planning process, a comprehensive, system-wide, and multi-modal approach must be used. This implies a proactive approach aimed at preventing crashes and unsafe conditions, as well as addressing existing transportation hazards. More specifically, this includes making safety an explicit priority within the transportation planning process; proactively assessing safety impacts of future transportation investments as well as reacting to current needs; and integrating safety into the Long Range Plan as well as short range plans such as the UPWP and TIP. VDOT has developed a statewide Strategic Highway Safety Plan which is focused on prevention of accidents as well as reducing injuries and fatalities. The MPO will use information gathered by VDOT to review and recommend specific measures to enhance safety within the MPO. The MPO will also support and assist as needed with other specific Safety Programs such as the Safe Routes to School Program.

- **Coordinated Public Transit/Human Services Transportation Plan**

Coordinated transportation options will be reviewed and supported in meeting the transportation demands of the region. This particularly affects segments of the population traditionally underserved by Transportation. These would include groups such as senior citizens, persons with disabilities, and low income individuals. An initial study conducted by the Virginia Tech Transportation Institute for the New River Valley and Roanoke Regional Commissions entitled “New River Valley and Roanoke Public Mobility Study”, gathered information on needs in the region as well as a current inventory of providers. In 2008, the Virginia Department of Rail and Public Transportation (VDRPT) developed a statewide Coordinated Human Service Transportation. A portion of that plan has been approved as the Coordinated Human Services Transportation Plan for the MPO. Regular coordination meetings are held with VDRPT. The MPO supports the NRV Regional Commission in establishing a Mobility Manager for the region. The approved plan is included in the 2040 Long Range Transportation Plan in compliance with SAFETEA-LU requirements.

- ***Alternative Transportation***

The MPO will work with VDOT and local governments to assure that alternative transportation modes are considered in addressing transportation needs. Organizations that support bicycle/pedestrian transportation will be included in the planning process for future transportation improvements. The MPO currently serves on the regional Bikeway/Walkway Committee of the NRV Regional Commission that is supporting a regional link between Montgomery County and Pulaski County through the City of Radford. Extensions of the Huckleberry Trail in Christiansburg and Blacksburg have been funded and will be constructed this year. There have been discussions with the Roanoke Valley MPO regarding a connection of the bicycle/pedestrian facilities in Montgomery and Roanoke Counties to connect the two MPO areas.

- ***Virginia Tech - Montgomery County Executive Airport Authority***

The Authority is comprised of representatives from the Towns of Blacksburg and Christiansburg as well as Montgomery County. The Airport serves primarily corporate and private clientele and is located at 1600 Ramble Road in Blacksburg. An updated Long Range Plan has been developed by the Authority and is included in the MPO 2040 Long Range Transportation Plan. The MPO served on the advisory committee for development of the Airport Master Plan.

- ***Virginia Tech and Radford University***

The Universities are special traffic generators within the MPO. Events such as graduation, sporting events, and parent weekends can play a major role in area transportation. The MPO will work with Virginia Tech and Radford University in addressing transportation issues that arise.

- ***Norfolk and Southern Railroad***

Norfolk and Southern provides freight rail service to the MPO area. There is also discussion of the return of passenger rail service to the New River Valley. The MPO strongly supports reestablishment of passenger rail service through the New River Valley. The MPO supports the demonstration project of using a “Bus Bridge” to the Amtrak service in Lynchburg.

- ***Freight Transportation in the Region***

Freight transportation plays a major role in the intermodal transportation system. The MPO, through a contract with the New River Valley Regional Commission, conducted a freight study to identify current freight movement, critical freight needs, and develop potential solutions and target funding sources. The MPO will provide feedback on critical freight issues and work with local stakeholders to enhance freight capabilities within the MPO as needed.

- ***Passenger Rail in the Region***

With the extension of passenger rail service to Roanoke in 2017, the MPO supports the extension to Christiansburg and eventually to Bristol. The MPO secured funding through the Intercity Passenger Rail Operating and Capital (IPROC) Fund to further study the feasibility and cost associated with an extension.

Current and Future UPWP Activities

As noted, the MPO will engage in short range planning activities. Historically, MPO’s have undertaken short range projects such as corridor studies, intersection studies, travel time studies, and transportation development plan updates. In the future it is anticipated that the MPO, through the UPWP specified activities, will continue to undertake short-range planning activities to manage congestion, address safety issues, address operational issues, and monitor Long Range Transportation Plan update needs.

Primary issues facing the area include how best to redesign and improve the transportation system and at the same time insure that necessary funds will be available to use in undertaking the physical projects needed given the current financial situation and the funding status of VDOT. The MPO will also work with VDOT to program any future Stimulus funding that is designated for the MPO Area,

The MPO will assure that all MPO planning activities comply with the current federal legislation – Fixing America’s Surface Transportation Act (FAST Act) and subsequent reauthorization bills.

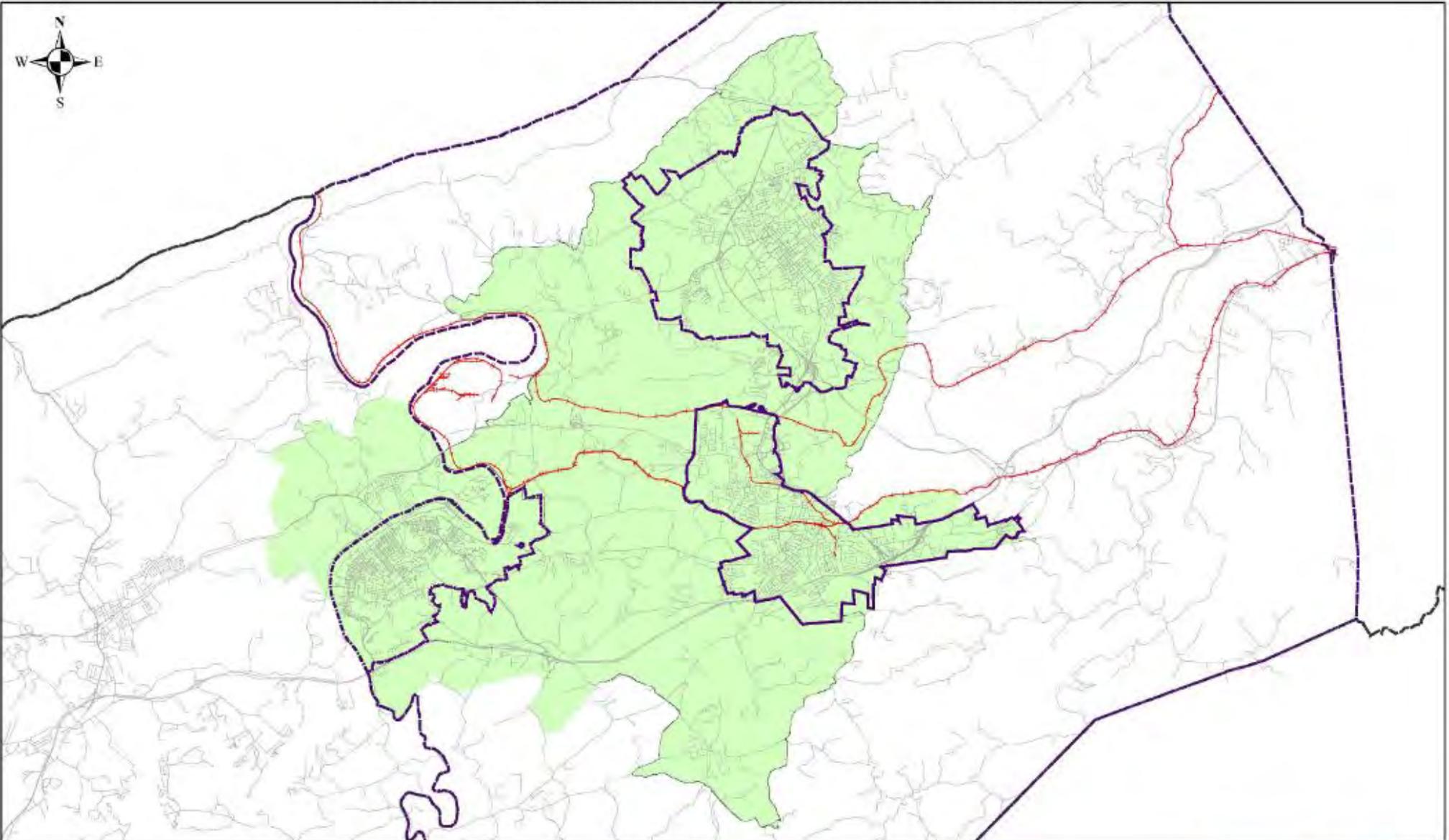
Total Proposed Funding by Federal Source for FY 2018-19

The primary funding sources for transportation planning activities included in this work program are the FHWA - PL, FTA Section 5303, and FHWA State Planning and Research (SPR). The proposed funding amounts (including state and local matching funds) for the New River Valley MPO work program are shown in the following table.

**FY 2018-19 New River Valley MPO
Proposed Funding by Federal, State, and Local Sources**

	FHWA – SPR 80% Fed. & 20% State	FHWA – PL 80% Fed. & 20% State/Local	FTA – Section 5303 80% Fed. & 20% State/Local	Sub-Total
FY 2018-19	\$25,000	\$193,401	\$106,114	\$324,515
Carryover FY 2017-18			\$61,323	\$61,323
Carryover FY 2016-17		\$3,183		\$3,183
Total	\$25,000	\$196,584	\$167,437	\$389,021

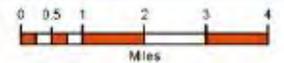
New River Valley Metropolitan Planning Organization Study Area



Prepared By Montgomery County Va
Planning & GIS Services
(Approved September 6, 2012)

Legend

-  Corporate Line
-  2010 MPO Boundary



**New River Valley
METROPOLITAN PLANNING ORGANIZATION
FY 2017-18 Unified Planning Work Program**

PROPOSED FY 2018-19 WORK PROGRAM AND BUDGET

All tasks identified will be performed by MPO staff unless otherwise noted. During this fiscal year, the following activities will be pursued by the MPO:

1. Program Support and Administration

General Administration and Operations

- Management of day-to-day operations of MPO activities including budgeting, purchasing, and overall administrative functions.
- Prepare meeting agenda, minutes, and resolutions, arrange for and/or attend meetings, conferences, and training.
- Preparation for and attendance at the MPO Policy Board meetings.
- Preparation for and attendance at Technical Advisory Committee meetings, including any work for special committees.
- Process PL funding requests and/or review of PL and PL Pass-Through funding agreements and addenda.
- Manage local and regional transportation planning activities and conduct/attend public hearings by the MPO, as needed.
- Ensure that mechanisms are in place to coordinate MPO transportation planning activities with guidelines for Environmental Justice and Title VI. Include segments of the population traditionally underserved by transportation in the Transportation Planning Process.
- Complete and submit the Annual Self Certification to FHWA approved by the Policy Board.
- Prepare and execute funding agreements and contracts, including contract extensions or supplements, as needed and approved by the Policy Board
- Prepare and review progress, financial, and other supportive reports including processing quarterly billing invoices and progress reports.
- Prepare and submit an annual audit. The audit will be performed by the consultant hired by Montgomery County for its annual audit.

- Ensure that all federal and state transportation regulations, requirements, and deadlines are met, particularly with federal transit funds.
- Respond to requests for intergovernmental reviews / coordination.
- Work on Geographic Information System (GIS) and Census Transportation Planning Program (CTPP) data for utilization in transportation planning projects, studies, and coordinate as appropriate.
- Review, as necessary, consultant contracts or supplements and monitor consultant contracts, negotiations, and work progress on MPO-conducted studies and plans employing consultants.
- Review road plans when requested for conformance with current transportation plans. Work with VDOT on the potential for employing Intelligent Transportation Systems (ITS) and higher levels of technology in area-wide planning for project development. Assure that proactive strategies for safety are employed during the plan development process.
- Assist in coordinating multi-modal activities and maintain necessary transportation inventories. The MPO will work closely with Blacksburg Transit and their consultant to accomplish this activity.
- Work jointly with the New River Valley Regional Commission on transportation issues that extend into both areas.
- Work with VDOT and affected localities to assure that pedestrian and bicycle accommodations are considered during project development.
- Continue support of the Rideshare and Bikeshare programs, the Megabus, and the SmartWay bus.
- Continue to support the study of extension of passenger rail to Christiansburg and further west.
- Submit applications to be considered under Smart Scale for appropriate projects.
- Serve as staff to the MPO Bikeshare Committee and work to extend the program into the region.

MAP21/Fast Act Responsibilities

- MPO staff to work cooperatively with the Virginia Department of Transportation and the Virginia Department of Rail and Public Transportation, as necessary, to assure that all activities of the MPO meet or exceed MAP-21/Fast Act requirements.
- Review, comment, and endorse municipal Alternative Transportation grant applications, as requested.

Transportation System Management (TSM)

- Continuous review of current transportation plan(s) for consideration of additional TSM improvements such as traffic engineering, fringe parking lots, bicycle and pedestrian facilities, goods movement, and vehicle occupancy. Continue to support efforts that reduce vehicles on the highways such as the SmartWay Bus, Ride Solutions, and the Two Town Trolley, and Megabus.
- Pursue the development of individual corridor studies included in the adopted 2040 Long Range Transportation Plan as funding allows.
- Provide input for environmental assessments, transit planning, and other transportation planning, when requested.
- Evaluate and review special situations such as: major traffic generators, site plans, special transportation needs, private sector participation, and alternative transportation projects, as needed or requested. Assure that safety is an explicit priority in the planning process.

Special Studies

- MPO staff will work with member jurisdictions to identify transportation issues that warrant further planning study. The MPO will coordinate specific planning projects with VDOT, VDRPT, FTA, and FHWA for review and approval. Selected studies will be incorporated into the UPWP by amendment. All planning studies will be performed by the MPO On Call consultant, an approved agency, or under contract with the NRV Regional Commission. If funds are not utilized, they will be carried forward for future use.

2. Unified Planning Work Program (UPWP)

- Process amendments/adjustments to the FY 2018-19 Unified Planning Work Program (UPWP), if needed, and prepare the FY 2019-20 UPWP.

3. Public Participation

- Use the approved Public Participation Plan (PPP) for public outreach by the MPO in developing and amending the region's Long Range Transportation Plan, UPWP, TIP and other major plans or studies.
- Continually work to identify additional organizations and individuals not normally included in the transportation planning process and add to our contact list. This plan supports the concept of Environmental Justice to ensure an equitable and inclusive decision-making process for all individuals.
- Review the current Public Participation Plan and revise as necessary.
- Continually update the MPO website. Send out information related to Transportation Planning to the MPO email list.
- Meet with/talk to citizens regarding Transportation Planning within the MPO.

4. Transportation Improvement Program (TIP)

- Process any amendments/adjustments to the FY 2018-21 Transportation Improvement Program (TIP). Provide MPO input on preparation efforts for future TIPs. Assure that any identified current safety needs are considered for inclusion in the TIP.

5. Long Range Transportation Plan

- Amend the 2040 MPO Long Range Plan as needed.
- Begin development of the 2045 MPO Long Range Plan update.

6. FTA/VDRPT-Assisted Section 5303 Transportation Planning:

FTA Section 5303 Pass-Through Funds

- Provide transit planning assistance to Blacksburg Transit (BT), Radford Transit (RT), and Pulaski Area Transit (PAT) to: support application of FTA Section 5303 transportation funding; meet FTA Section 5307 requirements for preparing and submitting grant applications; support data collection as required by FTA and the National Transportation Database (NTD); support planning activities for a multi-modal transit facility; conduct short and long range transit planning activities when needed; support the development of the MPO's UPWP, TIP, and Long Range Transportation Plan to ensure transit planning elements.
- These requirements include maintaining Civil Rights (Title VI), DBE and EEO requirements, performance monitoring, ADA planning and preparing all necessary reports. BT will coordinate with the MPO on transit planning activities. Funds are expected to be used to complete identified short and long-term transit planning by contracting consultants for relevant surveys and studies.
- Additional detail is provided on FTA/VDRPT-Assisted Section 5303 Transportation Planning in the attached Task Narrative A.
- Assist Blacksburg Transit as needed in completing Transit studies. Monitor and process Pass Through reimbursement requests.

FY 2018-19 UPWP

End Products Summary**

1. Maintain all administrative requirements.
2. Carry out items in FY 2018-19 Unified Planning Work Program (UPWP).
3. Review and assure that all MPO functions and work products remain in compliance with MAP-21/FAST Act.
4. Monitor the FY 2018-21 Transportation Improvement Program (TIP) and amend/adjust as needed
5. Provide assistance to Transit providers for transit planning activities.
6. Conduct transit studies as needed and identified by the MPO.
7. Support the regional Coordinated Human Services Transportation Plan that includes the MPO. Collaborate with the New River Valley Regional Commission (NRVPDC) and area transportation providers to explore routing solutions and expansion for the area.
8. Support and assist in the project to provide transit service for the Warm Hearth Area of Montgomery County.
9. Provide quarterly reports on the Rideshare program, the SmartWay bus, and transit planning activities.
10. Review and amend as needed the current Public Participation Plan.
11. Support the Regional Transit Coordinating Council meeting on a quarterly basis. Carefully evaluate and give consideration to recommendations that are made.
12. Amend as needed the 2040 MPO Long Range Plan.
13. Support Transit Agencies in updates to their TDPs.
14. Coordinate activities for extension of passenger rail to Christiansburg.

** - Details are provided in the Narrative Section

**FY 2018-19 New River Valley MPO
Proposed Revenues and Expenditures by Federal, State, and Local Sources**

Proposed Revenues	FHWA – SPR1	State – SPR ¹	FHWA - PL	State Match	Local Match	FTA Sec. 5303	State Match	Local Match	Total
FY 2018-19	\$20,000*	\$5,000*	\$154,721	\$19,340	\$19,340	\$84,890	\$10,612	\$10,612	\$324,515
FY 2017-18 Carryover						\$49,059	\$6,132	\$6,132	\$61,323
FY 2016-17 Carryover			\$2,547	\$318	\$318				\$3,183
Federal & VDOT – SPR Subtotal	\$20,000*	\$5,000*							\$25,000*
FHWA/Match - PL Subtotal			\$157,268	\$19,658	\$19,658				\$196,585
FTA Sec. 5303/Match Subtotal						\$133,949	\$16,744	\$16,744	\$167,437
Total Proposed Revenues	\$20,000	\$5,000	\$157,268	\$19,658	\$19,658	\$133,949	\$16,743	\$16,743	\$389,019
Proposed Expenditures			FHWA - PL	State Match	Local Match	FTA Sec. 5303	State Match	Local Match	Total
1. Program Support and Administration	\$12,000	\$3,000	\$72,468	\$9,058	\$9,058				\$105,584
1.01 General Administration and Operations	\$8,000	\$2,000	\$49,600	\$6,200	\$6,200				\$72,000
1.02 MAP-21/Fast Act Responsibilities & MPO Compliance			\$8,000	\$1,000	\$1,000				\$10,000
1.03 Transportation System Management			\$800	\$100	\$100				\$1,000
1.04 Special Studies	\$4,000	\$1,000	\$14,068	\$1,758	\$1,758				\$22,584
2. Unified Planning Work Program			\$4,800	\$600	\$600				\$6,000
3. Public Participation			\$32,000	\$4,000	\$4,000				\$40,000
4. Transportation Improvement Program(TIP)	\$4,000	\$1,000	\$8,000	\$1,000	\$1,000				\$15,000
5. 2035 Long Range Transportation Plan	\$4,000	\$1,000	\$40,000	\$5,000	\$5,000				\$55,000
6. FTA/VDRPT-Assisted Section 5303 Transportation Planning						\$133,949	\$16,744	\$16,744	\$167,437
6.01 Program Support and Administration						\$6,697	\$837	\$837	\$8,372
6.02 General Development/Comprehensive Planning						\$53,580	\$6,697	\$6,697	\$66,975
6.03 Long Range Planning/System Level						\$6,697	\$837	\$837	\$8,372
6.04 Short Range Planning						\$53,580	\$6,697	\$6,697	\$66,975
6.05 Transportation Improvement/NTD						\$6,697	\$837	\$837	\$8,371
6.07 Special Studies						\$6,697	\$837	\$837	\$8,371
Total Proposed Expenditures	\$20,000	\$5,000	\$157,268	\$19,658	\$19,658	\$133,949	\$16,744	\$16,744	\$389,019

Note: Figures are rounded to the nearest dollar. All subtotals are estimates included for planning purposes only and are not intended to be restrictive.

*=funds budgeted for MPO support by VDOT.

1. Funds allocated for expenditure by VDOT staff and consultants in support of the MPO planning process

**NEW RIVER VALLEY
METROPOLITAN PLANNING ORGANIZATION
Narratives, Budgeted Amounts for FTA funded portion of FY 2016-2017 UPWP
SECTION 5303 PLANNING AND TECHNICAL STUDIES**

TASK NARRATIVE A.

NOTE: NEW FORMAT WITH ADDITIONAL DETAILS REGARDING OBJECTIVE AND DESCRIPTION AND PRODUCTS FOR EACH FTA TASK, STARTING WITH 2011-2012.

FTA#: 44.21.00 Program Support and Administration

Objective and Description: The Program Support and Administration task covers the activities necessary to administer and maintain transportation planning activities. The primary objectives of this task are:

- To update regional planners and BT management of planning activities relevant to transit
- To assist town staff as needed with communicating with stakeholders regarding transit issues
- To prepare monthly and quarterly status reports as needed
- To assist with technical updates regarding transit on current and future development projects

Products:

- Prepare executive summaries and reports for MPO, PDC, and other stakeholders as requested.
- Develop BT Transportation Planner Master Plan of activities/projects in prioritization order (annual update)
- Write monthly and quarterly status reports as needed re. regional activities related to transit operations
- Maintain/update an inventory of bus stops
- Supervise BT Transportation Planning Internship Program
- Document and maintain a filing system of requests for new services, routes, bus stops, amenities

6.01 Program Support and Administrative	FTA Sec. 5303	State Match	Local Match	Total
Transit FY 19	\$4,244	\$530	\$530	\$5,306
Transit FY 18	\$2,453	\$307	\$307	\$3,066
Total	\$6,697	\$837	\$837	\$8,372

FTA#: 44.22.00 General Development/Comprehensive Planning

Objective and Description: The General Development and Comprehensive Planning task supports gathering data to identify issues for further study, define requirements for future plans and designs, and develop transit priorities. The primary objectives of this task are:

- To identify origins and destinations for future routes
- To characterize potential customers (e.g., with Marketing) through surveys and other means
- To identify potential economic development and employment centers that are likely needed destinations
- To identify and summarize other relevant data that supports short-range and long-range planning tasks
- To participate in meetings and other input sessions for updating regional comprehensive plans
- To serve as liaison with transportation consultants for the planning efforts (e.g., Transit Development Plan, Comprehensive Operations Analysis, Regional Cost Model)
- To serve as liaison with area developers (land owners, town staff, etc.) to ensure that transportation issues are addressed during preliminary stages of development
- Supervise BT Transportation Planning Internship Program

Products:

- Provide weekly input with documentation as needed for regional planners on new developments affecting current or future transit services
- Analyze ridership needs and develop a work plan (operational plan) for the New River Community College
- Investigate planning and operational needs for regional neighborhoods (e.g., the Warm Hearth Retirement Community, Mid-County region of Montgomery County)
- Communicate with area developers, land owners via town and county staff to document future transit needs/plans
- Provide an outline for future expansion into the Montgomery County (e.g., near the Hospital/Warm Hearth)
- Provide status updates to the MPO TAC and other stakeholders on the planning of a joint Blacksburg-Virginia Tech proposed multimodal facility via presentations or verbal updates
- Provide summaries of relevant planning documents to staff and stakeholders as requested
- Facilitate, summarize, and disseminate annual updates to the 2017 BT Transit Development Plan (TDP)
- Support efforts to acquire and collaborate with consultant(s) to upgrade the transit Regional Cost Model to more accurately estimate the costs of transit services.
- Facilitate receiving approval of the TDP from the NRV RC, Montgomery County, and Virginia Tech
- Coordinate marketing and training efforts with stakeholders for the newly launched pilot bus route connecting the Warm Hearth Village and the LewisGale Hospital Montgomery
- Stay abreast regarding developments and planning of the Virginia Tech-Blacksburg Multimodal Transit Facility (MMTF) via communication with BT staff.
- Facilitate efforts to acquire a consultant and conduct a route analysis in conjunction with the proposed MMTF.
- Assist in coordination of a regional effort for conducting simultaneous TDPs in 2017-2018, possibly with BT, PAT, and RT to improve inter-agency coordination and transfers between agencies.

6.02 General Development \Comprehensive Planning	FTA Sec. 5303	State Match	Local Match	Total
Transit FY 19	\$33,957	\$4,244	\$4,424	\$42,446
Transit FY 18	\$19,623	\$2,453	\$2,453	\$24,529
Total	\$53,580	\$6,697	\$6,697	\$66,975

FTA#: **44.23.01 Long Range Transportation Planning – System Level**

Objective and Description: Long range planning at the system level forms the basis for future transportation planning activities and projects. Long range is generally considered to be 13 months or longer. The primary objectives of this task are:

- To study the transportation system within the region to identify issues and challenges involving multiple jurisdictions
- To align our efforts with regional comprehensive plans
- To use comprehensive plans to make policy recommendations to community leaders and planners

Products:

- Implement recommendations for commuter service within the MPO region
- Consider and outline future connections to planned train and multimodal facilities (e.g., Lynchburg)

- Summarize relevant transit developments in nearby areas (e.g., Pulaski, Dublin, Radford, Floyd) to increase coordination
- Provide content and feedback to the NRV Regional Commission (PDC) and updates to their Mobility Manager Resource Manual
- Participate in the joint PDC-MPO NRV Regional Transit Organizational Analysis process
- Facilitated delivery and dissemination of the Bus Stop Safety and Accessibility Study for the Town of Blacksburg, completed July 2015 (which was, in the UPWP dated May 2013, originally called the Virginia Tech Bicycle and Pedestrian Infrastructure Analysis RFP)
- Align alternative transportation planning efforts (e.g., bike, pedestrian) to coordinate with pathways and transit amenities such as with a BT-supported RFP and/or the Bikeway/Walkway Committee of the NRV Planning District Commission

6.03 Long Range Planning System	FTA Sec. 5303	State Match	Local Match	Total
Transit FY 19	\$4,244	\$530	\$530	\$5,306
Transit FY 18	\$2,453	\$307	\$307	\$3,066
Total	\$6,697	\$837	\$837	\$8,372

FTA#: 44.24.00 Short Range Transportation Planning

Objective and Description: Short range transportation planning deals with specific programs and projects that implement long range policies. Short range is generally considered to be within 12 months. The primary objectives of this task are:

- To review and evaluate proposed transportation projects for their potential impacts on the regional transportation network in alignment with comprehensive plan goals as requested
- To prioritize proposed transportation projects
- To identify current and immediate transportation needs in the region
- To revisit what is needed and reprioritize needs on a regular basis as funding and other resources become available
- To review and prioritize requests for bus stop changes, improvements, additions, and replacements (e.g., bus stop amenities)

Products:

- Continue promotion and refinement of a Downtown Blacksburg Trolley Plan
- Development of a Bus Stop Improvement Plan to standardize our current bus stops
- Assist in evaluating, refining, and dissemination of Christiansburg Bus Service to regional transportation leaders and key staff (e.g., via announcements/presentations to the MPO TAC and NRV RDC)
- Stay up-to-date with new bus services in Radford
- Outline a draft plan to evaluate the potential for Neighborhood Service in Blacksburg
- Refine process for Route/Schedule Changes and Stop Requests within BT
- To participate in meetings, input sessions, and/or attending conferences and training relevant to regional planning
- Maintain and update the bus stop inventory
- Participate in the GIS Working group to identify and coordinate and evaluate GIS needs
- Maintain and update Web GIS data for use by planners, developers, and citizens
- Update the BT TDP with an annual letter in October of each year

6.04 Short Range Transportation Planning	FTA Sec. 5303	State Match	Local Match	Total
Transit FY 19	\$33,957	\$4,244	\$4,244	\$42,446
Transit FY 18	\$19,623	\$2,453	\$2,453	\$24,529
Total	\$53,580	\$6,697	\$6,697	\$66,975

FTA#: 44.25.00 Transportation Improvement Plan

Objective and Description: The objective of the Transportation Improvement Program (TIP) task is to support development efforts of improvement program documents. The primary objectives of this task are:

- To provide transit-relevant information for the Statewide Transportation Improvement Program (STIP) a four-year document, and for other planning documents

Products:

- Provide relevant information via written reports and/or edits for updates to the Town of Blacksburg 2046 Comprehensive Plan
- Provide relevant information for updates to the Montgomery County 2035 plan
- Provide relevant information and textual write-ups for the Town of Blacksburg Capital Improvement Program,
- Review and provide relevant input to the New River Valley Rural Long Range Plan (in coordination with the PDC)
- Review, edit, and provide input regarding transit for the Unified Planning Work Program (UPWP) for the MPO
- Provide a set of updated GIS data files showing bus stops and routes for use by stakeholders upon request
- Provide ridership and other relevant data regarding bus stop routes, based on the bus stop inventory database, and as needed, based on queries of data available from BT's IT department

6.05 Transportation Improvement/NTD	FTA Sec. 5303	State Match	Local Match	Total
Transit FY 19	\$4,245	\$531	\$531	\$5,306
Transit FY18	\$2,453	\$307	\$307	\$3,066
Total	\$6,697	\$837	\$837	\$8,371

FTA#: 44.27.00 Other Activities/Special Studies

Objective and Description: The objective of the other activities/special studies task is to provide for a task that covers unanticipated or otherwise, needed activities related to regional transit planning. The primary objectives of this task are:

- To provide input and leadership as a member of the New River Valley MPO and the New River Valley PDC
- To work with members from the MPO and the PDC to coordinate and enhance regional transportation planning efforts through collaboration and joint activities

Products:

- Attend Monthly MPO TAC meetings and provide summary reports to transit and other stakeholders as needed.
- Attend NRV PDC Transportation TAC meetings and provide summary reports as needed
- Communicate both relevant MPO and PDC regarding transit to staff so BT can coordinate efforts with Virginia Tech staff on a regular basis and with others stakeholders as needed
- Facilitate, support, and/or conduct feasibility studies for potential and new transit services in the MPO region
- Coordinate with Town of Blacksburg and other staff as needed regarding transit-related issues within the MPO region

6.07 Other Special Studies	FTA Sec. 5303	State Match	Local Match	Total
Transit FY 19	\$4,245	\$531	\$531	\$5,306
Transit FY 18	\$2,453	\$307	\$307	\$3,066
Total	\$6,697	\$837	\$ 837	\$8,371

Previous Work Toward Objective:

On January 14, 2016, Blacksburg Transit provided an annual update TDP letter to DRPT including 6-year project and funding estimates through FY2022. The Route Analysis effort (to analyze routing in conjunction with the proposed MMTF)was completed in September 2014, by Michael Baker International with subcontract to Foursquare ITP; the final report was placed on the Town of Blacksburg's FTP site for distribution as needed, as of February 8, 2016. The February 2015 VDRPT proposal to expand services for senior transportation was accepted and funded, to support three days of demand-response service between Warm Hearth Village and the LewisGale Hospital Montgomery within the MPO service area with service to pre-approved locations within Christiansburg and Blacksburg. Additional projects recently completed include a MMTF Operations Plan launched in October 2013, with final report completed September 8, 2014. The MMTF is currently at 30% design; construction funds were applied for on February 1, 2015 from DRPT, and 100% design completion is expected by August 2015. BT also hosted a part-time, paid GIS-Transportation Planning Intern from October 2015 to continue into 2016, and two for-credit interns from during 2015-2016, supervised by the Regional Transportation Planner. There are plans for additional 2016-2017 interns, possibly through the Virginia Tech Work Study program, as well.

Another recently completed project was the New River Valley Metropolitan Planning Organization Bus Stop Safety and Accessibility Study for the Town of Blacksburg, with final report completed July 2015. This was previously referred to as the "Transit, Bicycle- and Pedestrian study", and it was completed by Kimley-Horn and Associates, Inc. Three additional projects were recently kicked off:

Initial work began on the Regional Cost Model (RCM) upgrade for Blacksburg Transit in the spring of 2015 with Michael Baker International and Foursquare Integrated Transportation Planning, Inc. kicking off the project with an onsite meeting. Design and development of the upgraded model is nearing completion and testing and calibration including an onsite demonstration is expected to take place over the summer. Project completion is anticipated for September 2016.

The Regional Transit Study task order was issued on February 27, 2015 and officially kicked-off on March 17, 2015, led by the New River Valley Regional Commission (NRVRC). The study aims to complete the second strategy identified by the Regional Transit Coordinating Council (RTCC). In 2015, a total of five unique public transit operators had routes/stops that overlapped at eight unique locations. Each of the eight locations were investigated and strategies to enhance the physical appearance and accessibility to information were developed. The next steps include finalizing the study and releasing the document for public review/comment. The Study is projected to be complete by June 2016.

With plans first starting in late 2013, the Passenger Rail Study was formally launched in early 2015 by the NRVRC. Numerous actions took place including establishing a working committee and a passenger rail committee, reviewing the history of rail in the region, identifying economic impacts, identifying and ranking numerous potential sites, and evaluating a final subset to get to two recommendation locations for consideration. On January 7, 2016 the MPO Policy Board recommended two locations in Christiansburg be explored through an Operational Analysis. The final report with appendices was distributed to the MPO February 17, 2016, also available at <http://nrvrc.org/nrvpassengerrailstudy/>.

Relationship to Other Activities:

Provide support for overall improvements to operation of Blacksburg Transit; maintaining public transit service compliance with FTA guidance and regulations under SAFETEA-LU.

Agency Responsible for Work:

- a) Blacksburg Transit by pass-through contract with the New River Valley Metropolitan Planning Organization and
- b) The New River Valley Metropolitan Planning Organization, as funds recipient.

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution to accept the final report on the Bus Stop Safety and Accessibility Study for Radford Transit.

On a motion by _____ seconded by _____ and carried unanimously,

WHEREAS, the NRV MPO conducted a study to evaluate bus stops within the service area of Radford Transit and develop a prioritization tool in order to efficiently program improvements to bus stops; and

WHEREAS, the NRV MPO approved conducting the study and utilized the New River Valley Regional Commission to conduct the study, and

WHEREAS, the study is complete and the TAC recommends acceptance.

NOW, THEREFORE BE IT RESOLVED that:

The New River Valley MPO Policy Board accepts the final report of the Bus Stop Safety and Accessibility Study for Radford Transit.

F. Craig Meadows, Chairman

*New River Valley
Metropolitan Planning Organization*

May 3, 2018

Resolution to accept the final report on the Bus Stop Safety and Accessibility Study for Pulaski Area Transit.

On a motion by _____ seconded by _____ and carried unanimously,

WHEREAS, the NRV MPO conducted a study to evaluate bus stops within the service area of Pulaski Area Transit and develop a prioritization tool in order to efficiently program improvements to bus stops; and

WHEREAS, the NRV MPO approved conducting the study and utilized the New River Valley Regional Commission to conduct the study, and

WHEREAS, the study is complete and the TAC recommends acceptance.

NOW, THEREFORE BE IT RESOLVED that:

The New River Valley MPO Policy Board accepts the final report of the Bus Stop Safety and Accessibility Study for Pulaski Area Transit.

F. Craig Meadows, Chairman



BUS STOP SAFETY AND ACCESSIBILITY STUDY

A STUDY COMMISSIONED BY THE
NEW RIVER VALLEY METROPOLITAN PLANNING ORGANIZATION
AND THE NEW RIVER VALLEY REGIONAL COMMISSION

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EXECUTIVE SUMMARY

Purpose

The purpose of the 2018 Radford Transit Bus Stop Safety and Accessibility Study is to develop a bus stop capital improvement prioritization tool. The prioritization tool evaluates the existing conditions of bus stops served by Radford Transit (RT). Recommendations are included as a component of the 2018 study for locations with the most pressing needs.

A working committee consisting of representatives from the City, Radford University, Radford Transit, and the New River Valley Metropolitan Planning Organization utilized the framework of the 2015 New River Valley Bus Stop Safety and Accessibility Study to guide the planning process.

Study Outcomes

Fifty bus stops were evaluated against more than thirty-five criteria during the bus stop assessment process. Once the prioritization of stops was verified by the working committee, the New River Valley Regional Commission developed conceptual planning visualizations and cost estimates for the highest priority locations.

Connectivity to and from the bus stop, constructability, and existing conditions are the leading prioritization factors for RT in 2018. As a result, high priority stops are found on a combination of public and private properties, and include the following:

- 1. Copper Beach Time Check**
- 2. Highland Village**
- 3. Deli Mart West**
- 4. Lot FF**
- 5. Burlington Lot**
- 6. Greenhill Clubhouse**
- 7. Burlington and Fairfax**
- 8. Burlington and Clement**
- 9. Greenhill Time Check**
- 10. The Hub**
- 11. Davis and Wilson**
- 12. Main and Preston**



An example of one of the high priority stops is the Copper Beach Time Check (see above). Each high priority bus stop reviewed includes an associated action plan. These plans are based on the prioritization scoring, and include a concept to illustrate what an improved stop could look like (see Figure 1). An estimated materials cost is also included.

Radford Transit staff can utilize the prioritization tool to monitor and evaluate priority bus stop needs on an as-needed basis. Furthermore, the tool is intended to be updated for use in future studies and to develop system-wide recommendations. Stops ranking higher within the tool potentially yield a higher return on public and private investment.

System-wide recommendations were not developed as a component of this study; however, could include a combination of design and policy improvements. Design components might include providing a level pick-up/drop-off area and improving visibility for bus operators at each location. A policy recommendation might involve stopping if potential riders are flagging down a bus near a scheduled stop.

Suggested next steps for RT and local partners include working collaboratively to pursue funding from a variety of public and private sources. RT also has the opportunity to continue collecting regular input from its operators and stakeholders to keep the prioritization tool up to date. This study recommends an update of the tool at least every five years, or during the regular Transit Development Plan update.

EXECUTIVE SUMMARY (CONTINUED)

FIGURE 1: ACTION PLAN EXAMPLE
Copper Beach Time Check

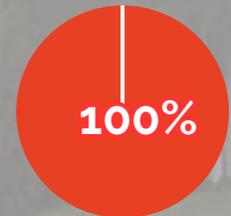


After

SCORE

The following score represent a normalized sum of needed improvements for each site. The higher the score, the greater the need.

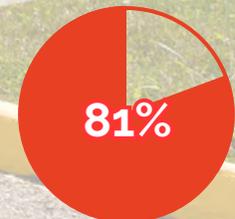
TRANSIT USE



CONNECTIVITY/ACCESSIBILITY



AMENITIES



Recommendations for this Stop

- Work with property owner for ADA improvements
- Consider crosswalk for improved connectivity
- Install amenities, such as ramps, shelter, and seating

\$11,150

**Estimated Cost :
 (Materials Only)**

TRANSIT SERVICE

Background

Radford Transit was established on August 8, 2011 through a joint partnership between Radford University, Radford City, the Virginia Department of Rail and Public Transportation, and the Federal Transit Administration. The service is professionally operated by NRVCS Transit Services, an agency which also operates Community Transit, a needs-based transportation service in the New River Valley.

Bus Service

Radford Transit serves the City of Radford, Radford University, and Fairlawn as well as several other locations in the New River Valley. A map of the system's routes is shown in Figure 1. The route schedules align with RU's academic calendar, providing "regular" service when school is in session and "city-only" service

in the summer and during school breaks. The current routes are geared to serve RU students, faculty and staff as well as city residents for a variety of needs. The seven routes with 126 stops are specifically designed to serve Radford University (RU)'s campus that city-wide destinations, commercial and shopping services, and a connector to key destinations in Christiansburg and Blacksburg:

- 10/University Express: serves the RU campus including its parking lots and Dedmon Center which is located on the opposite side of Main Street from the main campus. This service operates during the "regular" service only. Frequency varies depending on the time of day, but during school hours, it operates on a 10-minute frequency.

FIGURE 2: RT TRANSIT SYSTEM MAP-RADFORD

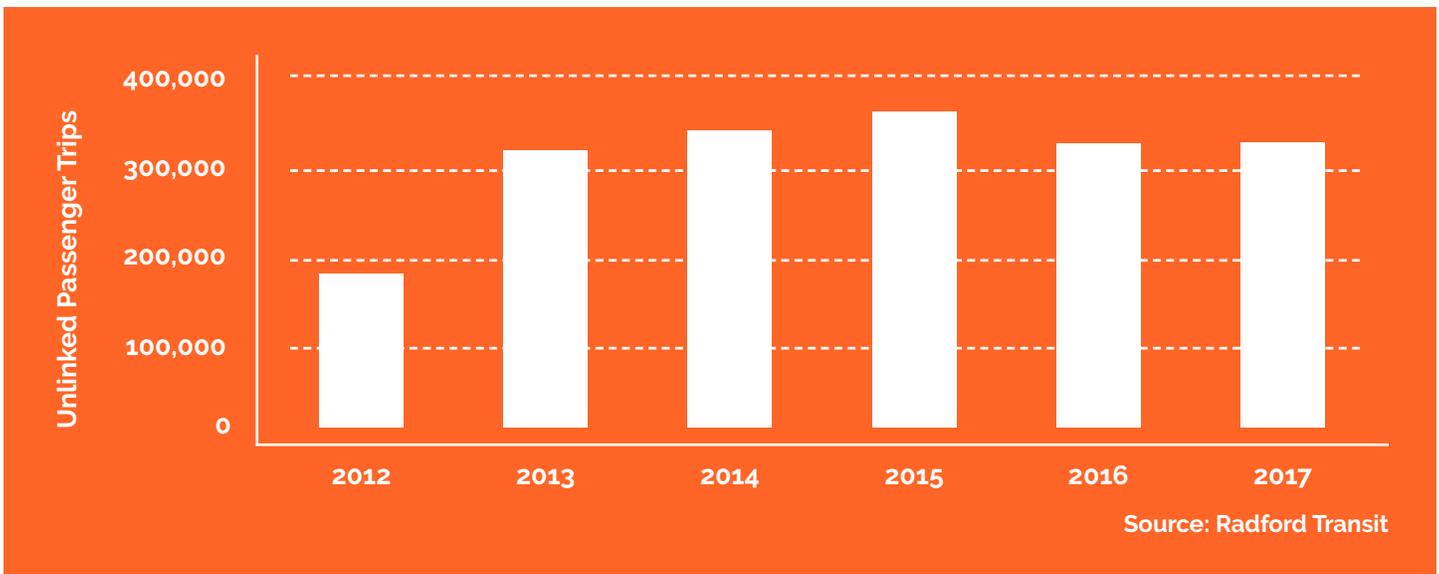


TRANSIT SERVICE (CONTINUED)

- 15/University Highlander: provides service to Radford University's campus, Dedmon Center, Greenhill, Highland Village, and The Hub. This route operates on Saturdays only during Regular Service and Monday through Saturday during City Only Service. It operates year-round at a 30-minute frequency and is a blend of the 10 and 50 routes which do not operate during "city-only" service.
- 20/New River Rapid: connects Radford and the RU campus to the commercial areas in Fairlawn. It operates year-round with an hourly frequency.
- 30-31/Cross City: serves the Radford Recreation Center and main corridors through the city. It operates year-round with an hourly frequency.
- 40/NRV Connect: provides service to stops in Christiansburg and Blacksburg (Christiansburg Aquatic Center, NRV Mall, Squires Student Center). This route operates during "regular" service at an hourly frequency.
- 50/Highlander Circulator: operates service from East Main Street and Burlington Lot to the Radford University campus and the Hub Transfer Center. Operating only during "regular" service, the route runs on a 10-minute frequency.
- 60/South Beech Express: serves the campus and Copper Beech student housing during "regular" service on weekdays. Frequency varies depending on the time of day, but during school hours, it operates at a 15-minute frequency.

Visit www.radfordtransit.com for more details.

FIGURE 3: RIDERSHIP OVER TIME



Ridership

In 2016, Radford Transit's ridership totaled 339,982 (see Figure 2). The most popular route is by far the 10/ University Express which serves the RU campus and student housing. Other routes with higher ridership are also student-oriented: the 50/Highlander Circulator and 60/South Beech Express. Lot A and Greenhill

Apartments are the most active stops on these routes. Greenhill is the largest student apartment complex and Lot A is the main campus time check stop. The HUB also sees a great deal of both as the main transfer stop. Route 30/Cross-city is the most popular city route connecting riders to the 20 which serves the Fairlawn shopping centers.

STAKEHOLDER OUTREACH



Working Group

A Working Group was formed to assist with the study process. The Group's purpose was to select bus stop prioritization criteria, review bus stops within the transit system, and check the results of the final analysis. Members of this Working Group were selected from Radford Transit staff and drivers, and representatives from the City of Radford, Radford University, and the New River Valley Metropolitan Planning Organization.

The Working Group met four times in 2017 at the City of Radford Administration Building. At these meetings, the Group discussed and reviewed the progress of the study, and made suggestions based on insight and experience.

Outreach

As part of this study's outreach efforts, preliminary planing concepts were presented to the Radford University Student Government Association to garner feedback from the student body. Radford University student representatives suggested safety improvements should take into account visibility of users at stops, with proper lighting and emergency phones accessible, where possible.

The study was also presented to Radford City Council in December, 2017. The presentation focused on the purpose of the study, bus stop improvement priorities, and draft concepts at select stop locations.

FIGURE 4: WORK SESSIONS AND OTHER MEETINGS



STAKEHOLDER OUTREACH (CONTINUED)

Rider Survey

Radford Transit surveying took place Wednesday, November 15th from 10:00am to 12:00pm and on Friday, November 17th, from 12:00pm to 2:00 pm. This survey engaged 29 total responses with the overwhelming majority of respondents being Radford University students.

Overall, the majority of respondents feel safe at bus stops serviced by Radford Transit, with only four indicating that they sometimes feel safe. The majority of respondents also indicated that they do not have difficulty getting to or from a bus stop serviced by Radford Transit. Finally, the last question asked about proposed bus stop improvements. 86 percent of respondents stated that they would be encouraged to use transit more if improvements were completed. Few respondents indicated that improvements wouldn't make any difference.

Riders feel safe

Riders can access stops easily

Improvements would encourage more use



BUS STOP PRIORITIZATION AND DESIGN

Process

This study leveraged a prioritization exercise to select criteria and rank high priority bus stops. The process for this prioritization is as follows:



BUS STOP PRIORITIZATION AND DESIGN (CONTINUED)

FIGURE 5: PRIORITIZATION CRITERIA

- Transit Use
- Service Hours
- Bus Stop Distance
- Bus Stop Amenities
- Connectivity
- Accessibility
- Safety
- ADA Compliance
- Cost and Constructibility
- Community Support
- Land-use/Design

FIGURE 6: PRIORITIZATION EXERCISE

Bus Stop Safety and Accessibility Study

Prioritization Exercise
 The New River Valley Metropolitan Planning Organization is conducting a study to identify safety and accessibility needs near Radford Transit (RT) bus stops. Please help us rank and weigh the categories we'll use to prioritize the bus stops.

- Pick the **TOP 5** categories that are most important to you. Assign these to the "Rank" column.
- Assign points to your **TOP 5** categories based on what you think is most important. Assign these points in the "Points" column. The points should total 100.

		Rank	Points	
Transit Use	Boarding and alightings, particularly bicycles and wheelchairs.	[]	[]	What is your role in the community? (Check all that apply) <input type="radio"/> Frequent Rider <input type="radio"/> Commuter <input type="radio"/> Monthly Pass User <input type="radio"/> Radford City Resident <input type="radio"/> Pulaski County Resident <input type="radio"/> Montgomery County Resident <input type="radio"/> C'burg/B'burg Resident <input type="radio"/> Radford University Student <input type="radio"/> Radford University Faculty/Staff <input type="radio"/> Virginia Tech Student <input type="radio"/> Virginia Tech Faculty/Staff <input type="radio"/> Operator <input type="radio"/> Other: _____
Service Hours	Midday and late evening service.	[]	[]	
Bus Stop Distance	Distance to the next closest bus stop.	[]	[]	
Bus Stop Amenities	Benches, shelters, bicycle parking trash receptacles, and lighting.	[]	[]	
Connectivity	Service for multiple bus routes.	[]	[]	
Accessibility	Near by sidewalks, crosswalks, bike facilities, multi-use paths, etc.	[]	[]	
Safety	Crash history (involving bicyclists, pedestrians, and vehicles).	[]	[]	
ADA Compliance	Barriers such as lack of curb ramps and steep slopes.	[]	[]	
Cost & Constructibility	Construction constraints (e.g. slopes, right-of-way, utilities, cost, etc.)	[]	[]	
Community Support	Locations recommended by the community to the City and drivers.	[]	[]	
Land Use/Design	Local context and mix of residential and commercial land uses.	[]	[]	
Other	Please describe.	[]	[]	
Total		100		

Please use this space or the back of this sheet to provide additional comments.

This study of Radford Transit bus stops is funded through a partnership between the New River Valley Metropolitan Planning Organization and the New River Valley Regional Commission. For more information about this study, please contact the New River Valley Regional Commission at 540-639-9313.

Criteria Definition

Criteria

Additional Comments

Ranking and Point Assignment

User Information

BUS STOP PRIORITIZATION AND DESIGN (CONTINUED)

FIGURE 7: PRIORITIZATION CRITERIA WEIGHTING

Criteria	Weight	Description
Transit Use	10.00%	Boarding and alightings, particularly bicycles and wheelchairs
Service Hours	11.21%	Midday and late evening service.
Bus Stop Distance	5.17%	Distance to the next closest bus stop.
Bus Stop Amenities	9.83%	Benches, shelters, bicycle parking, trash receptacles, and lighting.
Connectivity	11.38%	Service for multiple bus routes.
Accessibility	13.62%	Near by sidewalks, crosswalks, bike facilities, multi-use paths, etc.
Safety	8.59%	Crash history (involving bicyclists, pedestrians, and vehicles).
ADA Compliance	7.41%	Barriers such as lack of curb ramps and steep slopes.
Cost and Constructability	3.34%	Construction constraints (e.g. slopes, right-of-way, utilities, cost, etc.)
Community Support	12.79%	Locations recommended by the community to the City and drivers.
Land use/Design	3.21%	Local context and mix of residential and commercial land uses.
Other	3.45%	Other recommendations.

Design Elements

Recommendations for the high priority stops focus on safety and accessibility improvements. These improvements are related to user comfort, safety, or access. Specifications of these recommended improvements are found in Appendix C.

Bus Stop Types

Based on reports by the American Public Transportation Association and the Transportation Research Board, bus stops can be designated into many types. These bus stop designations are based on both the stop service environment and ridership. Ensuring each bus stop includes the design elements for associated with its type will provide the user with a safe environment. See Appendix D for more information.

For this study, bus stops will be broken down into three types: basic, enhanced, and station/hub (see Table 1).

TABLE 1: BUS STOP TYPES AND ELEMENTS

Service Environment	Design Strategy
Basic	ADA-compliant ramp or access, sign, lighting, contact info, level pad, route and schedule
Enhanced	Same as basic, with bench, shelter, bike racks, and trash receptacle
Station/hub	Same as enhanced, with detailed system map, real-time information

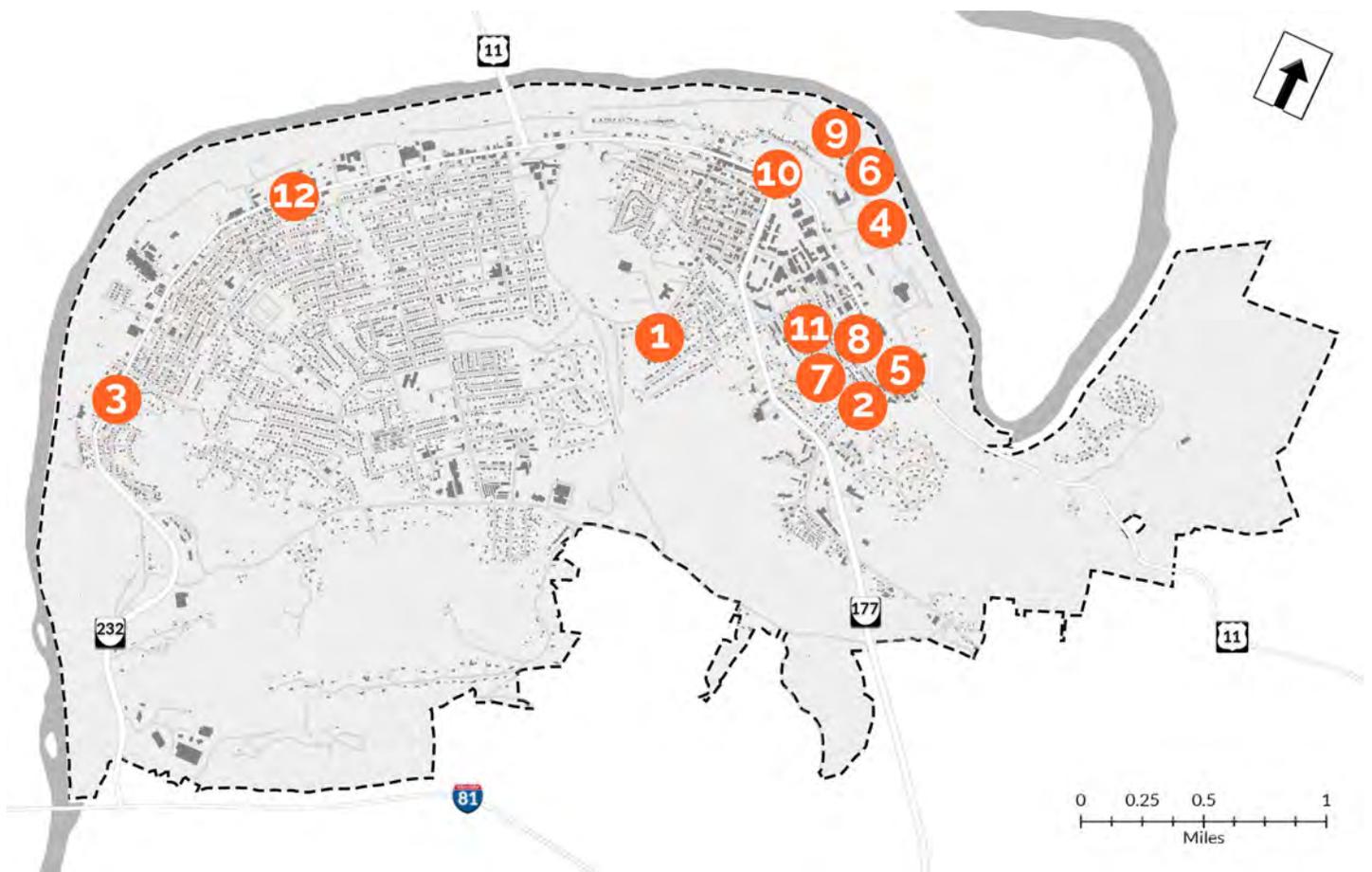
Source: APTA 2010; TCRP 2005

ACTION PLAN

High-Priority Stops and Action Plan

Figure 8 lists and illustrates the twelve high-priority stops selected through the prioritization exercise. Based on these stops, an action plan was developed based on a detailed inventory of each stop. This action plan includes a listing of the prioritization exercise score, a design concept, and suggested recommendations and improvements.

FIGURE 8: HIGH-PRIORITY STOP LOCATIONS



Source: NRVRC

- | | | |
|----------------------------------|---------------------------------|-------------------------------|
| 1 Copper Beach Time Check | 7 Burlington and Fairfax | 9 Greenhill Time Check |
| 2 Highland Village | 8 Burlington and Clement | 10 The Hub |
| 3 Deli Mart West | 5 Burlington Lot | 11 Davis and Wilson |
| 4 Lot FF | 6 Greenhill Clubhouse | 12 Main and Preston |

COPPER BEECH

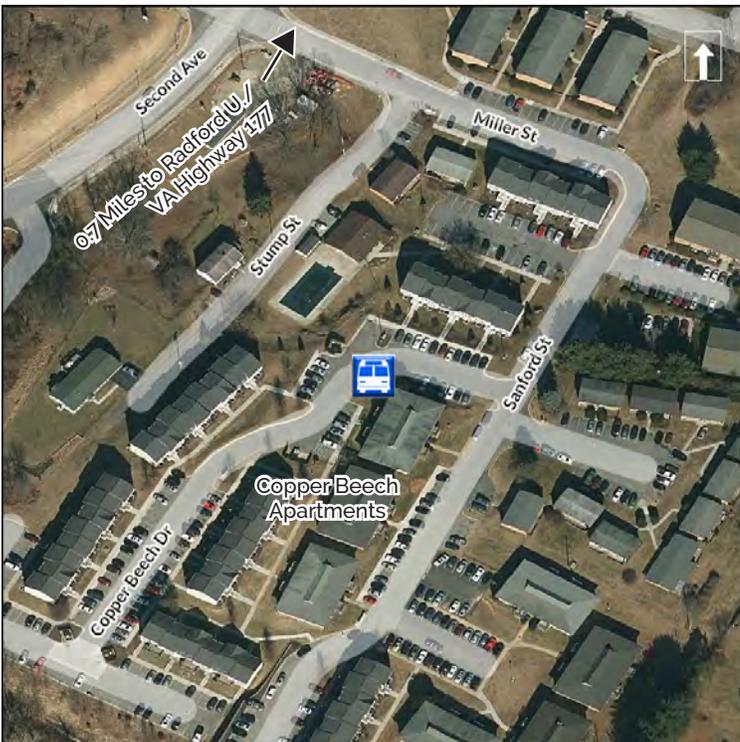


CONTEXT

Copper Beech Time Check (RT Stop #128) is a basic transit stop with high ridership. The stop rests on a slope within the apartment complex, and currently features a bus stop sign with an option for a map or schedule.

SCORE

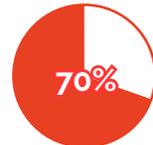
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



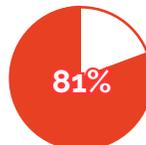
TRANSIT USE



SERVICE TYPE AND LOCATION



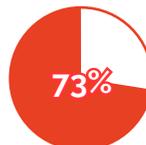
AMENITIES



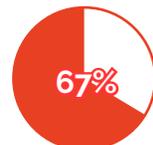
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



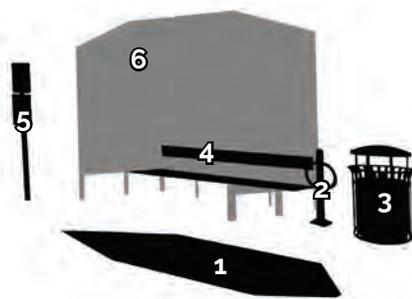
DETAILS/ CONSTRUCTABILITY



COPPER BEECH



AMENITIES



1. ADA COMPLIANT RAMP
2. BIKE RACK
3. TRASH RECEPTACLE
4. SEATING
5. MAP AND SCHEDULE
6. SHELTER WITH LIGHTING

RECOMMENDATIONS

A concrete pad, with an ADA accessible ramp, seating, and shelter with lighting is recommended for this stop. Based on ridership, a bike rack and trash receptacle is also recommended. This stop is also an example of a potential private-public partnership between the transit service and the property owner.

- Work with property owner for ADA improvements
- Consider crosswalk for improved connectivity
- Install amenities, such as ramps, shelter, and seating

Estimated Cost :
(Materials Only)

\$11,150

HIGHLAND VILLAGE

2

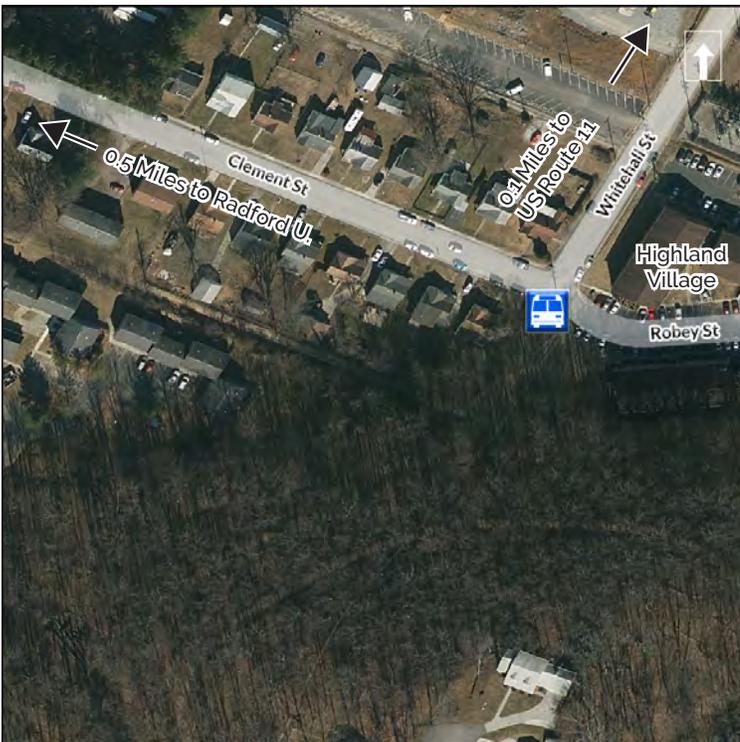


CONTEXT

This stop (RT Stop # 124) services the Highland Village Apartment complex and the surrounding area. The stop has poor visibility, is on a slope, and has few places for users to stand. A fire hydrant is located at the stop. A sign is posted, but visibly impeded by overgrown brush.

SCORE

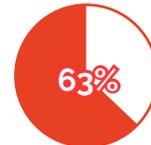
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



TRANSIT USE



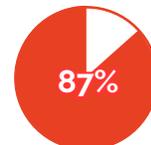
SERVICE TYPE AND LOCATION



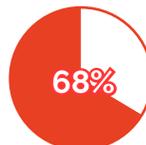
AMENITIES



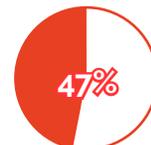
CONNECTIVITY/ ACCESSIBILITY



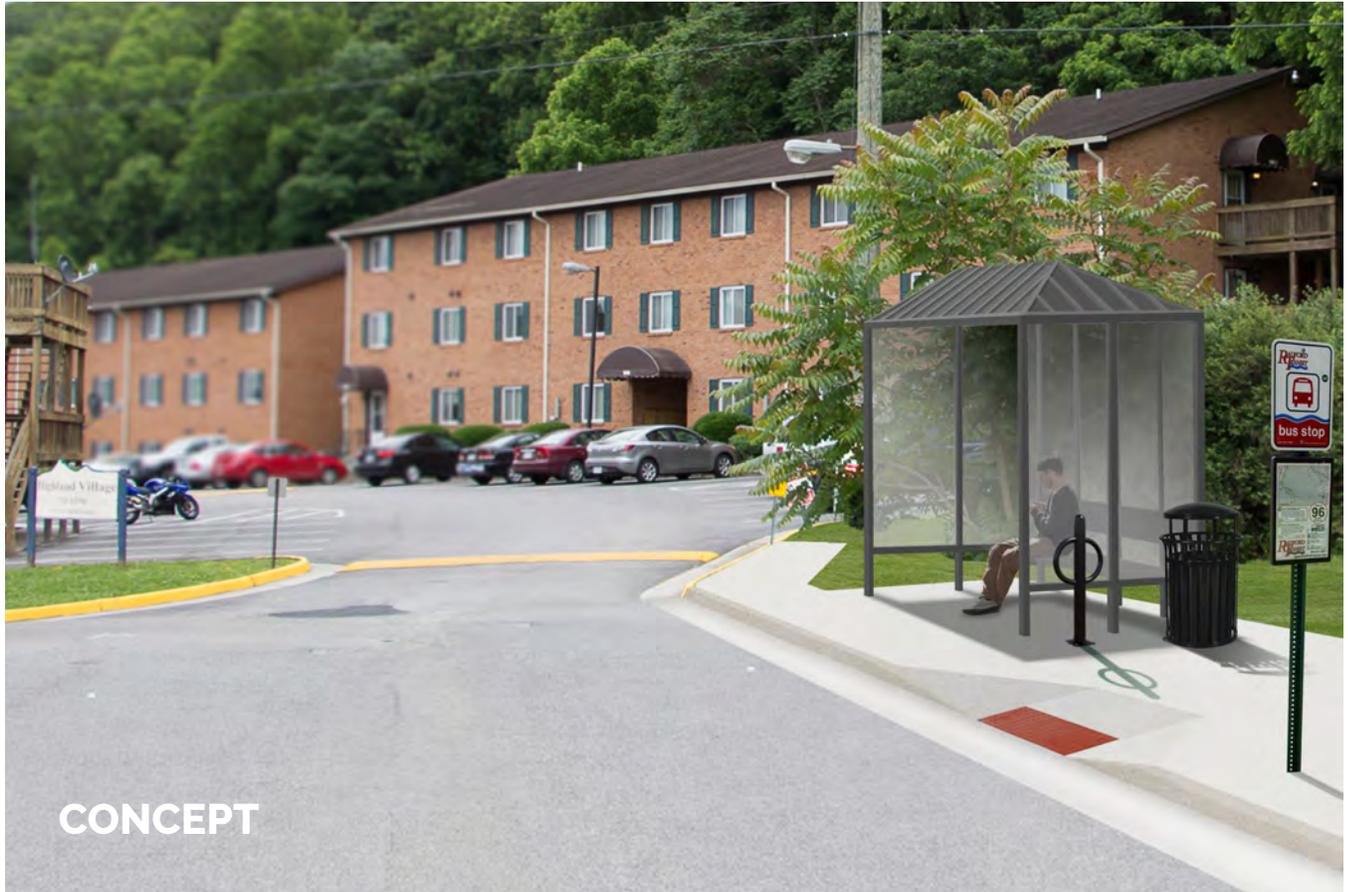
SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

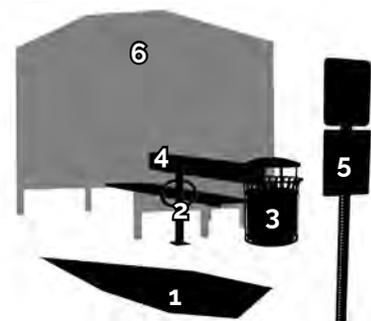


HIGHLAND VILLAGE



CONCEPT

AMENITIES



1. ADA COMPLIANT RAMP
2. BIKE RACKS
3. TRASH RECEPTACLE
4. SEATING
5. MAP AND SCHEDULE
6. SHELTER WITH LIGHTING

RECOMMENDATIONS

A level pad, ADA compliant ramp, shelter with lighting, and seating is recommended. Due to ridership, a bike rack and trash receptacle are also recommended. Grading may be necessary. To ensure visibility, parking restrictions will need to be enforced in front of the stop.

- Enforced parking restrictions in front of stop
- Create connection to Highland Village Apartments
- Install amenities, such as ramps, shelter, and seating

Estimated Cost:
(Materials Only)

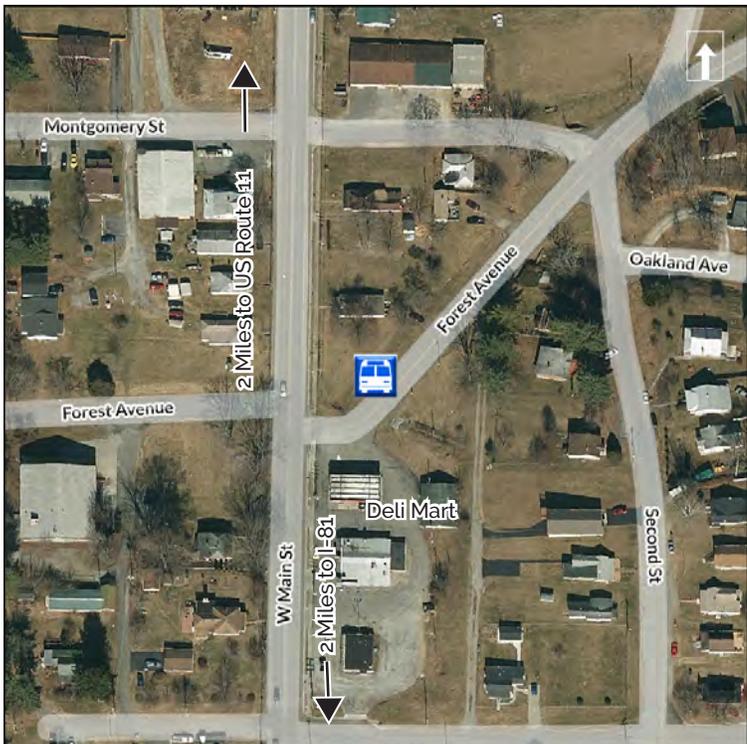
\$12,550

DELI MART WEST



CONTEXT

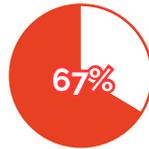
Deli Mart West (RT Stop #38) is a basic stop, and includes a sign, a map, and a schedule. Lighting is provided from across the street. Users stand on the side of the road in grass, with a concrete pad nearby. Overall slope is cambered away from the road.



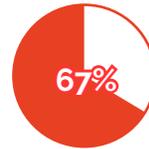
SCORE

The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.

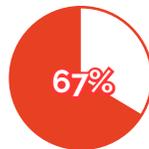
TRANSIT USE



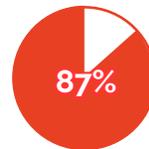
SERVICE TYPE AND LOCATION



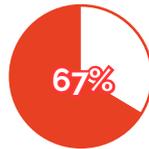
AMENITIES



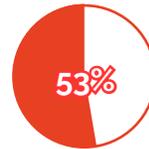
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



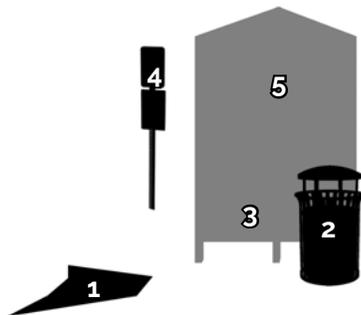
DETAILS/ CONSTRUCTABILITY



DELI MART WEST



AMENITIES



1. ADA COMPLIANT RAMP
2. TRASH RECEPTACLE
3. SEATING
4. MAP AND SCHEDULE
5. SHELTER WITH LIGHTING

RECOMMENDATIONS

This stop would benefit from a level pad, ADA compliant ramp, a shelter with lighting, and a bench. Additionally, a trash receptacle would also be beneficial.

- Consider crosswalk for improved connectivity
- Install amenities, such as ramps, shelter, and seating

Estimated Cost:
(Materials Only)

\$10,000

LOT FF

4

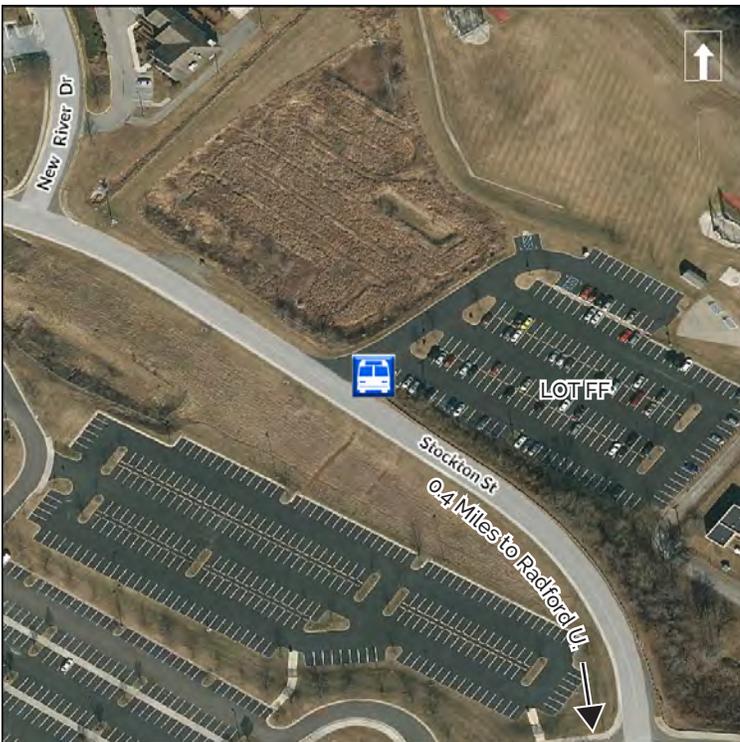


CONTEXT

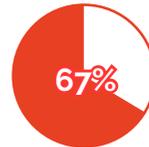
This stop (RT Stop #18) currently features few amenities, but does have a sign and an emergency phone nearby. It is located on a curb, with a sharp slope into a parking lot and brush, leaving few places to stand. A fire hydrant is located at the stop. Lighting is provided by powerline across the street.

SCORE

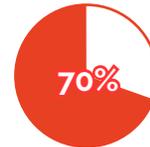
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



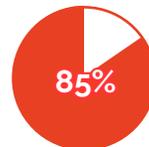
TRANSIT USE



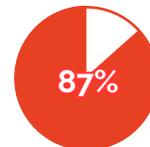
SERVICE TYPE AND LOCATION



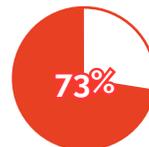
AMENITIES



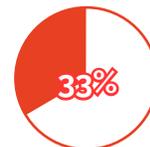
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



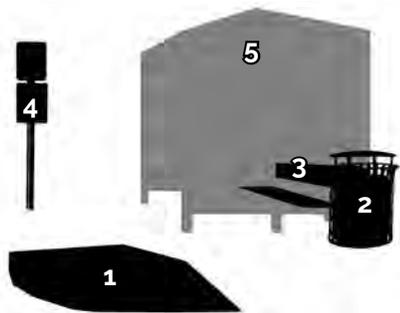
DETAILS/ CONSTRUCTABILITY



LOT FF



AMENITIES



1. ADA COMPLIANT RAMP
2. TRASH RECEPTACLE
3. SEATING
4. MAP AND SCHEDULE
5. SHELTER WITH LIGHTING

RECOMMENDATIONS

Due to pedestrian conflicts with vehicles, steep inclines, and construction limitations, the current bus stop is recommended to be moved north of the entrance into Lot FF. This will also allow for a future crosswalk to the constructed sidewalk on the other side of Stockton Street.

- Install shelter, with seating and lighting
- Construct ADA accessible ramp
- Install map and schedule, and trash receptacle

Estimated Cost:
(Materials Only)

\$7,500

BURLINGTON LOT

5



CONTEXT

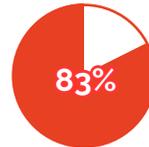
This stop (RT Stop #107) has many amenities, including a large shelter, vending machines, lighting, trash receptacles, and benches. The area is level, and access to the stop is largely unhindered. Line-of-sight is good facing east, but is blocked by the shelter wall to the west.

SCORE

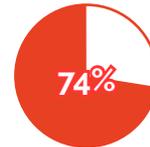
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



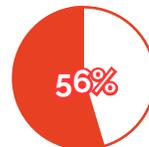
TRANSIT USE



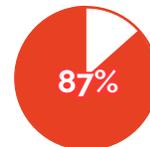
SERVICE TYPE AND LOCATION



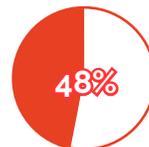
AMENITIES



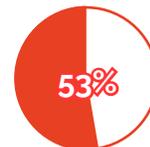
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

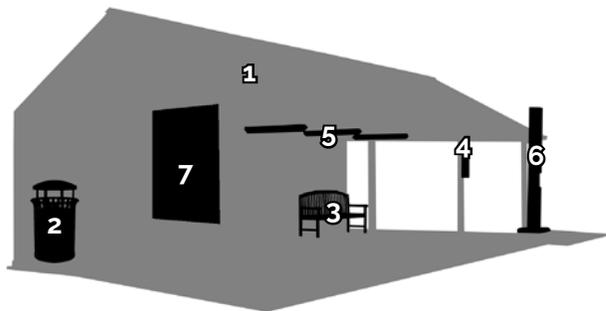


BURLINGTON LOT



CONCEPT

AMENITIES



1. LARGE SHELTER
2. TRASH RECEPTACLE
3. SEATING
4. MAP WITH SCHEDULE
5. LIGHTING
6. EMERGENCY PHONE
7. WINDOW

RECOMMENDATIONS

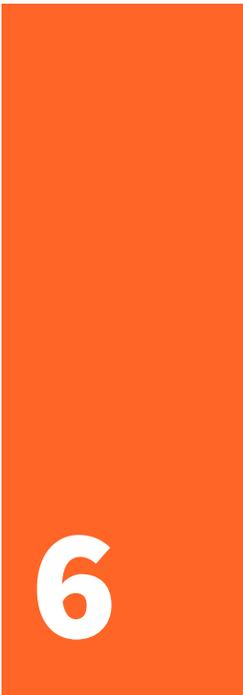
This stop features amenities already needed for a stop with high ridership. Due to the level access to the stop, no ADA ramp is required. A window on the shelter is recommended on its western wall for visibility. A larger map and schedule is recommended, along with adjusting the sign 90 degrees to face drivers.

- Create window in shelter for increased visibility
- Add map and schedule
- Adjust sign to face oncoming driver

Estimated Cost:
Materials Only

\$3,700

GREENHILL CLUBHOUSE

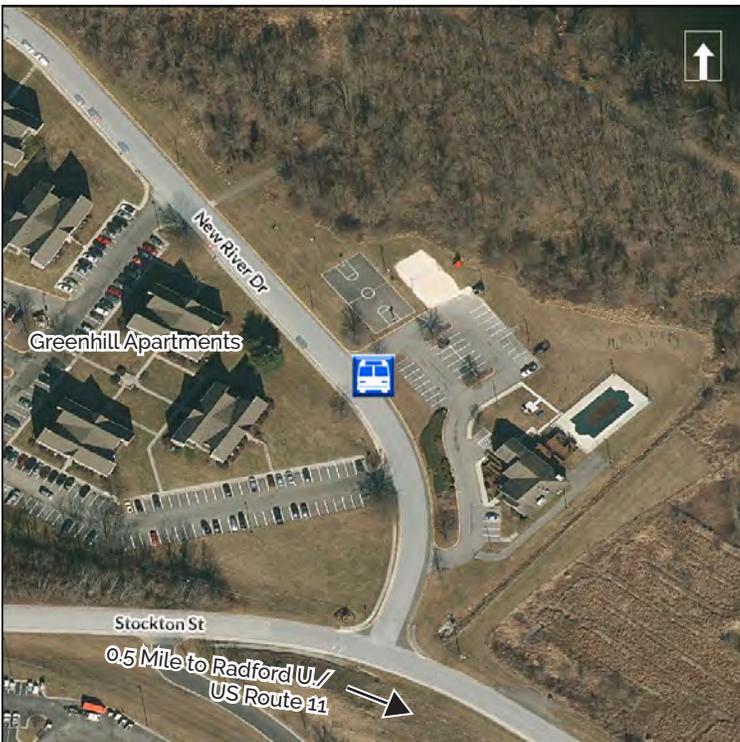


CONTEXT

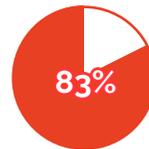
The Greenhill Clubhouse stop (RT Stop #19) is a basic stop, and is across New River Drive from the Greenhill Apartment complex. The stop is a drop-off location, and has level grass as its waiting area. Lighting is provided by the power line.

SCORE

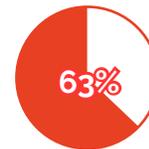
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



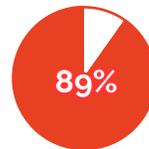
TRANSIT USE



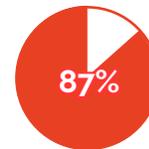
SERVICE TYPE AND LOCATION



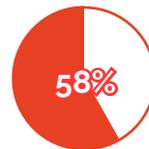
AMENITIES



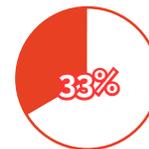
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

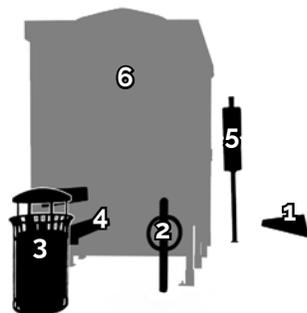


GREENHILL CLUBHOUSE



CONCEPT

AMENITIES



1. ADA COMPLIANT RAMP
2. BIKE RACKS
3. TRASH RECEPTACLE
4. SEATING
5. MAP WITH SCHEDULE
6. SHELTER WITH LIGHTING

RECOMMENDATIONS

A shelter for this stop should be build across from this stop, with a crosswalk connecting both stops. This new shelter should be accompanied by a level pad, seating, a map with schedule, and lighting. Also included should be a trash receptacle and bike rack.

- Connect stop to shelter across street with crosswalk
- Install amenities, such as ramp, shelter, and seating
- Possible consolidation of RT Stop #02

Estimated Cost:
(Materials Only)

\$10,000

BURLINGTON AND FAIRFAX

7

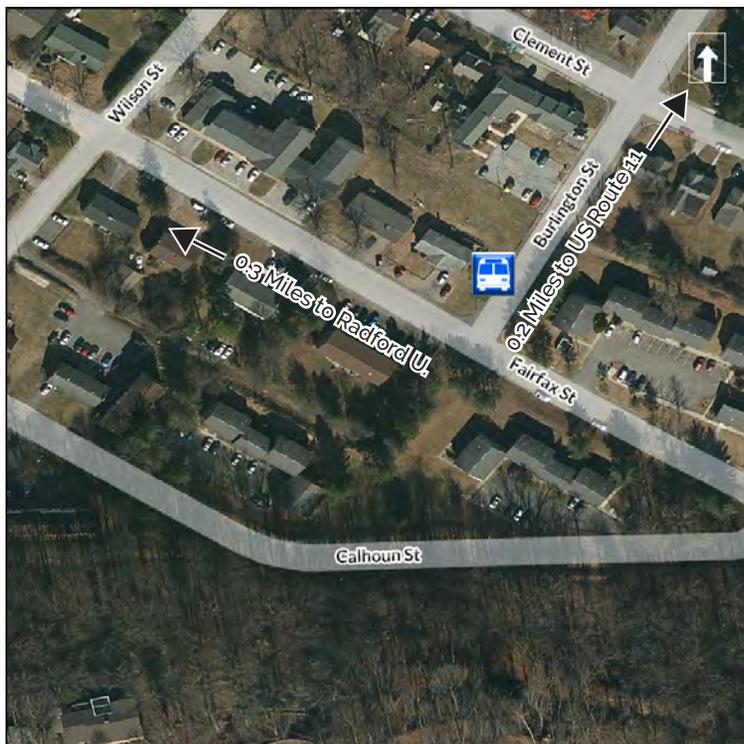


CONTEXT

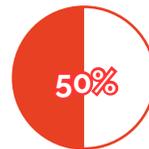
This stop (RT Stop #109) is located southeast of Radford University. It is a basic stop, with users standing on a grass slope away from the road. Users use the road to access the stop, and there is little to no lighting.

SCORE

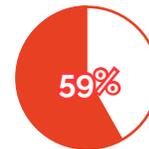
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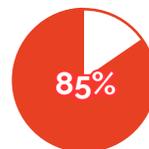
TRANSIT USE



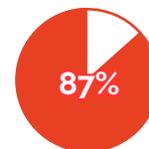
SERVICE TYPE AND LOCATION



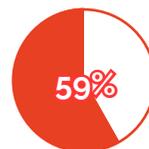
AMENITIES



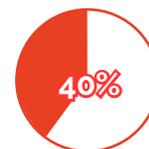
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

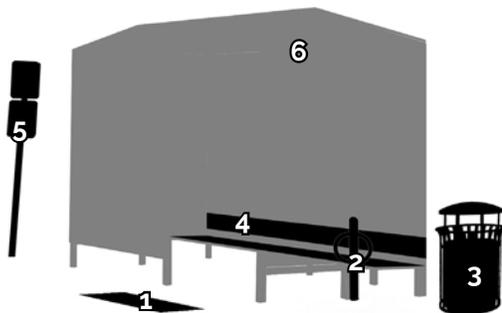


BURLINGTON AND FAIRFAX



CONCEPT

AMENITIES



1. DETECTABLE WARNING DEVICE
2. BIKE RACK
3. TRASH RECEPTACLE
4. SEATING
5. MAP WITH SCHEDULE
6. SHELTER WITH LIGHTING

RECOMMENDATIONS

Basic amenities for this stop would be a level pad, seating, a map with schedule, and a shelter with lighting. Because the stop is level, a detectable warning device is recommended. Due to the type of user and ridership, a bike rack and trash receptacle are recommended.

- Create level pad for stop
- Connect to alternative transportation network
- Install amenities, such as shelter and seating

Estimated Cost:
(Materials Only) **\$12,600**

BURLINGTON AND CLEMENT

8

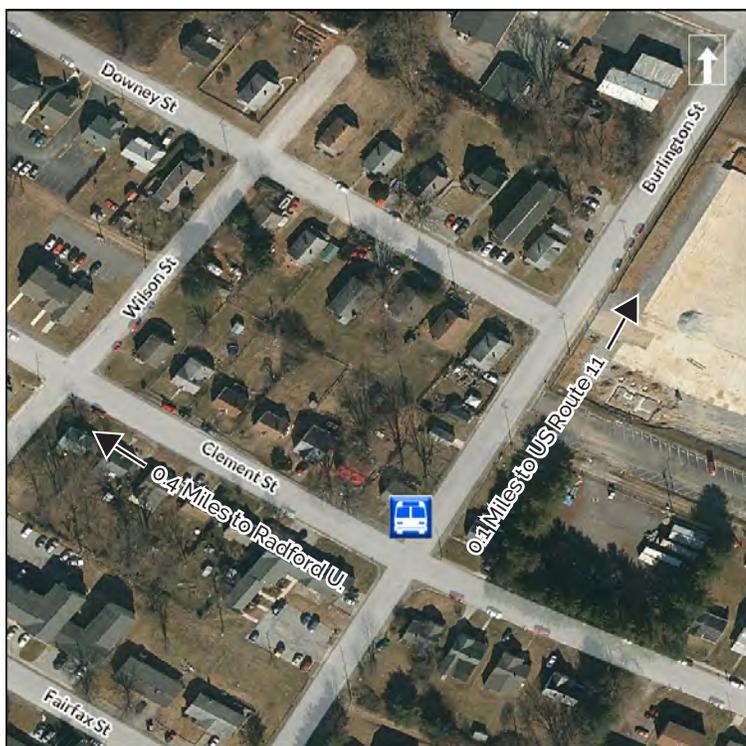


CONTEXT

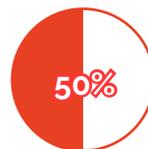
This stop (RT Stop #108) is southeast of Radford University. It is a basic stop, with users standing on grass or on road. Users use the road to access the stop, and light is provided by a streetlight from a powerline across the street.

SCORE

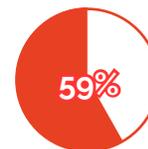
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see Appendix.



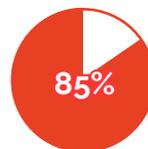
TRANSIT USE



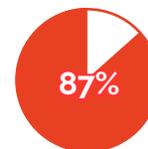
SERVICE TYPE AND LOCATION



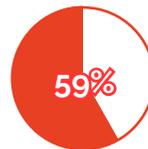
AMENITIES



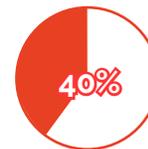
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

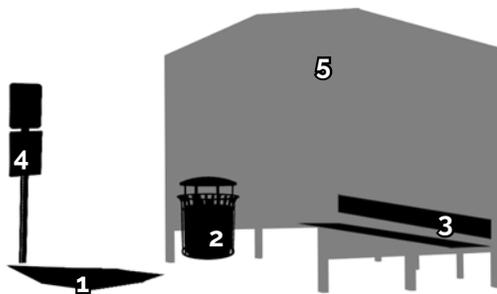


BURLINGTON AND CLEMENT



CONCEPT

AMENITIES



1. ADA COMPLIANT RAMP
2. TRASH RECEPTACLE
3. SEATING
4. MAP AND SCHEDULE
5. SHELTER WITH LIGHTING

RECOMMENDATIONS

Due to its proximity to surrounding property, it is recommended to relocate this stop on the southwest side of Clement Street. Basic amenities for this stop would be a level pad, seating, a map with schedule, and a shelter with lighting. A trash receptacle is also recommended

- Relocate stop southwest of Clement Street
- Connect to alternative transportation network
- Install amenities, such as ramp, shelter, and seating

Estimated Cost:
(Materials Only) **\$10,000**

GREENHILL TIME CHECK

9

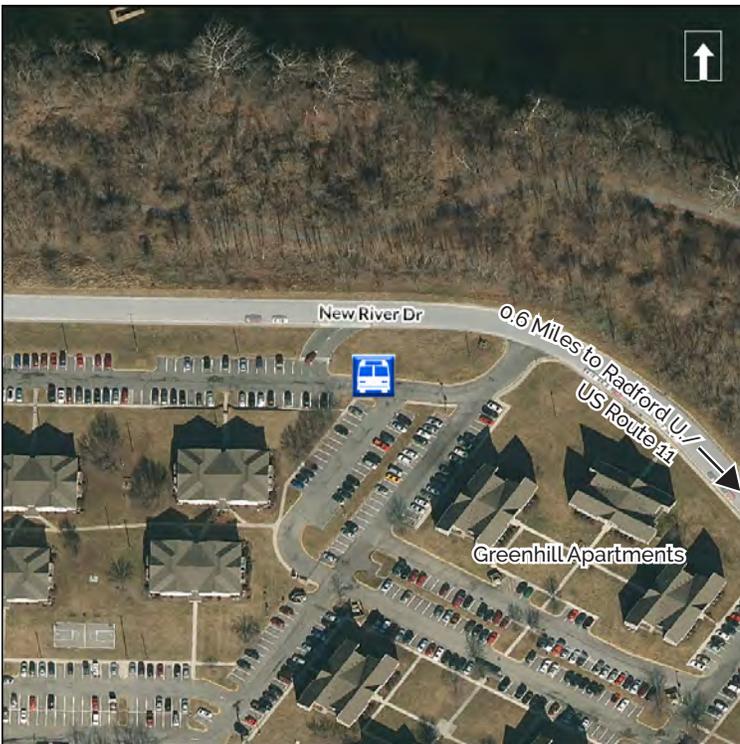


CONTEXT

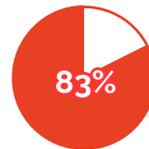
This stop (RT Stop #1) is located in the parking lot of Greenhill Apartment complex, north of Radford University. It has many amenities, such as a shelter, lighting, a trash receptacle, seating, a sign, and a vending machine. The stop is maintained by the owner.

SCORE

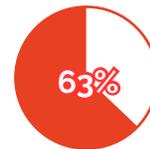
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see Appendix.



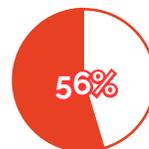
TRANSIT USE



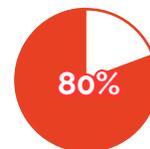
SERVICE TYPE AND LOCATION



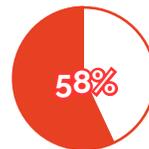
AMENITIES



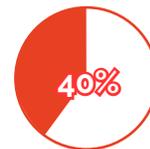
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

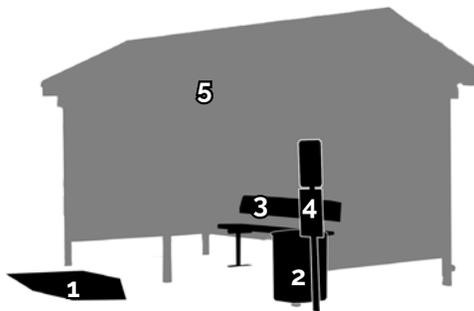


GREENHILL TIME CHECK



CONCEPT

AMENITIES



1. ADA COMPLIANT RAMP
2. TRASH RECEPTACLE
3. SEATING
4. MAP WITH SCHEDULE
5. SHELTER LIGHTING

RECOMMENDATIONS

Most amenities for this stop have been provided for by the property owner. It is recommended Radford Transit work with the property owner to install an ADA compliant ramp, and adjust the stop sign to face oncoming traffic. A crosswalk connecting the stop to the apartment complex is also recommended.

- Work with property owner for ADA improvements
- Consider crosswalk for improved connectivity
- Install ramp and adjust sign

Estimated Cost:
Materials Only

\$2,000

THE HUB

10

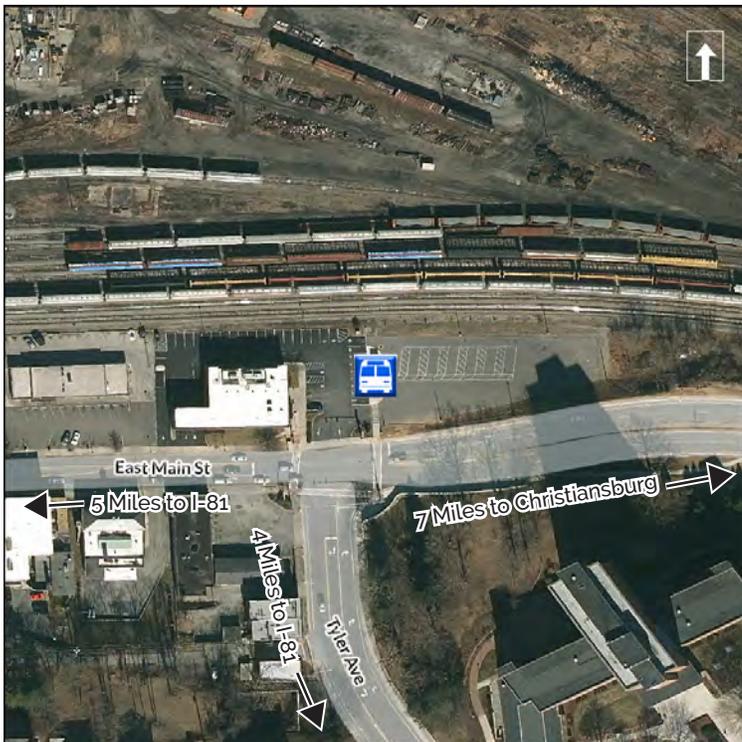


CONTEXT

The Hub (RT Stop #11) is located off of East Main Street and Tyler Avenue, near Radford University. This stop is a staging point for all other routes on the Radford Transit system. The stop features a large shelter, benches, elevated landing, trash receptacle, some external lighting, and an emergency phone.

SCORE

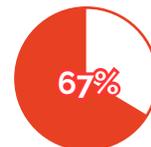
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



TRANSIT USE



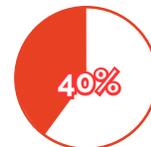
SERVICE TYPE AND LOCATION



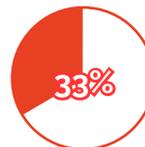
AMENITIES



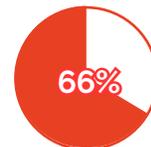
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/ CONSTRUCTABILITY

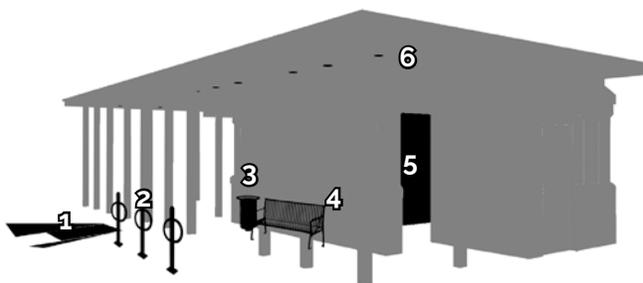


THE HUB



CONCEPT

AMENITIES



1. ADA COMPLIANT RAMP
2. BIKE RACKS
3. TRASH RECEPTACLE
4. SEATING
5. ADA ACCESSIBLE RESTROOM
6. SHELTER LIGHTING

RECOMMENDATIONS

Because of the enhanced nature of The Hub, more substantial improvements are recommended. These improvements set this stop apart as an example of safety and accessibility within the transit system, and elevates the presence of transit within the community.

- Expand covered shelter, with live route updating
- Install ADA accessible restroom facility
- Integrate energy-efficient lighting and recycling

Estimated Cost:
(Materials Only) **\$200,000**

DAVIS AND WILSON

11

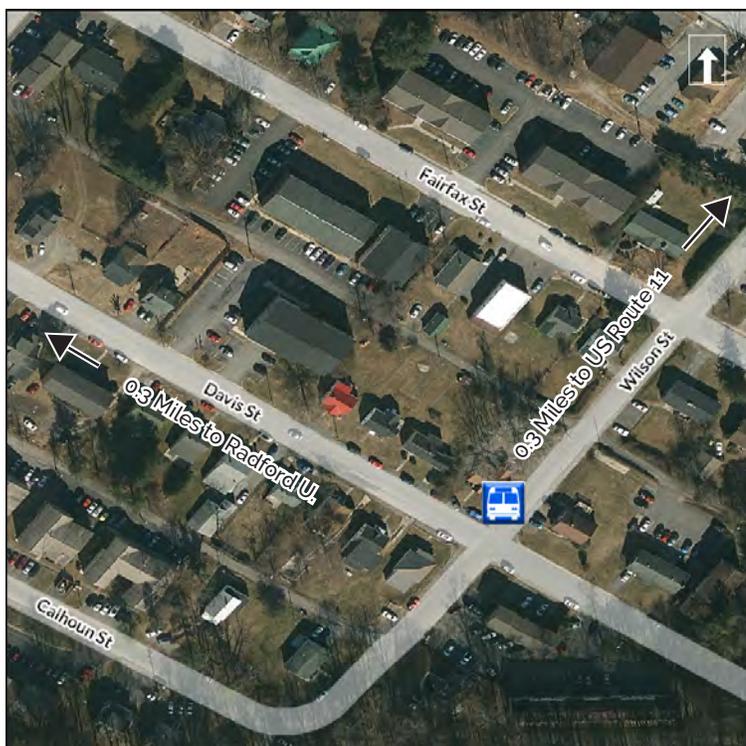


CONTEXT

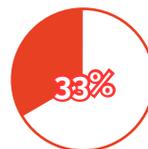
This basic stop is located southeast of Radford University. Users wait on a flat, grass easement, with visibility sometimes hampered by parked cars. Lighting is provided by the powerline pole the sign is attached to.

SCORE

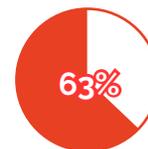
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see Appendix.



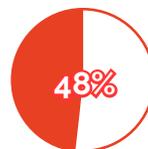
TRANSIT USE



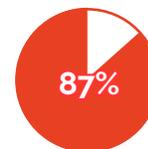
SERVICE TYPE AND LOCATION



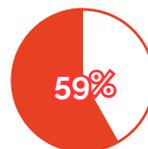
AMENITIES



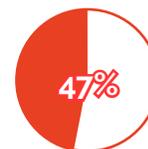
CONNECTIVITY/ACCESSIBILITY



SAFETY/ADA COMPLIANCE



DETAILS/CONSTRUCTABILITY

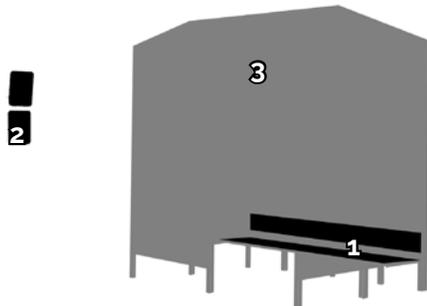


DAVIS AND WILSON



CONCEPT

AMENITIES



1. SEATING
2. MAP AND SCHEDULE
3. SHELTER WITH LIGHTING

RECOMMENDATIONS

This stop would benefit from basic amenities, such as a level pad, map and schedule, seating, and shelter with lighting. It is also encouraged to connect this stop to an alternative transportation network.

- Install amenities, such as shelter and seating
- Connect stop to alternative transportation network

Estimated Cost:

Materials Only

\$6,550

MAIN AND PRESTON

12

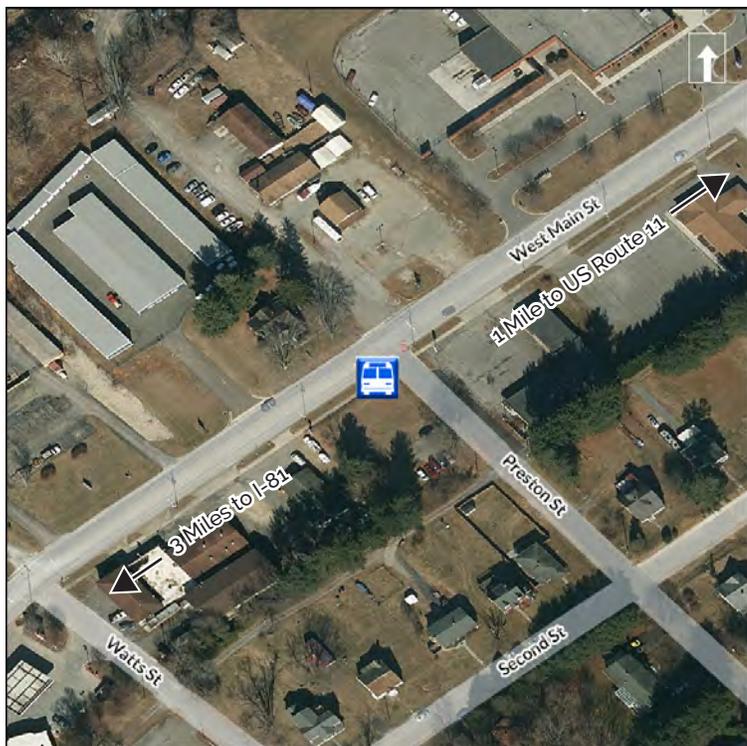


CONTEXT

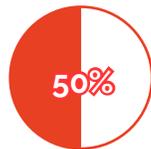
This stop (RT Stop #42) is located on West Main Street, near Radford Welfare and Social Services. It is a basic stop, and connects to the local sidewalk network. The stop also is next to a grass slope where users wait.

SCORE

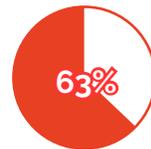
The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.



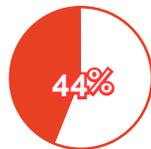
TRANSIT USE



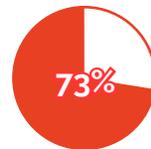
SERVICE TYPE AND LOCATION



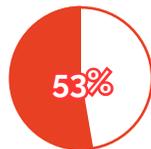
AMENITIES



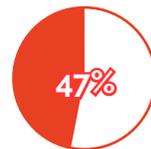
CONNECTIVITY/ ACCESSIBILITY



SAFETY/ADA COMPLIANCE



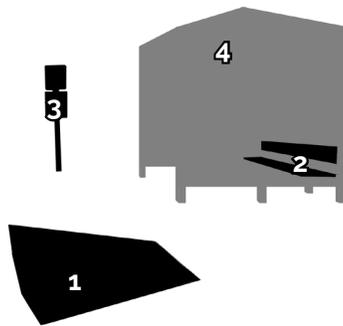
DETAILS/ CONSTRUCTABILITY



MAIN AND PRESTON



AMENITIES



1. ADA COMPLIANT RAMP
2. SEATING
3. MAP AND SCHEDULE
4. SHELTER WITH LIGHTING

RECOMMENDATIONS

An ADA compliant ramp, map and schedule, seating, and shelter with lighting is recommended for this stop. Because of limited space between the road right-of-way and private property, it is recommended a sidewalk be rerouted behind the shelter. A retaining wall may be needed to retain grass slope.

- Install amenities, such as ramp, shelter, and seating
- Reroute sidewalk behind shelter
- Consider retaining wall next to rerouted sidewalk

Estimated Cost:
(Materials Only)

\$11,300

FUNDING SOURCES AND NEXT STEPS

The ultimate outcome of the Bus Stop Safety and Accessibility Study is to move its recommended improvements from planning to design, and construction. To this end, Radford Transit must identify funding sources and establish a timeline for implementation. Funding for bus stop improvements, pedestrian facilities, and bikeways range from local partnerships to federal grants. Existing and potential funding sources are described in detail below.

Federal and State

Transportation Alternatives Set-Aside Program

Working with RT, a working committee was formed to assist with the study process. The purpose of this committee was to bring stakeholders together to discuss and review the progress of the study. Examples of the work the committee includes selecting bus stop prioritization criteria, reviewing bus stops within the transit system, and checking the results of the final analysis. Members of this committee were selected from Radford Transit staff and drivers, and representatives from the City of Radford, Radford University, and the New River Valley Metropolitan Planning Organization.

FTA Urbanized Area Formula Grants (Section 5307)

The Urbanized Area Formula Grants program provides funds to transit agencies for transit capital projects that include improving bicycle routes to transit, bike racks, and bus shelters. MAP-21 dictates that at least 1 percent of allocated Section 5307 funds must be used for Associated Transit Improvements, which include bus shelters, pedestrian facilities, and enhanced access for mobility-impaired transit riders.

DRPT State Aid Grant Programs- Capital Assistance Program

The Virginia Department of Rail and Public Transportation administers the FTA Section 5307 program described above, and also offers a variety of state grants for transit systems, including the Capital Assistance program. The goal of the Capital Assistance program is to support public transportation capital projects necessary to maintain, improve or expand public transportation services. Eligible capital expenses include, but are not limited to, items such as the purchase or lease of new vehicles and equipment, the rehabilitation of vehicles and equipment, the improvement or construction of transit maintenance and operations facilities, the purchase and installation of bus stop signs and shelters, the cost of debt service for major capital projects, real estate/right-of-way acquisition and safety and security equipment. Most projects eligible for capital assistance under FTA guidelines will be eligible for state aid capital assistance.

More information on FTA and DRPT grant programs at www.olga.drpt.virginia.gov.



Federal Transit Administration

FUNDING SOURCES AND NEXT STEPS (CONTINUED)



Local

Local Contributions

In FY2016 and FY2017, the City of Radford contributed \$129,358 to support Radford Transit. The proposed funding for FY2018 is \$156,558.

In FY 2017, Radford University contributed \$613,737 to support Radford Transit, an increase from the FY2016 contribution of \$505,943. The proposed funding for FY2017 is \$601,040. These contributions cover operating costs of providing free service to Radford University students, but also include nearly \$70,000 for capital projects.

Radford Transit also receives operations and capital funding from the FTA Section 5307 and DRPT programs described above, totaling over \$1 million in 2016.

Capital Improvement Program

The City of Radford's FY2017 budget for the transit fund included an estimated \$120,965 for bus shelters. Other future capital improvement projects that could support pedestrian safety include:

- Sidewalk- East Main Street- \$54,000
- Sidewalk- Tyler Avenue- \$72,000
- Street/Bikeway connection (westward expansion) - \$4.9 million
- Park Road improvement- \$500,000

Public-Private Partnerships

Many of Radford Transit's bus stops are located near or on private property. Radford Transit can establish partnerships with property owners to implement improvements that would both benefit the property owner and improve safety and accessibility at the bus stop. Additional information may be found in the Blacksburg Transit Route Analysis Partnership Plan dated September 2014. The document includes several examples of partnership models, including university-supported systems.

Next Steps

The Radford Transit Bus Stop Safety and Accessibility Study has initiated a working group consisting of key local partners and developed a prioritization tool tailored specifically for the RT service area. RT and local partners are encouraged to work collaboratively to pursue funding from a variety of public and private sources.

RT has the opportunity to continue collecting regular input from its operators and stakeholders. This study recommends an update of the tool at least every five years, or during the regular Transit Development Plan update.





BUS STOP SAFETY AND ACCESSIBILITY

A STUDY FOR PULASKI AREA TRANSIT

BY THE NEW RIVER VALLEY METROPOLITAN PLANNING ORGANIZATION
AND THE NEW RIVER VALLEY REGIONAL COMMISSION



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EXECUTIVE SUMMARY

Purpose

The purpose of the Pulaski Area Transit Bus Stop Safety and Accessibility Study is to develop a bus stop capital improvement prioritization tool. The prioritization tool evaluates the existing conditions of bus stops served by Pulaski Area Transit (PAT). Recommendations are included as a component of the 2018 study for locations with the most pressing needs.

A working group representing from the Town, County, PAT, and the New River Valley Metropolitan Planning Organization utilized the framework of the 2015 New River Valley Bus Stop Safety and Accessibility Study to guide the planning process.

Study Outcomes

Forty-three bus stops were evaluated against more than thirty-five criteria during the bus stop assessment process. Once the prioritization of stops was verified by the working committee, the New River Valley Regional Commission developed conceptual planning visualizations and cost estimates for the highest priority locations.

Accessibility to and from the bus stop, existing conditions, and ridership are the leading prioritization factors for PAT in 2018. As a result, high priority stops are found on a combination of public and private properties, and are listed below.

High-Priority Stops

1. Meadow View Apartments
2. Washington Square Apartments
3. Social Services
4. Community Services
5. Dollar Tree
6. Pulaski hospital
7. Food Lion
8. Food City
9. Pulaski Village
10. Martin's Pharmacy

Each high priority bus stop includes an action plan featuring a location description, overall scoring details, image of existing site, written recommendations, conceptual plan rendering, and a cost estimate. Conceptual plans are intended for planning purposes only and additional professional services may be required prior to implementation. An example for the Meadow View Apartments before/after is shown below.

Pulaski Area Transit staff can utilize the prioritization tool to monitor and evaluate priority bus stop needs on an as-needed basis. Furthermore, the tool is intended to be updated for use in future studies and to develop system-wide recommendations. Stops ranking higher within the tool potentially yield a higher return on public and private investment.

System-wide recommendations were not developed as a component of this study; however, could include a combination of design and policy improvements. Design components might include providing a level pick-up/drop-off area and improving visibility for passengers at each location. A policy recommendation might involve moving away from an on-demand service style to a more formalized deviated-fixed route service.

Suggested next steps for PAT and local partners include working collaboratively to pursue funding from a variety of public and private sources. PAT also has the opportunity to continue collecting regular input from its operators and stakeholders to keep the prioritization tool up to date. This study recommends an update of the tool at least every five years, or during the regular Transit Development Plan update.





TRANSIT SERVICE

Pulaski Area Transit connects its riders to the Town of Pulaski, Pulaski County, and the New River Valley.

Background

Pulaski Area Transit (PAT) started on October 1, 2005, with the mission to provide safe, reliable and efficient transportation service to the residents of both the Town of Pulaski and Pulaski County. It is governed by the New River Valley Senior Services Board of Directors and the PAT Advisory Council, and is funded by the Federal Transportation Administration (FTA), the Virginia Department of Rail and Public Transportation (VDRPT), and local match by both the Town and County of Pulaski.

Bus Service

PAT operates nine 12-passenger buses and two 5-passenger vehicles through both a demand response service and a deviated fixed route service. The demand response route serves the Town of Pulaski, where riders can call in to be picked up at a designated location within the Town. The demand response route serves

riders traveling between the Town of Pulaski and the Fairlawn community in Pulaski County, and serves riders along this route with a 24-hour notice, and delivers them directly to their destination. Stops along the deviated fixed route include Dublin, the New River Community College, and Fairlawn as well as four daily connecting trips to the New River Valley Mall on the New River Express. Operating hours are Monday through Friday from 7 am to 5 pm and Saturdays 9 am to 3 pm. Service is provided for all residents, but priority is given to those with disabilities. Figure 2 illustrates the bus service area.

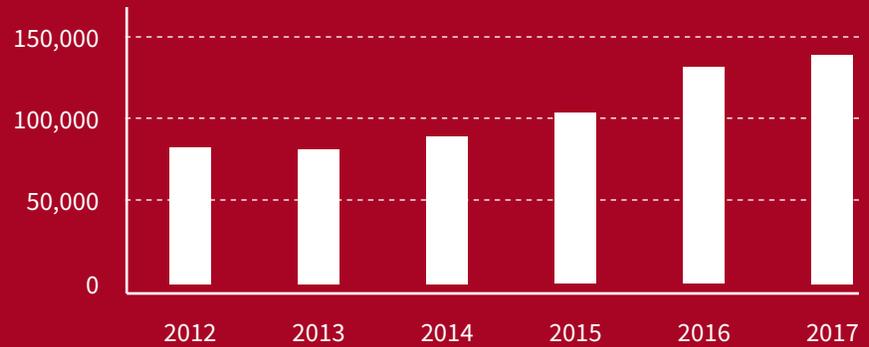
Fares

Fares for PAT trips range from \$ 0.75 to \$ 2.00, depending on the trip. There are no discounts for seniors or the disabled. However, Social Services and Community Services provide bus passes to eligible riders. Children age three and under ride free.

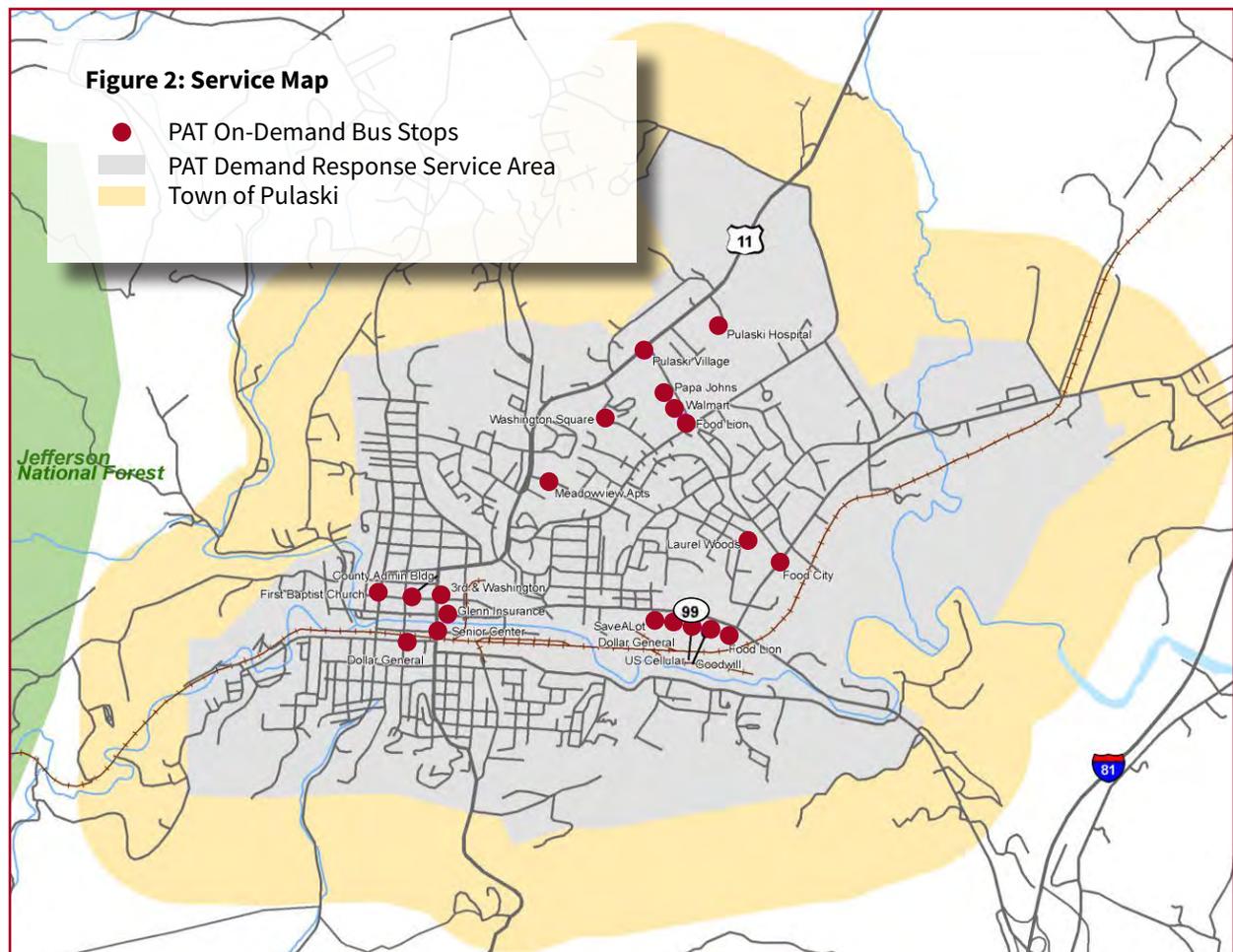
Ridership

Since its founding, PAT ridership continues to increase each year of operation. Due to the nature of the demand response service, no one destination is particularly popular.

Figure 1: Ridership



Source: PAT



Source: 2011 PAT Transit Development Plan



STAKEHOLDER OUTREACH

This study was guided through a working group, meetings, and an on-board rider survey.

Working Group

A project Working Group was formed to assist with the study process. The purpose of the Group was to select bus stop prioritization criteria, review bus stops within the transit system, and check the results of the final analysis. Members included Pulaski Area Transit staff and drivers, and representatives from the Town of Pulaski, Pulaski County, New River Valley Agency on Aging, New River Community College, and the New River Valley Metropolitan Planning Organization.

Work Sessions and Other Meetings

The Working Group met four times in 2017 at the New River Valley Agency on Aging offices in Pulaski, VA. In addition to these work sessions, this study was presented at both the New River Valley Metropolitan Planning Organization Technical Advisory Committee meeting, and the Roanoke and New River Valley Alternative Transportation Social in October 2017.



80%
of surveyed riders **feel safe**
and have **little difficulty**
accessing bus stops



Rider Survey

Pulaski Area Transit surveying took place Monday, December 4th from 11:30am to 1:00pm. The survey engaged riders of the transit service at multiple stops within the Town of Pulaski.

Overall, the majority of respondents indicated that they feel safe while using the bus stops serviced by Pulaski Area Transit. When asked if they had difficulty getting to

or from a bus stop, 80% stated that they did not have difficulties, while 20% said that they did or sometimes had difficulties. Finally, the last question asked about proposed bus stop improvements. Twelve people stated that improvements would encourage them to use transit more, while three people stated it would not, two people saying they did not know, and three indicating that it made no difference to them.





BUS STOP PRIORITIZATION

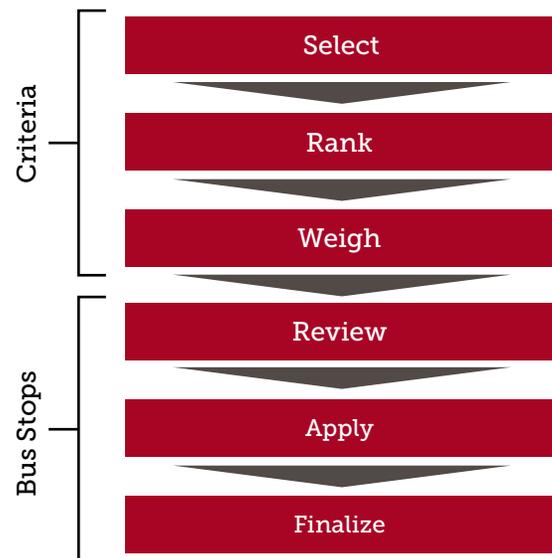
A prioritization exercise was used to identify bus stops with the greatest needs.

Process

In order to assist Pulaski Area Transit determine which bus stops have the greatest need for improvement, this study followed a prioritization process to select criteria and rank high-priority bus stops (see Figure 3). This process was developed to use both existing and collected data about the bus stops within the system. The process also relies on the input of the Working Group, work sessions, and the rider survey.

Select Criteria: Prioritization criteria was based on input from the Working Group, and a review of current standards, plans, and precedents (see Appendix A). From these reviews and input, the prioritization criteria expanded beyond ridership to include other items, such as connectivity and accessibility needs (see Figure 4, page 7).

Figure 3: Prioritization Process



Rank Criteria: Once criteria were agreed upon, the Working Group, bus drivers, and frequent users were polled using a Prioritization Exercise (see Figure 5) to both rank and assign points for each. The focus of this exercise was to assist stakeholders identify which criterion held greater value than others.

Weigh Criteria: With the Prioritization Exercises completed, an average of each of the criteria were compiled from the total, creating a weight for each of the criteria (see Figure 6, page 9). For a comprehensive overview of the of prioritization weighting, please see Appendix B.

- Figure 4: Prioritization Criteria**
- Transit Use
 - Service Type
 - Pick-up/ drop-off locations
 - Bus Stop Amenities
 - Connectivity
 - Accessibility
 - Safety
 - ADA compliance
 - Cost and Constructibility

Figure 5: Prioritization Exercise



PULASKI AREA TRANSIT

Bus Stop Safety and Accessibility Study

Prioritization Exercise

The New River Valley Metropolitan Planning Organization is conducting a study to identify safety and accessibility needs near Pulaski Area Transit (PAT) bus stops. Please help us rank and weight the categories we'll use to prioritize these bus stops.

- Pick the **top 5** categories that are most important to you. Assign these to the "Rank" column.
- Assign points to your **top 5** categories based on what you think is most important. Assign these points in the "Points" column. The points should total 100.

		Rank	Points	
Transit Use	Number of pick ups and drop offs at each stop.	[]	[]	<p>What is your role in the community? (Check all that apply)</p> <p><input type="radio"/> Frequent Rider</p> <p><input type="radio"/> Commuter</p> <p><input type="radio"/> Monthly Pass User</p> <p><input type="radio"/> Pulaski County Resident</p> <p><input type="radio"/> Pulaski Town Resident</p> <p><input type="radio"/> Dublin Town Resident</p> <p><input type="radio"/> Student</p> <p><input type="radio"/> NRCC Faculty/Staff</p> <p><input type="radio"/> Operator</p> <p><input type="radio"/> Other: _____</p> <p>Contact Information (Optional)</p> <p>Name: _____</p> <p>Email: _____</p>
Service Type	Using service for local and/or commuting purposes.	[]	[]	
Pick up/Drop off Locations	Place where users are picked up or dropped off by service.	[]	[]	
Bus Stop Amenities	Benches, shelters, bicycle parking, level platform, and lighting.	[]	[]	
Connectivity	Connections to other transportation options (transit, private car/cab, etc.)	[]	[]	
Accessibility	Near to sidewalks, crosswalks, bike facilities, multi-use paths, etc.	[]	[]	
Safety	Crash history, particularly those involving bicyclists or pedestrians.	[]	[]	
ADA Compliance	Barriers such as lack of curb ramps and steep slopes.	[]	[]	
Cost & Constructibility	Construction constraints (e.g. slopes, right-of-way, utilities, cost, etc.)	[]	[]	
Other	Please describe: []	[]	[]	
		Total	100	

Please use this space or the back of this sheet to provide additional comments.

This study of Pulaski Area Transit bus stops is funded through a partnership between the New River Valley Metropolitan Planning Organization and the New River Valley Regional Commission. For more information about this study, please contact the New River Valley Regional Commission at 540-639-9313.

Criteria Definition

Criteria

Additional Comments

Ranking and Point Assignment

User Information

Figure 6: Prioritization Criteria and Weighting

Criteria	Weight	Description
Transit Use	17.90%	Number of pick-ups and drop-offs at each stop.
Service Type	1.23%	Using service for local and/or commuting purposes.
Pick-up/Drop-off Locations	24.69%	Place where users are picked-up or dropped-off by service.
Bus Stop Amenities	14.20%	Benches, shelters, bicycle parking, trash receptacles, and lighting.
Connectivity	14.81%	Connections to other transportation options (transit, private, etc.)
Accessibility	12.96%	Near by sidewalks, crosswalks, bike facilities, multi-use paths, etc.
Safety	3.09%	Crash history (involving bicyclists, pedestrians, and vehicles).
ADA Compliance	8.02%	Barriers such as lack of curb ramps and steep slopes.
Cost and Constructability	1.85%	Construction constraints (slopes, right-of-way, utilities, cost, etc.)
Other	1.23%	Other recommendations

Bus Stop Review: The Working Group selected 43 stops within the transit system as either heavily used or having some form of importance. Each were visited, photographed, and documented. Data from this inventory was then compiled in a geographic information system (GIS).

Apply Criteria to Bus Stops: Once the information for each of the bus stops was obtained, the data was analyzed using the weighting criteria. The bus stops were then given a preliminary ranking, or score, based on this weighting.

Finalize Priority Bus Stops: The preliminary scores for the bus stops were reviewed by the Working Group for any qualitative observations that could not be obtained through the analysis. The top ten bus stops were finalized based on this review.

Adaptability

This prioritization process is adaptable for future iterations. Just as this process consistently circled back to check the results of the analysis against the expertise, experience, and values of the Working Group, the process can be adapted for future use.

Design Elements

Recommendations for the high priority stops focus on safety and accessibility improvements. These improvements are related to user comfort, safety, or access. The majority of the recommended improvements will include installing maps and routes, providing a level pad, complying with ADA access requirements, and ensuring adequate lighting at each stop. Additional recommendations may include seating, shelters, bike racks, or trash receptacles. Specifications of these recommended improvements are found in Appendix C.

Bus Stop Types

The American Public Transportation Association and the Transportation Research Board states that bus stops can be grouped into different categories. These bus stop categories are based on both the stop service environment and ridership. Ensuring each bus stop includes the appropriate design elements has a direct impact on user accessibility and level of use. See Appendix D for more information.

For this study, bus stops will be broken down into three types: basic, enhanced, and station/hub (see Table 1).



Table 1: Bus Stop Types and Elements

Service Environment	Design Strategy
Basic	ADA-compliant ramp or access, sign, lighting, contact info, level pad, route and schedule
Enhanced	Same as basic, with bench, shelter, bike racks, and trash receptacle
Station/hub	Same as enhanced, with detailed system map, real-time information

Source: APTA 2010; TCRP 2005



ACTION PLAN

The ten highest priority bus stops have the greatest need for safety and accessibility improvements.

High-Priority Stops Overview

Figure 6 lists the top ten high-priority stops selected through the prioritization exercise. Overall, the stops would benefit from connectivity and accessibility improvements. Key differences between the stops included different ridership levels, user demographics, and service type. Because of these differences, each stop has individual recommendations in the Action Plan.

Action Plan

The Action Plan was developed based on a detailed inventory of each stop. This Action Plan includes a map and location information, a listing and breakdown of the prioritization exercise score, a photo of current conditions, and a design concept based on suggested recommendations and improvements. Also included is a cost estimate for any associated construction materials. For more information on these costs, please see Appendix D.

Figure 7: High-Priority Stops

- 1 Meadow View Apartments**
- 2 Washington Square Apartments**
- 3 Social Services**
- 4 Community Services**
- 5 Dollar Tree**
- 6 Pulaski Hospital**
- 7 Food Lion**
- 8 Food City**
- 9 Pulaski Village**
- 10 Martin's Pharmacy**

Figure 8: High-Priority Stop Scores

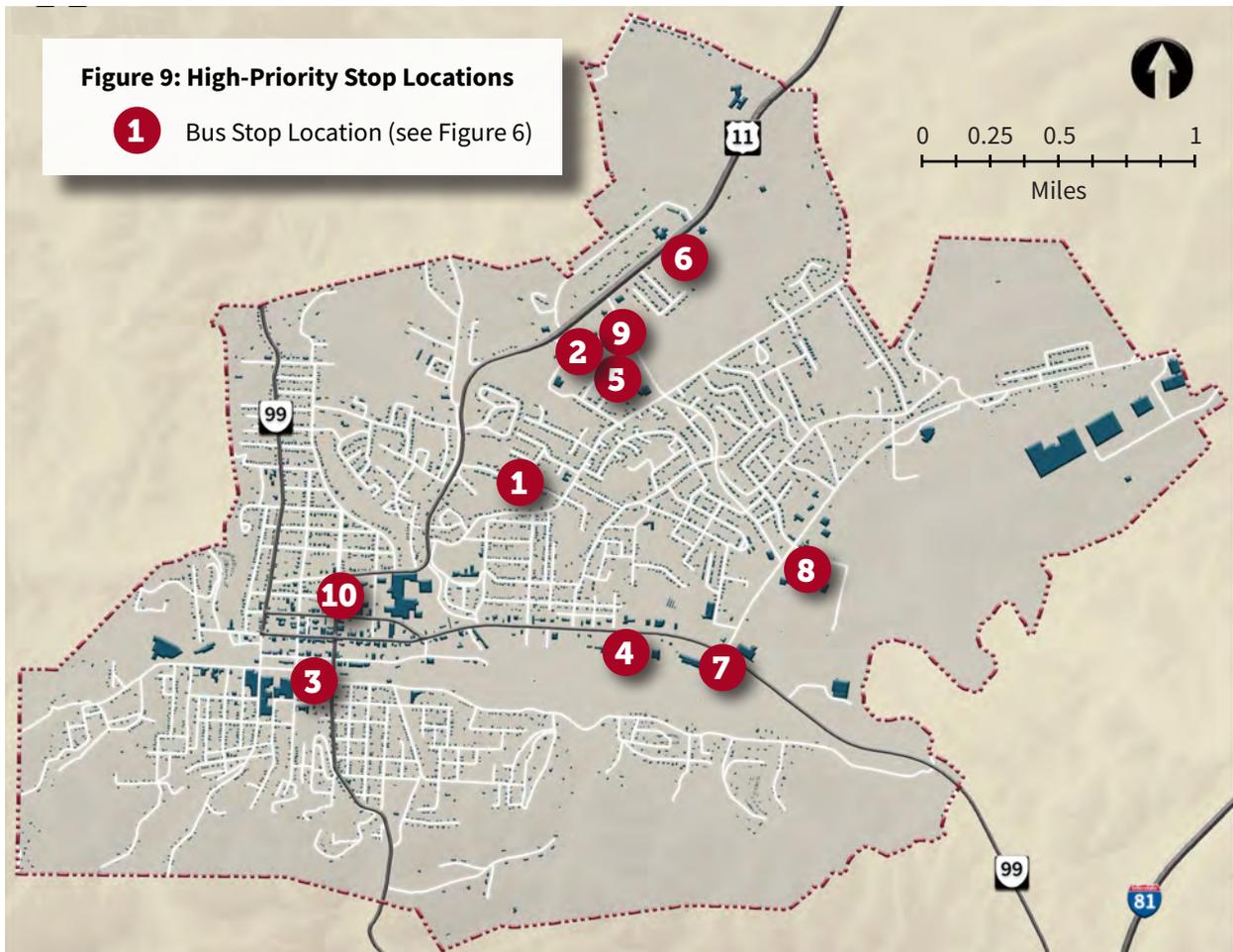
Score Range

While the top ten stops were ranked based on the highest scoring stop, each of the top ten scored within seven points of each other. This means all of the top ten are in similar need of improvement to ensure better safety and accessibility.



Figure 9: High-Priority Stop Locations

- 1** Bus Stop Location (see Figure 6)



Source: New River Valley Regional Commission



1

MEADOW VIEW APARTMENTS

Location

This is a basic stop located at the top of a cul-de-sac, on a hill above the Meadow View Apartments complex. Users wait in the grass surrounding the stop. There are no concrete paths to the stop, however there is a dirt path connecting the stop to the surrounding street network. A light from a nearby powerline provides light to the stop.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Overall Score



Transit Use



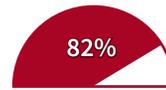
Service Type



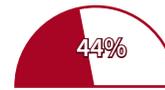
Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

Recommendations

PAT will need to work with the property owners to improve access to this stop, paved sidewalks, and potential connections to Bland Street. Suggested amenities for this stop include a shelter with lighting, level pad, ADA compliant ramp, bench, and a map with a schedule. Additional amenities could include a trash receptacle, and a bike rack.

- Work with property owner to improve connections
- Install ADA compliant ramp, shelter, and bench





2

WASHINGTON SQUARE APARTMENTS

Location

This basic stop is located at the Washington Square Apartment complex. While the sign for the stop is located at the Apartment's entrance, most users wait at, or around, a bench set in grass in the middle of the complex. There are small shade trees on either side of the waiting area, however, curb and gutter limits accessibility. Lighting for the stop is provided by surrounding lights in the parking lot.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Transit Use



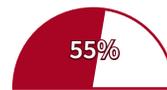
Service Type



Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

Recommendations

PAT will need to work with the property owners to improve access to this stop. Paved sidewalks connecting the apartment complex to the stops are also recommended. Amenities could include a shelter with lighting, level pad, ADA compliant ramp, bench, and a map with a schedule. Additional amenities could include a trash receptacle, and a bike rack.

- Work with property owner to improve connections
- Install ADA compliant ramp, shelter, and bench



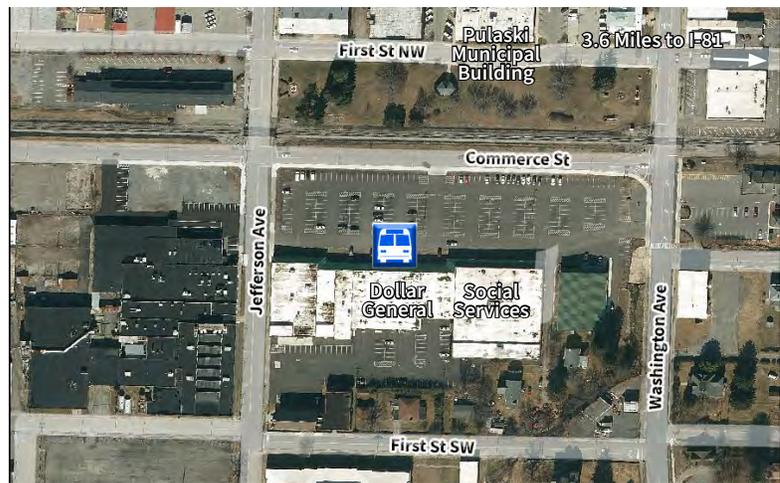


3

SOCIAL SERVICES/ DOLLAR GENERAL

Location

This basic stop is located in a shopping center in downtown Pulaski. Not only is the stop used for shopping services, but also for Pulaski County Social Services. This stop is situated such that users are picked up/dropped off in the parking lot of the shopping center. The Town Municipal Building and Dora trailhead are located immediately adjacent to the property.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Transit Use



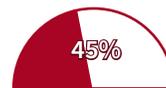
Service Type



Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

Recommendations

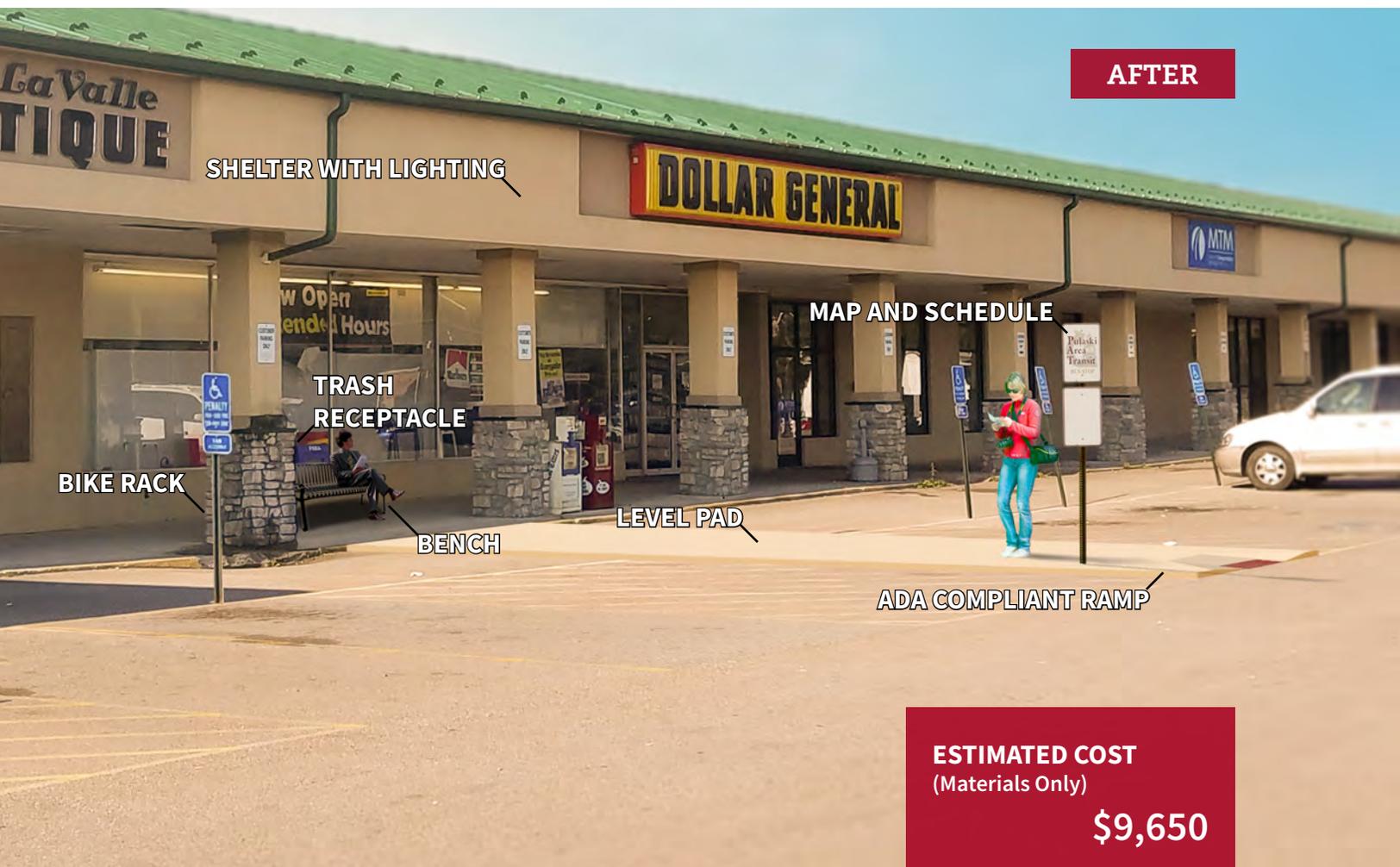
PAT will need to work with property owners to improve access to the stop through a paved sidewalk connecting the shopping center walkway to the stop. Amenities for this stop include the new paved walkway, an ADA compliant ramp, bench, and a map with a schedule. Additional amenities could include a trash receptacle, and a bike rack.

- Work with property owner to improve connections
- Install walkway, ADA compliant ramp, and bench

BEFORE



AFTER



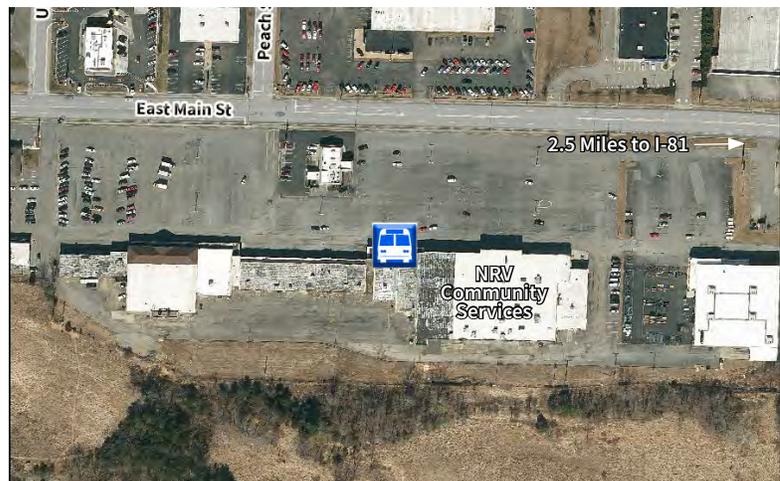


4

COMMUNITY SERVICES

Location

This basic stop connects users to many services, including NRV Community Services. The stop does have a ramp from the parking lot to the shopping center, but could be moved to a location out of low drainage points. The combination of businesses and the NRV Community Services encourages many types of uses at this stop. Lighting is provided by the shopping center walkway.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Transit Use



Service Type



Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

Recommendations

PAT will need to work with property owners to improve access to the stop through a relocated ramp. Amenities for this stop could include an ADA compliant ramp, bench, and a map with a schedule. Additional amenities could include a trash receptacle, and a bike rack.

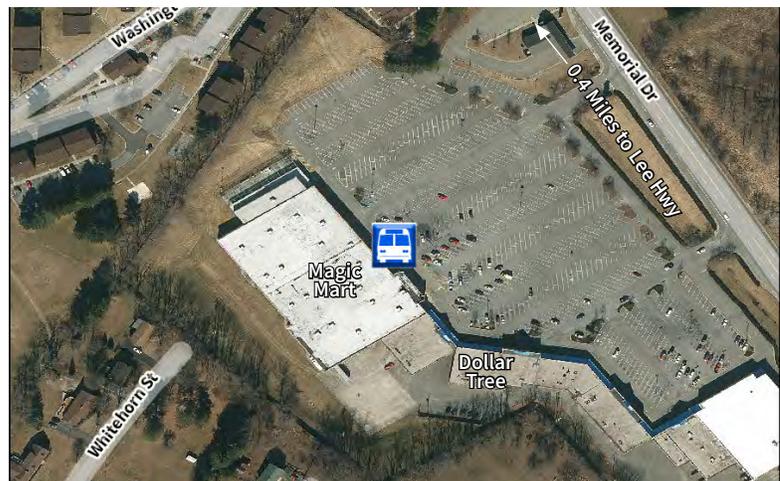
- Work with property owner to improve connections
- Relocated and install ADA compliant ramp, map and schedule, and bench





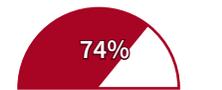
Location

While the sign for this basic stop is located at Magic Mart, users are picked up or dropped off at different points throughout the shopping complex. There is a walkway throughout the complex, but there are currently few ADA-compliant ramps onto the walkway.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Recommendations

PAT will need to work with property owners to improve access to the stop through the installation of an ADA ramp at the stop. Amenities for this stop could include the ADA compliant ramp, bench, and a map with a schedule. Additional amenities could include a trash receptacle, and a bike rack.

- Work with property owner to install ramp
- Install ADA compliant ramp, shelter, and bench





Location

This stop has a few elements of an enhanced stop, such as a trash can and seating nearby. It is also unique because of its service type. Users are dropped off in the parking lot below the main entrance, and then use stairs to access the hospital. The entrance is covered, and there is seating inside. Lighting is provided through parking lot lights.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Transit Use



Service Type



Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

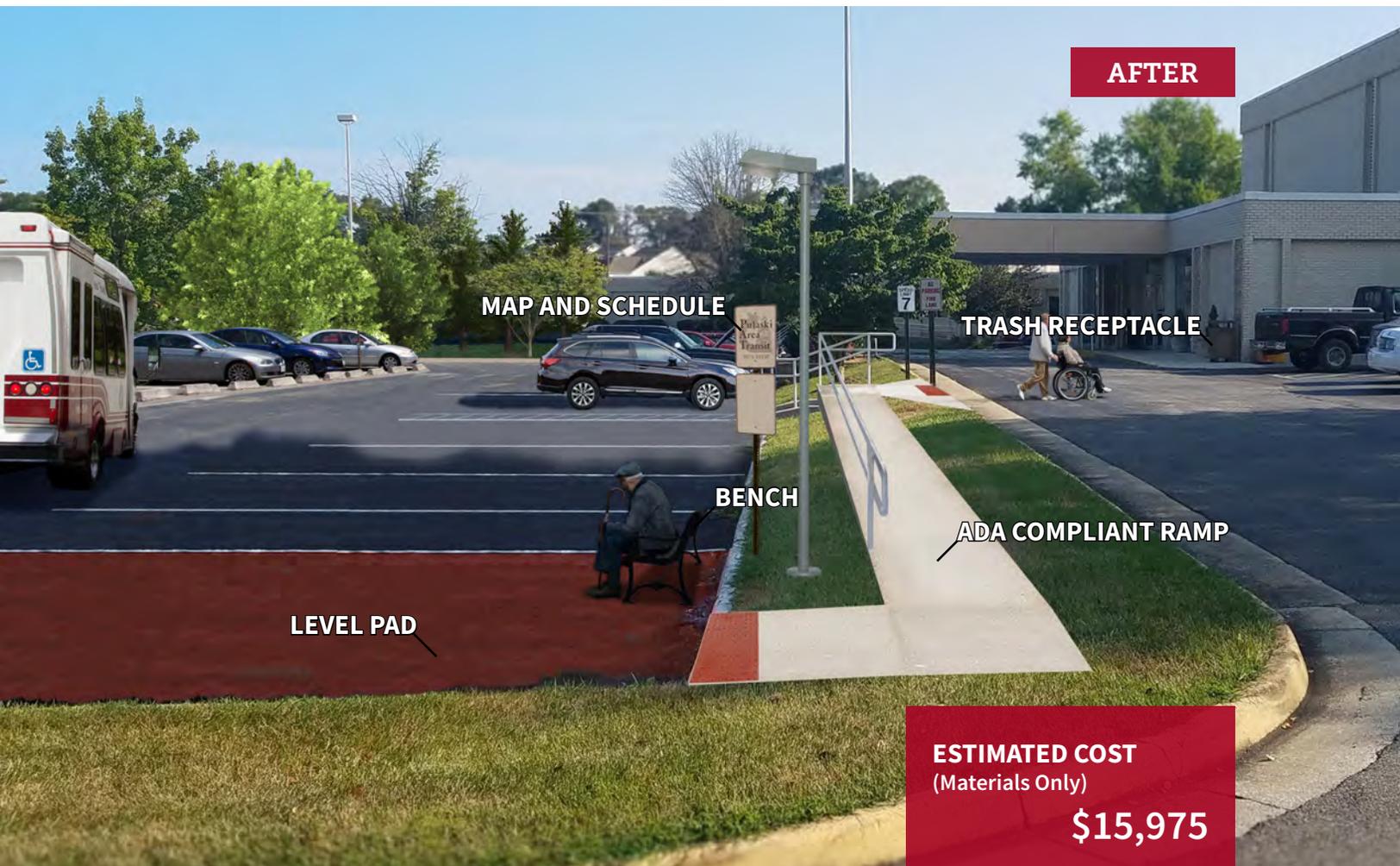
Recommendations

PAT will need to work with the hospital to improve access to its entrance. This would include a long ramp connecting the stop to the entrance. Amenities for this stop could include an ADA compliant ramp, bench, and a map with a schedule. Lighting and a trash receptacle are already provided at this stop.

- Work with property owner to improve connections
- Install ADA compliant ramp, sign, and bench



BEFORE



AFTER

MAP AND SCHEDULE

TRASH RECEPTACLE

BENCH

ADA COMPLIANT RAMP

LEVEL PAD

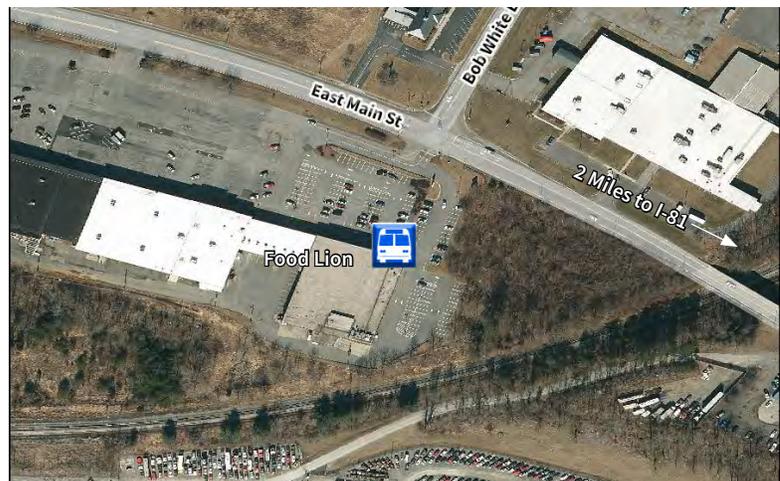
ESTIMATED COST
(Materials Only)

\$15,975



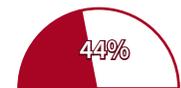
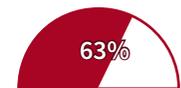
Location

This basic stop does have elements of an enhanced stop, such as trash receptacles, and a covered bench area. The stop provides access to the shopping center. While there are many amenities already available at the stop, it currently lacks definition. Connections to the local pedestrian transportation network.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



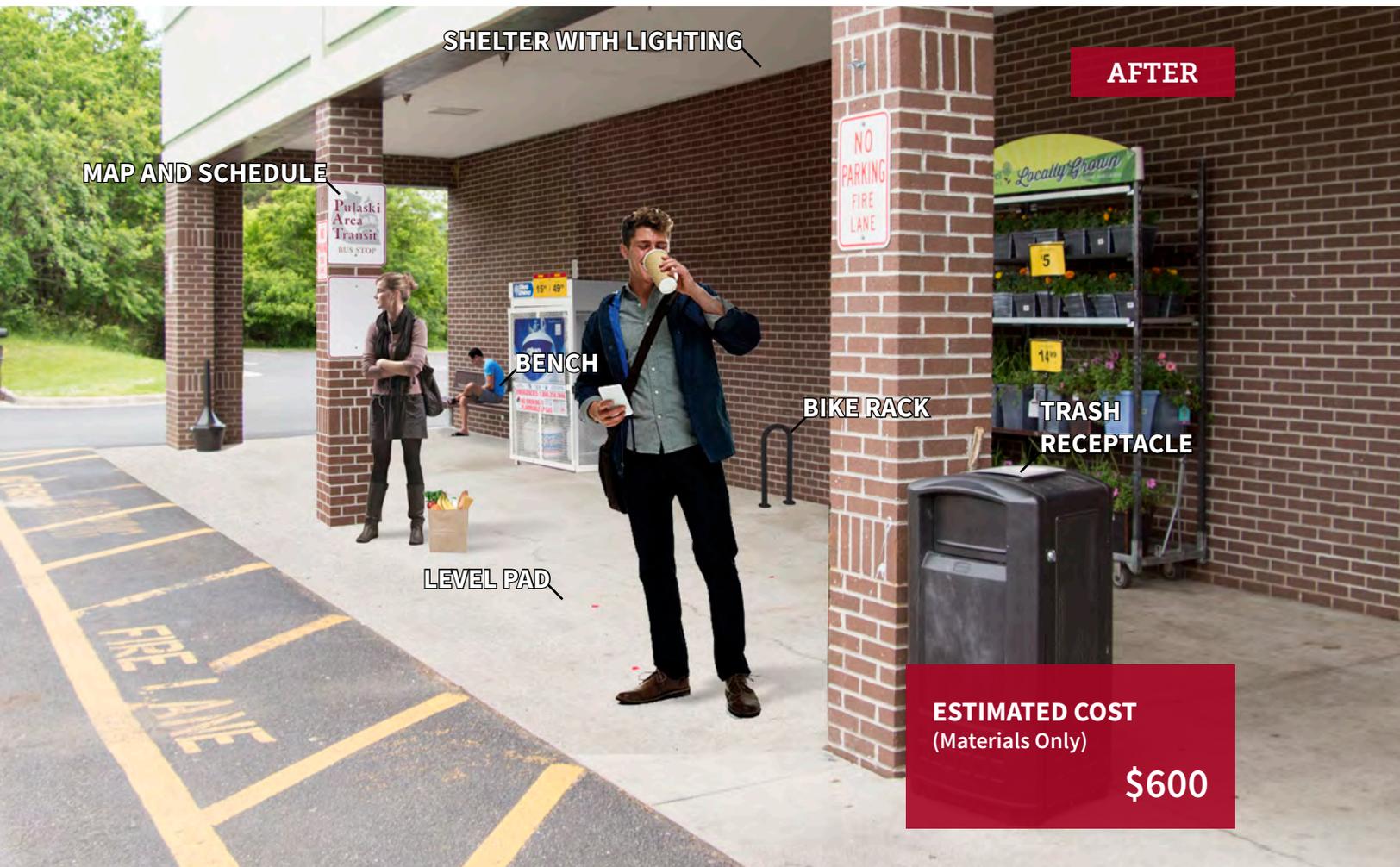
Recommendations

PAT will need to work with the property owner to improve visibility to the stop. It is highly recommended PAT and the property owner work to connect the stop to the surrounding pedestrian transportation network. Amenities for this stop could include a map with a schedule and a bike rack.

- Work with property owner to improve connections
- Install bike rack and map with schedule



BEFORE



SHELTER WITH LIGHTING

MAP AND SCHEDULE

BENCH

LEVEL PAD

BIKE RACK

TRASH RECEPTACLE

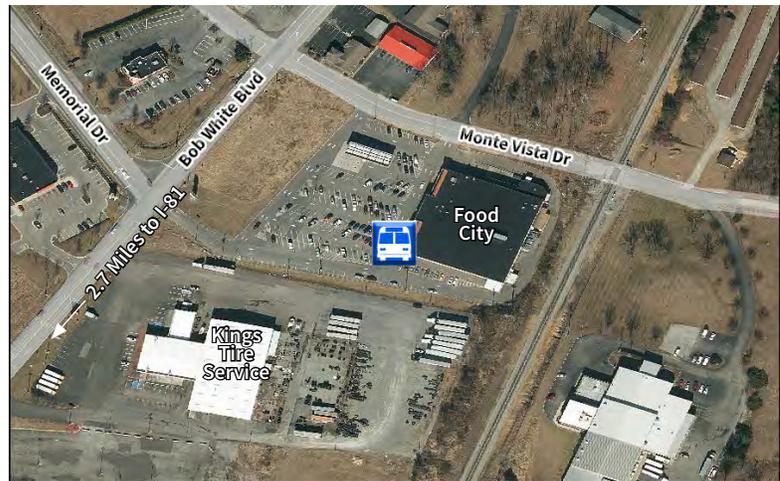
ESTIMATED COST
(Materials Only)

\$600



Location

Food City is a basic stop. It is not connected to the pedestrian network, but is well lit, and has trash receptacles on site. While there is a sign at the stop, it lacks definition, and users are often dropped off at different locations within the shopping complex.



Score

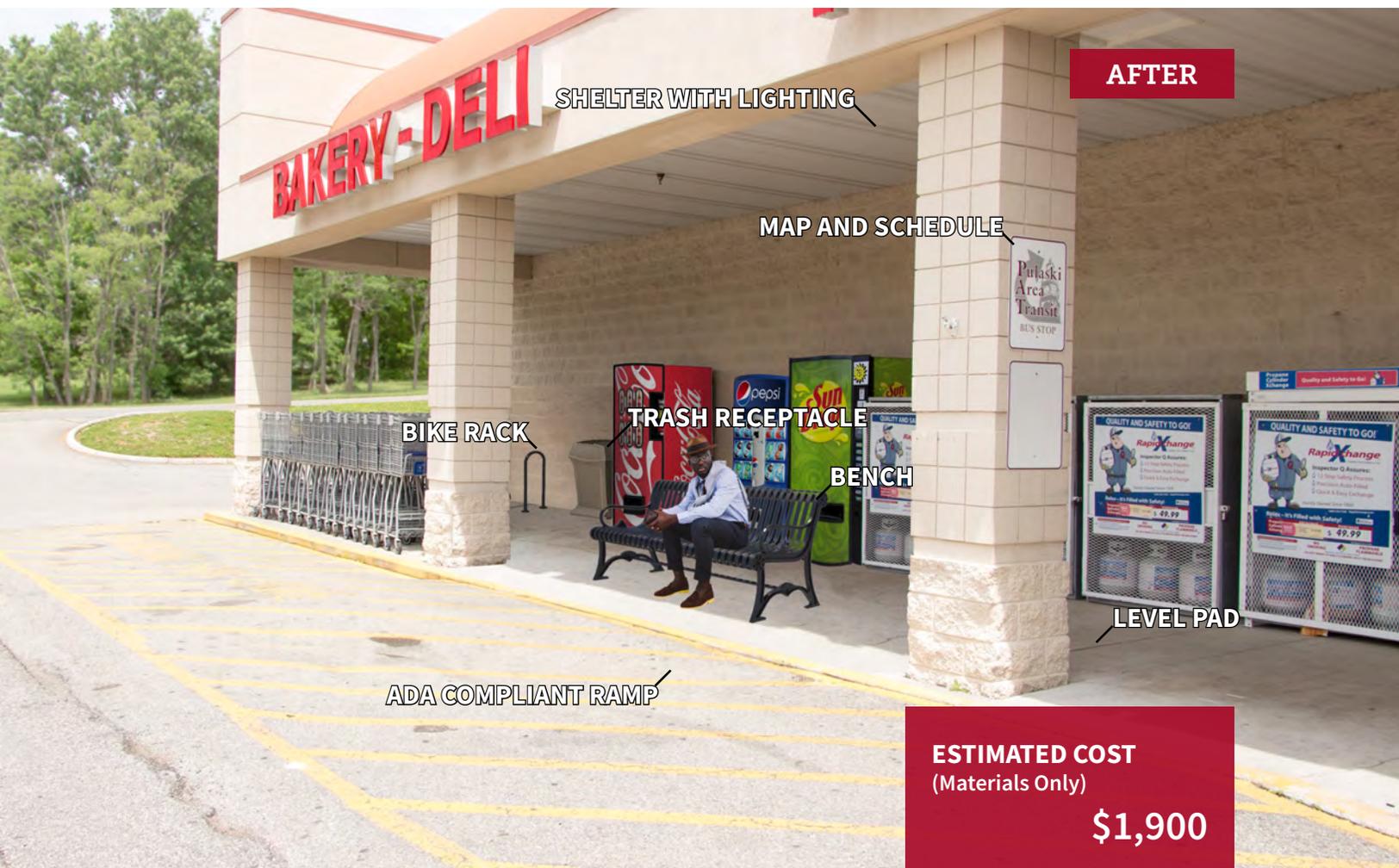
The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Recommendations

PAT will need to work with the property owner to improve access to the stop through connections to a greater pedestrian transportation network. Amenities for this stop could include a bench, a map with a schedule, and a bike rack.

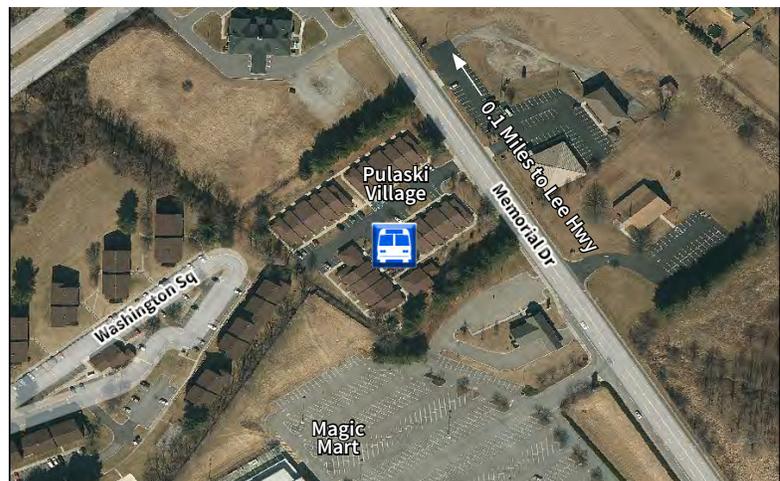
- Work with property owner to improve connections
- Install bench, a map with a schedule, and a bike rack.





Location

This basic stop serves Pulaski Village, an affordable housing facility near the Dollar Tree and Washington Square Apartments stops. This stop does have a shelter and bench provided on grass near the front offices. Lighting is minimal, and users currently step up a curb to access the stop.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Transit Use



Service Type



Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

Recommendations

Amenities recommended for this stop include an ADA compliant ramp, a map and schedule, and level concrete pad. It is also recommended for PAT to work with the property owner in paving a walkway to the level pad to connecting the stop to the apartment complex sidewalk network.

- Work with property owner to improve connections
- Install ADA compliant ramp, level pad, and map and schedule.



BEFORE



AFTER

SHELTER

MAP AND
SCHEDULE

BENCH

LEVEL PAD

ADA COMPLIANT RAMP

ESTIMATED COST
(Materials Only)

\$5,350



10

MARTIN'S PHARMACY

Location

Currently, this basic stop is located at the entrance to Martin's Pharmacy in downtown Pulaski. Users can wait inside the pharmacy to be picked up. At its current location, the stop has no connection to a local pedestrian transportation network, outside of walking through the entrance of the parking lot.



Score

The score represents a normalized sum of needed improvements for each stop. It is based on the prioritization exercise found on page 8. The higher the score, the greater the need. For more information, please see Appendix B.



Transit Use



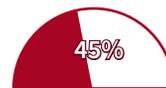
Service Type



Bus Stop Amenities



Connectivity/
Accessibility



Safety/ADA



Details/
Constructibility

Recommendations

PAT will need to consider moving the stop to Washington Avenue/VA Route 11 to accommodate future bus service. PAT is encouraged to work with the property owner to connect the proposed stop to the property. Amenities could include a shelter with lighting, a bench, level pad, and a map with a schedule. Also recommended is a bike rack and trash receptacle.

- Work with property owner to improve connections
- Install ADA compliant ramp, shelter, and bench



BEFORE



AFTER

ESTIMATED COST
(Materials Only)

\$18,750



FUNDING SOURCES AND NEXT STEPS

Funding for bus stop safety and accessibility improvements is available at the federal, state, and local levels.

The ultimate outcome of the Bus Stop Safety and Accessibility Study is to move recommended actions from planning to design and construction. To this end, Pulaski Area Transit should identify funding sources and establish a timeline for implementation. Funding for bus stop improvements, pedestrian facilities, and bikeways range from local partnerships to federal grants. Existing and potential funding sources are described in detail below.

Federal/State

DRPT State Aid Grant Programs- Capital Assistance Program

The Virginia Department of Rail and Public Transportation administers the FTA Section 5307 program described above, and also offers a variety of state grants for transit systems, including the Capital Assistance program. The goal of the Capital Assistance program is to support public transportation capital projects necessary to maintain, improve or expand public transportation services. Eligible capital expenses include, but are not limited to, items such as the purchase or lease of new

vehicles and equipment, the rehabilitation of vehicles and equipment, the improvement or construction of transit maintenance and operations facilities, the purchase and installation of bus stop signs and shelters, the cost of debt service for major capital projects, real estate/right-of-way acquisition and safety and security equipment. Most projects eligible for capital assistance under FTA guidelines will be eligible for state aid capital assistance.

More information on FTA and DRPT grant programs can be found at www.olga.drpt.gov.

Transportation Alternatives Set-aside Program

The Transportation Alternatives Program (TAP) was authorized through the United States' current surface transportation program, Moving Ahead for Progress in the 21st Century (MAP-21). TAP funding is apportioned to state departments of transportation, with 50 percent sub-allocated based on population, while the remaining 50 percent is eligible for use anywhere within the state. Funding through TAP may be used for the construction, planning, and design of on-road and off-road trail facilities and infrastructure-related projects and systems that will provide safe routes for non-drivers. The program also can fund projects and activities previously eligible for funding through the Recreational Trails Program and the Safe Routes to School Program.

FTA Rural Areas Program Grants (Section 5311)

This program supports transit operators in non-urbanized areas, defined as areas with fewer than 50,000 residents. The purpose of the FTA Section 5311 program is to support the maintenance of existing public transportation services and the expansion of those services. Funds may be used for capital, operating, and administrative assistance to state agencies, local public bodies, and nonprofit organizations (including Indian tribes and groups), and operators of public transportation services. A portion of Section 5311 funding is reserved for localities within the Appalachian Regional Commission service area, which includes Pulaski County.

Local

Local contributions

Currently, the Town of Pulaski and Pulaski County contribute funding to support Pulaski Area Transit. In the 2016-17 budget, Pulaski County contributed \$62,000, the same annual contribution they have made since 2012. In the 2016-17 budget, the Town of Pulaski contributed \$70,000, an increase over 2015 (\$56,989) and 2014 (\$48,957). Pulaski Area Transit also receives funding from the FTA Section 5311 and DRPT programs described above.

Infrastructure Improvement Projects

Infrastructure improvement projects for roadways on which bus stops are located offer opportunities to incorporate improvements for transit use, cycling, and walking. Pulaski County jurisdictions' budgets include funding for the following projects:

Town of Dublin (2017-18 budget)

- Street lighting \$21,326
- Street department \$3,000

Town of Pulaski (2016-17 budget)

- Street improvement \$438,680
(VDOT eligible)
- Street improvement \$3,000
(ineligible)

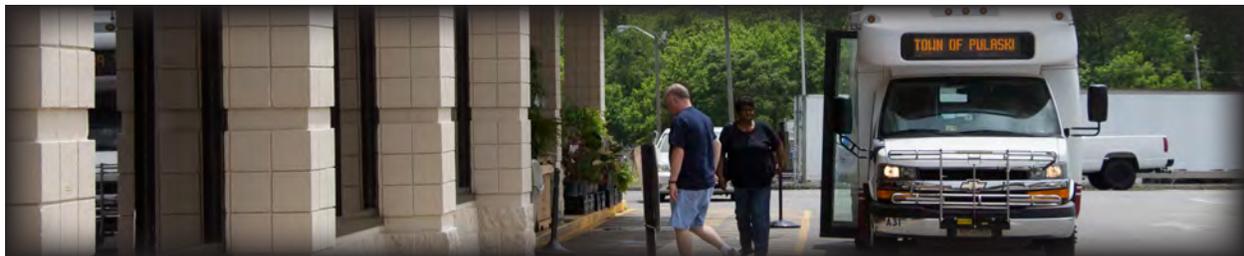
Public-Private Partnerships

Many of Pulaski Area Transit's bus stops are located near or on private property. Pulaski Area Transit can establish partnerships with property owners to implement improvements that would both benefit the property owner and improve safety and accessibility at the bus stop.

Next Steps

The Pulaski Area Transit Bus Stop Safety and Accessibility Study has initiated a working group consisting of key local partners and developed a prioritization tool tailored specifically for the PAT service area. PAT and local partners are encouraged to work collaboratively to pursue funding from a variety of public and private sources.

PAT has the opportunity to continue collecting regular input from its operators and stakeholders. This study recommends an update of the tool at least every five years, or during the regular Transit Development Plan update.





***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution to Approve Amendment # 1 to the 2040 Long Range Transportation Plan

On a motion by _____ seconded by _____, and carried unanimously,

WHEREAS, provisions in the Federal legislation require that the LRTP be fiscally constrained; and

WHEREAS, when the 2040 LRTP was approved in November 2015, accurate funding projections were not available; and

Whereas, the 2040 LRTP was approved without financial data included, and

Whereas, financial data is available now that demonstrates financial constraint, and

Whereas, the TAC developed Amendment # 1 to incorporate the financial portion of the 2040 LRTP and advertised for public review and comment, and

WHEREAS, comments were solicited from the public, interested parties, and State and Federal regulatory agencies and the proposed Amendment was posted on the MPO website and no comments were received; and

WHEREAS, the TAC recommends approval of Amendment #1 to the 2040 Long Range Plan.

NOW, THEREFORE, BE IT RESOLVED, that the New River Valley Metropolitan Planning Organization approves Amendment #1 to the MPO 2040 Long Range Transportation Plan.

J. Dan Brugh, Executive Director

*New River Valley
Metropolitan Planning Organization
2040 Long Range Transportation Plan*

DRAFT

Approved November 5, 2015

Amendment # 1 Approved _____

Developed by
The New River Valley
Metropolitan Planning Organization

In Cooperation with
the Virginia Department of Transportation,
the Virginia Department of Rail and Public Transportation,
the Federal Highway Administration, and
the Federal Transit Administration

The contents of this report reflect the views of the author(s), who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Commonwealth Transportation Board. This report does not constitute a standard, specification, or regulation. FHWA acceptance of this report as evidence of fulfillment of the objectives of this planning study does not constitute approval of the location and design or a commitment to fund any such improvements. Additional, project level environmental impact assessments and/or studies of alternatives will generally be necessary.

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INTRODUCTION

PURPOSE

The goal of the transportation planning process is “to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas, while minimizing transportation-related fuel consumption and air pollution. To achieve this goal, agencies develop long range transportation plans (LRTPs) ranging from statewide plans to metropolitan planning organization (MPO) plans. The purpose of the LRTP is to outline future projects, transportation policies, and investment planning strategies generated from the transportation planning process. The *New River Valley (NRV) Long Range Transportation Plan (LRTP) 2040 Update* is the result of this transportation planning process within the New River Valley MPO planning area.

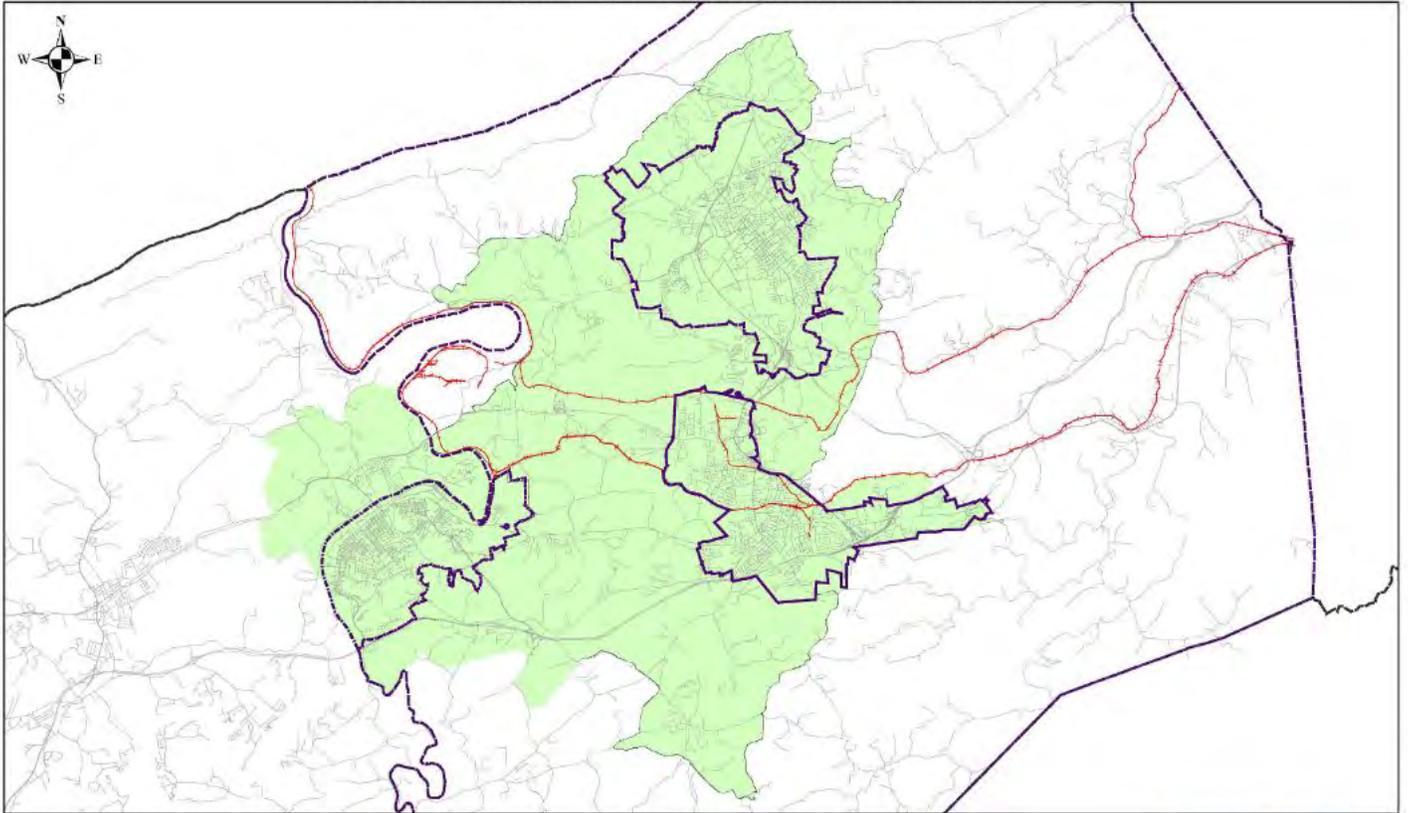
The NRV LRTP 2040 Update is an update to the previous Blacksburg/Christiansburg/Montgomery Area 2035 Transportation Plan that was developed in 2010. Since the 2035 Transportation Plan was completed, the NRV MPO expanded its boundaries and the NRV LRTP 2040 Update incorporates these expanded boundaries. Also, new federal requirements, emphasizing a performance based planning approach for transportation planning were established in the Moving Ahead for Progress in the 21st Century Act (MAP-21) and signed into law in 2012. In 2015, the Virginia Department of Intermodal Planning and Investment updated its statewide long-range multimodal policy plan to comply with the performance based planning approach set forth in MAP-21, and summarized the new policy plan in VTrans2040.

METROPOLITAN AREA BOUNDARY

According to federal regulations, a metropolitan planning organization is designated for each urbanized area in the country with a population of more than 50,000 individuals and the adjacent area that is expected to be urbanized within the next 20 years. Using census data, the U.S. Census Bureau releases a list of Urbanized Areas (UZAs) to include within MPO boundaries. The 2010 census data from the New River Valley region warranted changes to the UZAs from the previous UZAs; therefore the NRV MPO boundary was redrawn with the release of the 2010 census data¹. The NRV MPO planning area now encompasses the Towns of Blacksburg and Christiansburg and the City of Radford, as well as surrounding urbanized portions of Montgomery and Pulaski Counties within the state of Virginia. These urbanized portions of Montgomery County include the Villages of Prices Fork, Riner, Belview, and Plum Creek and the portion of Pulaski County includes Fairlawn. In total, the NRV MPO covers an area of 170 square miles with a population of 99,552 according to the 2010 census.

MPO Study Area Map

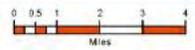
New River Valley Metropolitan Planning Organization Study Area



Prepared By Montgomery County Va
Planning & GIS Services
(Approved September 6, 2012)

Legend

 Corporate Line  2010 MPO Boundary



SCOPE AND PLAN REQUIREMENTS

Federal requirements for the national transportation program are set forth in legislation – Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 establishes national performance goals for Federal highway programs:

- **Safety**—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure condition**—To maintain the highway infrastructure asset system in a state of good repair.
- **Congestion reduction**—To achieve a significant reduction in congestion on the NHS.
- **System reliability**—To improve the efficiency of the surface transportation system.
- **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.
- **Environmental sustainability**—To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **Reduced project delivery delays**—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The Virginia statewide transportation plan, VTrans 2040, set five goals for transportation within the state of Virginia in order to achieve its vision of “a multimodal transportation system that is safe, strategic, and seamless. The goals set in VTrans 2040 compliment the scope of the planning process that is outlined in MAP-21. HB2 established a framework to select projects that meet the goals of VTrans 2040 and met the goals set forth. HB2 legislation requires that the measures be quantifiable and objective, that the analysis of a project's benefits are relative to its cost (essentially a benefit-cost analysis using the HB2 factors), and that the CTB consider all modes of transportation. The law requires that the measures fall into six factor areas, listed below:

- Safety;
- Congestion Mitigation;
- Accessibility;
- Environmental Quality;
- Economic Development; and
- Land Use Coordination (for areas over 200,000 population).

The goals and scope of the *NRV LRTP 2040 Update* are the same as the goals of VTrans 2040 addressing the following transportation issues and needs within the planning area:

1. Economic Competitiveness and Prosperity
2. Accessible and Connected Places
3. Safety for All Users
4. Proactive System Management
5. Healthy and Sustainable Communities

Background and Outreach

DOCUMENT REVIEWS

Previous planning efforts throughout the New River Valley have been extensive, ranging from statewide transportation plans, such as VTrans 2040, to jurisdictional plans, such as the Montgomery County Village Plans. The following plans have been reviewed during the development of the *NRV LRTP 2040 Update*.

State

- 2016-21 VDOT Six Year Improvement Plan
- VTrans 2035
- VTrans 2040
- HB2 (2015 Implementation Policy Guide)

NRV MPO

- 2015-2016 Unified Planning Work Program (UPWP)
- Blacksburg/Christiansburg/Montgomery Area 2035 Transportation Plan

NRV RC

- 2011 Bikeway, Walkway, Blueway Plan
- 2012 Regional Transit Study
- 2014 Livability, Housing, and Energy Reports

Jurisdictional Plans

- Radford Area Including Fairlawn 2020 Transportation Plan
- 2004 Update of the Montgomery County 2025 Comprehensive Plan
- 2005-2007 Montgomery County Village Plans
- 2007 Montgomery County Village Transportation Links Plan
- 2007-2009 Pulaski County Comprehensive Plan
- 2009 Update of the City of Radford Comprehensive Plan 2030
- 2012 Update of the Blacksburg 2046 Comprehensive Plan
- 2013 Update of the Town of Christiansburg 2040 Comprehensive Plan

Other Plans

- Virginia Tech Parking and Transportation Plan
- 2006 Virginia Tech Campus Master Plan Update
- 2009 RIDE Solutions Park and Ride Study

- 2010 RIDE Solutions Long-Range Transportation Demand Management Plan

STAKEHOLDER OUTREACH

Stakeholders

Early in the development of the *NRV LRTP 2040 Update* meetings were held with key stakeholders within the New River Valley. The stakeholders were categorized as Local Jurisdictions, State and Regional Agencies, and Focus Groups with multiple stakeholders from each category, which can be seen below.

- Local Jurisdictions
 - Town of Blacksburg
 - Town of Christiansburg
 - City of Radford
 - Montgomery County
 - Pulaski County
- State and Regional Agencies
 - Virginia Department of Transportation
 - NRV Planning District Commission
- Focus Groups
 - Virginia Tech
 - Blacksburg Transit and Radford Transit
 - NRV Economic Development Alliance

Stakeholder Insights

Based on the feedback gathered during the stakeholder meetings, insights were gathered and categorized based on the goals set forth for the *NRV LRTP 2040 Update*. This feedback is summarized below.

Economic Competitiveness & Prosperity

- Local needs versus federal/state performance-based criteria
- Slower growth trends; variations in growth patterns or areas
- Potential economic drivers such as key projects, interstate access, or transit
- Influence of Millennials and Active Baby Boomers

Accessible & Connected Places

- Local roles versus intercommunity or regional interdependencies
- Transportation “barriers”; US 460 congestion, crossings of I-81 or rail lines
- Enhancing east-west access; I-81, US 11, Peppers Ferry, Prices Fork, Mud Pike
- Increased emphasis on alternate modes of travel and regional access

Safety for All Users

- Ongoing cooperation/collaboration of safety/security planning
- Critical links including I-81, US 460, railroads, hospital access
- Spot locations based on crash reviews, village areas, survey comments

- Influence of trucks and freight; I-81, I-81 detours, RAAP, first/last mile

Proactive System Management

- Signal optimization and improvements
- Intersection improvement strategies
- Access management opportunities
- I-81 truck traffic, climbing lanes, detour impacts
- Funding-constraints and impacts on maintenance priorities or transit services

Healthy & Sustainable Communities

- Increased emphasis on alternate modes of travel
- Livability and community interests
- Preservation/promotion of the areas rural and town characters
- Special event access and influence

Site/Project-Specific Needs or Improvement Strategies

- Previous plan recommendations
- Key interest areas; I-81, US 460 Bus, US 8, Peppers Ferry, Prices Fork
- Implementable project packages

PUBLIC OUTREACH

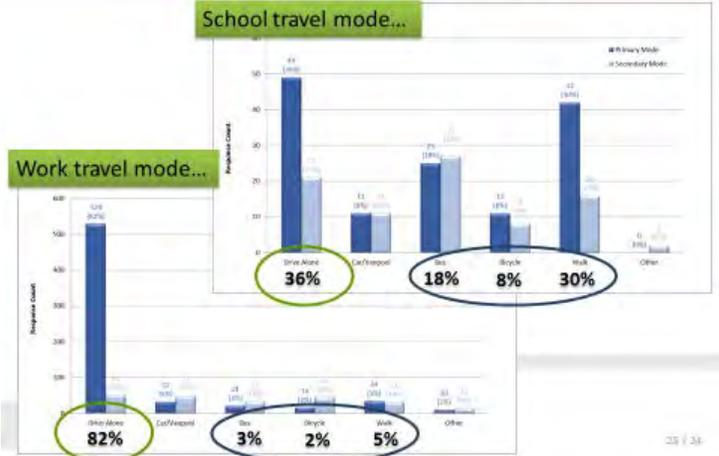
In addition to stakeholder and agency coordination, outreach to the general public was also secured through an online/paper survey as well as a public meeting.

Survey

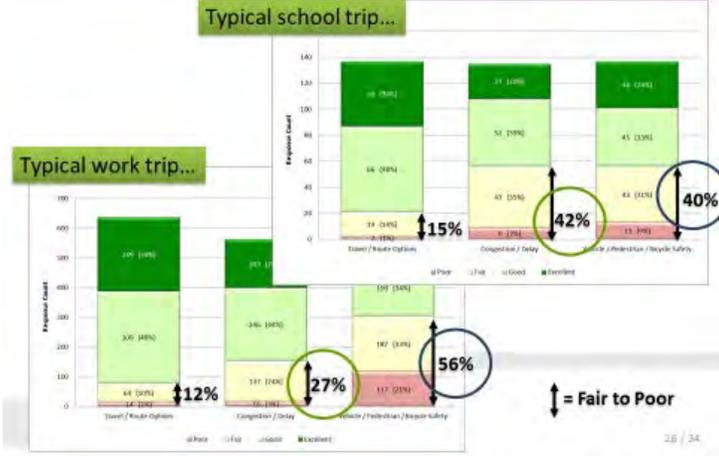
Online and paper surveys were distributed throughout the area from December 2014 through February 2015 to provide a direct channel of feedback from the public. More than 800 unique survey responses and over 1,000 write-in comments were received and provided information that covered all facets of transportation in the project area. Sample results are included on the following page (see Appendix for details), with notable findings as follows:

- Questions on where people live and work highlighted the need to accommodate commuting patterns and transportation interconnectivity across jurisdictional boundaries throughout the region, particularly between the rural county areas and employment hubs, or between Christiansburg and Blacksburg. Surveys indicated, for example, a much lower percentage of workers than residents in Montgomery County (2% versus 16%) or Christiansburg (16% versus 23%); whereas the opposite is true for Blacksburg (66% versus 45%).
- Questions on travel mode highlighted the current car-dependence of the areas' existing workforce, as well as a vast difference versus school travel amongst the university population. Over 82% of respondents indicated that they drive alone for work, with only 10% combined traveling by bus, bicycle, or on foot. In contrast only 36% of respondents indicated that they drive alone for school, with approximately 18% by bus, 8% by bicycle, and 30% on foot. The contrast between the two groups emphasizes a need (and its accompanying challenges) to accommodate a wide variety of users with potentially conflicting interests, while also implying broader concerns related to multimodal travel options (e.g., availability, quality, interest, etc.).
- Questions on typical travel experiences – including travel or route options, congestion or delay, and safety perceptions – added further insight into the area's transportation choices, particularly when compared to the previous travel mode questions. For example, approximately 42% of school trip respondents rated congestion as fair to poor (versus only 27% of work trip respondents), which may be a contributing factor in their higher level of multimodal travel (i.e., to avoid auto traffic congestion that may higher near/through campus areas). Additionally, over half (56%) of work trip respondents perceived safety as fair to poor, which may be a contributing factor in their much lower level of multimodal travel (i.e., they do not feel safe walking or biking given their trip length, purpose, location, etc.).
- Questions on interest in other transportation modes also provided insights as to travelers' perceived transportation needs. Responses generally implied that the majority of travelers are content with the availability, quality, and safety of the area's auto-centric systems. In contrast, many respondents desired more access to bus (56%), bicycle (28%), and walking (28%) opportunities. Additionally, 31% of respondents specifically indicated that the quality or safety of bicycle travel needs to improve, while 23% indicated the same for walking.

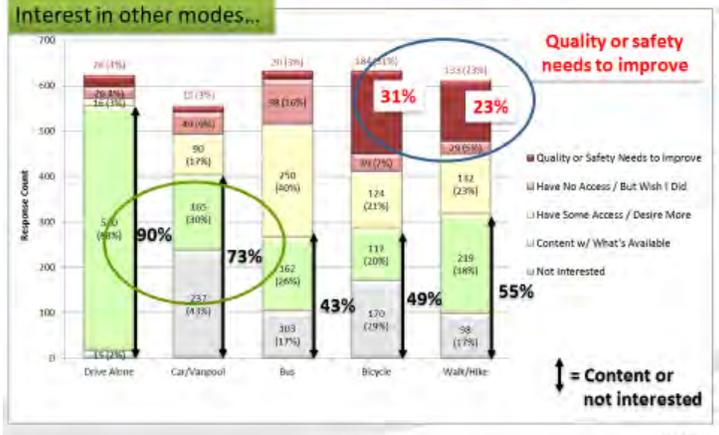
Transportation Survey

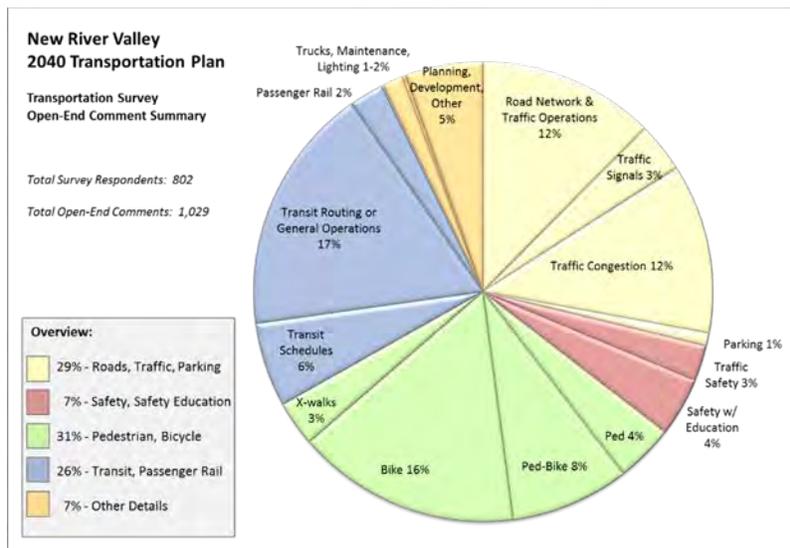


Transportation Survey



Transportation Survey





In tallying the more than 1,000 write-in comments that were also received as part of the survey effort, general trends, interests, and frequent areas of concern were identified to serve as valuable references and help guide the planning process. Approximately 31% of the write-in responses pertained to pedestrian or bicycle issues, not including an additional 7% that pertained to safety or safety education concerns, many of which also focused on pedestrian and bicycle travel behaviors. Approximately 29% of the responses pertained to road, traffic, or parking issues including general traffic operations, traffic congestion, and traffic signals; while another 26% of the responses pertained to transit issues and passenger rail. The remaining 7% of the responses pertained to miscellaneous comments focused primarily on truck travel, maintenance issues, lighting, or general planning and development topics. When compiled, a number of recurring focus areas were found to surface from the overall set of write-in comments. These insights were cross-referenced to the general goal categories for the long-range plan to yield the set of survey-based summary insights tabulated on the following pages. Where specific location references were included in the write-in comment, GIS tools were also used to locate and map the comments by type and by location density as shown on the summary maps on the following pages. These combined insights will continue to be used to help guide the planning process and the development of policy/project alternatives throughout the completion of this LRTP.

Survey Insights

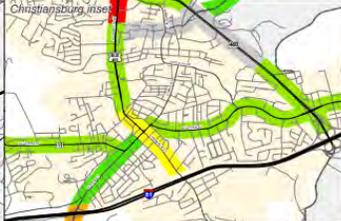
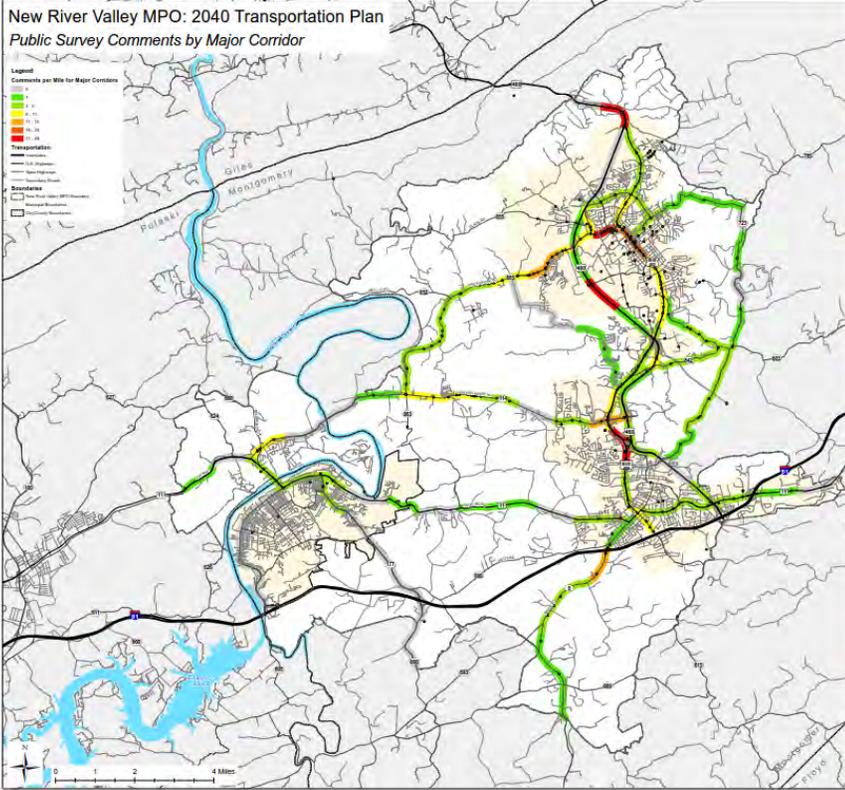
VTRANS 2040 GOALS

-  Economic Competitiveness & Prosperity
-  Accessible & Connected Places
-  Safety for All Users
-  Proactive System Management
-  Healthy & Livable Communities

						SUMMARY NEEDS BASED ON SURVEY FEEDBACK:
	●				●	Focus on community transportation and recreational assets
	●	●		●	●	Focus on inter-community connections across all modes
	●	●				Focus on regional multimodal connections
	●	●			●	Focus on multimodal access to key destinations
			●		●	Ped/bike safety improvements
			●			Ped/bike safety education and enforcement
		●	●		●	Infill of fragmented sidewalk and bicycle networks
		●	●		●	Bike lanes and separation of bike/car traffic
			●	●		Reduction of aggressive/distracted driving, bicycling, and walking
		●	●	●	●	Ped crosswalk and lighting enhancements
	●	●			●	Improved access to transit (schedule, duration, stops, consistency)
	●	●			●	Expansion of inter-community and regional transit connections
	●	●			●	County transit access and connectivity
		●		●	●	Improved trip planning resources
		●		●	●	Access to car-share/bike-share programs and carpool resources
	●	●	●	●		Strategic corridor improvements
		●	●	●		Strategic intersection/interchange improvements
		●	●		●	Multimodal traffic planning/management near retail hubs
	●		●	●		Interstate truck traffic improvements

Source: Summary insights from 12/2014 thru 02/2015 project survey responses; category icons from VTrans 2040 at <http://www.vtrans.org/>

New River Valley MPO: 2040 Transportation Plan
Public Survey Comments by Major Corridor



Public Meetings

Public meetings were scheduled at key points in the project's development. The first public meeting was held on April 23, 2015, at the Montgomery County Government Center to serve as a "kick-off" meeting to introduce the project, review existing conditions, and solicit input on areas of concern throughout the region. Open-house style discussions reviewed topics such as plan consistency with the goals and objectives of VDOT's statewide planning update (*VTrans 2040*); current population/employment estimates for the New River Valley MPO area; and relevant transportation insights based on historic planning documents and ongoing stakeholder outreach. Major new comments received at the public meeting focused on:

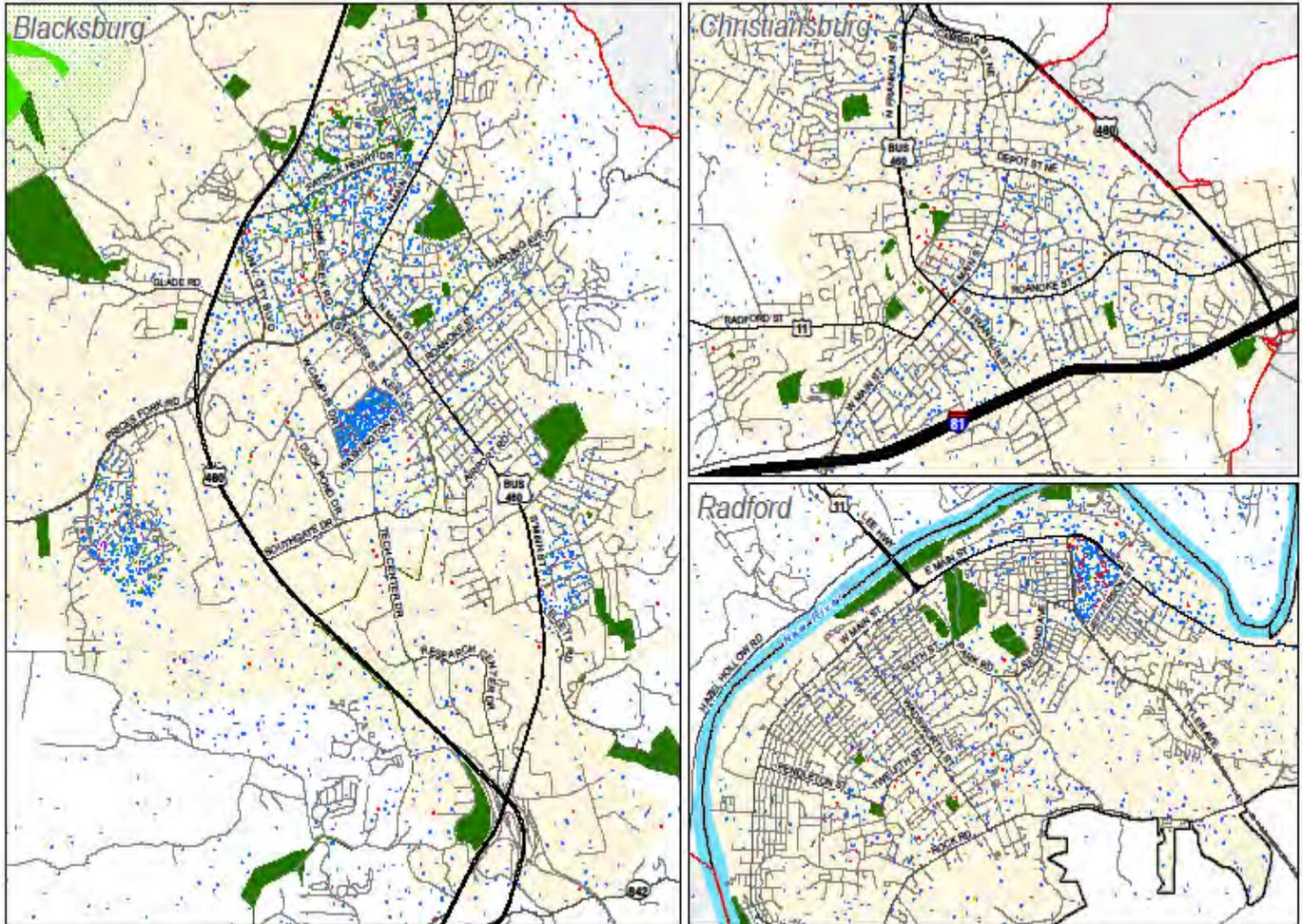
- Interest in traffic signal timing improvements along key corridors including, for example, the US 460 Business (South Main Street / North Franklin Street) corridor through major commercial areas in Christiansburg.
- Interest in traffic signal detection improvements, efficiencies, or repairs at key intersections including, for example, the Lowe's Driveway intersection along Route 114 (Peppers Ferry Road) in Christiansburg.
- Pavement maintenance and surface improvements, specifically including the road/bridge humps along US 460 just south of Blacksburg.
- Concerns along rural roadways carrying portions of Bike Route 76 including, for example, interest in a reevaluation and potential re-routing of the bicycle corridor to avoid exceptionally narrow, winding stretches of roadway; or the addition of enhanced bike warning signs to remind motorists of the potential for bicycle traffic where visibility around curves or passing opportunities are extremely limited by mountainous topography.
- Interest in rural route maintenance and enhancements including, for example, guiderail improvements or additions, or proactive clearing of hillside debris in areas prone to rock slides.

Demographic Profile

The demographic profile of the New River Valley MPO Study Area has changed very little since the 2035 Update 5 years ago. Current data is listed in this chart and on the following maps.

U.S. Census Bureau American Community Survey Population Estimates 2009 - 2013*		
	New River Valley MPO**	Virginia
White	87%	69%
Non-White:	13%	31%
Black	5%	19%
Asian	5%	6%
Other Race	1%	3%
2 or more races	2%	3%
Hispanic or Latino	3%	8%
Low income***	36%	19%
* Figures are a five-year average of survey responses from 2009 - 2013, analyzed at the block group level		
** Approximate boundaries		
*** people with income less than or equal to 150% of poverty level		

Dot Map by Race

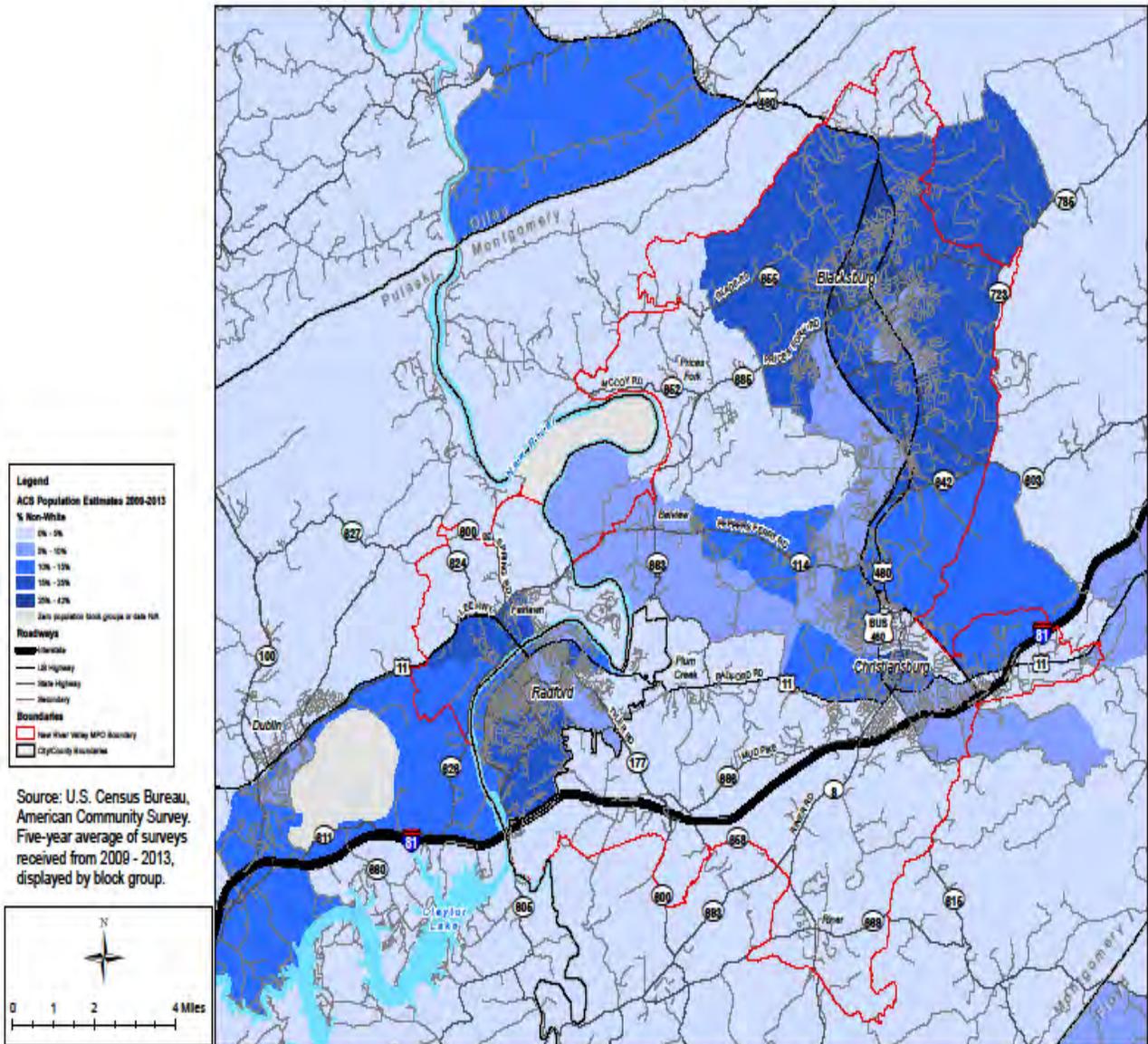


ACS Population Estimates 2009-2013 1 Dot = 10 Black Asian Other Race Dominican White	Roadways Turnpike US Highway State Highway Secondary Boundaries New River Valley MPO boundary Municipal Boundaries City/County Boundaries	Parks and Forest Municipal Parks State Parks and Other Conservation Lands National Forests (prewar) National Forests (postwar)
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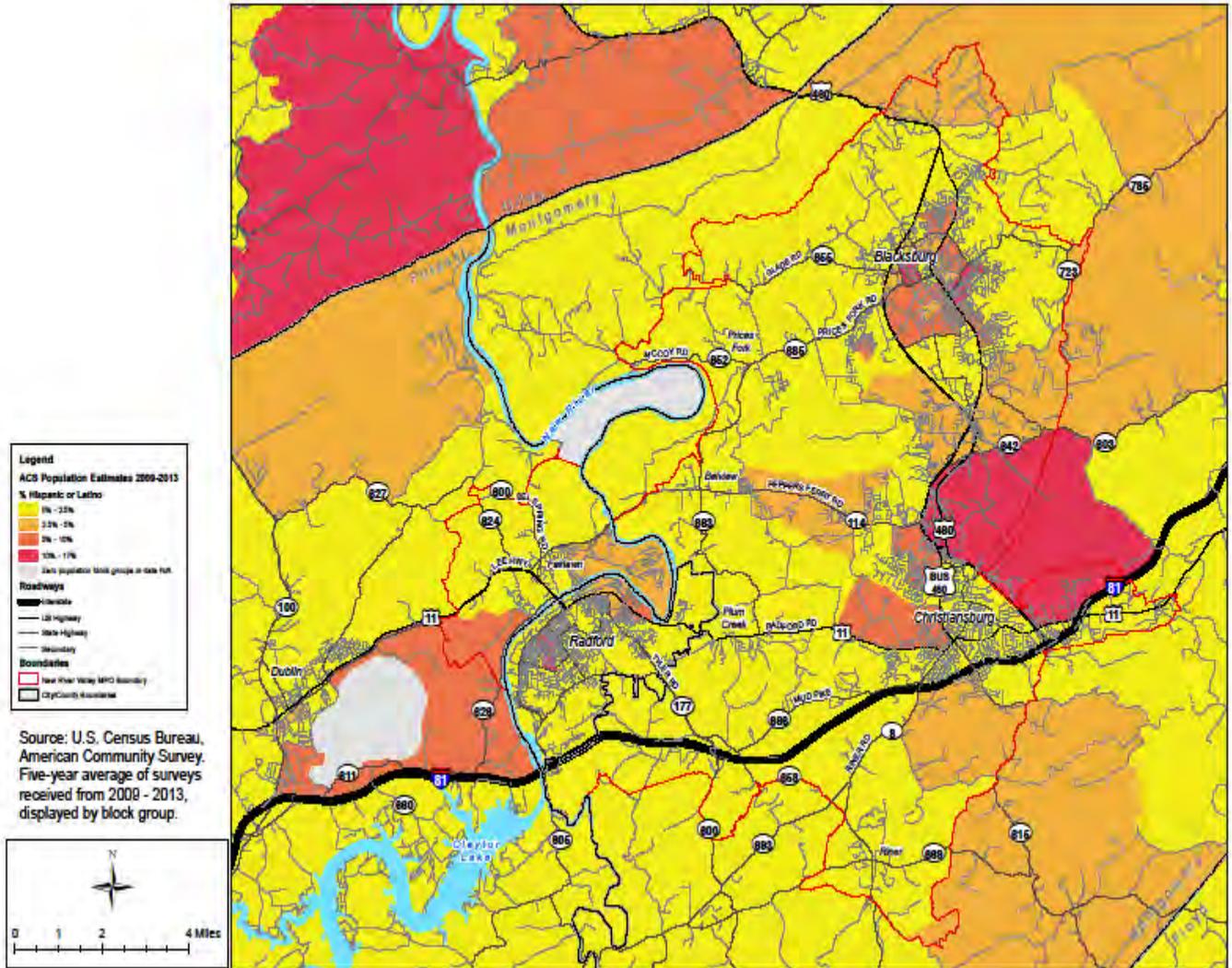
Source: U.S. Census Bureau, American Community Survey. Five-year average of surveys received from 2009 - 2013, displayed by block group. Dot placement within each block group is random.



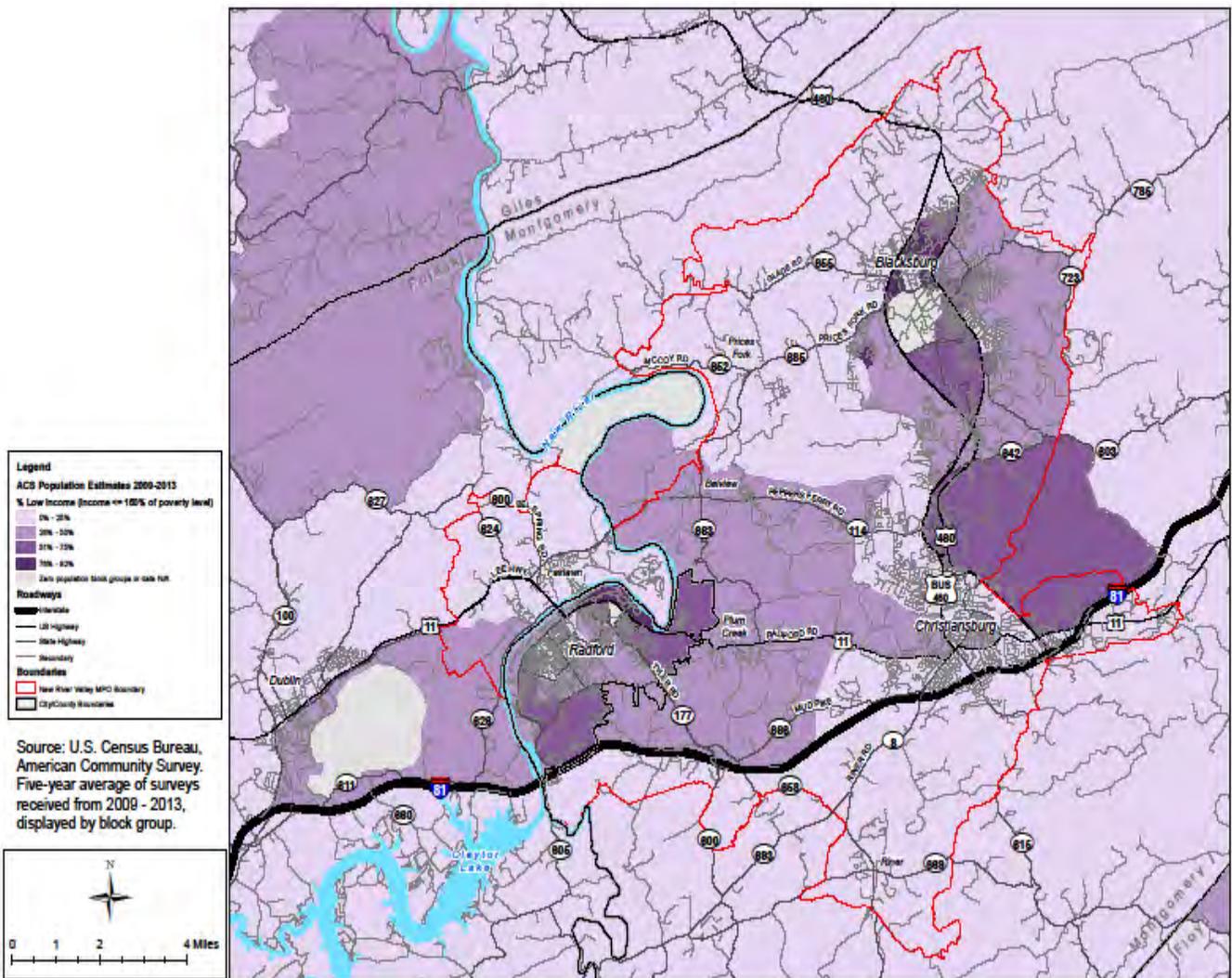
NonWhite Population



Hispanic Population



Low Income Population



Academic Institutions

Virginia Tech, Virginia's largest university, is located in the Town of Blacksburg. The university enrolls over 30,000 students per year, employs over 7,000 faculty and staff, and attracts additional visitors to sporting events, the Center for the Arts, and alumni events². The planning area is also home to Radford University, with a population of nearly 10,000 students and over 500 faculty members, as well as a branch of the New River Valley Community College located in the New River Valley Mall.

Employment Centers

The academic institutions within the NRV act as employment centers for the region. In addition to the faculty and staff employed by Virginia Tech, the Virginia Tech Corporate Research Center (VTCRC) is located adjacent to the Virginia Tech Campus and is home to over 170 companies that employ over 2,700 people³. Additional notable employment centers include the Radford Army Ammunition Plant located just east of the planning area on the banks of the New River, the Carilion New River Valley Medical Center, as well as multiple business, corporate, and industrial parks.

Recreational Interests

The New River flows through the Valley with the Appalachian Mountains to the north and the Blue Ridge Mountains to the south. These mountain ranges are host to regional recreational opportunities such as the Appalachian Trail, the Jefferson National Forest, and the Blue Ridge Parkway which attract tourists and outdoor enthusiasts to the nearby planning area.

Community Interests

Residents of the planning area also have available to them the Blacksburg Community Center, Christiansburg Recreation Center, and the Radford Recreation Department, all offering indoor recreation activities and gathering spaces. The Blacksburg Aquatic Center and Christiansburg Aquatic Center offer recreational and competitive swimming and fitness activities. Additional township parks, golf courses, and trails give residents abundant options for outdoor recreation. Christiansburg also hosts the New River Valley Mall, the New River Valley Center, and the Spradlin Farms Shopping Center as shopping destinations. The combination of these regional and local amenities and employment centers attract a diverse range of residents and visitors to the New River Valley throughout the year.

EXISTING TRANSPORTATION SYSTEM

The study area is served by a network of roads, sidewalks, and bicycle facilities. Pedestrian travel is served by sidewalks within the downtowns and on local and thoroughfare roads elsewhere. In general, bicycle travel is permitted on existing roads. The MPO is also served by a number of ever increasing off road trails for recreational as well as commuter use by pedestrians and cyclists. On-street parking is permitted in Blacksburg, Christiansburg, and Radford unless restrictions are posted. Transportation needs are also served by Blacksburg Transit, Radford Transit, Pulaski Area Transit, the Smart Way bus service between Blacksburg/Christiansburg and Salem/Roanoke, taxi service, and the Virginia Tech-Montgomery Executive Airport. Commercial air travel is provided out of Roanoke Regional Airport (approximately 35 miles to the northeast), while the closest location for intercity passenger train service (Amtrak) is either Clifton Forge, 67 miles to the north, or Lynchburg, approximately 90 miles to the northeast. Intercity bus service was reinstated in the NRV MPO with the introduction of Megabus service on December 15, 2010. This service offers daily departures to Knoxville and daily departures to Washington from its arrival and departure location located at the Park & Ride Lot off of I-81 at Exit 118 on Roanoke Street in Christiansburg.

ROADWAY NETWORK

The focus of the Plan is the functionally classified urban thoroughfare system. The urban thoroughfare system is a subset of the area's overall road network that is designated by VDOT, the Federal Highway Administration, the City of Radford, and the Towns of Blacksburg and Christiansburg. The thoroughfare system includes roads that are functionally classified as arterials or collectors, and comprises approximately 210 roadway miles (580 lane-miles) within the NRV MPO study area. Arterial roads serve as the major traffic-carrying facilities in the area, and carry through traffic. Collector roads carry a lesser volume of traffic and feed traffic to the arterial roadways. Since these roadways make use of federal and state funds for construction and maintenance, they must be included in the Plan.

The New River Valley MPO lies at the convergence of several major north-south and east-west routes. A summary of the system is listed below.

Interstates and Freeways / Expressways

Interstate 81 is a north-south interstate that begins in Dandridge, TN and ends at the Canadian border in New York. I-81 passes through the New River Valley in the east-west direction in the southern portion of the MPO Planning Area. I-81 has been identified by VTrans as part of the Crescent Corridor, a Corridor of Statewide Significance. I-81 is one of the most heavily traveled routes with the highest truck percentage of any roadway in the planning area and provides a link to the City of Roanoke, and the Mid-Atlantic states north of the planning area and southwest Virginia and Tennessee south of the planning area. Four exits (Exit 105, Exit 109, Exit 114, and Exit 118) off of the Interstate provide limited access to the planning area.

US Route 460 is a primary east-west route that begins in Norfolk, VA and ends in Frankfort KY. US 460 passes through the planning area in the north-south direction connecting with Giles County and West Virginia to the west and the City of Roanoke and eastern Virginia to the east. VTrans has labeled US 460 as

a part of the Heartland Corridor, a Corridor of Statewide Significance. US 460 splits into *US 460 Bypass* and *US 460 Business* north of Blacksburg and rejoins north of I-81 in Christiansburg. Two connections occur between the Bypass Route and the Business Route, one in southern Blacksburg and the other northeast of Christiansburg.

Arterial System

US Route 460 Business (North and South Main Street in Blacksburg and Roanoke Street, East Main Street, and North Franklin Street in Christiansburg) splits from US 460 Bypass north of Blacksburg and rejoins north of I-81 in Christiansburg. US 460 Business passes through a roundabout at the intersection with SR 685 (Prices Fork Road) in Blacksburg and then intersects with Virginia Tech's Alumni Mall. As US 460 Business continues south, it passes by the Corporate Research Center before encountering the first of two interchanges with US 460 Bypass. Before the second interchange, US 460 Business passes through a commercial area north of Christiansburg, passing the New River Valley Mall, New River Valley Center, Spradlin Farms, and other commercial destinations. After the second interchange, US 460 Business passes through downtown Christiansburg and then reconnects with US 460 Bypass near I-81, south of Christiansburg.

US Route 11 stretches through the MPO Planning Area as Lee Highway in Pulaski County, Main Street in the City of Radford, Radford Road in Montgomery County, and Radford Street, Main Street, and Roanoke Street in Christiansburg. Route 11 passes through the Village of Plum Creek while connecting the MPO Planning Area to Dublin and the Town of Pulaski to the west and Shawsville and Elliston to the east. It has also been labeled as part of the Crescent Corridor by VTrans among the corridors of Statewide Significance.

US Route 177 is a major north-south link that originates at I-81 continues to US Route 11 in the City of Radford. Within the City of Radford, Route 177 is referred to as Tyler Avenue while in Montgomery County, Route 177 is called Tyler Road.

State Route 8 ties Christiansburg with the Village of Riner and continues south to connect the planning area with Floyd County. Route 8 originates as West Main Street in Christiansburg, and becomes Riner Road in Montgomery County.

State Route 114 is an east-west connection from US Route 11 in Pulaski County to US Route 460 in Christiansburg. The common street name for Route 114 is Peppers Ferry Boulevard in Pulaski County and Peppers Ferry Road in Montgomery County. This roadway provides a link from Pulaski County and the City of Radford to the commercial area in Christiansburg. Route 114 also serves the Radford Army Ammunition Plant (RAAP) and passes through the Village of Belview. There is also heavy commuter use of Route 114.

State Route 111 (Depot Street, NE and Cambria Street, NE, both in Christiansburg) connects US Route 460 Business (North Franklin Street) to US Route 11/US Route 460 Business (Roanoke Street) in Christiansburg.

State Route 412 and State Secondary 685 combine to form Prices Fork Road. Route 412 originates at a roundabout with US 460 Business in Blacksburg and becomes State Secondary 685 at the western

Blacksburg town limit. Prices Fork Road is a four lane roadway with turn lanes, until the intersection with SR 657 (Merrimac Road).

Collector System

Collector roads carry less traffic than Interstates and Arterials and serve to “collect” traffic from local roads and feed traffic to the arterial roadways.

PEDESTRIAN AND BICYCLE NETWORK

In 2014 the NRV MPO completed a Bicycle and Pedestrian Master Plan as a component in developing a long-range multimodal system strategy. Information found in the Bicycle and Pedestrian Master Plan provides a comprehensive inventory of the complete pedestrian and bicycle network in the NRV MPO planning area. The Master Plan serves as a guide to localities in development of Bicycle/Pedestrian Facilities in their particular jurisdiction. Primary focus is to coordinate Bicycle/Pedestrian efforts regionally and to assure connections between activity centers.

Pedestrian and Bicycle Facilities

The primary pedestrian transportation facilities in the planning area include sidewalks which can be found within Blacksburg, which has approximately 140 miles, Christiansburg, and the City of Radford. Walking and biking trails, or multi-use paths, can also be found in Blacksburg, Christiansburg, and the City of Radford near the Radford University campus and along the New River. Bike lanes also exist within the planning area with prevalence around Blacksburg and several roads in the planning area have Shared Road Designations for bicycles which support bicycle transportation.

Huckleberry Trail

The Huckleberry Trail is currently an over 8 mile paved running, walking, and biking trail that has been converted from an abandoned railroad line. The trail connects the Blacksburg Library to the Christiansburg Recreation Center. Extensions of the trail, north into the Jefferson National Forest and south into downtown Christiansburg, are at various phases of construction, design, and planning.

Radford Riverway

The Radford Riverway is an approximately 3 mile paved trail that connects the City of Radford to Radford University. The Riverway passes through Bisset and Wildwood Parks to provide a recreation facility in addition to a local commuter facility. Plans exist to expand the trail into West Radford.

US Bike Route 76 (USBR 76)

US Bike Route 76 is a cross-country bicycle route that stretches from Missouri to the east coast of Virginia. In Virginia, USBR 76 is a signed bicycle route that enters the NRV MPO Planning Area from the west on Route 626 before crossing the New River on US Route 11. USBR 76 continues from the City of Radford, through the planning area, to Christiansburg on Routes 177, 787, 664, 666, 111, 723, and 785.

TRANSIT SERVICES

The MPO is served by local transit agencies as well as regional operators, both public and private. Alternative transportation facilities and organizations also provide transportation options for those living in and visiting the New River Valley. These options are listed below:

- Blacksburg Transit
- Radford Transit
- Pulaski Area Transit
- New River Valley Senior Services
- Smart Way Commuter Service
- Megabus
- Exit 118 Park and Ride Lot
- RIDE Solutions ridesharing program

Blacksburg Transit

Started in 1983, Blacksburg Transit, a department of the Town of Blacksburg, has routes in three of the MPO member jurisdictions and provides over 3,600,000 rides per year. Currently, all Blacksburg Transit routes lie within the MPO study area, and BT has been active in discussions regarding the potential expansion of service both within the current service area, and to adjoining areas such as within Montgomery County and to other nearby areas. The MPO will work with Blacksburg Transit in completing the Transit studies currently underway and assist in selecting other areas for planning level study. In November 2011, BT initiated pilot bus service to the Warm Hearth Area of Montgomery County. A funding proposal was again submitted to VDRPT in February 2015 to further support the service connection between Warm Hearth and the nearby Lewis Gale Hospital Montgomery, allowing connections to existing BT routes that serve Blacksburg and Christiansburg as well as trips to additional destinations both within Warm Hearth and the service area. In July 2014, the Warm Hearth service expanded to three days of week (Tuesday-Thursday) of demand-response service. On a monthly basis average monthly ridership has increased 83% compared to a year ago.

A Transit Development Plan (TDP) was completed for Blacksburg Transit to identify transit needs in the future to give a priority order for transit expansion and enhancement as funding becomes available. The final report was completed in June 2011. This report was added to the MPO 2035 Long Range Plan, and will be added to the 2040 Plan as well. As a follow-up, and based on preliminary recommendations from the TDP effort, BT has also submitted a DRPT grant request; if approved an amendment to the UPWP will be done. A follow-up effort for a new TDP has been put in motion, tentatively to start during FY17 (Fall 2016), as required by DRPT.

Blacksburg Transit also operates service in and to the Town of Christiansburg. These services, including a fixed-route, a demand-response service, and commuter routes, are evaluated and refined on a regular basis. The MPO continues to work with Blacksburg Transit and the Town of Christiansburg to evaluate the service and implement refinements to increase ridership. Now in its fifth year, ridership has increased steadily from approximately 1,000 trips per month to 2,400 as of July, 2014. These services provide an affordable public transit option for citizens. The commuter service was expanded to 2 routes in 2012, with refinements implemented during FY14 to provide a daily connection between the Town of Christiansburg and the Town of Blacksburg. The commuter service provided over 5,500 passenger trips during FY14 with just two vehicles.

Radford Transit

Radford Transit is a joint partnership between The City of Radford, Radford University, and New River Valley Community Services (as operators). The system was launched August 8th, 2011 and serves the entire City of Radford, Radford University campus, Fairlawn and Carillion New River Valley Medical Center. Connecting routes exist to Blacksburg, Christiansburg as well as the Exit 118 Park & Ride lot to connect with Megabus and the SmartWay bus. Annual ridership is approximately 375,000 passenger trips per year. The system operates ten small (10) body-on-chassis (Cutaway) style buses, two (2) medium duty body-on-chassis (Cutaway) style buses, four (4) low floor heavy duty transit buses and is in the process of procuring two (2) medium duty body-on-chassis (Cutaway) style buses and refurbishing two (2) low floor heavy duty transit buses as required for passenger demands/expansion and spare ratios.

In the coming year Radford Transit will have to replace its original fleet of seven (7) buses as they have reached end of life. The system will be seeking a more viable long-lasting solution to these vehicles based on system utilization and load based needs.

The system has finalized its Transit Development Plan (TDP) which fully identifies future growth needs including operating and capital requirements.

Currently minor expansions are planned for FY 2016 to include extending the Route 20 (providing service to Fairlawn) by 2 hours daily during our full service schedule. Route 40 (providing service between Radford, Christiansburg, and Blacksburg) will be redirected off of Route 114 and utilize Route 11 due to safety concerns with the Route 114 corridor.

Pulaski Area Transit

Pulaski Area Transit was established in 2003 to provide the community with public transportation including a mixture of deviated fixed route and demand response service. PAT provides Fixed Route service from the Town of Pulaski to Dublin, including New River Community College, and the Fairlawn area of Pulaski County. PAT meets Radford Transit at Wal-Mart in Fairlawn and picks up passengers and transports them to Dublin and New River Community College. The Fixed Route service makes 4 trips per day and is available Monday through Friday. PAT also offers 24 hour Demand Response service to the Fairlawn Area. In FY 2013, PAT provided 81,559 passenger trips covering 199,597 vehicle miles. PAT operates 10 body on chasis 14 passenger buses. In addition, PAT has received several awards recognizing their success.

SmartWay Commuter Bus Service

The SmartWay Intercity bus route connects Blacksburg and the Virginia Tech campus to the City of Roanoke with stops in Christiansburg and the Park and Ride Lots at Exits 118 and 140. Service is provided 6 days per week by 5 “over the road” coaches. An extension of that service provides connection to Amtrak in the City of Lynchburg.

Megabus

Megabus, a private carrier provides direct connections to Knoxville to the southwest and Washington to the northeast. Connections with other routes provide substantial coverage of the eastern portion of the United States.

Park and Ride/Rideshare

Park and Ride

The MPO has one official Park and Ride lot located at Exit 118 off of I 81. There are numerous informal lots throughout the MPO Study Area. The Exit 118 Park and Ride lot also serves as a mini Transit hub for the region. Currently it is served by Blacksburg Transit, Radford Transit, District 3 Transit, SmartWay, and Megabus. Due to overcrowding, the lot is currently being expanded from 70 spaces to over 250. Separate transit slips and passenger amenities are included in the project.

Ride Solutions

RIDE Solutions is a Transportation Demand Management (TDM) effort that provides alternative transportation options to the residents of the New River Valley and Roanoke Valley. RIDE Solutions partners with citizens and businesses, introducing options such as ridesharing, biking, public transit, walking, and guaranteed ride home services as alternatives to single occupancy vehicle trips. The program is dedicated to improving the efficiency of the roadway network and reducing environmental impacts of vehicle emissions.

RAIL TRANSPORTATION

Passenger Rail

Currently, there is no passenger rail service to the NRV MPO Planning Area. The closest rail station is located in Lynchburg, VA, from where Amtrak offers daily round-trip service to the Northeast Corridor. As mentioned earlier, the SmartWay Connector bus service gives citizens living in the planning area access to the rail transportation. It was announced in 2014 that passenger rail service will be extended to Roanoke, with service beginning in 2017. Bus service to Roanoke to meet Amtrak will be a modification of the existing SmartWay service. An ongoing study is evaluating a potential future extension to the New River Valley region.

Freight Rail

Norfolk and Southern provides freight rail service to the MPO area. Freight rail service passes through the planning area on Norfolk Southern rail lines. The New River Valley is on both the Heartland Corridor (east-west) and the Crescent Corridor (north-south).

AIR TRANSPORTATION

Virginia Tech-Montgomery County Executive Airport

The Virginia Tech-Montgomery County Executive Airport is the only airport located in the planning area and is governed by the Montgomery County Executive Airport Authority which is comprised of representatives from Blacksburg, Christiansburg, Montgomery County, and Virginia Tech. The Airport serves primarily corporate and private clientele from its location on the Virginia Tech Campus. An updated Long Range Plan was developed by the Airport Authority in 2008 and includes plans for expanding facilities and extending the runway.

Roanoke-Blacksburg Regional Airport

Although located outside of the MPO Planning area in Roanoke, VA, the Roanoke-Blacksburg Regional Airport is a commercial airport which can accommodate passenger airlines, airfreight carriers, general

aviation, corporate, air taxi and charter operators, and the military. Service to and from the airport is provided by the SmartWat Bus Service.

New River Valley Airport

The New River Valley Airport is a primarily cargo airport located in Dublin and operated by the New River Valley Airport Commission. The airport commission is represented by Pulaski County, Montgomery County, Giles County, the City of Radford, and the Towns of Dublin, Pulaski, and Christiansburg. The New River Valley Airport offers a 6,201' x 150' runway with an instrument landing system, aircraft refueling, and freight handling capabilities.

Travel Demand Management and Land Use

Developing estimates of travel demands is the key first step in the process of identifying transportation needs. Existing traffic demands were determined based on an extensive set of data collected and maintained by VDOT, as supplemented by count data from other sources such as local governments, and counts performed for transportation studies including traffic impact studies performed for new development. For analysis purposes, all count data is adjusted, based on historic traffic trend data, to a common base year. As noted earlier, the base year for the Plan update is 2012. The New River Valley Transportation Plan supports land use concepts that support a walkable, bicycle and transit friendly community; following smart growth principles and transit oriented development (TOD) concepts. These principles support efficient travel that promote a high quality of life, sustainability, and reduced impacts on the environment; and are particularly applicable to the bicycle lanes, greenways, and sidewalks. Local Comprehensive Plans detail a number of planning objectives and action strategies for these parts of the transportation network.

Roadway Safety Needs

Roadway safety needs were determined based on reviews of Virginia Department of Transportation crash databases covering the years 2010 through 2012. Locations with 9 or more crashes over this time period qualified for funding. Some Safety projects are included in VDOT's Six Year Plan. Other identified locations are shown for funding in subsequent years.

Environmental Overview

The environmental overview of projects included a review of existing mapping and databases, aerial photographs, and, in some cases, field reviews, to identify the presence of features near a project area that could be affected by the project. The overview included the following aspects:

- Potential residential and business displacements;
- Environmental justice group (low-income and minority) impacts;
- Community disruptions;
- Community service impacts;

Land use/zoning conflicts;
Hazardous materials sites;
Impacts on historic sites and districts;
Impacts to wildlife refuges, critical habitats, and known locations of threatened and endangered species;
Proximity to wild and scenic rivers;
Encroachment on critical soil types (prime farmlands, erosive soils);
Proximity to managed forest lands, scenic routes, and parks/recreation areas;
Air quality impacts; impacts to noise sensitive receptors; and
Impacts to water quality, floodplains, and wetlands.

The overview of potential environmental impacts for projects in the Financially Constrained Plan focused on those projects not included in the current VDOT Six-Year Improvement Program (SYIP). This is because the SYIP projects have largely moved beyond the planning stage to the programming stage. Other similar projects that have moved beyond the conceptual stage include the proposed Multi-Modal Transfer Facility on Perry Street on the Virginia Tech Campus. The majority of the other projects in the Financially Constrained Plan consist of studies; or of spot improvements that are not expected to only minimal environmental effects.

Future Growth/Transportation Needs

Traffic forecasts are primarily a function of expected increases in population and employment, and the particular areas where traffic grows at the highest levels is based on where this anticipated growth is expected to occur. Base year population and employment data was determined for geographic areas in the region called transportation analysis zones (TAZs). In consultation with local planners, future growth in population and employment for each TAZ was also determined, with overall growth estimates guided by regional control totals. The New River Valley is expected to continue to grow at an above average pace due to the growth plans of both Virginia Tech and Radford University. Both of these institutions are the economic engines for the region. Transportation needs in the NRV MPO were identified based on input from transportation providers, local governments, the general public, and transportation planning and traffic engineering analysis. Base year population and employment are from data from the U. S. Census Bureau and the Virginia Employment Commission and the year 2012 is being used. Growth projections are for the year 2040. The maps following represent this information.

MPO Population and Employment Growth Projections by Jurisdiction

POPULATION

	POPULATION	POPULATION	PROJECTED	PROJECTED	ANNUAL
	2012	2040	Growth	% Growth	Linear % Growth
Blacksburg	43,028	54,602	11,574	26.9%	0.96%
Christiansburg	21,290	31,737	10,447	49.1%	1.75%
Radford City	16,450	19,318	2,868	17.4%	0.62%
Montgomery County	26,836	34,702	7,866	29.3%	1.05%
Pulaski County	4,237	4,533	296	7.0%	0.25%
MPO TOTAL	111,841	144,892	33,051	29.6%	1.06%

Notes:

- 1) 2040 Population projections for Blacksburg, Christiansburg, and Radford City based on Weldon Cooper
- 2) Montgomery and Pulaski County 2040 projections used calculated linear annual growth rate based on Weldon Cooper projected data for these two counties

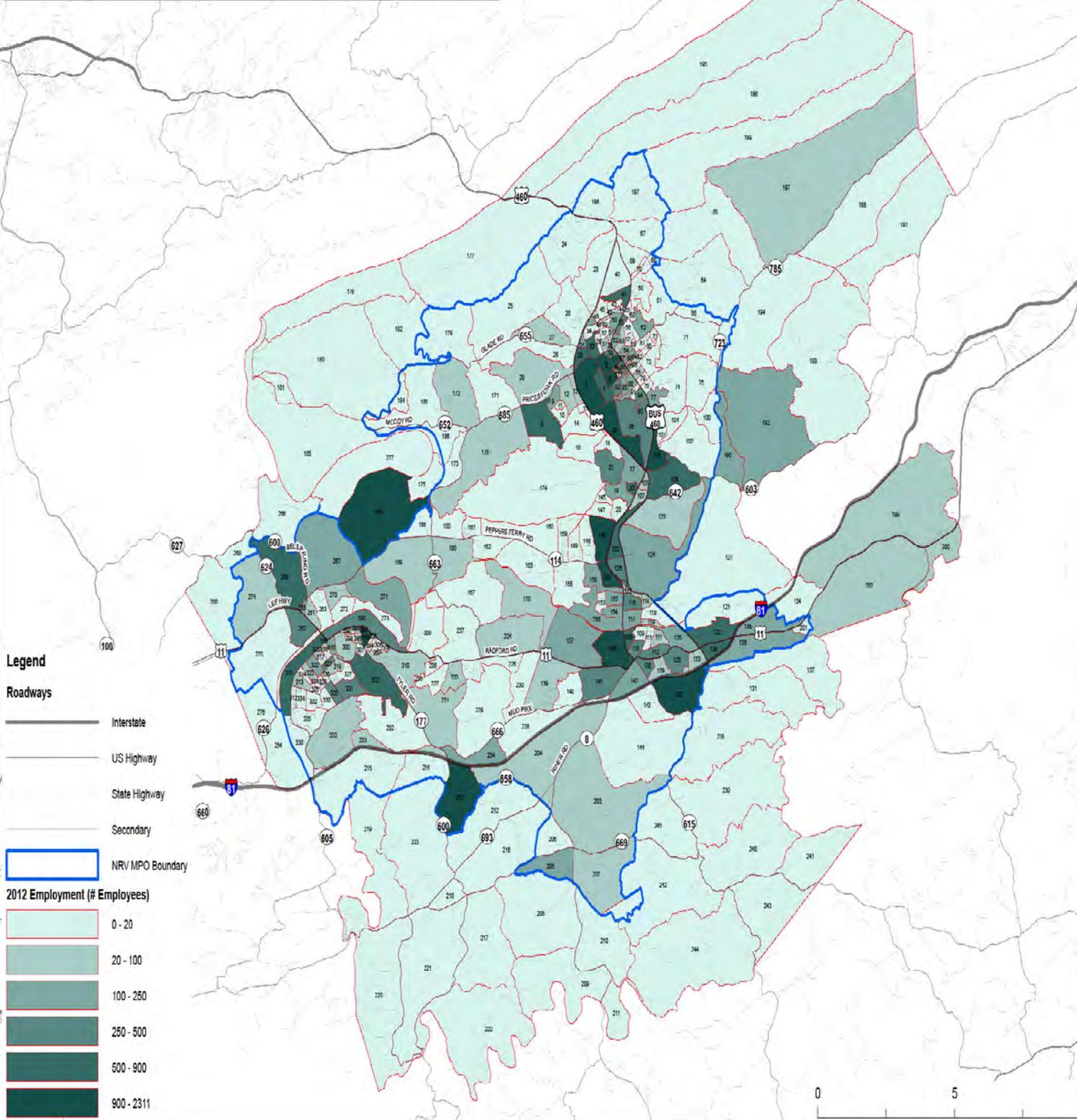
EMPLOYMENT

	EMPLOYMENT	EMPLOYMENT	PROJECTED	PROJECTED	ANNUAL
	2012	2040	Growth	% Growth	Linear % Growth
Blacksburg	21,523	29,116	7,593	35.3%	1.26%
Christiansburg	12,205	16,101	3,896	31.9%	1.14%
Radford City	5,734	7,388	1,654	28.8%	1.03%
Montgomery County	4,939	6,502	1,563	31.6%	1.13%
Pulaski County	1,586	2,043	457	28.8%	1.03%
TOTAL	45,987	61,150	15,163	33.0%	1.18%

Notes:

Growth Rates based on LMI - Industry Projections (Long-Term) for multiple industries in New River/Mt Rogers (LWIA II) in 2012-2022 Growth Projections

NRV 2012 Model Employment by TAZ



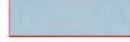
NRV 2040 Model Population by TAZ

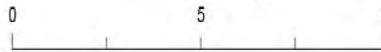
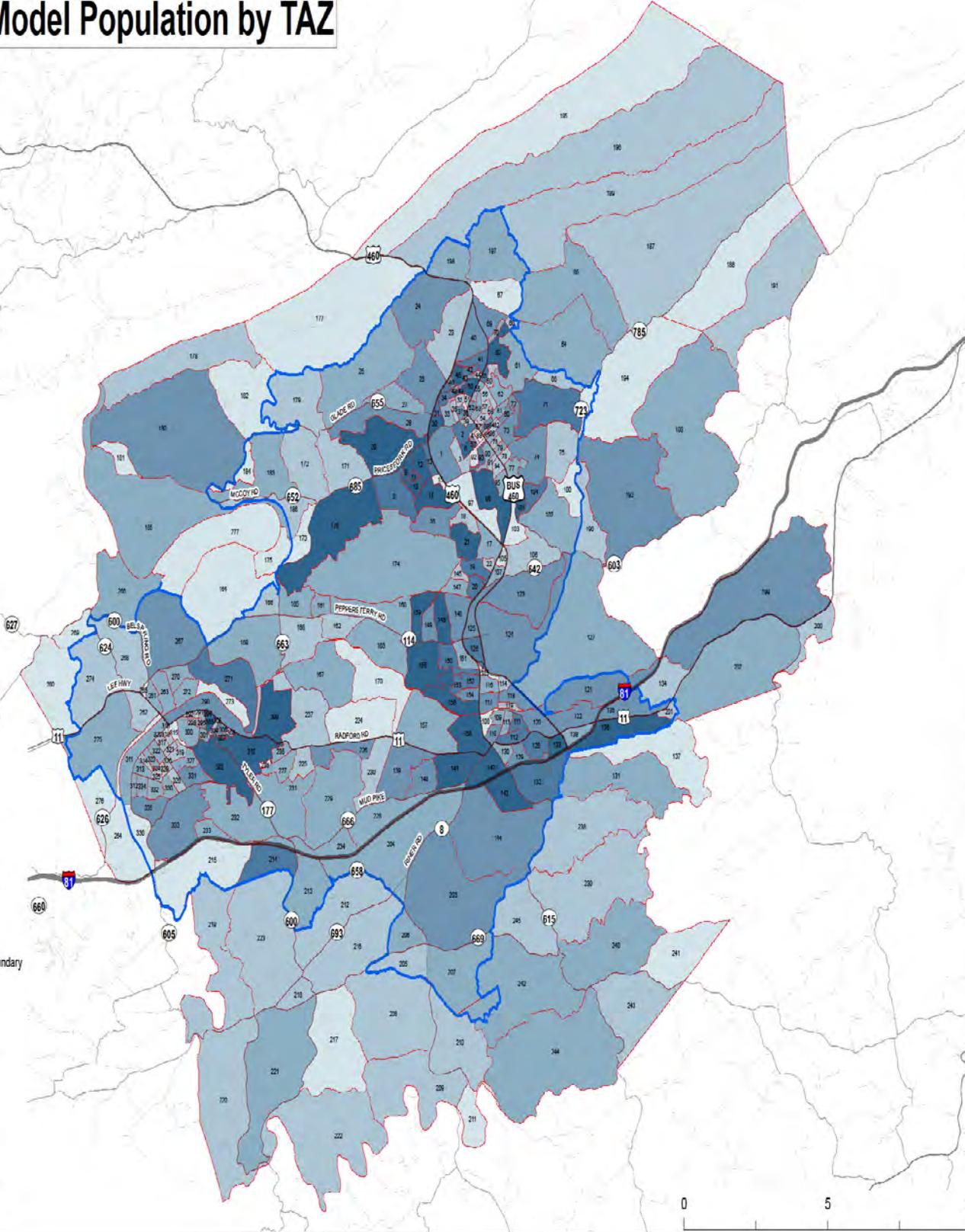
Legend

Roadways

-  Interstate
-  US Highway
-  State Highway
-  Secondary
-  NRV MPO Boundary

2040 Population (# People)

-  0 - 100
-  100 - 250
-  250 - 500
-  500 - 750
-  750 - 1000
-  1000 - 5769



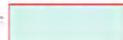
NRV 2040 Model Employment by TAZ

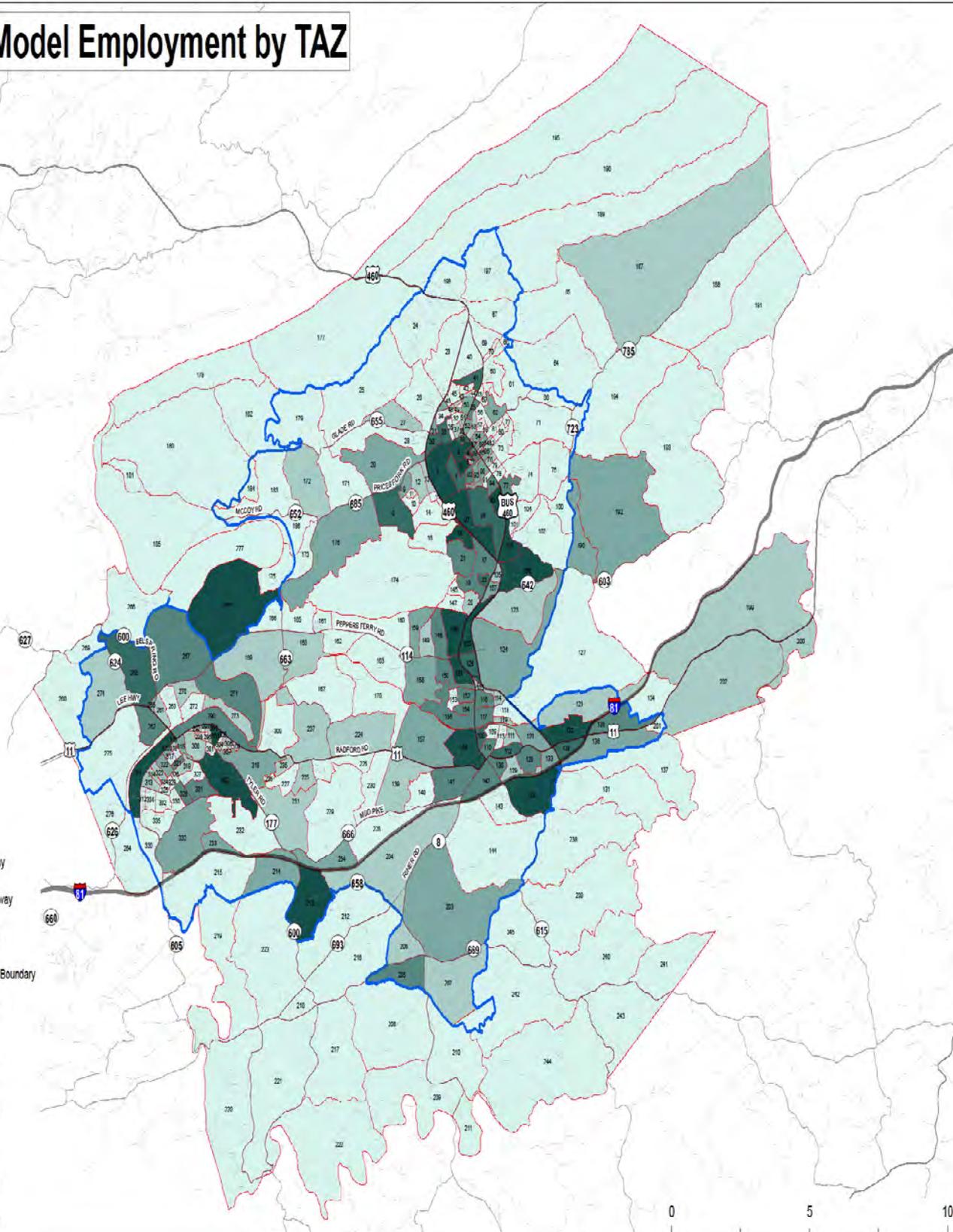
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Roadways

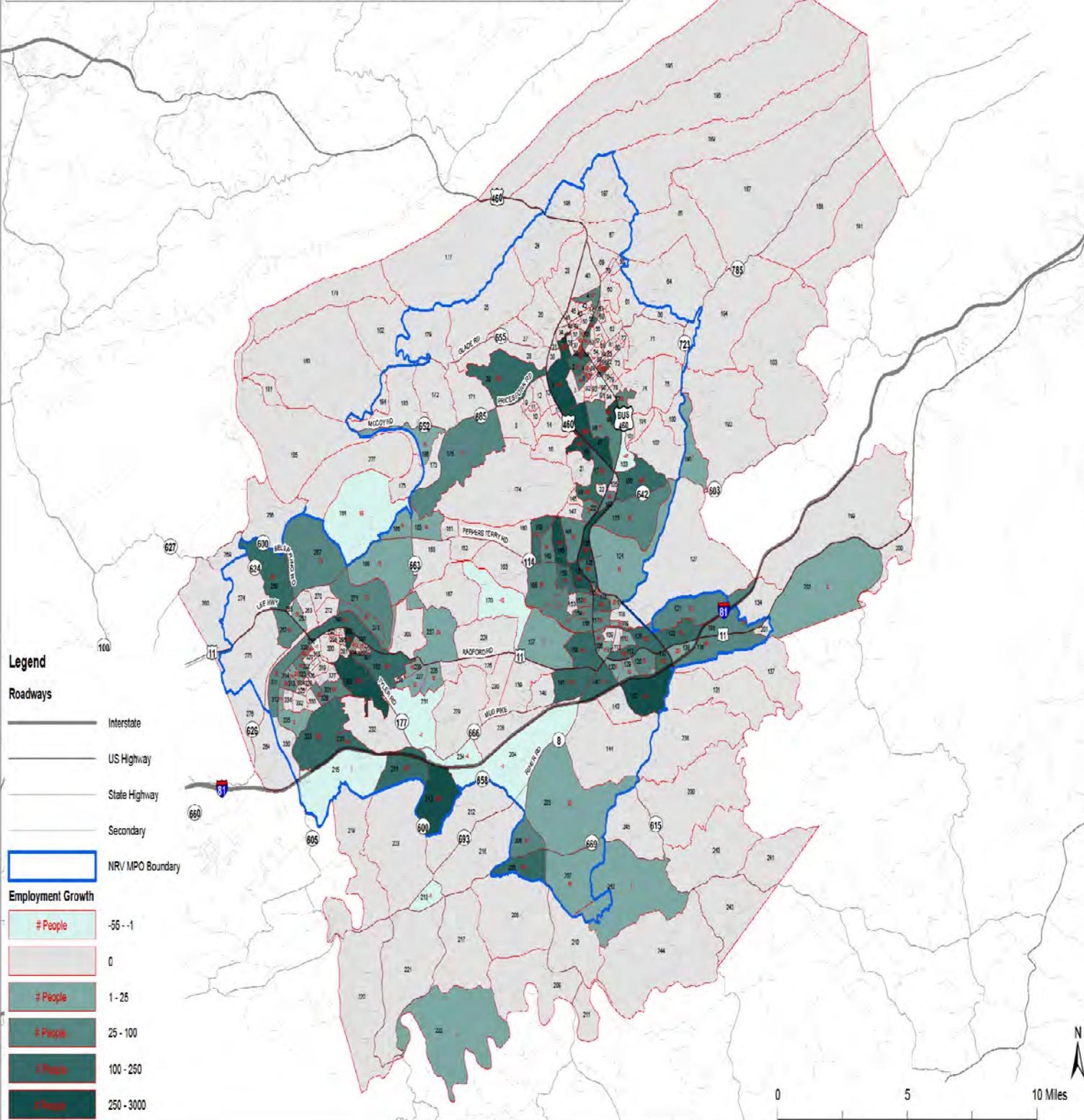
-  Interstate
-  US Highway
-  State Highway
-  Secondary
-  NRV MPO Boundary

2040 Employment (# Employees)

-  0 - 20
-  20 - 100
-  100 - 250
-  250 - 500
-  500 - 900
-  900 - 4997



NRV 2012 - 2040 Model Employment Gain by TAZ



FINANCIALLY CONSTRAINED PLAN

Overview

Federal regulations that guide the development of transportation plans for metropolitan planning areas require that the plans demonstrate that funds will be available to implement the projects based on reasonably expected public and private funding sources. For metropolitan areas in Virginia, the Virginia Department of Transportation (VDOT) provides estimates of transportation funding levels to the year 2040. Those projects that can be funded based on these estimates comprise the Financially Constrained Long-Range Transportation Plan which is described in this section. Since HB2 was adopted by the State Legislature and the State is beginning implementation, VDOT is unable to provide anticipated funding. The MPO has taken funding projected in the last Long Range Plan Update, modified it based on projects in VDOT's current Six Year Plan, and have developed as accurate a plan as possible. Upon VDOT providing updated funding projections, the MPO will Amend the Plan to accurately reflect the anticipated funding.

Funding Forecast

Anticipated Funding Stream for Constrained Plan	
Category	Anticipated Funding (2021-2040) in \$1000s
VDOT District Grant Program	\$25,419
VDOT High Priority Program	\$25,419
VDOT Other Discretionary Construction	\$13,272
VDOT State of Good Repair Program	\$41,595
Federal Transit	\$14,510
Revenue Sharing	\$29,322
Sub-Total	\$149,537
Six Year Plan Funds	\$185,463
Six Year Plan Revenue Sharing Funds	\$26,930
Total	\$361,930

Financially Constrained Long Range Plan Project Listing

Jurisdiction	Route	Project Location	Description	SYIP	FCLR	ESTIMATE
						In \$1,000s
Blacksburg		Various	Revenue Sharing - Bicentennial Greenway	X	X	\$40
Blacksburg	460	Intersection of Route 460 & North Main Street	Intersection Improvements HB2 FY17	X	X	\$3,317
Blacksburg		North Main Street @ Red Maple Drive	Safety – Improve Sight Distance	X	X	\$271
Blacksburg		Various	Revenue Sharing – Paving, Drainage, Sidewalks, Curb & Gutter, Guardrail, Trails, Signals Reconstruction	X	X	\$9,598
Blacksburg	460	Route 460 @ Route 314 (Southgate Dr.)	Interchange & Connector Road	X	X	\$51,802
Christiansburg / Montgomery County	81	@ Route 8, Exit 114	Replace Bridges and approaches on I 81 over Route 8	X	X	\$34,907
Christiansburg	460	EB Exit Ramp to Franklin Street	New Ramp Construction HB2 FY17	X	X	\$2,124
Christiansburg	81	Exit 118 B off of I 81	Relocation of Park & Ride Lot	X	X	\$5,215
Christiansburg		Chrisman Mill Road	Realign road at railroad crossing	X	X	\$570
Christiansburg			Revenue Sharing - Paving, Drainage, Guardrail, Trails, Signals, Pavement Overlays, Sidewalks	X	X	\$10,094
Christiansburg		North Franklin Street From Cambria Street to Independence Blvd.	Realign EB Ramp from Route 460 and make operational & safety upgrades between Cambria Street and Independence Blvd. – Includes Access Management	X	X	\$8,490
Montgomery & Pulaski	81	I 81 at Exit 105	Replacement of NB & SB bridges over the New River	X	X	\$126,078
Montgomery	81	Various	Pavement Rehabilitation	X	X	\$1,273
Montgomery	8	at Route 669	Install Turn Lanes	X	X	\$2,279
Montgomery	Smart Road		2 lanes on 4 lane Right of Way	X	X	\$9,577
Montgomery	600		Restoration & Reconstruction	X	X	\$4,904
Montgomery	685	In Prices Fork	Revenue Sharing – Prices Fork Road Turn Lane Construction	X	X	\$2,060
Montgomery		Virginia Tech Campus	Revenue Sharing – Western Perimeter Road new construction	X	X	\$34,500
Montgomery		Belview ES & Auburn ES/MS	Safe Routes to School - Bicycle/Pedestrian Improvements	X	X	\$500
Radford	177	Tyler Avenue	Resurfacing	X	X	\$341
Radford	11	City Wide	Traffic Signal Analysis & Installation	X	X	\$83

Radford		Tyler Avenue to Main Street	Construct New 2 Lane Connector	X	X	\$6,399
Pulaski		From Riverlawn Park to the New River	Riverlawn Court Trail	X	X	\$200
Blacksburg		Perry Street, Virginia Tech Campus	Construct Multi-Modal Transportation Facility	X	X	\$14,510
Christiansburg	111	Depot Street (Route 111) over Walnut Branch	Upgrade bridge		X	\$1,000
Montgomery	8	Riner Road (Route 8) at Life Drive (Route 1295)	Safety Improvements		X	\$100
Montgomery	11	Radford Road (US 11) at Walton Road (Route 663)	Safety Improvements		X	\$100
Montgomery	81	I-81 at Tyler Road (Route 177) -- Exit 109A	Install signals		X	\$400
Montgomery	643	Yellow Sulphur Road (Route 643) over Wilson Creek	Upgrade bridge		X	\$500
Montgomery	655	Mount Zion Road (Route 655)over Toms Creek	Upgrade bridge		X	\$400
Montgomery	657	Merrimac Road (Route 657)at Hightop Road (Route 808)	Improve intersection		X	\$1,100
Montgomery	658	Meadow Creek Road (Route 658) over Meadow Creek	Upgrade bridge		X	\$750
Montgomery	679	Nolley Road (Route 679) over Elliott Creek (South)	Upgrade bridge		X	\$1,000
Montgomery	679	Nolley Road (Route 679)over Elliott Creek (North)	Upgrade bridge		X	\$1,000
Montgomery	785	Catawba Road (Route 785)over Indian Run	Upgrade bridge		X	\$547
Montgomery	808	Hightop Road (Route 808) over Slate Branch	Upgrade bridge		X	\$500
Montgomery	81	At Exit 114	Reconstruct, Add Sound Walls,Add a Park & Ride Lot		X	\$27,000

Department of Aviation Commonwealth of Virginia

Project List Report

Years: 2015, 2016, 2017, 2018, 2019, and 2020

Project Categories: All

Project Types: CAF

Project Statuses: CP

	FAA	State	Local	VDOT	Total
Virginia Tech-Montgomery Executive Airport					
2015					
Corporate Hanger # 2 Site Preparation (Construction)	\$0.00	\$610,456.00	\$235,165.00	\$0	\$845,621.00
Research Center Drive & Huckleberry Trail Relocation	\$2,941,812.00	\$261,494.40	\$65,373.60	\$0	\$3,268,680.00
Runway Extension Phase 1 (Construction)	\$2,058,120.00	\$182,944.00	\$45,736.00	\$0	\$2,286,800.00
T-Hanger Site Preparation (Construction)	\$0.00	\$629,611.00	\$203,448.00	\$0	\$833,059.00
2015 Sub Total	\$4,999,932.00	\$1,684,505.40	\$549,722.60	\$0	\$7,234,160.00
2016					
Fuel Farm Relocation (Design)	\$0.00	\$60,000.00	\$15,000.00	\$0	\$75,000.00
Runway Extension Phase 2 (Construction)	\$4,999,999.50	\$444,444.40	\$111,111.10	\$0	\$5,555,555.00
2016 Sub Total	\$4,999,999.50	\$504,444.40	\$126,111.10	\$0	\$5,630,555.00
2017					
Fuel Farm Relocation (Construction)	\$0.00	\$180,000.00	\$45,000.00	\$0	\$225,000.00
Runway Extension Phase 3 (Construction)	\$4,999,999.50	\$444,444.40	\$111,111.10	\$0	\$5,555,555.00
2017 Subtotal	\$4,999,999.50	\$624,444.40	\$156,111.10	\$0	\$5,780,555.00
2018					
Land Acquisition Phase 1	\$2,458,565.10	\$218,539.12	\$54,634.76	\$0	\$2,731,738.98
Runway Extension Phase 4 (Construction)	\$2,541,434.40	\$225,905.28	\$5,476.32	\$0	\$2,823,816.00
2018 Subtotal	\$4,999,999.50	\$444,444.40	\$111,111.08	\$0	\$5,555,554.98
2019					
Land Acquisition Phase 2	\$4,999,999.50	\$444,444.40	\$111,111.10	\$0	\$5,555,555.00

2019 Subtotal	\$4,999,999.50	\$444,444.40	\$111,111.10	\$0	\$5,555,555.00
2020					
Land Acquisition Phase 3	\$1,001,436.00	\$89,016.00	\$22,254.00	\$0	\$1,112,706.00
2019 Subtotal	\$1,001,436.00	\$89,016.00	\$22,254.00	\$0	\$1,112,706.00
Virginia Tech-Montgomery Executive Airport Subtotal	\$26,001,366.00	\$3,791,299.00	\$1,076,420.98	\$0	\$30,869,085.98
Total	\$26,001,366.00	\$3,791,299.00	\$1,076,420.98	\$0	\$30,869,085.98

***New River Valley
Metropolitan Planning Organization***

May 3, 2018

Resolution to approve the NRV Regional Freight Study

On a motion by _____ seconded by _____ and carried unanimously,

WHEREAS, the NRV MPO approved conducting a joint regional freight study with the New River Valley Regional Commission (NRV RC); and

WHEREAS, the NRV RC has completed the study including interviews with major freight movers within the New River Valley, and

Whereas, the NRV RC coordinated the study with VDOT, and

WHEREAS, the NRV MPO TAC has reviewed and recommends approval,

NOW, THEREFORE BE IT RESOLVED that:

The New River Valley MPO Policy Board approves the final report of the New River Valley Regional Freight Study.

F. Craig Meadows, Chairman



Regional Freight Plan

For Virginia's New River Valley

Approved: _____

New River Valley



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INTRODUCTION

The New River Valley Metropolitan Planning Organization (MPO) and New River Valley Regional Commission (Commission) partnered on the 2018 Regional Freight Study to inform local, regional, statewide, and federal partners about mobility goals that continually improve Virginia's and the New River Valley's competitive economic position. This Freight Plan identifies the region's multimodal critical freight network and incorporates both urbanized and rural areas of the region.

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 slightly less than 10%. Interestingly, pipeline and multiple modes tie for third, moving just under 8% of all tonnage shipments in the US.¹ Freight is anticipated to grow across all transportation

In 2012, the NRV region exported more than \$6 billion in freight value.

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.

The movement of freight (raw materials, intermediate products, and finished goods) contributes over \$350 billion of Virginia's Gross State

Product, or about 28% of the total statewide economy.² In the New River Valley, the value of goods exported is about \$6.4 billion.³ While bottlenecks can be found during peak-hour traffic, Virginia and the New River Valley generally have adequate infrastructure capacity. The NRV Freight Plan identifies a critical regional freight network and anticipated needs through 2045.

From a regional perspective, 80-95% of all exports are generated by the top ten industries in each NRV county/city. The commodities exported are different based on value, trips, and tonnage, but there are similar industries consistently ranking in the top ten. More than \$6 billion in value, 40,000 trips, and nearly 4 million tons were exported in 2012.

Scope and Method

The purpose of this plan is to comprehensively review and update the 2009 Freight Study. In addition to examining the existing freight transportation system (rail, air, and trucking) particular emphasis was placed on proactively addressing future goods movement. The 2018 Freight Plan specifically accomplishes the following:

- Reviews internal and external factors contributing to the regional freight profile
- Identifies the primary/critical freight network
- Analyzes the largest freight generators by volume, value, and trips
- Documents ideas, insights, and barriers of local freight connections

¹ National Freight Strategic Plan. 2016. US Department of Transportation, 1200 New Jersey Ave., Washington, DC 20590.

² Virginia Multimodal Freight Plan. 2015. Cambridge Systematics, Inc.

³ 2012 Transearch Data. May 28, 2014. IHS Global Inc., 24 Hartwell Avenue, Lexington, MA 02421.

KEY FINDINGS AND RECOMMENDATIONS

This section provides an overview of the key findings and recommendations identified through the planning process. Overarching regional strategies include:

1. Invest in new technologies that optimize infrastructure capacity.
2. Bring critical regional freight network intersections with Corridors of Statewide Significance up to current design standards.
3. Anticipate significant growth in freight truck and rail tonnage. Partner with the Virginia Department of Transportation and Department of Rail and Public Transportation to increase Virginia's global economic competitiveness.
4. Improve coordination between public and private sectors to address freight system needs. Identify strategies that minimize costs and address key challenges.
5. Increase data collection and levels of accuracy to better understand regional freight trends.

Recommended Performance Measures

23 Code of Federal Regulations Part 490 describes the performance period, reporting requirements, and timeline for establishing performance measures. The role of the New River Valley Metropolitan Planning Organization (NRVMPO) is to support national goals in the planning process and consider measures and targets to incorporate in to long range plans and programs. The United States Department of Transportation and the Virginia Office of Intermodal Planning and Investment recommended performance categories include: 1) safety; 2) maintenance and preservation; 3) mobility, reliability, and congestion; 4) accessibility and connectivity; 5) environment; 6) economic vitality; and 7) coordination of freight transportation and land use.

At the time of this plan, performance measures had only been established statewide for safety. November 2, 2017, the NRVMPO accepted the statewide annual targets for fatality reduction (2.0%), serious injury reduction (5.0%), VMT percent increase (1.5%), and bike/ped reduction (4.0%). Once additional targets and methods for evaluation are established by the Virginia Department of Transportation, the NRVMPO will choose to support statewide targets and/or establish its own. Table 1 (below) provides the implementation schedule.

In general, truck accidents per miles traveled tends to be relatively low. However, significant safety concerns remain due to differences in size and maneuverability compared to an automobile. More than 19,000 accidents occurred in the New River Valley between 2011 and 2017, of which slightly more than 5% involved trucks. 314 accidents involving a truck resulted in an injury and 12 fatalities involved a truck.

Subpart F of the code identifies the freight measure regarding truck travel time reliability. Frequent causes of truck delay (bottleneck) include: steep grades, substandard vertical/horizontal clearances, weight restrictions, border crossings or terminals, and operating restrictions. Nation-wide additional bottlenecks are also frequently caused by non-recurring circumstances including: traffic incidents, bad weather, and work zones.

Bottlenecking conditions in the New River Valley are primarily the result of speed-based delays due to topography, highway weaving areas, and lane width. Other parts of Virginia experience capacity-based bottlenecks related to excess traffic volumes. In general, the region’s freight network is very reliable. However, truck traffic can drop well below 60% of the posted speed limit on Interstate 81 and US Route 460. In addition, the lack of a parallel network causes substantial delays when accidents occur on either Corridor of Statewide Significance.

Statewide bottlenecks are also projected to occur on rail. According to the *Virginia State Rail Plan*, capacity at the intersection of Norfolk Southern’s Heartland and Crescent Corridors will be insufficient to accommodate future growth.⁴ The intersection occurs where the jurisdictional boundaries of Montgomery County and the City of Radford converge with the New River.

While the New River Valley Airport is still designated as a US Port of Entry, no on-site Customs Clearance personnel exists southwest of Richmond. In addition, neither the New River Valley nor Roanoke-Blacksburg airports have cargo warehouse storage for distributors. 2040 projections appear encouraging for air cargo, and could necessitate both regions to explore potential staff and capital needs.

The MPO’s Transportation Improvement Plan (TIP) shall, to the maximum extent practicable, describe how the investments make progress towards achieving performance targets. However, the MPO is not required to be project specific for this initial round. The Federal Highway Administration is aware that each MPO is unique and may need flexibility in establishing performance measures.

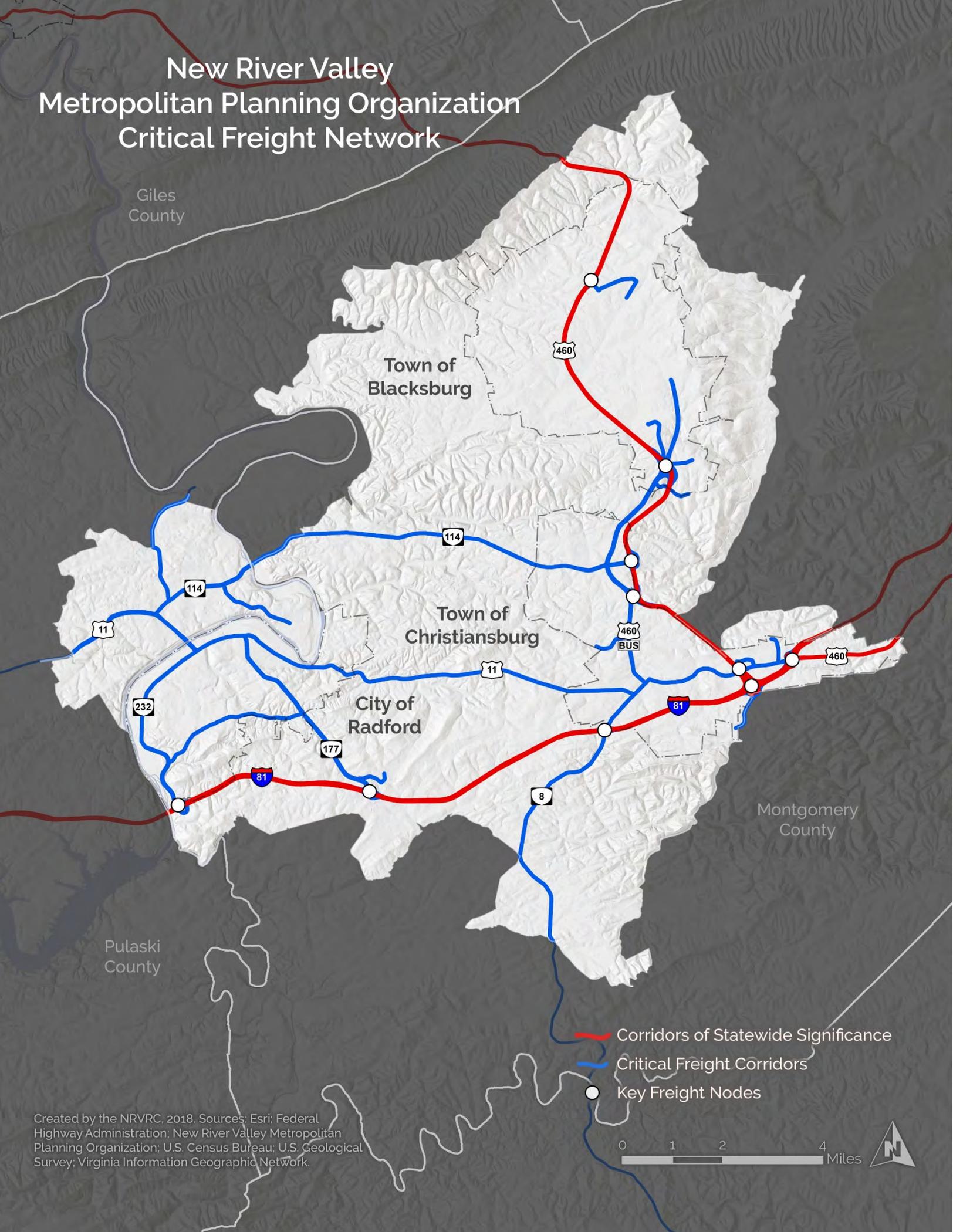
Table 1: Performance Measure Implementation Schedule

Measure	Effective Date	State Target Date	MPO Target Date	Planning Inclusion
Safety (PM1)	14 April 2016	Complete	Complete	27 May 2018
Pavement/Bridge (PM2)	20 May 2017	20 May 2018	17 October 2018	20 May 2019
System (PM3)	20 May 2017	20 May 2018	17 October 2018	20 May 2019

Overall, freight export value in the New River Valley is expected to grow more than 70%, from \$6.3B to \$10.9B, by 2040. This plan identified clusters of the region’s largest freight generators to identify a regional multimodal critical freight network, for both the urban and rural areas. The map shown on the next page illustrates the urban roadway network.

⁴ Virginia Statewide Rail Plan, September 19, 2017 draft. Appendix J, Rail Bottlenecks, Figure J-1. Virginia Department of Rail and Public Transportation.

New River Valley Metropolitan Planning Organization Critical Freight Network



Giles County

Town of Blacksburg

Town of Christiansburg

City of Radford

Montgomery County

Pulaski County

- Corridors of Statewide Significance
- Critical Freight Corridors
- Key Freight Nodes

Created by the NRVRC, 2018. Sources: Esri; Federal Highway Administration; New River Valley Metropolitan Planning Organization; U.S. Census Bureau; U.S. Geological Survey; Virginia Information Geographic Network.

0 1 2 4 Miles



PLAN IMPLEMENTATION & RATIONALE FOR INVESTMENT

The New River Valley Metropolitan Planning Organization (MPO) met on April 19, 2018 to establish an action plan. Each action plan identifies policy goals, impacts, anticipated completion, and estimated cost.

Action Plan

Table 2: Action Plan

ID	Project/Goal	Impacts	Complete	Cost
01	I-81: North bound bridge replacement and Route 232 bridge replacement. UPC: 56899	Virginia, Montgomery County, and City of Radford.	2024	\$69M
02	I-81: Approaches and bridges over Route 8. UPC: 93074	Montgomery and Floyd Counties, and Town of Christiansburg	2024	\$24M
03	I-81: Route 8 approaches to interstate. UPC: 93075	Montgomery and Floyd Counties, and Town of Christiansburg	2024	\$11M
04	Route 100: Bridges over Route 11 rehabilitation/replacement. UPC: 104183	Virginia's First, Pulaski and Giles Counties, and Town of Dublin	2024	\$8M
05	Route 100: Safety improvements within 2-lane segment. UPC: 107051	Pulaski and Giles Counties, and Town of Dublin	2024	\$4M
06	Route 460: North Main intersection improvements at Route 460 Bypass. UPC: 108900	Montgomery County, and Town of Blacksburg	2024	\$3M
07	I-81: Exit 98 diverging diamond intersection improvement. New approaches and signals.	Virginia's First, Pulaski and Giles Counties, and Town of Dublin	2026	\$8M
08	Norfolk Southern: intermodal facility	Virginia, Montgomery and Roanoke Counties	2026	\$71M
09	Virginia Tech/Montgomery County executive Airport runway extension.	Montgomery County, Town of Blacksburg, and Virginia Tech	2019	\$7M
10	Work with Onward NRV to evaluate potential regional warehouse and logistic needs for air cargo freight distribution.	Current and future industries moving high-value & perishable goods	2020	\$50K
11	Work with statewide partners to evaluate potential improvements that address increased truck freight on Route 8.	Montgomery and Floyd Counties.	2019	\$75k
12	Work with statewide partners to evaluate potential improvements that address increased truck freight on Route 100.	Pulaski and Giles Counties.	2021	\$75k

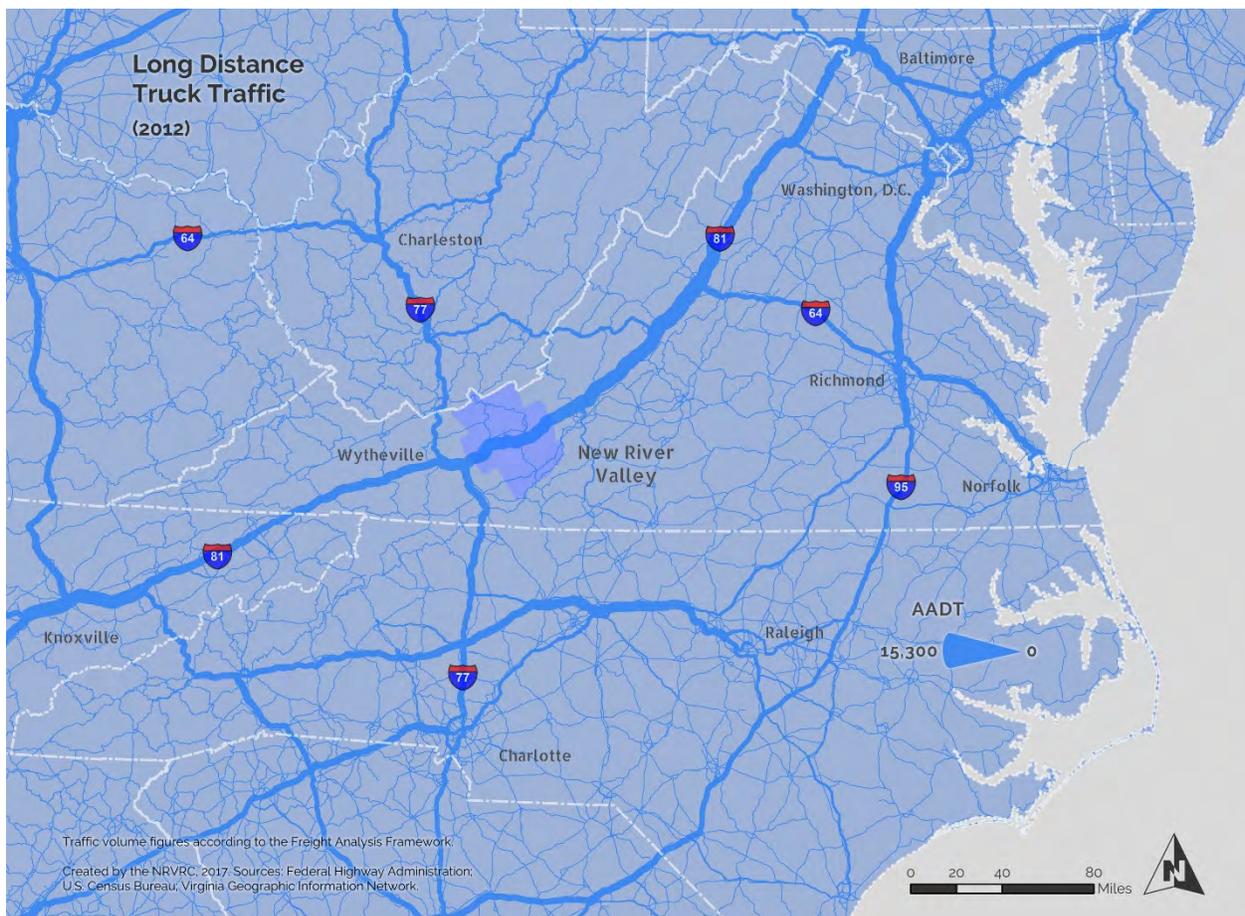
NRV REGIONAL FREIGHT PROFILE

In general, the region benefits from the presence of two Virginia Corridors of Statewide Significance (CoSS). Interstate 81, which has one of the nation's highest volumes of long-haul truck traffic, and US Route 460, are gateway corridors for Virginia. The corridors are also known statewide as the Crescent Corridor (I-81) and the Heartland Corridor (US Route 460). 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 services. Interstate 495 has the most daily traffic volume; however, Interstate 81 has both the highest truck count and percentage of daily truck traffic in Virginia. Map 1 (shown below) illustrates long-distance truck volume at the State level.

Statewide Freight Perspective

From a statewide and even national perspective, Interstate 81 serves as a major long distance truck route. In Virginia, I-81 has the highest truck volume and hauls more tonnage than any other corridor in the Commonwealth. According to the *2015 Virginia Multimodal Freight Plan*, the annual hours of truck delay is 456,645⁵ along the segment of I-81 through Montgomery County. The delay is ranked number one in the Commonwealth and accounts for more than 27% of all delays statewide.

Map 2: Long Distance Truck Traffic, Virginia



⁵ Virginia Multimodal Freight Plan, Appendix C, Table C.21. 2015. Cambridge Systematics, Inc.

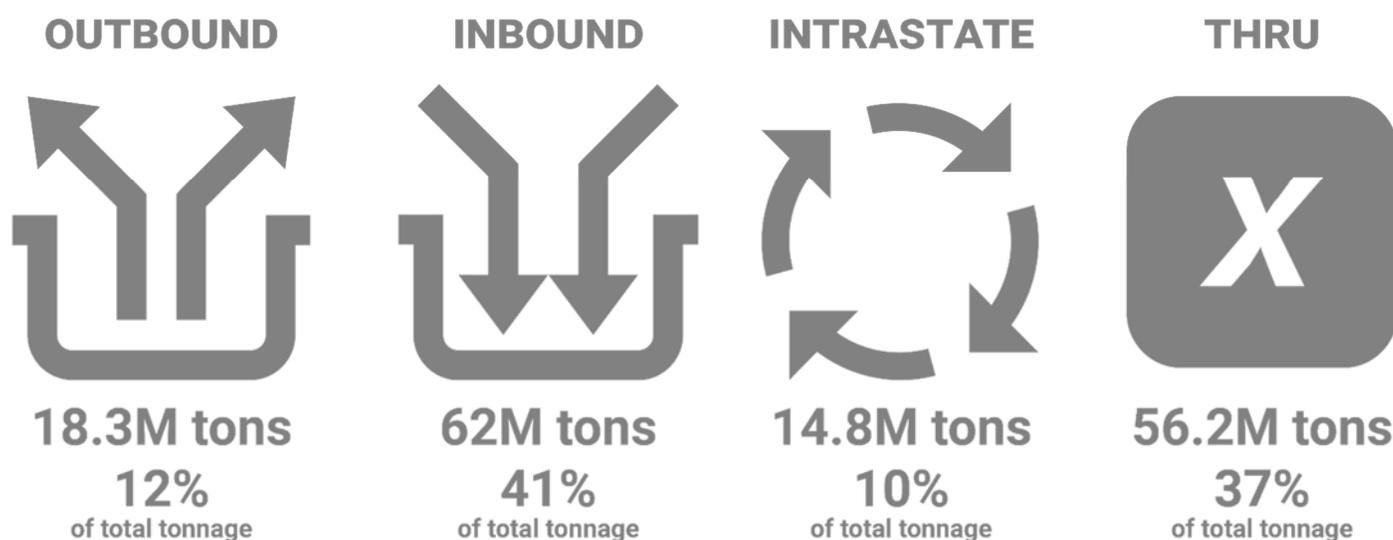
Norfolk Southern and CSX Transportation are the Commonwealth’s existing Class I railroads. There are currently nine Class III (shortline) railroads, including: Bay Coast Railroad, Buckingham Branch Railroad, Chesapeake & Albemarle Railroad, Chesapeake Western Railway, Commonwealth Railway, Norfolk & Portsmouth Belt Line Railroad, North Carolina & Virginia Railroad, Shenandoah Valley Railroad, and Winchester & Western Railroad.

Coal accounted for more than 50% of freight tonnage statewide in 2012

Each day, hundreds of thousands of goods and products move across more than 3,000 miles of rail throughout the Commonwealth. Rail will continue to

play a strong role in Virginia’s economy. The September 2017 draft of the *Virginia State Rail Plan* anticipates a 19% growth in total freight movements by 2040.

In 2012, Virginia’s major rail outbound commodities⁶ included: coal, nonmetallic minerals, miscellaneous mixed shipments, chemicals or allied products, and petroleum or coal products. Coal accounted for more than 50% of all commodity movements statewide. Slightly more than 150 million tons of outbound, inbound, intrastate, and through freight rail tonnage is estimated statewide by utilizing IHS Transearch data (visualized below).



⁶ Virginia Statewide Rail Plan, September 19, 2017 draft. Appendix I, Rail Outbound Total, Figure I-4. Virginia Department of Rail and Public Transportation.

Virginia has 57 general aviation airports, nine of which provide commercial services. Business/personal travel is certainly the primary use of airports in the Commonwealth; however, large and small companies rely on air transport for higher value goods and materials. In 2010, airports in Virginia contributed to 259,000 jobs, \$11.1 billion in payroll, and \$28.8 billion in economic activity.⁷

According to the *Virginia Multimodal Freight Plan*, air transports slightly more than 15% of the Commonwealth's critical commodity value and less than 1% of tonnage. Machinery accounts for the largest air cargo user in Virginia. Other popular commodities handled by

Air transports 15% of Virginia's critical commodity value, but less than 1% of total freight tonnage.

air include: mail, optical/photo equipment, and electrical equipment. Statewide, the top three commodities shipped internationally include: secondary traffic, transportation equipment, and chemicals or allied products. Compared to world averages, Virginia utilizes air less for international shipments.

World air cargo is projected to grow 4.2% per year through 2035.⁸ Markets connected to Asia are projected to see the highest growth, 4.6% in North America. While air cargo accounts for less than 1% of the world's trade tonnage, 35% of the world trade value is carried by air. Goods transported by air serve markets that demand speed and reliability. In addition, air transport is often a preferred method for shipping perishable items.

Air cargo moving through North America accounts for 13.8% of the world's air cargo.⁹ Breaking down the North America numbers, the United States accounts for more than 96% of air cargo, with slightly less than 4% transported to/from Canada. Canada and the United States also trade regularly, a trend that is anticipated to continue well beyond 2035.

By comparison, containership pricing is 10 to 20 times less expensive than air cargo per unit weight. Other variables, including fuel prices and behaviors of shippers are additional factors that directly influence air transport. Similar to other modes of freight transport, air cargo relies on trucks to complete shipments.

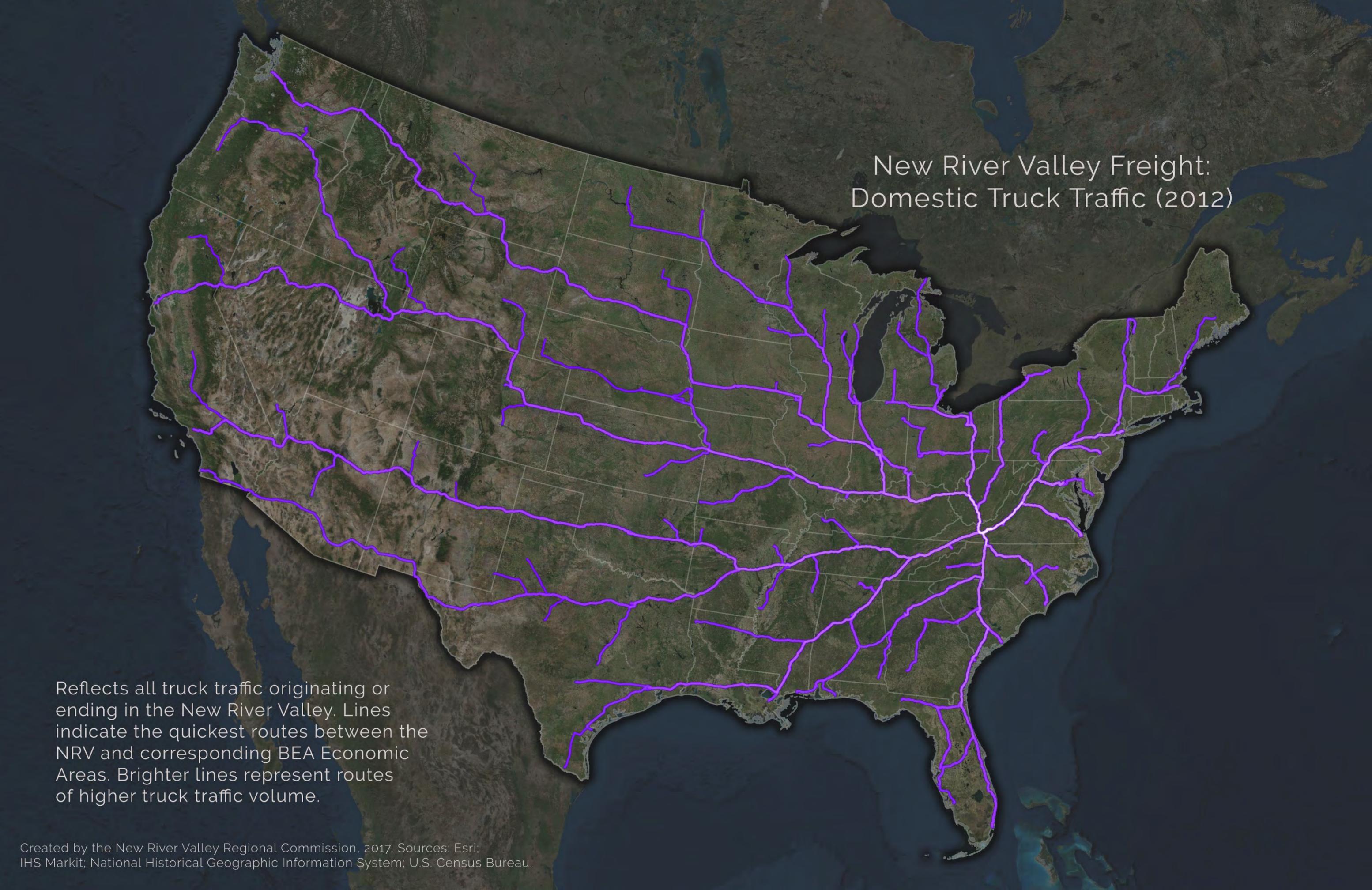
Virginia's freight system is currently performing at a high level, but will face pressure as demand continues to increase across the nation. 40% of freight tonnage simply passes through Virginia's highways in route to another state.¹⁰ Statewide trucks move approximately 95% of all freight value. Although freight demand will grow across all modes, trucking will continue to serve most shippers.

⁷ Commonwealth of Virginia Statewide Economic Impact Study – Technical Report. 2011. Virginia Department of Aviation.

⁸ World Air Cargo Forecast. 2016-2017. Boeing World Air Cargo Forecast Team. PO Box 3707, MC 21-33, Seattle, Washington 98124-2207.

⁹ World Air Cargo Forecast. 2016-2017. Boeing World Air Cargo Forecast Team. PO Box 3707, MC 21-33, Seattle, Washington 98124-2207.

¹⁰ Virginia Multimodal Freight Plan. 2015. Section 1.2.



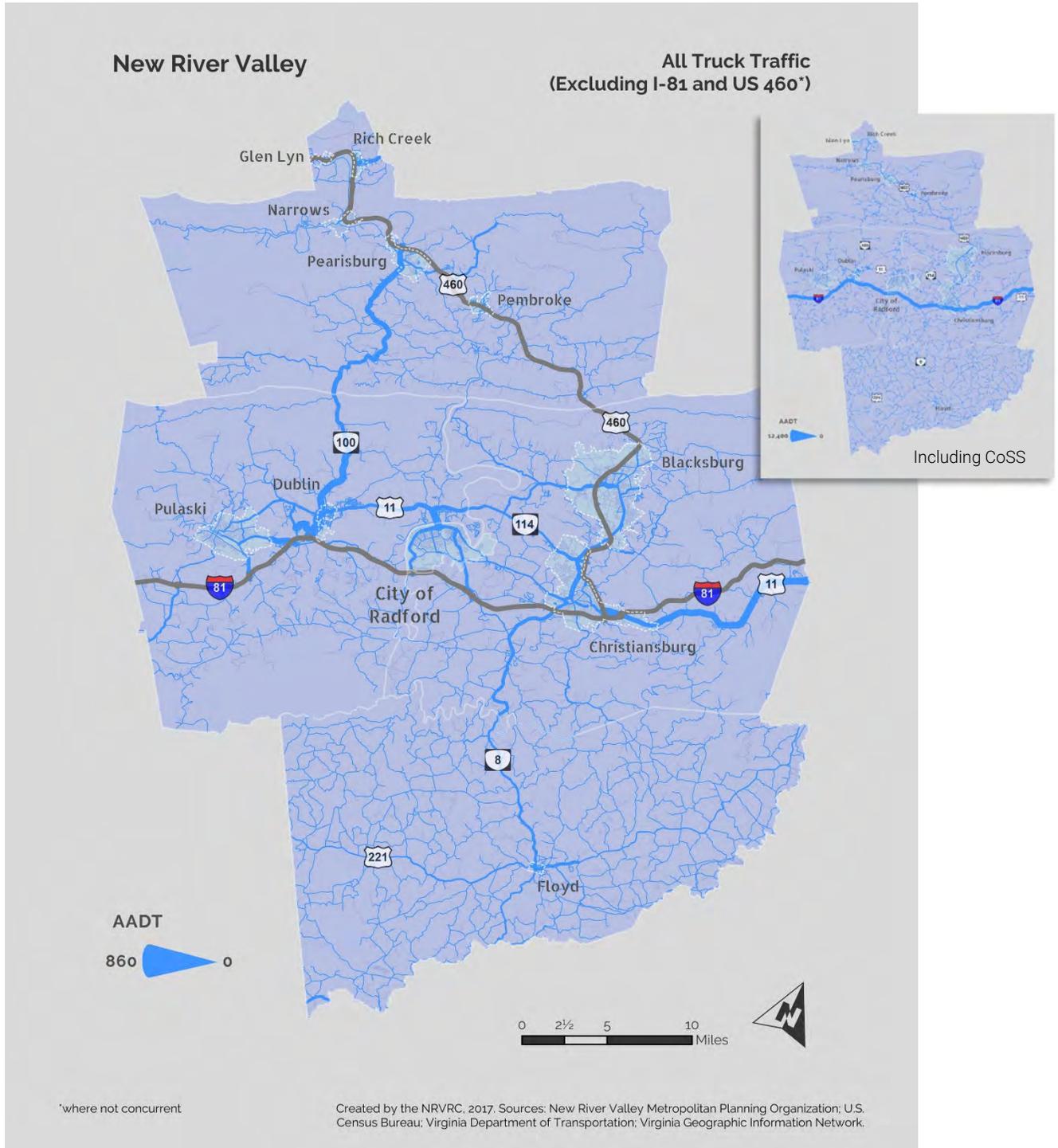
New River Valley Freight: Domestic Truck Traffic (2012)

Reflects all truck traffic originating or ending in the New River Valley. Lines indicate the quickest routes between the NRV and corresponding BEA Economic Areas. Brighter lines represent routes of higher truck traffic volume.

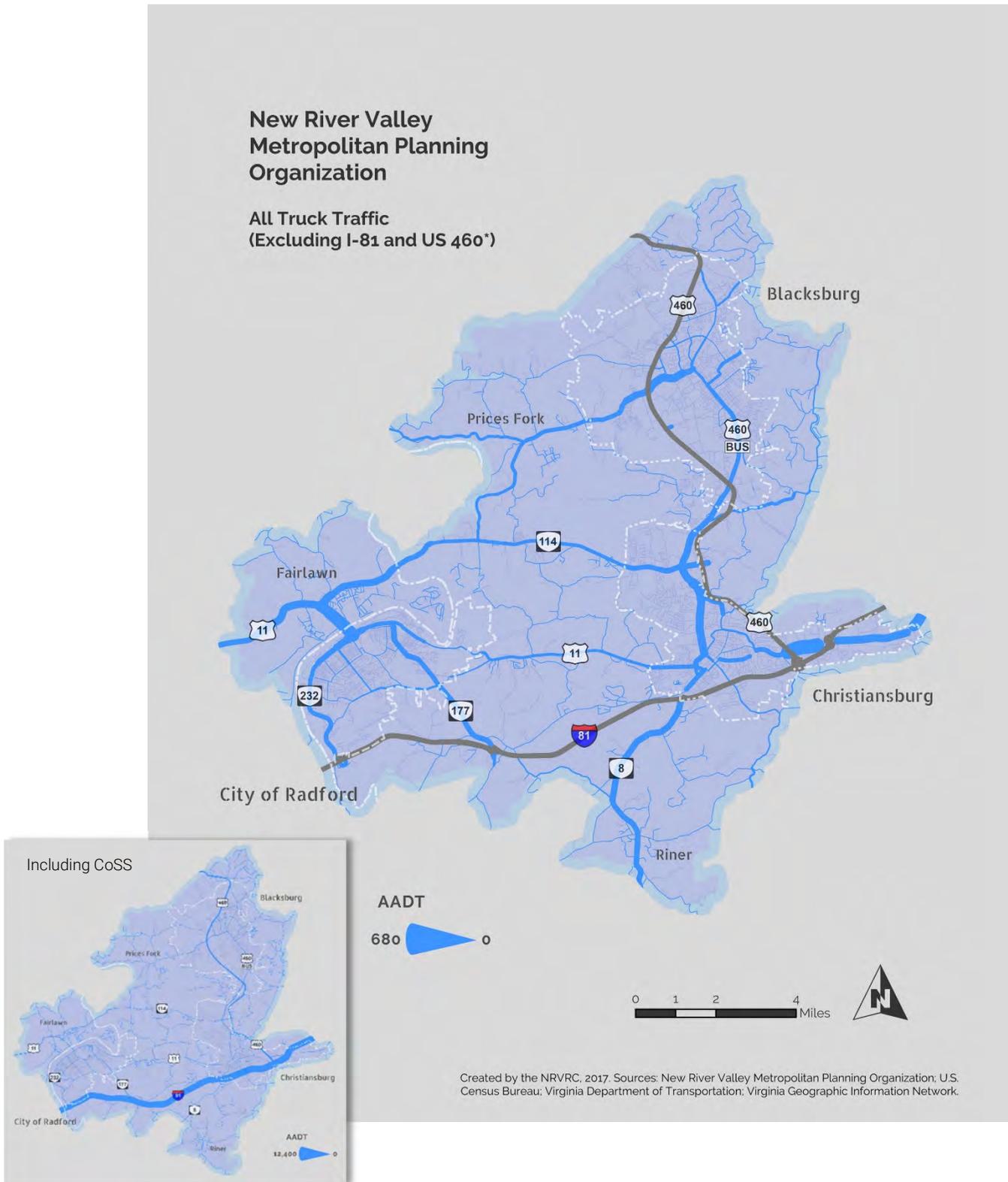
Existing New River Valley Regional Freight Trends

From a regional perspective, local truck volume is dwarfed by north/south running Interstate 81. In addition to I-81, US Route 460 serves as more of an east/west connector. Both I-81 and US Route 460 are Corridors of Statewide Significance (CoSS). Maps 2 and 3 (shown below) illustrate key local routes supporting the regional economy more accurately by excluding CoSS data.

Map 4: New River Valley Annual Average Daily Traffic, Excluding I-81 and US 460



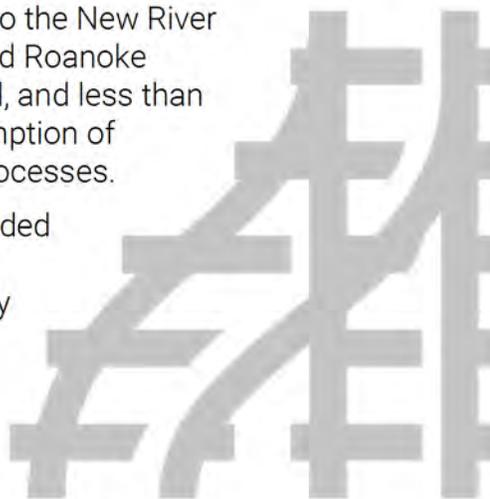
Map 5: NRV Urban Area Annual Average Daily Traffic, Excluding I-81 and US 460



Norfolk Southern (NS) is the only Class 1 freight railroad that operates in the New River Valley. Few spur tracks exist for the generation or consumption of quarry/mined products by local businesses and transport of solid waste by local governments. The Heartland Corridor (main east/west route) intersects with the Crescent Corridor (main north/south route), the second most heavily used NS corridor, just outside of Radford.

Most commodities transported by rail are inbound to the New River Valley. Total rail shipments between Blacksburg and Roanoke combine to \$1.6B, with 69% inbound, 30% outbound, and less than 2% internal.¹¹ Shipments are mostly for the consumption of finished goods or for use in other manufacturing processes.

According to the 2017 *Virginia State Rail Plan* expanded economic analysis developed in 2017, East/West freight tonnage is expected to see far less growth by 2040. Growth projections correlate with the statewide fall in coal mining. However, Norfolk Southern's Crescent (north/south) Corridor is expected to see up to 4% growth in parts of the New River Valley.



There are currently two airports in the region, the New River Valley Airport in Dublin, and the Virginia Tech Montgomery Executive Airport in Blacksburg. Both airports accommodate business and personal travel via private charter. The nearest commercial airport is located in Roanoke. Of the two local airports, only the Dublin location receives freight transport.

In 2012, the New River Valley Airport received slightly more than 77,000 pounds of freight.

On average, the airport has around 250 business jet aircraft annually. Slightly less than 20% of the aircrafts carry freight. Popular destinations for outbound freight include Windsor, Canada and Detroit. Typical inbound shipments are received from Mexico, Texas, Atlanta, and Detroit.



Vehicle manufacturers are currently the largest users of air freight transport in the region. Truck freight forwarding companies have an active role in transport to and from the NRV airport.

¹¹ VTrans 2040, Virginia Freight Element – Appendix C. Corridor 4: I-81 Roanoke and Blacksburg Highway Commodity Profile. Retrieved from:

Top Freight Generators

The top industry sectors for each county/city within the region were tabulated based on value, trips, and tonnage. The Virginia Department of Transportation and Department of Rail and Public Transportation allowed regional partners to analyze 2012 IHS Global Incorporated data to develop this plan update. From a regional perspective, 80-95% of all exports are generated by the top ten industries in each NRV county/city.

The commodities exported are different based on value, trips, and tonnage, but there are similar industries consistently ranking in the top ten. More than \$6 billion in value, 40,000 trips, and nearly 4 million tons were exported in 2012.

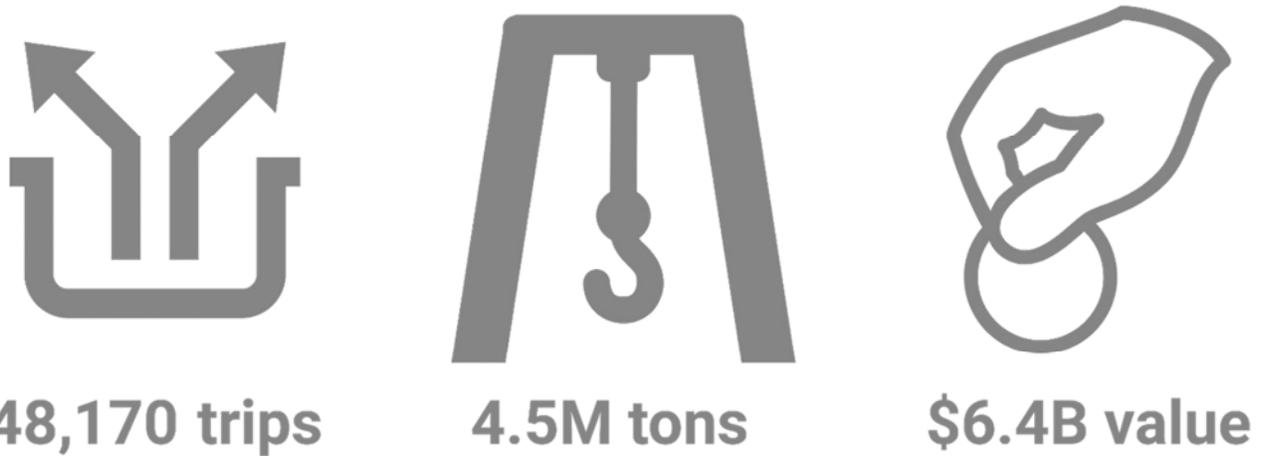


Table 3: Top Regional Freight Export Generators

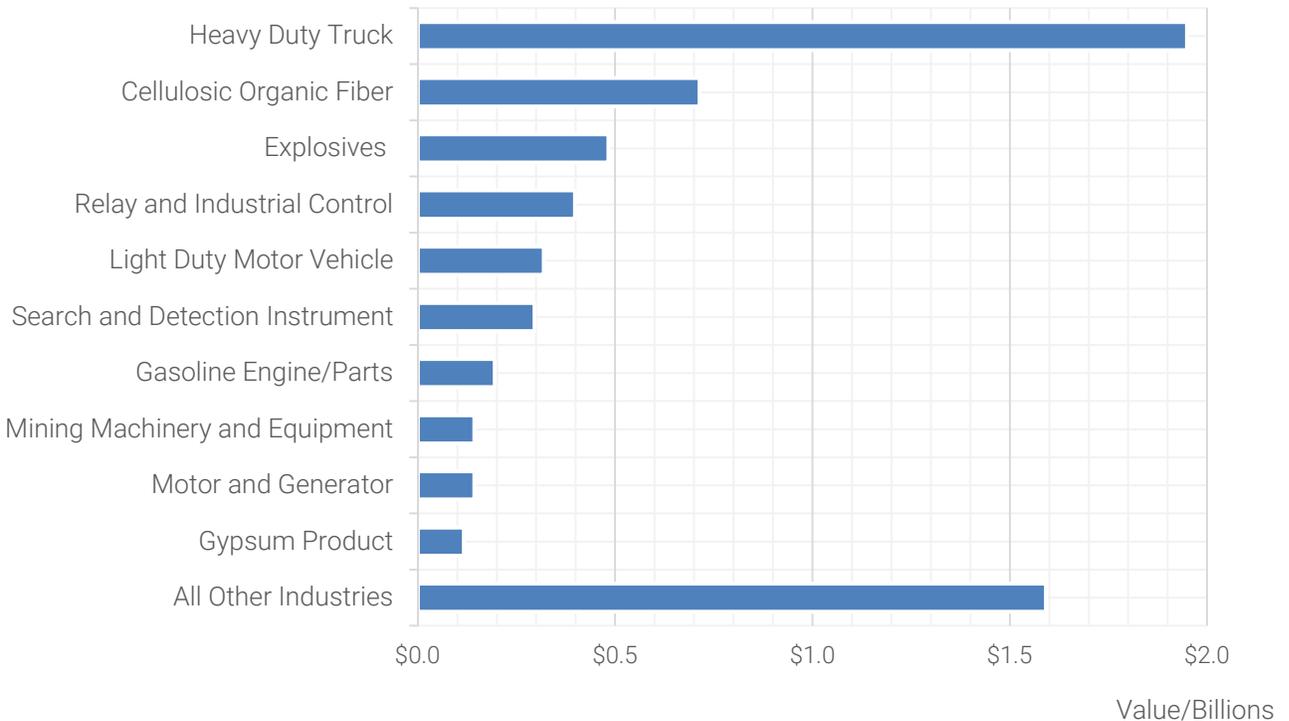
Top Regional Freight Export Generators		
<i>trips</i>	<i>tonnage</i>	<i>value</i>
RAAP	James Hardie	Volvo
Agriculture (hay/cattle)	Salem Stone	Celanese
James Hardie	RAAP	RAAP
Federal Mogul	Agriculture (hay/cattle)	Kollmorgen/Aspen Motion
Lhoist	Volvo	Moog
Corning	Lhoist	Federal Mogul
Volvo	Corning	James Hardie
Kollmorgen/Aspen Motion	Celanese	Rowe

Source: New River Valley Regional Commission. Local economic development meetings, 2017.
 Note: Radford Army Ammunition Plant (RAAP)

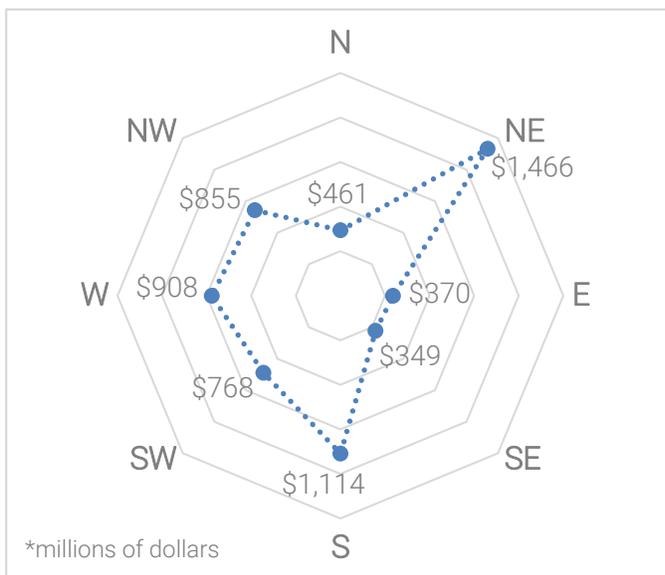
2012 Export Value Snapshot

Heavy duty truck manufacturing, cellulosic organic fiber manufacturing, and explosives manufacturing account for more than half of the region’s total exported value (see table below for details). Volvo, Celanese, and the Radford Army Ammunition Plant are the largest employment centers representing these industry sectors. Kollmorgen/Aspen Motion, Moog, Federal Mogul, James Hardie, and Rowe also contribute a substantial portion of the region’s total freight export value.

Table 4: Top 10 Base-Year Exports by Value



The highest total values are exported to the north-east and south of the region, as shown below.

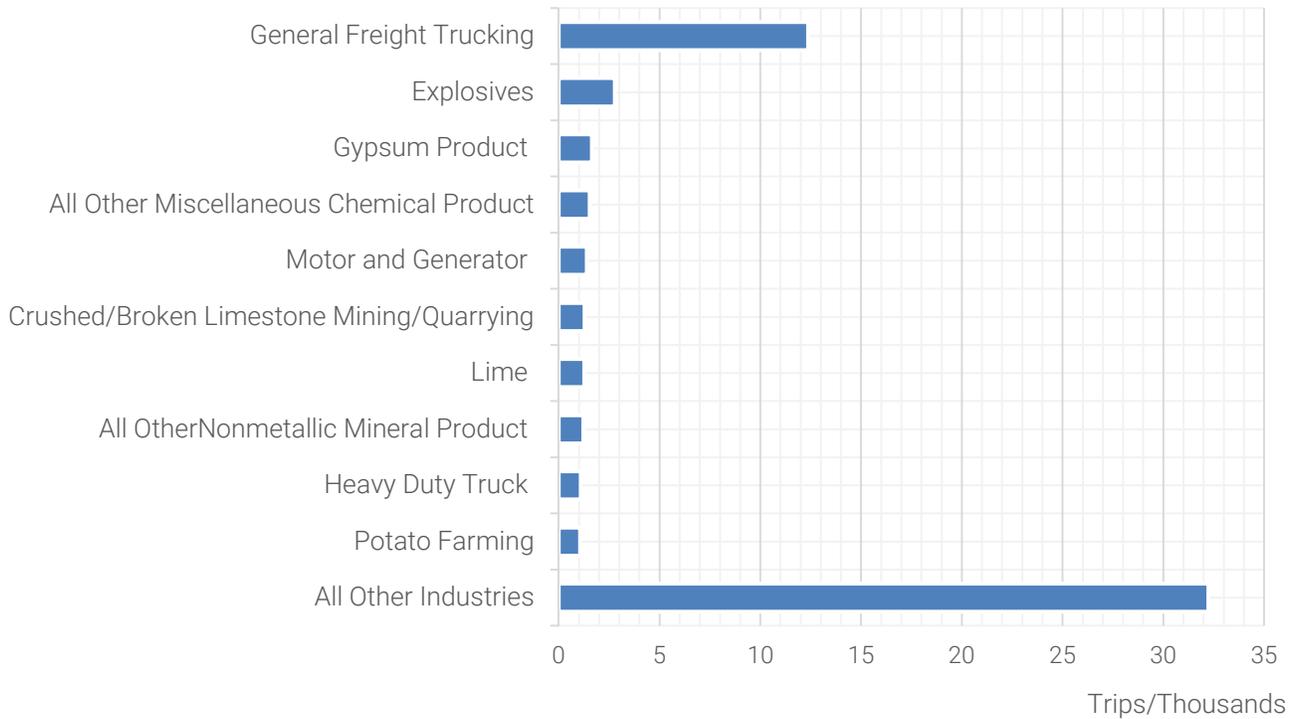


A diagram (shown below) illustrates the total directional export value. IHS Market data shows that the highest average *individual trip* values of \$246,000 are exported due south. Due north and south-east rank second and third at \$221,000 and \$200,000 respectively.

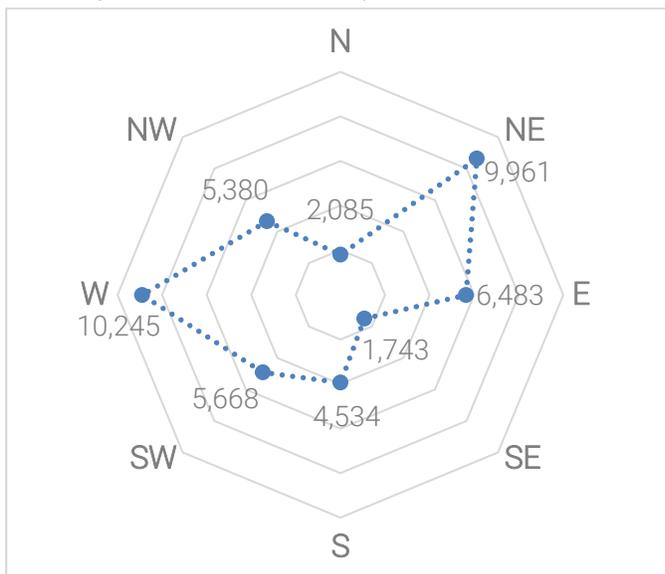
2012 Export Trips Snapshot

The New River Valley generates nearly 50,000 trips annually, a quarter of which is generated by general freight trucking. Explosives manufacturing and gypsum product manufacturing round out the top three trip generator industries. The Radford Army Ammunition Plant and James Hardie are the largest employment centers representing the two specific industry sectors. Federal Mogul, Lhoist, Corning, Volvo, Kollmorgen, and agriculture also contribute significantly to the region’s total freight export trips.

Table 5: Top 10 Base-Year Exports by Trips



The highest number of exports is due west and north-east of the region, as shown below.

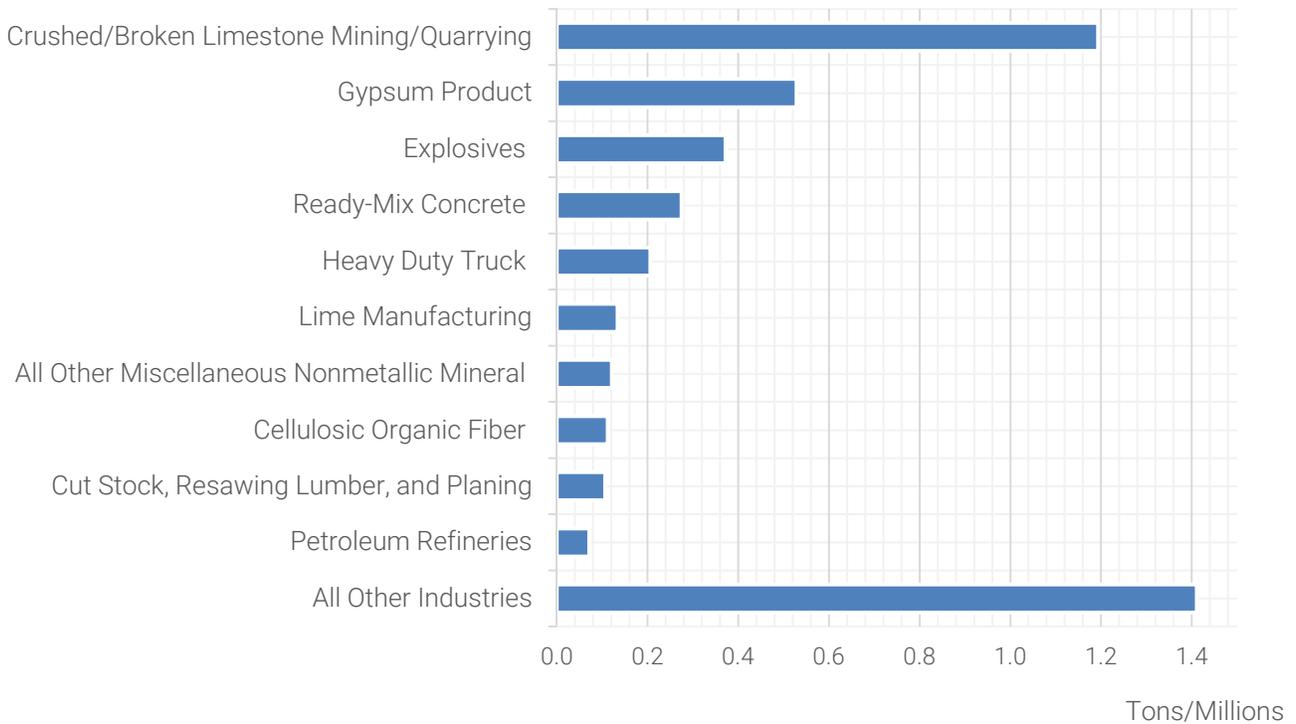


A diagram (shown below) illustrates the total directional export trips. IHS Market data shows that the average distance for *each trip* west is two to three times the distance in any other direction. The average trip due west is slightly more than 920 miles, compared to 405 miles due south, and 360 miles north-east.

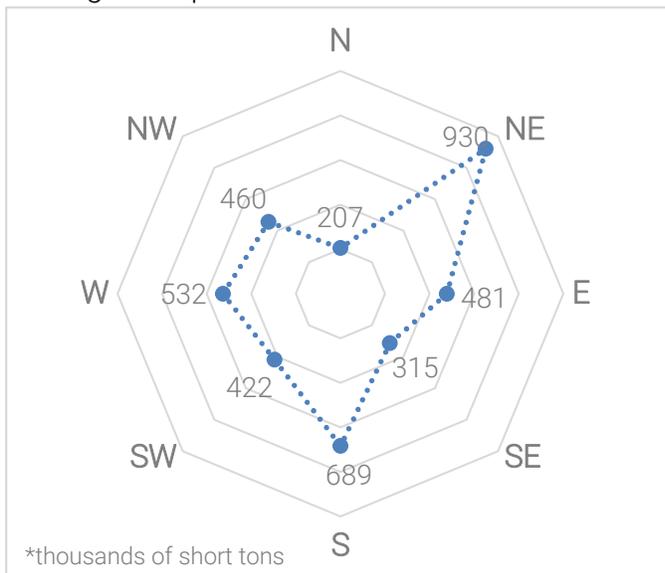
2012 Export Tonnage Snapshot

Crushed and broken limestone mining and quarrying, gypsum product manufacturing, and explosives manufacturing account for almost half of the region’s total exported tonnage. James Hardie, Salem Stone, and the Radford Army Ammunition Plant are the largest employment centers representing these industry sectors. Volvo, Lhoist, Corning, Celanese, and agriculture round out the region’s top freight export tonnage generators.

Table 6: Top 10 Base-Year Exports by Tonnage



The highest total tonnage exports closely mirror the directional value data. Most of the tonnage is exported to the north-east and due south, as shown below in the directional diagram.



IHS Market data shows that the *average trip* tonnage of exports to the south-east are typically the largest at 181 tons, despite having a lower annual total. Due south typically has the second largest loads at 152 tons, while the typical load due west is only 52 tons.

2012 Import Value Snapshot

Vehicle manufacturing and warehouse storage account for more than \$1.6B and slightly more than 35% of all import value in the New River Valley. When expanding the list to incorporate the top ten industries, nearly 65% of all value movements are accounted for.

Table 7: Top 5 Base-Year Imports by Value

Rank	Description	NAICS	Value (thousands)	Primary Destination
1	Warehousing & Storage	493000	\$634,586	Montgomery
2	Petroleum Refineries	324110	\$389,556	Pulaski
3	Gasoline Engine & Engine Parts Manufacturing	336312	\$234,051	Pulaski
4	Other Engine Equipment Manufacturing	333618	\$221,762	Pulaski
5	All Other Motor Vehicle Parts Manufacturing	336399	\$169,530	Pulaski

2012 Import Trips Snapshot

A variety of industries contribute nearly 16,400 trips and more than 25% of total (64,228 trips) imported trips in the New River Valley. When expanding the list to incorporate the top ten industries, more than 50% of all trip movements are accounted for.

Table 8: Top 5 Base-Year Imports by Trips

Rank	Description	NAICS	Trips (total)	Primary Destination
1	General Freight Trucking	484100	9,692	Pulaski
2	Recyclable Material Merchant Wholesalers	423930	1,831	Pulaski
3	Construction Sand & Gravel Mining	212321	1,829	Pulaski
4	Petroleum Refineries	324110	1,612	Pulaski
5	Warehousing and Storage	493000	1,414	Montgomery

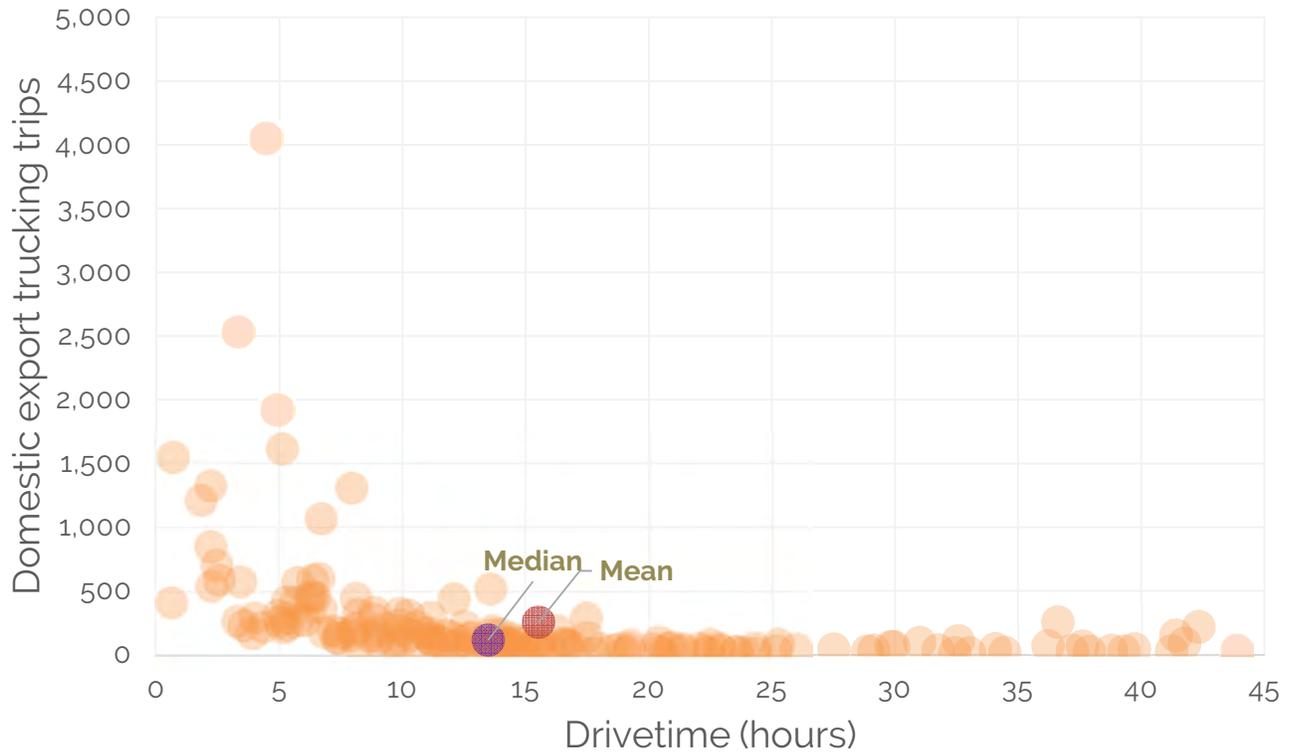
2012 Import Tonnage Snapshot

Mining and warehouse storage account for nearly 4M tons and over 60% of the total imported tonnage in the New River Valley. When expanding the list to incorporate the top ten industries, nearly 85% of all tonnage movements are accounted for.

Table 9: Top 5 Base-Year Imports by Tonnage

Rank	Description	NAICS	Tonnage (thousands)	Primary Destination
1	Crushed & Broken Limestone Mining & Quarrying	212312	1,371	Pulaski
2	Crushed & Broken Granite Mining and Quarrying	212313	909	Pulaski
3	Construction Sand & Gravel Mining	212321	653	Pulaski
4	Warehousing & Storage	49300	523	Montgomery
5	Other Crushed & Broken Stone Mining and Quarrying	212319	406	Pulaski

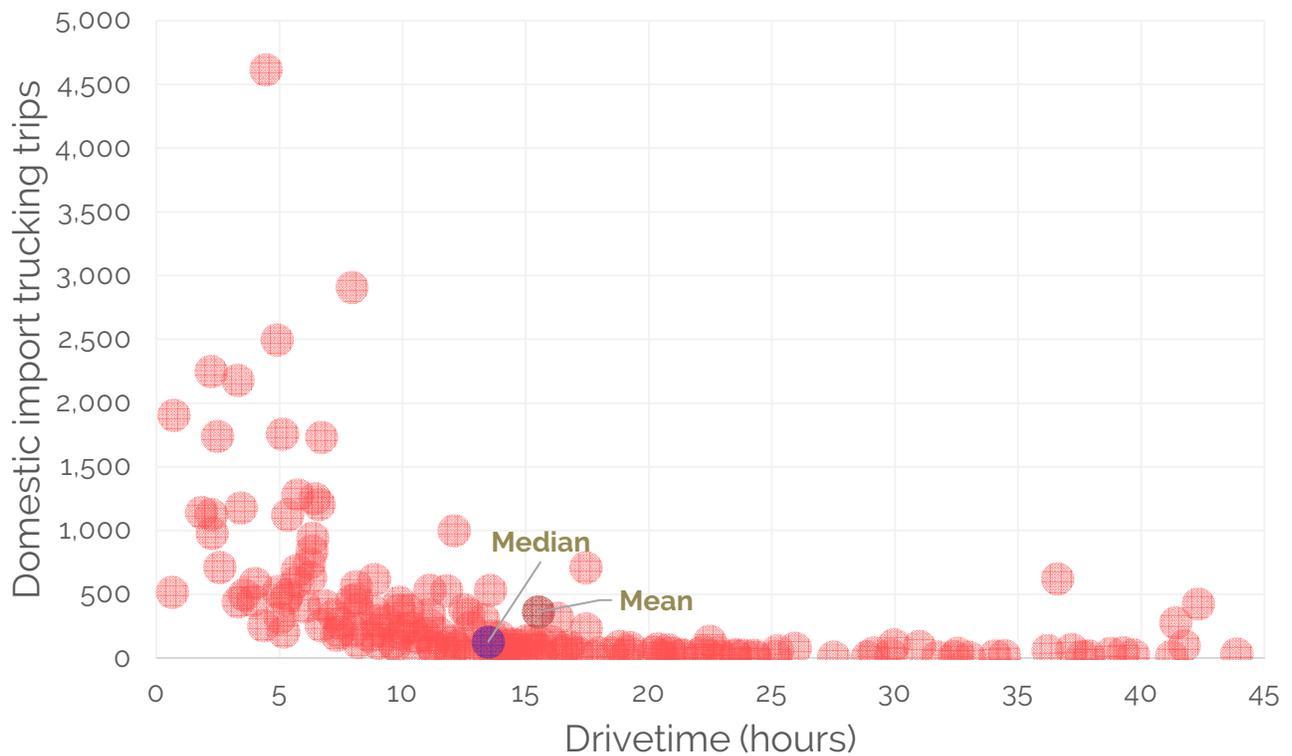
Table 10: Domestic Export Trucking Trips, 2012



Created by NRVRC, 2017.

Sources: Esri; IHS Markit; U.S. Geological Survey.

Table 11: Domestic Import Trucking Trips, 2012



Created by NRVRC, 2017.

Sources: Esri; IHS Markit; U.S. Geological Survey.

Freight-Related Industries

Production clusters, which generate the region's higher concentrations of critical mass freight transportation needs, are predominately situated along the Interstate 81 corridor. More specifically, the highest concentrations of manufacturing, warehousing, and distribution facilities are located at Exits 118 (Christiansburg) and 98 (Dublin). Exit 118 industries include nonmetallic mineral product manufacturing, electrical equipment, textiles, and miscellaneous manufacturers. Exit 98 industries include transportation equipment manufacturing, plastics and rubber products, couriers and messengers, and agriculture crop production. Based on a freight survey conducted in 2017, the existing status of the freight network is currently meeting industry needs.

There are several external factors that could drive future freight system performance, including: growing pass-through traffic on Interstate 81, and Norfolk Southern's Heartland and Crescent Corridors. In addition, a number of industrial development sites are available throughout the region. Many of the remaining parcels are located within formalized industrial parks which have good access to energy, public utilities, and broadband. Transportation costs can typically account for a significant portion of commercial businesses, so retaining and increasing access to Corridors of Statewide Significance will be an increasing priority.

Existing Modal Profile Summary

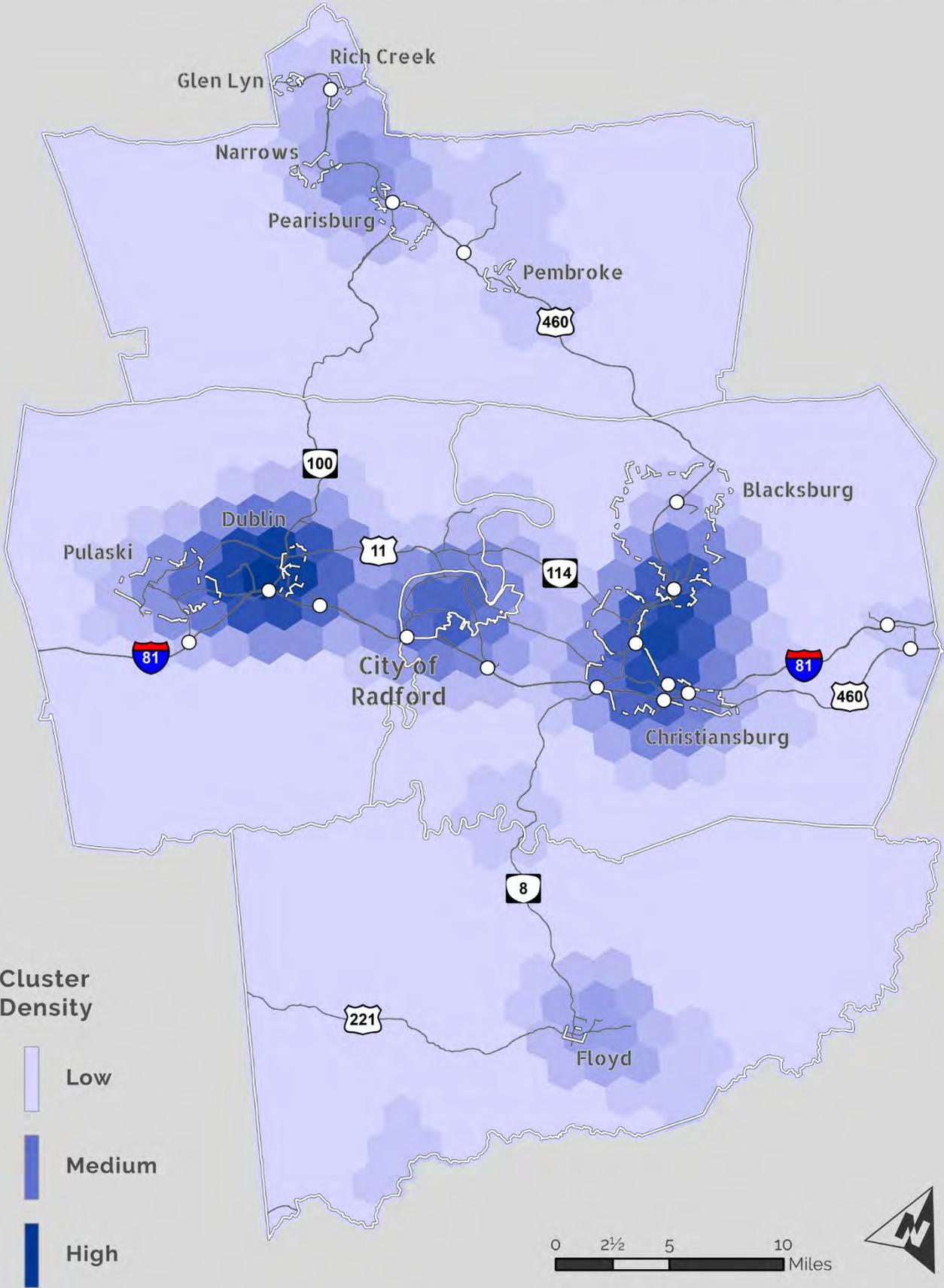
The New River Valley is situated within the greater Appalachian region. The mountainous territory creates challenges for larger and heavier modes of freight movement. Trucks experience challenges maintaining speeds over steep vertical grades. Rail corridors often follow prominent tributaries located at the base of mountains, creating limited space to provide longer and smoother horizontal curves that allow trains to move faster. In general, rail and air transport offer the most untapped potential in the region.

Around 45% of all regional exports and imports are bound to or from points west.

Approximately 90% of all freight tonnage in the Salem District is attributed to trucks, 10% rail, and less than 1% air. Empty truck movements between payload origins accounts for a significant portion of local freight activity. In the New River Valley, General Freight (or empty movements) account for nearly

15% of all import trips and more than 25% of all export trips. On average, the region exports freight around 400-miles or less to the north, south, and eastern parts of the United States. Western exports average significantly longer haul distances, between 700 and 900-miles. Surprisingly, around 45% of all NRV exports and imports are bound to or from points west. While the New River Valley attracts/imports more freight trips and tonnage, the region exports freight of higher value.

Major Freight Clusters



Created by the NRVRC, 2018. Sources: City of Radford; Floyd County; Giles County; Google Maps; Montgomery County; Pulaski County; U.S. Census Bureau; Virginia Geographic Information Network.

FUTURE MODAL PROFILES

Each day, approximately 13,500 miles of the US highway system slows below the posted speed limit and an additional 8,700 miles experience stop-and-go conditions.¹² By 2040, nearly 30,000 miles of the nation's busiest highways could be clogged on a daily basis. As freight demand grows across all modes, more opportunities for mode interaction is needed to reduce daily bottlenecks.

Statewide there are a number of capital and social issues that directly affect the delivery of goods movement throughout the Commonwealth. The 2014 *Virginia Multimodal Freight Plan* identified the following freight issues:

- In the off-peak periods, much of Virginia's highway system has excess capacity, apart from work-zone related delays.
- The trucking industry faces challenges associated with driver shortages, difficulty meeting driver hour of service requirements, and adequate truck parking in urban areas.
- Making sure that Virginia's freight rail system is modern and has sufficient capacity to meet demand is critical to maintaining a balanced freight transportation system.
- Maintaining and improving rail connections facilitates the movement of international shipping containers between the marine terminals and inland destinations and are critical to port accessibility.
- Continued investment in rail facilities, including short-line connections and terminals, can expand options for shippers and help shift freight to other modes.
- Coordinated land use and transportation system investments can also improve the efficiency and connectivity of the freight network.
- The Commonwealth must continue to exercise all available programs and leverage public-private partnerships opportunities to meet the backlog of needs and growing freight demand.

Improvements to the freight network are typically expensive. Therefore, identifying new dedicated funding resources will be critical at both national and state levels. In addition to infrastructure needs, the *National Freight Plan* projects that annual job openings are 68% larger than the number of students who are completing educational programs for selected transportation occupations.

¹² National Freight Strategic Plan. 2016. US Department of Transportation, 1200 New Jersey Ave., Washington, DC 20590.

Base and Forecast Year Comparisons

Overall, freight export value in the New River Valley is expected to grow more than 70%, from \$6.3B to \$10.9B, by 2040. While there is no guaranteed way to predict future freight generators, growth is not anticipated across all sectors. IHS Transearch data is intended to be a planning tool to help strategic transportation planning initiatives to analyze freight flows by origin, destination, commodity, and transport mode.

Transearch provides forecast of freight movement over a 30-year horizon utilizing economic, trade, and industry modeling. Primary shipment data is obtained from many of the nation's largest freight carriers to develop base-year information. Several industries are expected to grow, and a few new industries are projected to enter the top five list (shown below).

Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing (NAICS 334511) is projected to have the highest growth in export value. Semiconductor and Related Device Manufacturing (NAICS 334413) and Pharmaceutical Preparation Manufacturing (NAICS 325412) are both new top imports.

Table 12: Export Value – Base and Forecast Year Comparison

Rank	2012 Industry Description	Change (%)	Change (%)	2040 Industry Description
1	Heavy Duty Truck Manufacturing	-83%	+1,365%	Search, Detection, Navigation System Manufacturing
2	Cellulosic Organic Fiber Manufacturing	-59%	+73%	Explosives Manufacturing
3	Explosives Manufacturing	+73%	+102%	Auto & Light Duty Motor Vehicle Manufacturing
4	Relay and Industrial Control Manufacturing	-64%	+318%	Gypsum Product Manufacturing
5	Automobile and Light Duty Motor Vehicle Manufacturing	+102%	-83%	Heavy Duty Truck Manufacturing

Table 13: Import Value – Base and Forecast Year Comparison

Rank	2012 Industry Description	Change (%)	Change (%)	2040 Industry Description
1	Warehousing & Storage	+67%	+67%	Warehousing & Storage
2	Petroleum Refineries	+48%	+48%	Petroleum Refineries
3	Gasoline Engine & Engine Parts Manufacturing	-81%	new	Semiconductor & Related Device Manufacturing
4	Other Engine Equipment Manufacturing	-52%	+11%	Other Basic Organic Chemical Manufacturing
5	Other Basic Chemical Manufacturing	+11%	new	Pharmaceutical Preparation Manufacturing

There are some prominent overage gaps in truck shipments of non-manufactured goods that are not filled in the Transearch dataset. Gaps include: raw forestry and fisheries products, household goods, and haulage of waste and scrap. In addition, empty truck movements between payload origins accounts for a significant portion of local freight activity. Empties are accounted for separately in Transearch data, and documented as General Freight Trucking. In the New River Valley, General Freight (or empty movements) account for nearly 30% of all export trips.

In general, Transearch quantifies freight movement differently than the Freight Analysis Framework (FAF). FAF utilizes a Commodity Flow Survey as the foundation for calculating individual truck movements. Transearch builds base-year freight data annually, starting from county and industry specific levels. In general, Transearch calculates up to two freight movements (production to warehouse and warehouse to final destination).

Lime Manufacturing (NAICS 327410) is projected to have the highest growth in total export trips. No substantial differences are anticipated regarding total import trips.

Table 14: Export Trips – Base and Forecast Year Comparison

Rank	2012 Industry Description	Change (%)	Change (%)	2040 Industry Description
1	General Freight Trucking	+20%	+20%	General Freight Trucking
2	Explosives Manufacturing	0%	0%	Explosives Manufacturing
3	Gypsum Product Manufacturing	0%	+104%	Lime Manufacturing
4	Misc. Chemical Product & Preparation Manufacturing	+26%	0%	Gypsum Product Manufacturing
5	Motor & Generator Manufacturing	+2%	+26%	Misc. Chemical Product & Preparation Manufacturing

Table 15: Import Trips – Base and Forecast Year Comparison

Rank	2012 Industry Description	Change (%)	Change (%)	2040 Industry Description
1	General Freight Trucking	0%	0%	General Freight Trucking
2	Recyclable Material Merchant Wholesalers	+1%	+3%	Construction Sand & Gravel Mining
3	Construction Sand & Gravel Manufacturing	+3%	+1%	Recyclable Material Merchant Wholesalers
4	Petroleum Refineries	+1%	+1%	Petroleum Refineries
5	Warehousing & Storage	0%	0%	Warehousing & Storage

National freight flows remain complex to estimate due to a lack of a unified data source. Transearch supplements proprietary data with samples provided by cooperating carriers. Transearch and FAF report similar ton-mileage; however, construction, retail, services and household goods, and business sectors are excluded in Transearch calculations. As a result, higher tonnages are potentially reported in mining, quarrying, products, agriculture, and scrap.

The Regional Commission met one-on-one with local economic development professionals to improve data accuracies. Adjustments included reassigning industries to appropriate local origin (i.e. Radford Army Ammunition Plant moved from Radford to Pulaski) and removing high estimates in agriculture (i.e. removing Hay Farming from the top freight generator lists).

Gypsum Product Manufacturing (NAICS 327420) and Lime Manufacturing (NAICS 327410) are projected to grow substantially in export tonnage. Multiple raw aggregate materials are projected to have the highest import tonnage growth.

Table 16: Export Tonnage – Base and Forecast Year Comparison

Rank	2012 Industry Description	Change (%)	Change (%)	2040 Industry Description
1	Crushed & Broken Limestone Mining and Quarrying	-98%	+321%	Gypsum Product Manufacturing
2	Gypsum Product Manufacturing	+321%	+72%	Explosives Manufacturing
3	Explosives Manufacturing	+72%	+35%	Crushed & Broken Granite Mining and Quarrying
4	Ready-Mix Concrete Manufacturing	-3%	+1,365%	Search, Detection, Navigation System Manufacturing
5	Heavy Duty Truck Manufacturing	-82%	+226%	Lime Manufacturing

Table 17: Import Tonnage – Base and Forecast Year Comparison

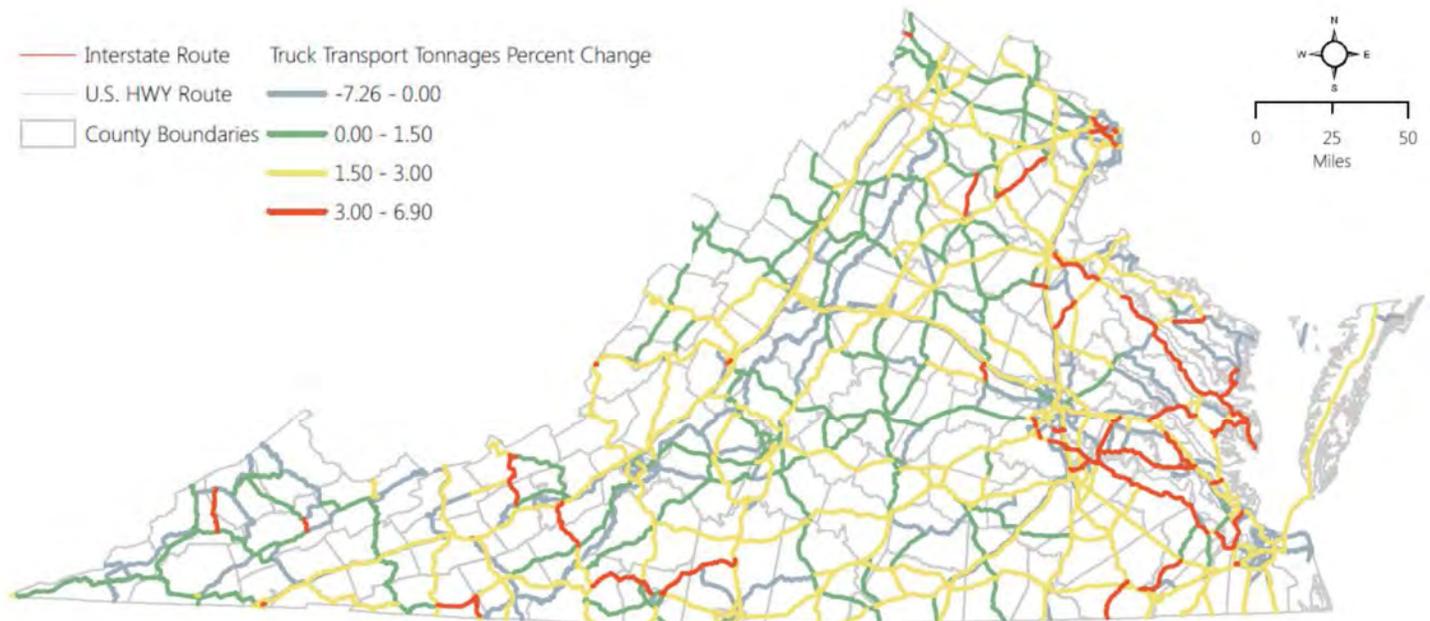
Rank	2012 Industry Description	Change (%)	Change (%)	2040 Industry Description
1	Crushed & Broken Limestone Mining and Quarrying	+202%	+202%	Crushed & Broken Limestone Mining & Quarrying
2	Crushed & Broken Granite Mining & Quarrying	+194%	+194%	Crushed & Broken Granite Mining & Quarrying
3	Construction Sand & Gravel Mining	+182%	+182%	Construction Sand & Gravel Mining
4	Warehousing & Storage	+69%	+208%	Other Crushed & Broken Stone Mining & Quarrying
5	Other Crushed & Broken Stone Mining & Quarrying	+208%	+69%	Warehousing & Storage

Projected Truck Freight

Truck freight will remain the most essential mode for moving freight in the New River Valley. Nationally, the number of vehicle miles traveled per serious injury or fatality incident (that involves a truck) remains low. Less than 2% of the New River Valley's fatal accidents between 2011 and 2017 involved a truck.

Bottlenecking conditions in the New River Valley relate to speed-based delays due to topography, highway weaving areas, and lane width. Other parts of Virginia experience capacity-based bottlenecks related to excess traffic volumes. Nation-wide additional bottlenecks are also frequently caused by non-recurring circumstances including: traffic incidents, bad weather, and work zones. In general, the region's freight network is very reliable. However, truck traffic can drop well below 60% of the posted speed limit on Interstate 81 and US Route 460 in certain segments. In addition, the lack of a parallel network causes substantial delays when accidents occur on either CoSS.

According to the *Virginia Statewide Rail Plan*, truck increased tonnage percentages are projected to be highest along VA Primary Route 100 (in Giles and Pulaski counties) and VA Primary Route 8 (in Montgomery and Floyd counties). The map below illustrates the anticipated change between 2012 and 2040.



Map 7: Truck Tonnage Change 2012 - 2040. Source: 2017 Virginia Statewide Rail Plan

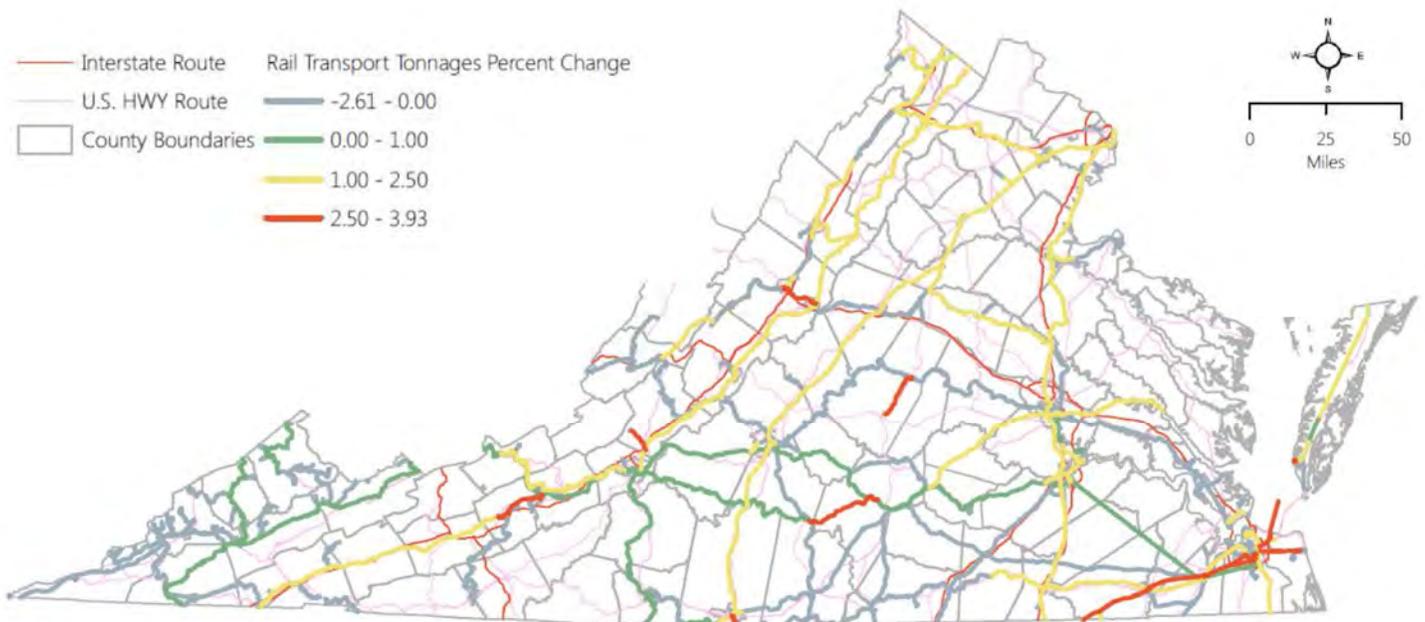
While both VA Primary Route 8 and VA Primary Route 100 are likely capable of accommodating additional freight capacity, the intersections with Interstate 81 will likely need evaluation. Interchanges at Exit 98 and Exit 114 may need reconfigured to meet growing freight traffic demand. Other key trucking freight nodes include: Interstate 81 Exits 109 and 118; and US Route 460 Exits 2 and 5AB.

Projected Rail Freight

Rail freight access continues to be an opportunity for several existing businesses and developable industrial manufacturing parcels in the region. Nationally, about one-third of all rail-related fatalities involved highway-rail conflict point crashes.¹³ The majority remain due to trespassing pedestrians and railroad workers.

Many segments across the U.S. are also facing difficulties accommodating speed increases and maximizing freight volume. While Virginia's largest freight tonnage generator, coal, has drastically declined, rail freight is projected to double nation-wide. Maintaining system reliability will be a national priority so that rail remains a viable option for large volume, longer-haul distribution.

According to the *Virginia Statewide Rail Plan*, rail increased tonnage percentages are projected to be highest along Norfolk Southern's Crescent Corridor, between the Town of Pulaski and the City of Radford. The map below illustrates the anticipated change between 2012 and 2040.



Map 8: Rail Tonnage Change 2012 – 2040. Source: 2017 Virginia Statewide Rail Plan

Norfolk Southern's north/south Crescent Corridor is well equipped to handle additional capacity, with the potential exception of single track segments. Despite the decline of coal shipments from deep Southwest Virginia counties, the corridor is anticipated to see about a 4% growth in parts of the region. In order to retain reliability, Norfolk Southern may need to partner with statewide and regional stakeholders to explore options for track redundancy and/or highway intersection improvements. The community should also re-evaluate the potential of an intermodal facility somewhere in the region.

¹³ National Cooperative Freight Research Program, NCFRP. 2011. *NCFRP Report 10, Performance Measures for Freight Transportation*.

Projected Freight Alternatives

As freight traffic continues to increase on America's highways and rail corridors, other modes and technologies may have greater influence on meeting demand forecasts. Air, pipeline, rail intermodal facilities, and autonomous vehicles are some concepts that could impact the New River Valley.

Air Cargo

According to the 2011 *Virginia Airport System Economic Impacts Study*, the New River Valley's airports directly or indirectly impact about 140 jobs, more than \$3.5 million in payroll, and more than \$15 million economic activity. Air cargo currently is used most by machine parts industries; however, a few emerging sectors currently utilize air transport in Europe. Additional sectors include precision instruments (61% value by air) and pharmaceuticals (36% value by air).¹⁴ In addition, Red Sun Farms, the largest greenhouse company in North America, may utilize the airport for perishable product distribution.

The United States Bureau of Transportation Statistics estimates that domestic and international air cargo tonnage will grow from 10 million tons in 2012 to 37 million tons by 2045. Over the same time period, total value of air cargo will grow more than 300%.¹⁵ While the region may not move a significant portion of the Commonwealth's air cargo, both volume and value should increase through the 2040 planning horizon. Regional partners may want to reassess the potential benefit of a US Customs Officer.

Pipelines

Pipelines are currently utilized to transport oil, natural gas, and petroleum products. According to the US Department of Transportation, pipelines moved an estimated 1.9 billion tons of oil and natural gas in 2011. Pipelines are also utilized locally to transport water and sewer, and also serve as conduit for underground utilities and other communications.

Currently, there are a limited number of larger (natural gas) pipelines in the New River Valley. One of the region's largest employers, Celanese, has a dedicated natural gas line to fuel production boilers from West Virginia. The improvement converted the previously coal-fired technology to fuel the factory. A proposed 303-mile system from northwest West Virginia to southern Virginia, will begin construction in the Spring of 2018. Known as the Mountain Valley Pipeline, the 42-inch diameter natural gas pipeline alignment will encroach parts of Giles and Montgomery counties.

According to the US Department of Transportation, gas is distributed through more than 1.2 million miles of pipeline in America. Slightly more than 50% of all pipeline was installed after 1990. Gas demand has grown about 10% since 2005.

¹⁴ IATA, Developing Trade Consultants. Value of Air Cargo: Air Transport and Global Value Chains, Table 2a, Proportion of EU imports by value coming by air, 2014, case study sectors. 2016.

¹⁵ US Department of Transportation, Bureau of Transportation Statistics. 2017. Retrieved from: <https://www.bts.gov/bts-publications/freight-facts-and-figures/freight-facts-figures-2017-chapter-2-freight-moved>

Intermodal Facilities

Ninety percent of the world's freight is transported by sea. Tankers and bulk carriers are designed to haul the most freight tonnage and container ships carry higher-value goods. Container ships carry twenty-foot equivalent units (TEUs) that can be transported double-stacked on rail or individually by truck. In the late 1980s, 4,500 TEU ships were common. In 2013, the first 18,000 TEU container ship was put into service.¹⁶ Increasing volumes of containers arriving at the Port of Virginia (POV) will necessitate diversity in freight mode distribution. Containers transported from coastal ports to rail can help to address trucking bottlenecks.

Intermodalism will become an important component of the supply chain, to support growing freight demand, low cost container shipments, and maintain system reliability. Intermodal transportation creates options for integrating multiple modes of freight movement, and provides a flexible response to the changing supply chain.¹⁷ Rail is an

Freight can travel
200 miles more per
day than a single-
driver truck service.

extremely efficient component of intermodal transport. In 2008, the Virginia Department of Rail and Public Transportation identified a potential intermodal facility in Montgomery County.

A potential Western Virginia Intermodal Facility, located in the village of Elliston, would operate 4,000 to 15,000 annual lifts and directly impact 330 jobs.¹⁸

The facility would likely be used by local firms to access a larger domestic region. The project once estimated to cost \$35.5 million has now increased to \$71 million.

Trains are typically used for long-haul shipments; however, it is becoming more common for trains to haul as short as 500 miles. Railroads have increased spending to upgrade infrastructure and technology. The investments have improved travel speed and now a rail service can travel more than 200 more miles per day than a single-driver truck service.¹⁹ Due to the close proximity of a potential intermodal facility in Elliston and the POV, the facility may not be used to transfer high volumes of international freight.

Situated on nearly 1,600 acres, the Port of Virginia is the deepest water harbor on the East Coast. The port can accommodate up to 50-foot deep berths and offers 173,595 linear feet of on-dock rail. The port currently provides connections to 200+ countries around the world.²⁰ Growing populations will continue to increase cargo demand, beyond what the current port facilities can support.

¹⁶ Citylab. A Complete Guide to the Future of US Freight Movement. Dan Glass. 2014. Retrieved from: <https://www.citylab.com/life/2014/10/a-complete-guide-to-the-future-of-us-freight-movement/381012/>

¹⁷ Committee on Intermodal Freight Transport. Intermodal Freight Transportation. Retrieved from: <http://onlinepubs.trb.org/onlinepubs/millennium/00061.pdf>

¹⁸ AECOM, Roanoke Valley, Alleghany Regional Commission. Western Virginia Intermodal Facility: Economic and Transportation Impacts Study, Final Report. 2015.

¹⁹ LoadDelivered. All Aboard: Intermodal is the Mode of the Future. 2014. Retrieved from: <https://www.loaddelivered.com/blog/all-aboard-intermodal-is-the-mode-of-the-future/>

²⁰ The Port of Virginia. 2065 Master Plan, Executive Summary. 2016.

Autonomous Vehicles

According to the World Economic Forum, autonomous vehicles will have an unprecedented economic, social and environmental change and will bring about a transformative impact on the automotive industry.²¹ This new trend of transportation will alter land use, roadway patterns and infrastructure (signage, sensors, and tolls facilities).

Some car manufactures have already started selling cars with some level of self-driving capabilities such as adaptive cruise control, automatic emergency braking, automated parking and active lane control.²² The National Highway Safety Administration (NHTSA) adopted the SAE International definitions for levels of automation. SAE International is a global association of more than 128,000 engineers and related technical experts in the

Virginia promotes autonomous vehicle innovation by reducing regulatory roadblock.

aerospace, automotive and commercial-vehicle industries. The association was formerly also known as the Society of Automotive Engineers. Their definition for terms related to automated vehicles range in levels from no driving automation (level 0) to full driving automation (level 5).²³

In Virginia, there are currently no state regulations that have been adopted to regulate procedures and conditions for testing of autonomous vehicles.

Virginia's position to not add additional regulation is considered advantageous as it reduces regulatory roadblock for companies testing autonomous vehicles and promotes innovation.²⁴ The State, in cooperation with the Virginia Tech Transportation Institute, has turned 78 miles of express lanes along I-495 and I-95, and segments of I-66, U.S. 29, and U.S. 234 into what is called the Virginia Automated Corridors.

Seven companies announced that their respective autonomous model will be ready for market by 2020.²⁵ In March of 2017, Volvo Trucks and their partners, University of California, Berkley and California Department of Transportation, conducted a demonstration of partially automated truck platooning. In this case two trucks drove semi-autonomously, within close distance and controlled by a skilled professional driver. The trucks had forward looking sensors and vehicle to vehicle wireless communications that helped maintain the speed and spacing without driver intervention.²⁶

²¹ The Driverless Car Revolution. World Economic Forum.

²² Autonomous Vehicles: Are You Ready for the New Ride? - MIT Technology Review.

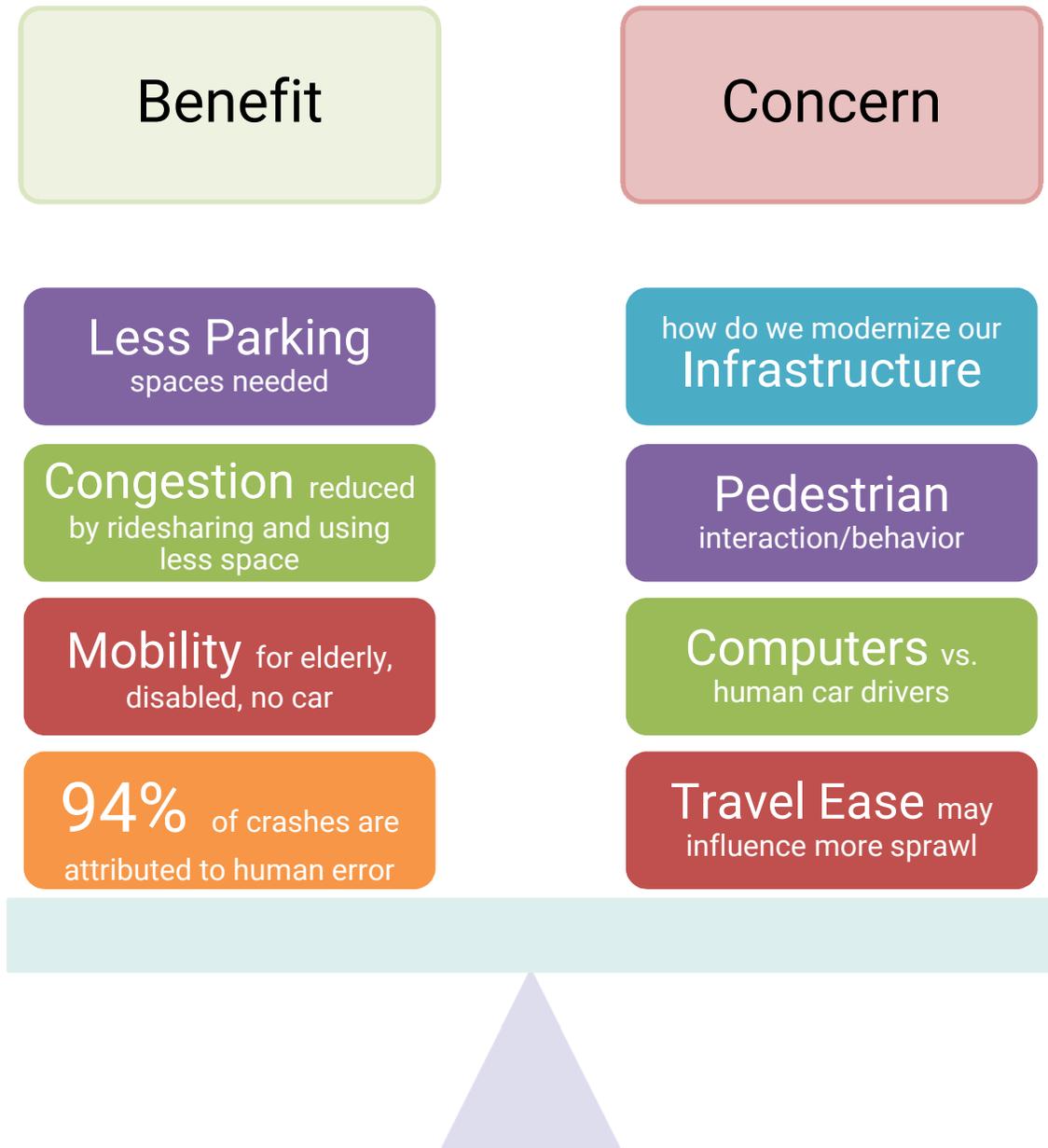
²³ Federal Automated Vehicles Policy. US Department of Transportation and National Highway Traffic Safety Administration.

²⁴ The Washington Post. This state wants to usurp California as the capital of driverless cars. Michael Laris.

²⁵ City of the Future. Technology and Mobility – National League of Cities.

²⁶ Volvo Trucks USA. 2017. Retrieved from: <https://www.volvotrucks.us/news-and-stories/press-releases/2017/march/volvo-trucks-successfully-demonstrates-on-highway-truck-platooning-in-california/>

Planning for the future is imperative to the successful integration of autonomous vehicles in every community. Beginning with transportation and land use plans, communities should anticipate potential impacts and examine ways to incorporate new technology into existing infrastructure. Autonomous vehicles may reduce surface parking and traffic signal needs, potentially reduce travel lane widths, and create more space for businesses and alternative transportation enhancements. The table (below) illustrates some additional benefits and concerns of future autonomous vehicle integration.



FREIGHT TRANSPORTATION SYSTEM REVIEW

The regional freight system offers capacity to accommodate a growing population and increased demand for goods. However, the need to remain competitive in a growing economy is hindered by aging infrastructure and increasing through-traffic volume. Capacity challenges already exist on Interstate 81 and Norfolk Southern has several segments of rail that lack a parallel line.

The U.S. economy is projected to double in size over the next 30 years.²⁷ The United States Department of Transportation (USDOT) estimates that all modes of freight will grow roughly 42% by year 2040. By mode, freight tonnage is anticipated to grow 35% (truck), 49% (rail), 32% (waterborne), and 263% (air). For this reason, States and MPOs are urged to take the initial steps in freight planning, by selecting the most appropriate freight performance measures. USDOT and the Virginia Office of Intermodal Planning and Investment recommended performance categories include:

1. Safety
2. Maintenance and preservation
3. Mobility, reliability, and congestion
4. Accessibility and connectivity
5. Environment
6. Economic vitality
7. Coordination of freight transportation and land use

23 Code of Federal Regulations Part 490 describes the performance period, reporting requirements, and timeline for establishing performance measures. The role of the New River Valley Metropolitan Planning Organization (NRVMPO) is to support national goals in the planning process and consider measures and targets to incorporate in to long range plans and programs.

Table 1: Performance Measure Implementation Schedule

Measure	Effective Date	State Target Date	MPO Target Date	Planning Inclusion
Safety (PM1)	14 April 2016	Complete	Complete	27 May 2018
Pavement/Bridge (PM2)	20 May 2017	20 May 2018	17 October 2018	20 May 2019
System (PM3)	20 May 2017	20 May 2018	17 October 2018	20 May 2019

²⁷ National Freight Strategic Plan, 2017 Draft for Public Comment. US Department of Transportation.

New River Valley Critical Freight Network

The New River Valley's critical freight network includes highways identified as Corridors of Statewide Significance (CoSS) and regional significance, key intersections of regional networks to CoSS (labeled as nodes), Norfolk Southern's Crescent and Heartland corridors, and the New River Valley Airport. Combined, the region's critical network comprises a multimodal freight system that moves goods within the New River Valley and across the nation.

Undoubtedly, more freight passes thru the region in route to other parts of the country each day via truck, rail, and air. Statewide, almost 80% of Virginia's freight tonnage has an origin or destination in another state. Virginia's multimodal freight system handled

The New River Valley's critical freight network includes highways, rail, and air.

around 385 million tons of freight (excludes 41% pass-through). The New River Valley accounts for slightly more than 1% of Virginia's freight tonnage movement, with an origination or destination in Virginia.

More than 20% of Virginia's rail network is located in the New River Valley. Around 99 million tons of rail freight tonnage (excluding pass-through) was generated in 2004 by Virginia. Due to insufficient

data, the NRV share of rail tonnage and/or value is unknown. In general, the full potential of rail is underutilized in the region. The presence of two significant Class 1 corridors presents future opportunities for the region.

Nearly 60% of all air cargo tonnage is shipped to Dulles International Airport and 80% when combined with Richmond International Airport. The New River Valley accounts for less than a half-percent of statewide air cargo tonnage. By comparison, the Roanoke-Blacksburg Regional Airport accounts for slightly less than 8% of air cargo. While the New River Valley Airport is still designated as a US Port of Entry, no on-site Customs Clearance personnel exists southwest of Richmond. In addition, neither the New River Valley nor Roanoke-Blacksburg airports have cargo warehouse storage for distributors. 2040 projections appear encouraging for air cargo, and could necessitate both regions to explore potential staff and capital needs.

This section provides an inventory of the region's critical freight network, observations from the MPO's Technical Advisory Committee (ideas, insights, and barriers), and recommendations for the National Highway Freight Network.

Table 18: New River Valley Critical Freight Network, Segments 1-Mile or More

Route Number	Segment Name	Primary Jurisdictions	Start	End	Length (miles)
460	U.S. Route 460	Giles County, Montgomery County	West Virginia-Giles County Line	I-81 (Christiansburg)	44.2
81	U.S. Interstate Route 81	Montgomery County, Pulaski County, Radford	Wythe County-Pulaski County Line	Montgomery County-Roanoke County Line	43.0
11/460	U.S. Route 11	Montgomery County, Pulaski County, Radford City	Pulaski Army National Guard (Pulaski County)	Montgomery County-Roanoke County Line	42.2
100/ 460 BUS	State Route 100	Giles County, Pulaski County	I-81 Exit 98 (Pulaski County)	N Main St-Virginia Ave (Pearisburg)	22.0
8	State Route 8	Montgomery County, Floyd County	Rt 11 (Christiansburg)	Storkers Knob Rd (Floyd County)	21.0
221	U.S. Route 221	Floyd County	Carroll County-Floyd County Line	Shooting Creek Rd SE (Floyd County)	18.6
114	State Route 114	Montgomery County, Pulaski County	Rt 11 (Pulaski County)	Rt 460 (Montgomery County)	10.2
460 BUS	U.S. Route 460 Business	Montgomery County	Ellett Road and Hubbard St (Blacksburg)	Route 11 (Christiansburg)	6.8
635	Big Stony Creek Rd	Giles County	Lhoist North American-Kimballton (Giles County)	Rt 460 (Giles County)	5.3
177	State Route 177	Montgomery County, Radford	Rt 11 (Radford City)	I-81 Exit 109 (Montgomery County)	4.2
232	State Route 232	Montgomery County, Radford	Rt 11 (Radford City)	I-81 Exit 105 (Montgomery County)	4.0
99	State Route 99	Pulaski County	W Main St/Third St NW (Pulaski)	I-81 Exit 94 (Pulaski County)	3.6
603	N Fork Rd	Montgomery County	Northside of the railline (Montgomery County)	Rt 11/460 (Giles County)	3.3
4652	Rock Rd	Radford	Rt 232 (Radford City)	Rt 177 (Radford City)	3.1
611	Bobwhite Blvd	Pulaski	Rt 99 (Pulaski)	Newbern Rd (Pulaski County)	2.1
219	U.S. Route 219	Giles County	Rt 460 (Rich Creek)	Giles County-West Virginia Line	1.7
643	Cougar Trail Rd	Pulaski County	Pepperell Way (Pulaski County)	Newbern Rd (Pulaski County)	1.7
623	Gate Ten Rd	Pulaski County	RAAP (Pulaski County)	Belspring Rd (Pulaski County)	1.7
679	Viscoe Rd	Pulaski County	Rt 114 (Pulaski County)	End of the road (Pulaski County)	1.6
58	U.S. Route 58	Floyd County	Carroll County-Floyd County Line	Floyd County-Patrick County Line	1.6
611	Newbern Rd	Pulaski County	Bobwhite Blvd (Pulaski)	Cleburne Blvd (Pulaski County)	1.5
600	Belspring Rd	Pulaski County	Gate Ten Rd (Pulaski County)	Rt 114 (Pulaski County)	1.2
812	Pepperell Way	Pulaski County	End of the road (Pulaski County)	Cougar Trail Rd (Pulaski County)	1.1
1416	Parkway Dr	Montgomery County	I-81 (Christiansburg)	Technology Dr (Christiansburg)	1.0
314	Research Center Dr	Blacksburg	Kraft Dr SW (Blacksburg)	Rt 460 (Blacksburg)	1.0

Table 19: New River Valley Critical Freight Network, Segments Less Than 1-mile

Route Number	Segment Name	Primary Jurisdictions	Start	End	Length (miles)
165	Patrick Henry Dr NW	Blacksburg	Toms Creek Rd (Blacksburg)	N Main St (Blacksburg)	0.8
790	International Blvd	Pulaski County	Rt 100 (Pulaski County)	End of the road (Pulaski County)	0.8
	Scattergood Dr NW	Christiansburg	End of the road (Christiansburg)	Rt 460 BUS (Christiansburg)	0.8
FR47	Cleburne Blvd	Pulaski County	Newbern Rd (Pulaski County)	I-81 Exit 98 (Pulaski County)	0.7
1097	Dublin Park Rd	Dublin	Rt 100 (Dublin)	Reserve Way (Pulaski County)	0.7
600	Mud Pike	Montgomery County	Rt 177 (Montgomery County)	Turman Lumber Company (Montgomery County)	0.7
748	Parkview Rd	Floyd County	Rt 8 (Floyd County)	Needmore Ln NE (Floyd County)	0.7
643	Yellow Sulphur Rd	Montgomery County	Rt 460 BUS (Blacksburg)	Jennelle Rd (Montgomery County)	0.6
615	Christiansburg Pike	Floyd County	Commerce Center Dr NE	Rt 221 (Floyd County)	0.6
	Industrial Dr NE	Christiansburg	End of the road (Christiansburg)	Rt 11 (Christiansburg)	0.5
	Industiral Park Rd	Blacksburg	Rt 460 BUS (Blacksburg)	Commerce St (Blacksburg)	0.5
611	Wilderness Rd	Pulaski County	Holston River Quarries (Pulaski County)	State Park Rd (Pulaski County)	0.5
660	State Park Rd	Pulaski County	Wilderness Rd (Pulaski County)	I-81 Exit 101 (Pulaski County)	0.4
460 BUS	N Main St	Blacksburg	Giles Rd (Blacksburg)	Patrick Henry Dr (Blacksburg)	0.4
460 BUS	N Main St-Virginia Ave	Pearisburg	N Main St-Virginia Ave (Pearisburg)	Rt 460 (Giles County)	0.4
806	Commerce Center Dr NE	Floyd County	Christiansburg Pike (Floyd County)	End of road (Floyd County)	0.3
	Electric Way NE	Christiansburg	Bell Rd NE (Christiansburg)	Simmons Rd NE (Christiansburg)	0.3
	Industiral Park Rd	Pearisburg	Rt 100 (Giles County)	End of the road (Pearisburg)	0.3
824	Shaedawn Park Way	Pulaski County	End of the road (Pulaski County)	Rt 100 (Dublin)	0.3
	Toms Creek Rd	Blacksburg	Rt 460 (Blacksburg)	Patrick Henry Dr (Blacksburg)	0.3
642	Jennelle Rd	Montgomery County	Yellow Sulphur Rd (Montgomery County)	Acco Stone (Montgomery County)	0.2
	Simmons Rd	Christiansburg	Electric Way NE	Rt 11 (Christiansburg)	0.1

New River Valley Critical Freight Network

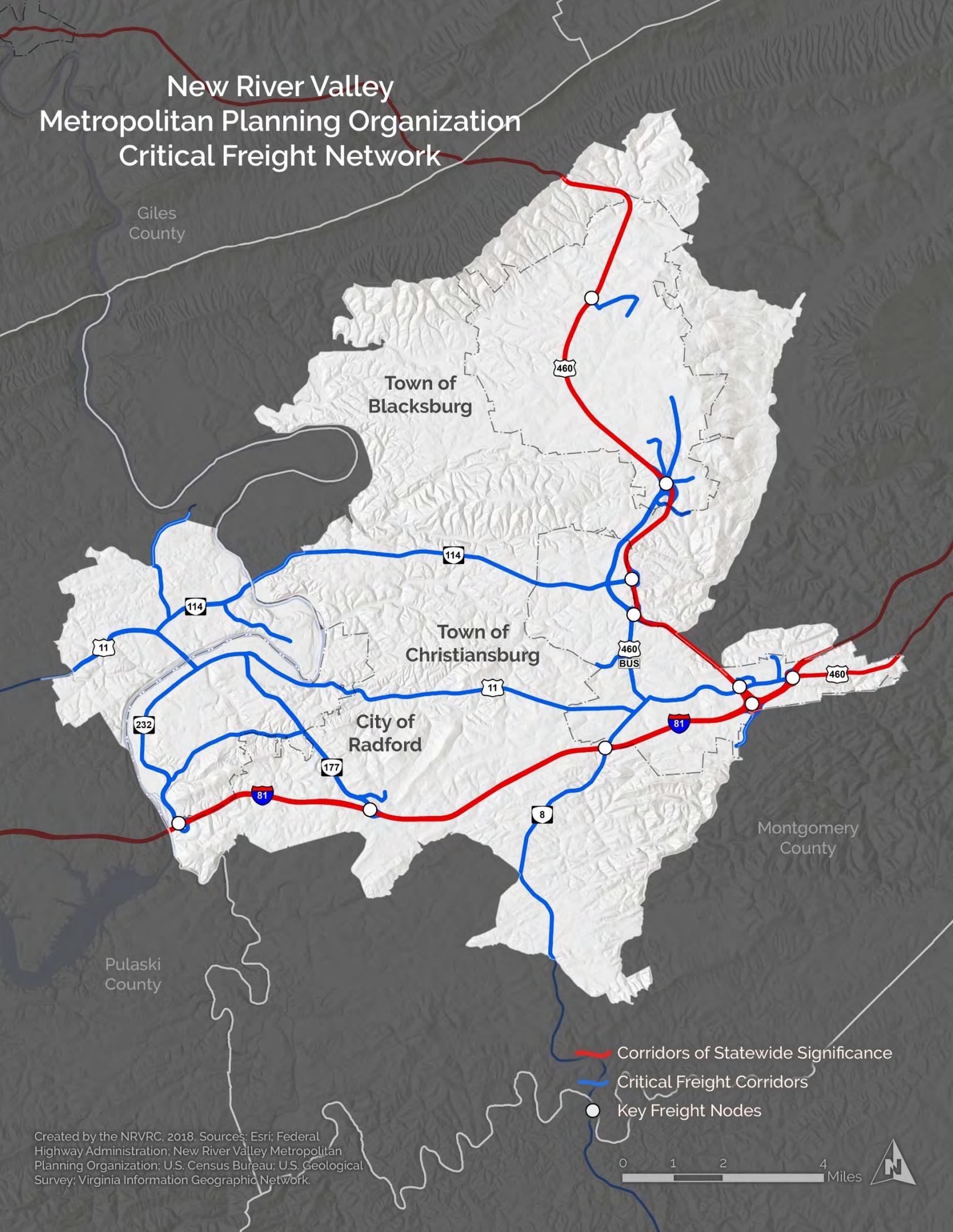


- Corridors of Statewide Significance
- Critical Freight Corridors
- Key Freight Nodes

Created by the NRVRC, 2018. Sources: Esri; Federal Highway Administration; U.S. Census Bureau; U.S. Geological Survey; Virginia Information Geographic Network.



New River Valley Metropolitan Planning Organization Critical Freight Network



Giles
County

Town of
Blacksburg

Town of
Christiansburg

City of
Radford

Montgomery
County

Pulaski
County

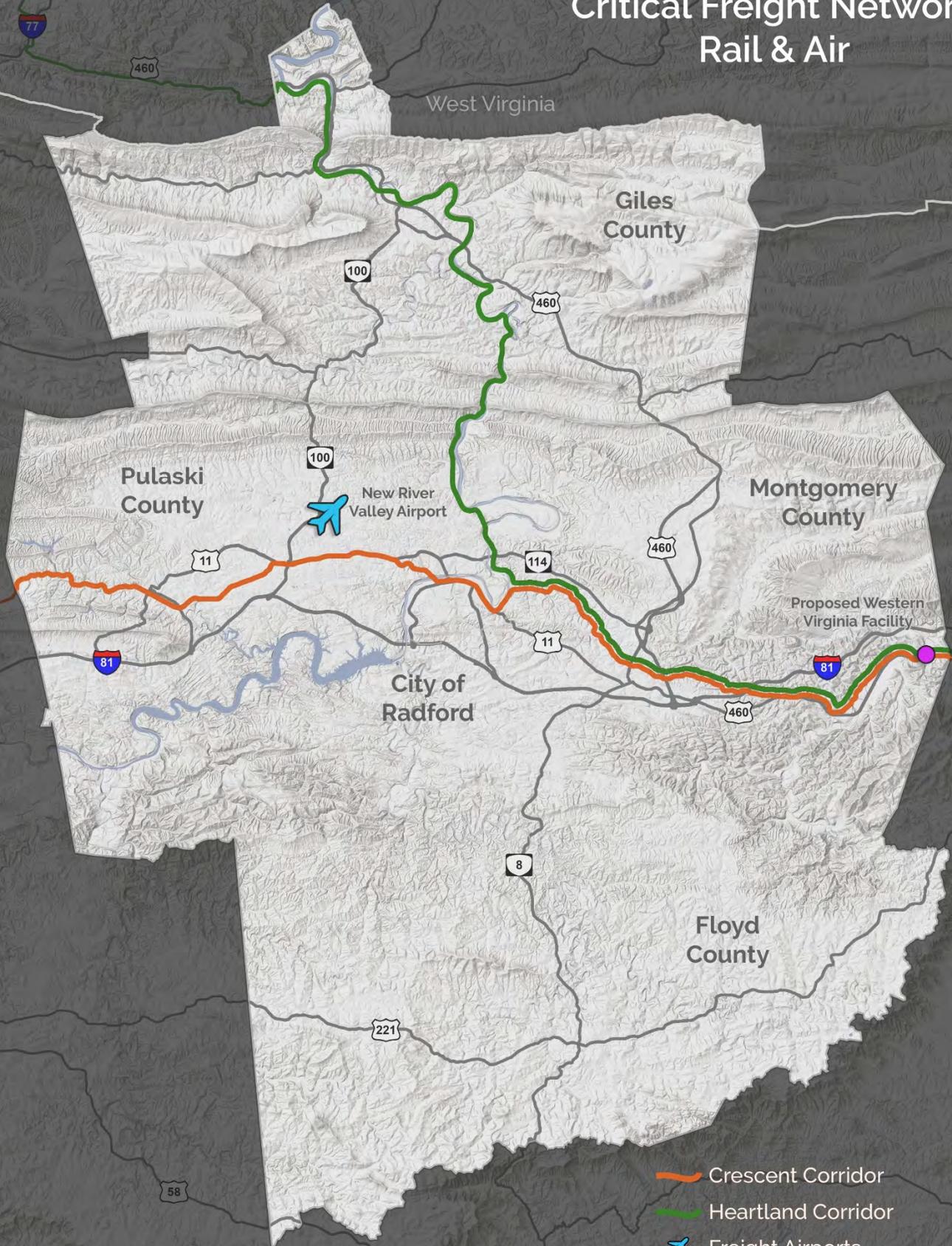
- Corridors of Statewide Significance
- Critical Freight Corridors
- Key Freight Nodes

Created by the NRVRC, 2018. Sources: Esri; Federal Highway Administration; New River Valley Metropolitan Planning Organization; U.S. Census Bureau; U.S. Geological Survey; Virginia Information Geographic Network.

0 1 2 4 Miles



New River Valley Critical Freight Network Rail & Air



Created by the NRVC, 2018. Sources: Bureau of Transportation Statistics; Esri; Federal Highway Administration; Norfolk Southern; U.S. Census Bureau; U.S. Geological Survey; Virginia Information Geographic Network.

-  Crescent Corridor
-  Heartland Corridor
-  Freight Airports
-  Intermodal Facility

0 2.5 5 10 Miles



FREIGHT SYSTEM IDEAS, INSIGHTS, AND BARRIERS

A general overview of infrastructure condition, capacity, and accessibility performance measures.



Ideas

planned intermodal facility • accommodate more traffic volume on I-81 • decrease adverse impacts to business corridors that also serve as a detour route • decrease demand for locality emergency services related to truck breakdowns • increase job opportunities for local truck drivers • grow technology and agriculture industries



Insights

good access to underutilized rail • undeveloped land adjacent to primary roadway and rail corridors • lack of bulk manufacturing decreases importance of rail



Barriers

lack of east-west interstate in the region • lack of passenger rail • ensure cohesion on regional economic development efforts

NATIONAL HIGHWAY FREIGHT NETWORK RECOMMENDATIONS

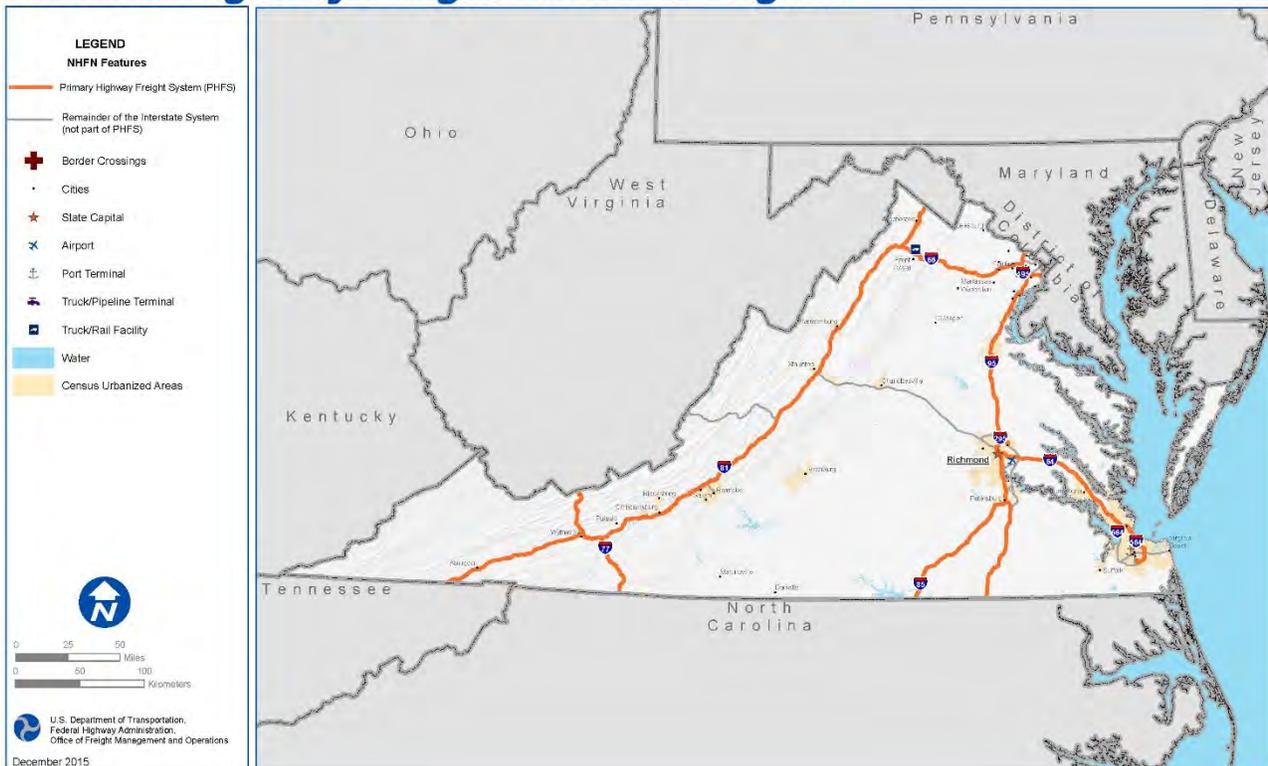
The Fixing America's Surface Transportation Act (FAST Act) repealed the Moving Ahead for Progress in the 21st Century Act (MAP-21), and directed the Federal Highway Administration to establish a National Highway Freight Network.²⁸ The four key components of the network are: 1) primary highway freight system, 2) other interstate portions excluded from the primary system, 3) critical rural freight corridors, and 4) critical urban corridors. The new network would strategically direct federal resources and policies towards the improved performance of the nation's freight transportation system.

While the New River Valley Freight Plan identifies a regional critical freight network, not all routes are eligible for National Highway Freight Network inclusion. Recommendations are to be formally approved by the Virginia Department of Transportation.

Primary Highway Freight System

The Primary Highway Freight System is a network of highways identified as the most critical highway portions of the United States transportation system. The network consists of 41,518 centerline miles that are determined by measurable and objective data. The Primary Highway Freight System in the New River Valley only includes 43-miles of Interstate 81.

National Highway Freight Network: Virginia



Source: https://ops.fhwa.dot.gov/freight/infrastructure/ismt/state_maps/states/virginia.htm

²⁸ US Department of Transportation, Federal Highway Administration. Retrieved from: <https://ops.fhwa.dot.gov/freight/infrastructure/nfn/index.htm>

Recommended Critical Rural Freight Corridors

Virginia may designate a public road as a critical rural freight corridor, if the roadway is located outside of the urbanized area and meets one or more of the following criteria:

- A rural principal arterial roadway and a minimum of 25% of the annual average daily traffic is trucks (vehicle class 8-13).
- Provides access to energy exploration, development, installation, or production areas.
- Connects the primary highway freight system or the interstate system to facilities that handle more than 50,000 20-foot equivalent units or 500,000 tons of bulk commodities annually.
- Provides access to an agricultural facility, grain elevator, mining facility, forestry facility, or an intermodal facility.
- Connects to an international port of entry.
- Provides access to significant air, rail, water, or other freight facilities in the state.
- The State determines the corridor is vital to improving the efficient movement of freight to the economy.

New River Valley's Critical Rural Freight Corridors include the non-urbanized portions of: US Route 11 (Pulaski County, significant freight access), State Route 100 (Pulaski and Giles Counties, significant freight, agriculture facility, and international port of entry), and local Routes 600/Newbern Road (Pulaski County, significant freight) and Route 635/Big Stony Creek Road (Giles County, mining facility).

Recommended Critical Urban Freight Corridors

The National Highway Freight Program provides funding to states that target improving freight movement. On average, Virginia receives \$28 million each year in new federal freight formula funds. Roadways designated as a critical urban freight corridor must be located within the urbanized area and meet one or more of the following criteria:

- Connects an intermodal facility to the Primary Highway Freight System, interstate system, or an intermodal freight facility.
- Provides an alternative highway option important to goods movement for a Primary Highway Freight System corridor.
- Serves a major freight generator, logistic center, or manufacturing and warehouse industrial land.
- Important to the movement of freight within the region, as determined by the MPO or State.

New River Valley's Critical Urban Freight Corridors include the urbanized portions of: US Routes 460, 11/460, and US Route 460 Business; State Routes 8, 114, 177, 232. All routes shown on the New River Valley Metropolitan Planning Organization Critical Freight Network Route Map are recommended for inclusion as part of the National Highway Freight Network.

