



PASSENGER RAIL STATION

OWNERSHIP AND MAINTENANCE STRATEGY



New River Valley
RAIL 2020
Riding Passengers On Track

VIRGINIA'S NEW RIVER VALLEY

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PURPOSE

In October 2017, passenger rail service expanded from Lynchburg to Roanoke and ridership increased along Amtrak's Northeast Regional Route by 9.4%. Within the initial 12-months of service (November 2017 – October 2018), total ridership in Roanoke was 56,360. Amtrak originally projected that the new service might add 38,000 ons/offers along the entire route, between Roanoke and Alexandria. The next logical step towards expanding passenger rail service in the Commonwealth is the urbanized population and employment centers of the New River Valley. In 2016, regional partners worked collaboratively to identify a future passenger rail station in downtown Christiansburg.

The purpose of this study is to identify a locally preferred station ownership and maintenance strategy should a new service extend beyond the City of Roanoke. In order to guide the study process, the New River Valley Metropolitan Planning Organization (MPO) appointed an Advisory Group to act as a sub-committee of the MPO. The group included representatives from the Town of Christiansburg, Town of Blacksburg, City of Radford, Montgomery County, Pulaski County, Virginia Tech, Radford University, and NRV Rail 2020. Non-voting members of the group included representatives from the Virginia Department of Rail and Public Transportation (DRPT), the Blacksburg Partnership, New River Valley Regional Commission, and MPO.

Relative cost factors and ownership models were explored throughout Virginia, North Carolina, and across the United States. After exploring operational approaches at active stations, the group was tasked with evaluating ownership models in further detail. The goal was to identify an equitable investment strategy that would enable financing passenger rail service to the New River Valley.

NEW RIVER VALLEY MPO

The New River Valley Metropolitan Planning Organization (MPO) is a transportation policy-making organization serving the Towns of Blacksburg and Christiansburg, the City of Radford, and urbanized areas of Montgomery and Pulaski Counties. The MPO provides the information, tools, and public input necessary to improve the performance of the transportation system of the region. Future transportation needs are addressed, giving consideration to all possible strategies and the community's vision.

SUMMARY

Amtrak serves more than 500 destinations in 46 states and three Canadian provinces, operating more than 300 trains daily over 20,000 miles of track. Many communities had passenger rail stations; however, few provide active service today. In general, platforms and tracks are paid for and owned/operated through agreements between Amtrak, Virginia Department of Rail and Public Transportation (DRPT), and the host rail company. According to the 2017 DRPT Station Stop Policy, host communities are responsible for the construction and ongoing maintenance of a station (building only), parking area, and providing multimodal connections.

More than half of all passenger rail stations are owned and operated by an independent town or city in Virginia. Annual ridership ranges from less than 10,000 to more than 300,000 at Virginia stations. Over the last decade, Amtrak has received more than \$1.3 billion in total federal grant appropriations annually. In Virginia, Amtrak and the State allocate costs to provide passenger rail service. All of the costs to extend passenger rail service to the New River Valley are unknown at this time; however, regional partners have analyzed cost factors to construct and maintain a new station and corresponding assets locally.

Partners in the New River Valley propose to establish the NRV Passenger Rail Authority to collectively own a new facility in Christiansburg. The new authority will be guided by a Board of Directors that represent financial and strategic partners in the region. Voting membership will be extended to partners who are contributing financial resources in order to provide the new public service. The arrangement will be the first of its kind in Virginia.

The new station will be funded through a simplified shared cost model that equally distributes costs among partners with similarly estimated shares. Shares were determined based on proximity to the station, potential ridership, and total population. The cost factors for station construction and maintenance are anticipated to be approximately \$360,000 annually.

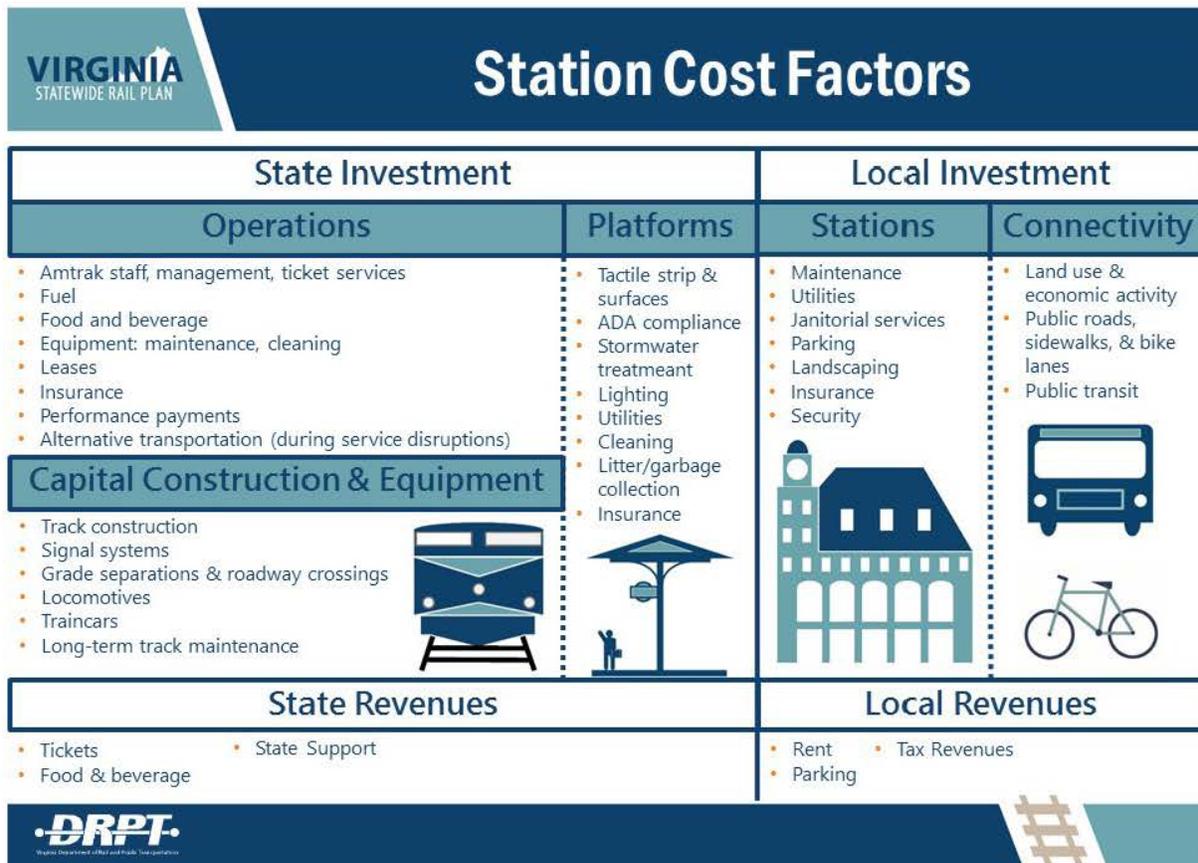
Simplification-Based Scenario #1: Locally Preferred Revenue Plan									
<i>Montgomery County</i>	<i>Town of Blacksburg</i>	<i>Virginia Tech</i>	<i>Town of Christiansburg</i>	<i>Pulaski County</i>	<i>Town of Pulaski</i>	<i>City of Radford</i>	<i>Radford University</i>	<i>Giles County</i>	<i>Floyd County</i>
78.00%				3.00%	1.00%	14.50%		1.75%	1.75%
\$69,746.06	\$69,746.06	\$69,746.06	\$69,746.06	\$10,730.16	\$3,576.72	\$25,931.23	\$25,931.23	\$6,259.26	\$6,259.26

OWNERSHIP MODELS

Passenger rail service drastically declined when air travel became more affordable and the interstate highway system expanded in the 1960's – 1970's. As a result, most passenger rail service is not self-sustaining. In fact, Amtrak operations are subsidized with federal and state funds. Amtrak serves more than 500 destinations in 46 states and three Canadian provinces, operating more than 300 trains daily over 20,000 miles of track. Many communities had passenger rail stations; however, few provide active service today. This section of the report provides an overview of ownership models, anticipated cost factors, and revenue scenarios.

EXISTING MODELS

In general, platforms and tracks are paid for and owned/operated through agreements between Amtrak, Virginia Department of Rail and Public Transportation (DRPT), and the host rail company. According to the 2017 DRPT Station Stop Policy, host communities are responsible for the construction and ongoing maintenance of a station (building only), parking area, and multimodal connections. Unlike a typical grant, each capital investment is 100% paid for by either the State or local community partners. The graphic below, provided by DRPT, illustrates the station cost factor responsibilities of each partner.



The following ownership models are currently utilized in Virginia and neighboring North Carolina:

1. **City/Town Ownership & Operation:** Under this scenario the Town of Christiansburg would pay all construction, and annual maintenance/operating costs for a new passenger rail service. Roughly 50% of facilities and parking lots are owned by an independent town or city in Virginia. Ridership ranges from less than 10,000 to more than 100,000 for this model.
2. **City/Town + Public/Private Partner(s):** Retains the single ownership model; however, additional partners may commit funding and/or provide services by establishing a Memorandum of Understanding (MOU). In Durham, a public-private partnership agreement is in place which allows a developer to up-fit one-third of the passenger rail station. Other partnerships can be established to help offset facility and transit costs.
3. **Transportation Authority:** In Virginia, transportation authorities are recognized as a political subdivision and public body corporate and politic of the Commonwealth that require enabling legislation through the Code of Virginia. Authorities are governed by a board of directors that are appointed by participating governmental entities. Authorities can contract and be contracted with, sue and be sued, acquire and hold real personal or real property rights and easements that are necessary or convenient for its purposes.

With the approval of City/Town Councils and Boards of Supervisors, the authority may operate, maintain and provide transportation facilities and services. In addition, authorities may provide vehicular parking and other facilities deemed necessary to promote the transportation of persons or property or to promote the flow of commerce.

In the New River Valley authorities are used for a variety of public services that have impacts which stretch beyond town, county, city, or university boundaries. Examples include: airports, regional 911, industrial parks, sanitation and water, and public transit.

4. **Limited Liability Company (LLC):** A corporate structure whereby the members of the company cannot be held personally liable for company debts or liabilities. LLC's are essentially hybrid entities that combine the characteristics of a corporation and a partnership or sole proprietorship. Unlike a corporation, a LLC must dissolve upon the death or bankruptcy of a member, while a corporation can exist in perpetuity. The LLC framework is currently utilized by the Cities of Charlottesville and Staunton to maintain facilities and parking lots. Ridership ranges from less than 10,000 to more than 100,000 for this model.
5. **Corporation (New or Established):** A corporation is a legal entity that is separate and distinct from its owners. Corporations have the ability to enter into contracts, loan and borrow money, sue and be sued, hire employees, own assets and pay taxes. A corporation is created when it is incorporated by a group of stakeholders in order to pursue a common objective. There are currently no known models of a corporation (Corp., Inc., or Ltd.) for the purpose of managing transportation facilities or property. Transportation Commissions are legislatively enabled corporations in Virginia and function relatively similar to a typical corporation.

A transportation commission must be enabled by § 33.2-1906 of the Code of Virginia. A commission may, when a transportation plan is adopted, have the typical rights of a corporation. The Chairman of the Commonwealth Transportation Board, or designee, shall be a member of each commission as an ex officio with voting privileges. Established transportation commissions include: the Potomac and Rappahannock Transportation Commission, the Transportation District

Commission of the Hampton Roads, and the Northern Virginia Transportation Commission. Two or more commissions may also collaborate on joint project initiatives, such as the Virginia Railway Express.

The Virginia Railway Express (VRE) is a joint project of the Northern Virginia Transportation Commission and the Potomac and Rappahannock Transportation Commission that provides safe, cost effective, accessible, reliable, convenient, and comfortable commuter-oriented rail passenger service. VRE contributes to the economic development of its member jurisdictions as an integral part of a balanced, intermodal regional transportation system.

VRE provides commuter rail service from the Northern Virginia suburbs to Alexandria, Crystal City and downtown Washington, D.C., along the I-66 and I-95 corridors. VRE operates 30 trains from 18 stations and carry, on average, 20,000 passengers daily. Ridership for VRE owned Amtrak facilities ranges from a little more than 5,000 to a little more than 35,000.

The table below provides an overview of existing facilities and ownership by station.

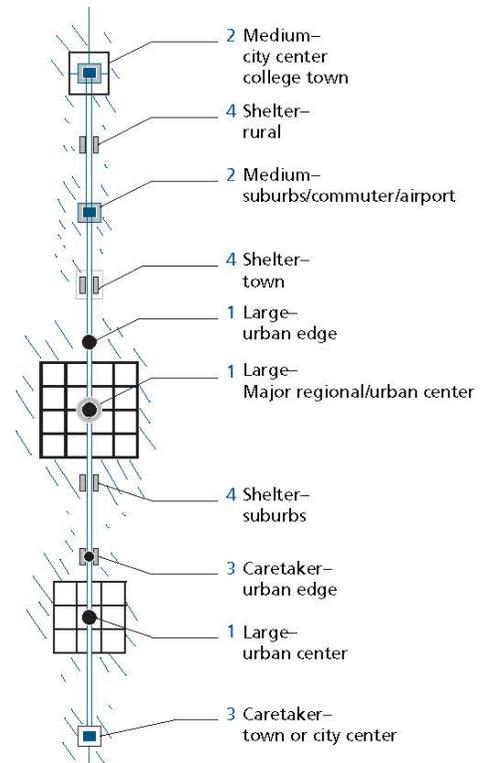
Station	Facility	Parking Lot	Platform	Track	Ridership (2017)
Alexandria - ALX	City	City	CSX	CSX	200,373
Ashland - ASD	Town	Town	CSX	CSX	30,892
Burke Center - BRK	VRE	County BOS	VRE	NS	9,939
Charlottesville - CVS	LLC	LLC	NS, BB	NS, BB	145,140
Clifton Forge - CLF	CSX	CSX	CSX	CSX	2,339
Culpeper - CLP	Town	Town	NS, BB	NS	15,498
Danville - DAN	City	City	City	NS	6,575
Fredericksburg - FBG	CSX	City	CSX	CSX	119,065
Lorton - LOR	Amtrak	Amtrak	Amtrak	Amtrak, CSX	228,943
Lynchburg - LYH	City	City	NS	NS	82,251
Manassas - MSS	City	City	NS	NS	28,619
Newport News - NPN	Amtrak	Authority, CSX	CSX	CSX	106,692
Norfolk - NFK	City	City	NS	NS	47,493
Petersburg - PTB	CSX	CSX	CSX	CSX	30,801
Quantico - QAN	VRE	VRE	CSX	CSX	24,036
Richmond Main Street - RVM	City	City	City	CSX	46,354
Richmond Staples Mill - RVR	Amtrak	Amtrak, DRPT	CSX	CSX	373,832
Roanoke - RNK	NA	Private	Amtrak	NS	56,360*
Staunton - STA	LLC	LLC	CSX	CSX	6,487
Williamsburg - WBG	City	City	CSX	CSX	60,316
Woodbridge - WDB	VRE	VRE	CSX	CSX	16,712
Durham (NC)	Private	City, NCDOT	Amtrak	NS	71,924
Greensboro (NC)	City	City, NCDOT	Amtrak	NS	134,191
High Point (NC)	City	City, NCDOT	Amtrak	NS	30,818

Notes: 1) blue rows denote stations that are highlighted in the Types of Amenities and Physical Infrastructure Found in Virginia section of this plan; 2) VRE: Virginia Railway Express; 3) NPN: Newport News Parking Authority; 4) CSX and NS: United States Class I railroad companies; 5) BB: United States Class III railroad company; 6) * denotes first 12 months of ridership data.

OWNERSHIP AND OPERATIONAL LOGISTICS

Over the last decade, Amtrak has received more than \$1.3 billion in total federal grant appropriations annually. In Virginia, Amtrak and the State allocate costs to provide passenger rail service. The equipment capital, operational, and platform costs are the primary responsibilities of DRPT. Primary responsibilities for the host community are the station, parking, and providing multimodal transportation connections. The projected ridership for the NRV region is 40,000 ons + offs. According to Amtrak’s Station Program and Planning Guidelines, a Category 3 Station is recommended.

Category 3 Stations are typically designed to accommodate 20,000 – 100,000 annual passengers. In addition, the stations offer an indoor waiting area with restrooms and vending machines; however, the stations are often not staffed. Category 3 Stations are typically found in small cities and town suburbs and only account for approximately 5% of Amtrak’s annual ridership. A conceptual scheme of station categories developed by Amtrak is shown (right) for illustrative purposes.



Requiring less than 3,500 square feet, the station is by far the smallest component needed for a future passenger rail service. The site also requires a minimum of 150 parking spaces, a pick-up/drop-off area, public transit space for up to four buses, a separate track located off the main line, and a platform at least 10 feet-wide and 450 feet-long. Regional partners accounted for each of these factors while identifying candidate sites throughout the New River Valley in 2015.

In July 2018, the NRV Rail 2020 Initiative partnered with the MPO to hire engineering consultants to develop preliminary cost estimates and site planning concepts. Initiated in 2013 by the Blacksburg Partnership, NRV Rail 2020 is a broad-based, public-private-citizen, community initiative to bring Amtrak passenger rail service to Virginia’s New River Valley. The initiative represents a unique partnership between businesses, municipal, legislative, and university leaders with support from all corners from the region. A conceptual site cost estimate and sketch is shown on the following two pages.

WORK ACTIVITY	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
ON-SITE PREPARATION					
Site Clearing					
Clearing	9.00	AC	\$5,000.00	\$45,000.00	
Topsoil Strip/Cut	7,700	CY	\$3.00	\$23,100.00	
Topsoil Fill (c = 1.10)	6,000	CY	\$3.00	\$18,000.00	
Topsoil Export	1,700	CY	\$15.00	\$25,500.00	
Total Site Clearing				\$111,600.00	\$111,600.00
Grading Cut					
Earth Cut	91,513	CY	\$4.00	\$366,053.20	
Total Grading Cut				\$366,053.20	\$366,053.20
Grading Fill					
Earth Fill (c = 1.15)	14,292	CY	\$4.00	\$57,166.84	
Total Grading Fill				\$57,166.84	\$57,166.84
Grading Export					
Earth Export	77,222	CY	\$15.00	\$1,158,323.85	
Total Grading Export				\$1,158,323.85	\$1,158,323.85
Retaining Wall	0.00	SF	\$25.00		\$0.00
Other Preparation					
Fine Grading (Building)	560.00	SY	\$1.50	\$840.00	
Fine Grading (Non-Building)	17,700	SY	\$0.90	\$15,930.00	
Erosion Control	10.00	AC	\$10,000.00	\$100,000.00	
Seeding	8.00	AC	\$2,000.00	\$16,000.00	
Total Other Preparation				\$132,770.00	\$132,770.00
				subtotal	\$1,825,913.89
ON-SITE IMPROVEMENTS					
Paving - Asphalt					
Asphalt Paving - Drives (Heavy Duty)	6,950	SY	\$35.00	\$243,250.00	
Total Paving - Asphalt				\$243,250.00	\$243,250.00
Paving - Concrete					
Concrete Paving - Drives (Heavy Duty)	2,970	SY	\$55.00	\$163,350.00	
Total Paving - Concrete				\$163,350.00	\$163,350.00
Paving - Pedestrian					
Pedestrian Concrete	1,000	SY	\$45.00	\$45,000.00	
Total Paving - Pedestrian				\$45,000.00	\$45,000.00
Curb & Gutter					
Street Curb & Gutter	4,490	LF	\$25.00	\$112,250.00	
Total Curb & Gutter				\$112,250.00	\$112,250.00
				subtotal	\$563,850.00

WORK ACTIVITY	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
ON-SITE STORM DRAINAGE					
Storm Water FES					
18 in FES	2.00	EA	\$1,000.00	\$2,000.00	
24 in FES	2.00	EA	\$1,200.00	\$2,400.00	
Total Storm Water FES				\$4,400.00	\$4,400.00
Storm Water Pipes					
15 in Pipe	500.00	LF	\$25.00	\$12,500.00	
18 in Pipe	250.00	LF	\$35.00	\$8,750.00	
24 in Pipe	125.00	LF	\$50.00	\$6,250.00	
Total Storm Water Pipes				\$27,500.00	\$27,500.00
Inlets	10.00	EA	\$3,000.00	\$30,000.00	
Manholes	2.00	EA	\$2,000.00	\$4,000.00	
Water Quality	2.20	AC	\$40,000.00	\$88,000.00	
Rip Raps	4.00	EA	\$750.00	\$3,000.00	
Pond Kits	2.00	EA	\$20,000.00	\$40,000.00	
				\$165,000.00	\$165,000.00
				subtotal	\$196,900.00
Other Utilities					
Water Distribution					
Relocate existing water line	950.00	LF	\$50.00	\$47,500.00	
Connect to Existing	2.00	EA	\$2,500.00	\$5,000.00	
Air Release Assembly	1.00	EA	\$5,000.00	\$5,000.00	
8" Water line	100.00	LF	\$50.00	\$5,000.00	
6" Water line	50.00	LF	\$40.00	\$2,000.00	
2" Domestic Line	80.00	LF	\$20.00	\$1,600.00	
Fire Hydrant	2.00	EA	\$3,500.00	\$7,000.00	
Backflow Prevention	1.00	EA	\$35,000.00	\$35,000.00	
Meters	1.00	EA	\$20,000.00	\$20,000.00	
Total Water Distribution				\$128,100.00	\$128,100.00
Sanitary Sewer					
Connect to Existing	1.00	EA	\$1,500.00	\$1,500.00	
Creek Crossing	1.00	EA	\$8,000.00	\$8,000.00	
6" Sanitary Line	1010.00	LF	\$50.00	\$50,500.00	
Manholes	4.00	EA	\$1,500.00	\$6,000.00	
Cleanouts	1.00	EA	\$1,000.00	\$1,000.00	
Total Sanitary Sewer				\$67,000.00	\$67,000.00
				subtotal	\$195,100.00
Site Items					
Site Lighting	5.00	EA	\$3,500.00	\$17,500.00	
Landscaping	1.00	LS	\$20,000.00	\$20,000.00	
Signage	1.00	LS	\$5,000.00	\$5,000.00	
Striping	1.00	LS	\$5,000.00	\$5,000.00	
				\$47,500.00	\$47,500.00
				subtotal	\$47,500.00

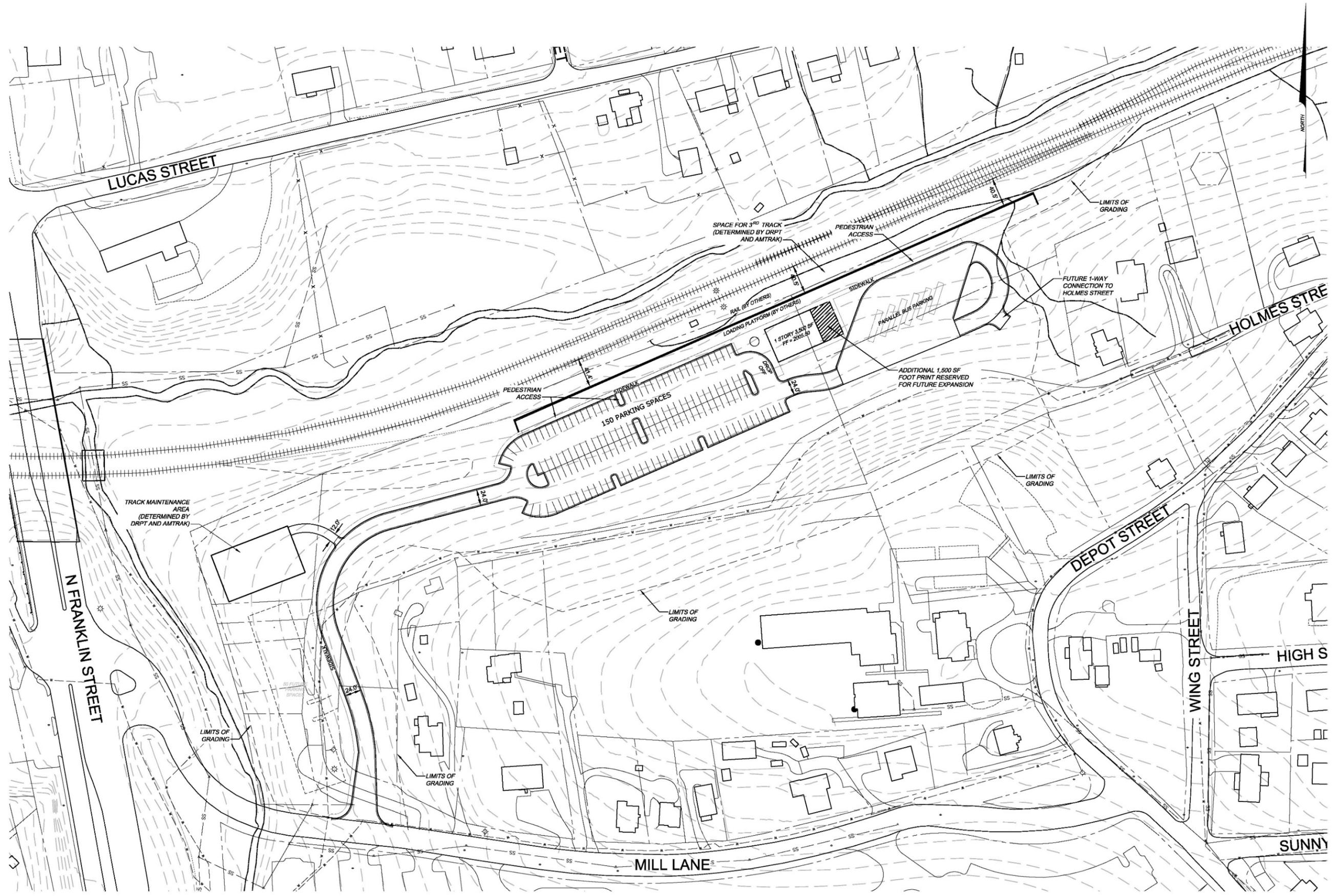
WORK ACTIVITY	QUANTITY	UNIT	UNIT COST	SUBTOTAL	TOTAL
Miscellaneous					
Permits, Bonds, Fees	1.00	LS	\$20,000.00	\$20,000.00	
Utility Connection/Availability Fees	1.00	LS	\$12,000.00	\$12,000.00	
Mobilization	1.00	LS	\$145,000.00	\$145,000.00	
10% Contingency	1.00	LS	\$287,000.00	\$287,000.00	
Professional Services	1.00	LS	\$90,000.00	\$90,000.00	
Geotechnical	1.00	LS	\$40,000.00	\$40,000.00	
Materials Testing	1.00	LS	\$20,000.00	\$20,000.00	
Construction Stakeout	1.00	LS	\$20,000.00	\$20,000.00	
				subtotal	\$634,000.00
Total Cost Estimate For Site					\$3,463,263.89
Building Construction Cost Options					
Building					
Minimalist Build	3,500	SF	\$185.00	\$647,500.00	
Standard Build	3,500	SF	\$220.00	\$770,000.00	
Total Cost Estimate For Site Work & Minimalist Building					\$4,110,763.89
Total Cost Estimate For Site Work & Standard Building					\$4,233,263.89



Note: total cost estimate for site work and standard building used for annual cost factor estimates. This estimate does not include gas, electric, or telecom utility installation.

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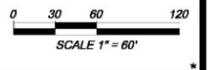
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FOR
NRV - PASSENGER RAIL STATION
CHRISTIANSBURG, VIRGINIA

PROJECT NO.	20181170
FILE NO.	
LAT.	-00.000000°
LONG.	00.000000°
DATE:	01/02/2019
DRAWN BY:	RKW
CHECKED BY:	JDW



HURT & PROFFITT

SHEET NO.	REV.
1 OF 1	

PARKING:
NEW PARKING SPACES = 150
FUTURE PARKING SPACES = 75

AMENITIES AND PHYSICAL INFRASTRUCTURE

This section takes a closer look at four stations located throughout Virginia. These examples were selected based on existing ridership and unique operational strategies. The existing station review informed the Advisory Group about the types of amenities that should be considered in the NRV.

ASHLAND



Specs: Passenger rail amenities include a platform and shelter. Original station constructed in 1923 and serves as an active Visitor's Center. The center allows Amtrak riders to use restrooms and charge devices. 30,000+ ridership.

Operations: Volunteers staff the Visitor's Center and help riders get on the right side of track. Most visitors of the station come from the interstate – rail users are typically on the move.

Aerial View of Station:



CULPEPER



Specs: Passenger rail amenities include a station with waiting room. Original station constructed in 1904 and does not include restrooms. Four routes are served daily from this location. Features a VA Tourism Corporation LOVE sculpture. 15,000+ ridership

Operations: Station is not staffed. Site features 40 parking spaces, of which 75% are utilized long-term. Station maintained by the Town.

Aerial View of Station:



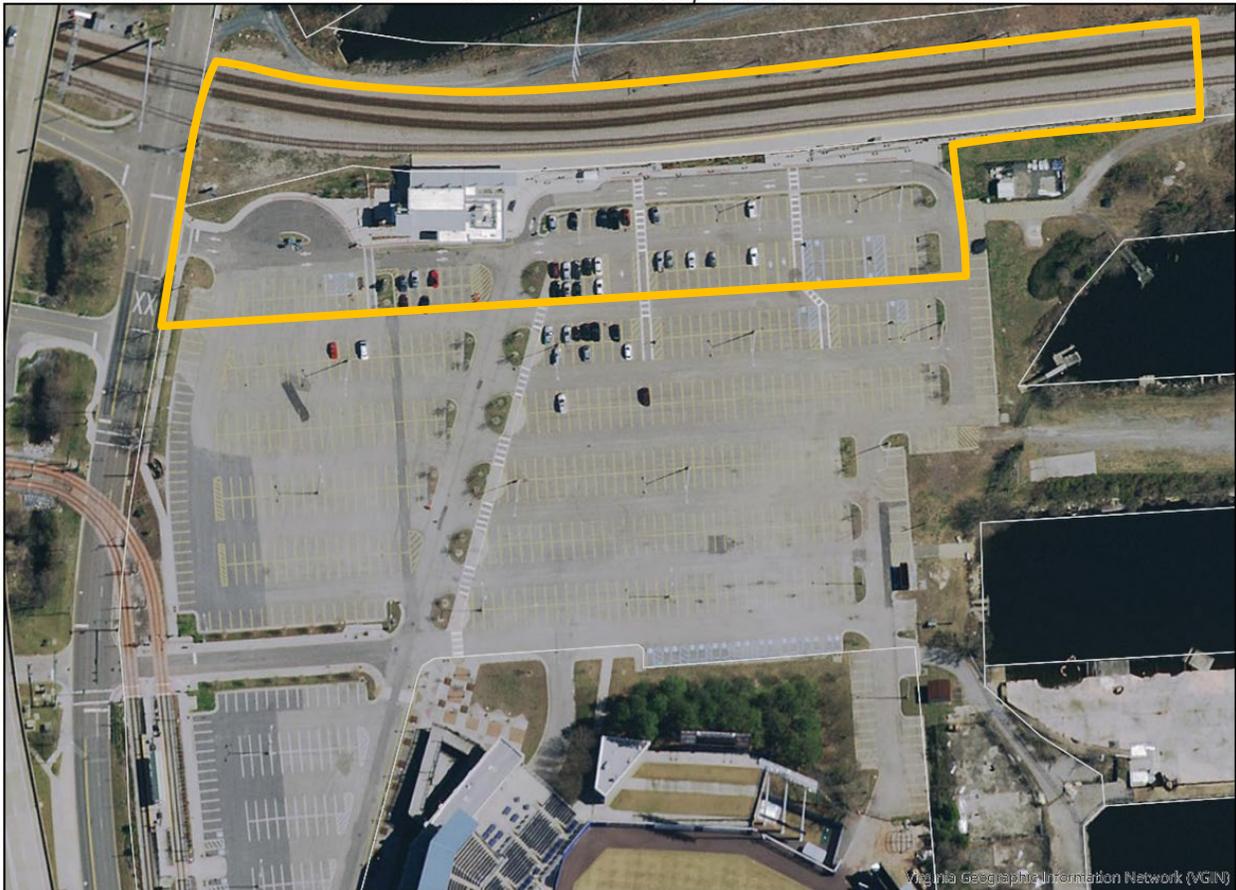
NORFOLK



Specs: Passenger rail amenities include a station with waiting room, restrooms, vending machines, and bus connections. Includes 130 free parking spaces for both short and long-term use. Station originally constructed in 2013. 45,000+ ridership.

Operations: Amtrak leases 1,000 square feet of space and provides on-site ticket sales. Station also includes a meeting room and remains open until train returns.

Aerial View of Station:



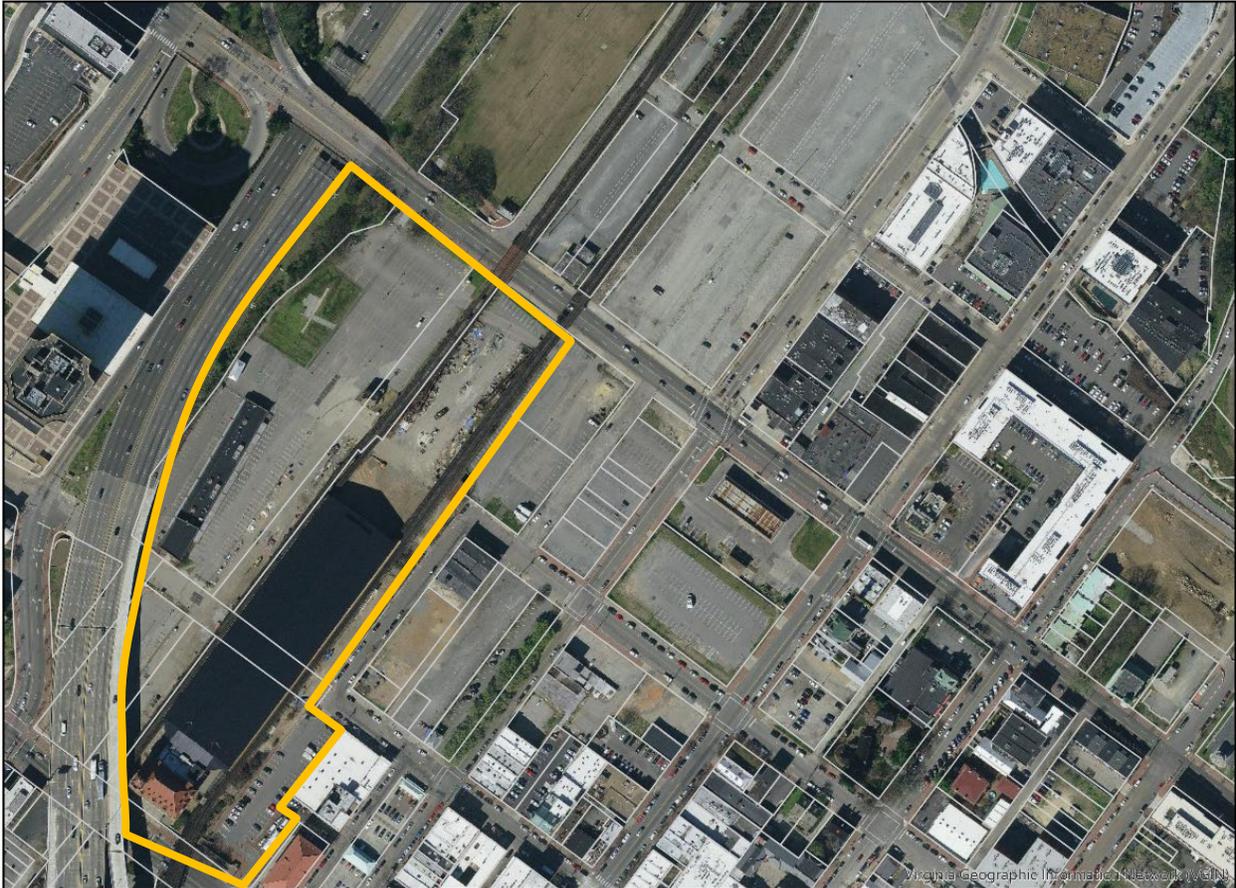
RICHMOND



Specs: Passenger rail amenities include a station with waiting room, restrooms, vending machines, and bus, trail, and bike connections. Paid parking spaces are available for \$1/hour or \$5-\$6/day. \$90M station renovation completed in 2018. 45,000+ ridership.

Operations: Two spaces available to public/private for rent which accommodate 700 – 3,000 guests. Rent ranges from \$2,000 - \$11,500. Virginia Tourism Corporation specialists located on-site.

Aerial View of Station:



ANNUAL COST FACTORS

In addition to the debt service for station construction, several other factors were considered as annual operational expenses. The table below provides an overview of annual cost factors for a new passenger rail service in the New River Valley.

Description	Units				Estimate	
	Cost Per	Type	Monthly Use	Annual Use	Cost (monthly)	Cost (annual)
Water	\$0.0009	gallons	9,125	109,500	\$82.13	\$985.50
Sewer	\$0.01025	gallons	9,125	109,500	\$103.53	\$1,132.38
Solid Waste	\$39.37	rent + pickup	1	12	\$39.37	\$472.44
Stormwater	Tier 12	month	1	12	\$198.02	\$2,376.24
Power (indoor)	\$1,050.00	month	1	12	\$1,050.00	\$12,600.00
Power (outdoor)	\$0.20	kWh	2,300	27,600	\$890.00	\$10,680.00
Internet	\$125.00	month	1	12	\$125.00	\$1,500.00
Building, custodial services, HVAC	\$1,275.00	month	1	12	\$1,275.00	\$15,300.00
Grounds maintenance	\$1,100.00	month	1	12	\$1,100.00	\$13,200.00
Parking lot remarking (5-yrs)	\$85.00	month	1	12	\$85.00	\$1,020.00
Parking lot resurface (10-yrs)	\$300.00	month	1	12	\$300.00	\$3,600.00
Parking lot (sweeping + snow)	\$500.00	month	1	12	\$500.00	\$6,000.00
<i>Subtotal:</i>					\$5,748.05	\$68,866.56
<i>*30-yr Debt Service on Site Construction Estimate:</i>					\$24,067.13	\$288,805.56
Total:					\$29,815.18	\$357,672.12

* Note: \$4,233,263.89 site construction + \$250,000 Public Information Display (PID), annual interest rate of 5%, period of 30 years, total cost of loan \$8,664,166.70.

REVENUE SCENARIO PLANNING

Passenger rail stations are often an added local expense. Station operational costs can be offset by fees for parking, vending machines, and space lease/rental. However, most stations still rely on local funding to remain operational. For the purpose of this plan, the station construction and ongoing maintenance is assumed to be entirely locally funded.

Primary scenario factors include: population, potential ridership, and proximity. A general overview of each scenario and potential regional partners shares are highlighted in the green rows below.

1. **Population:** community populations were determined utilizing 2015 Weldon Cooper projections. University populations were based on the number of 2017 on-campus beds. County populations did not include the population of individual towns. Towns and Cities did not include the population of individual universities (on-campus beds). The table below shows the population projections used for the population-based scenario.

Population-Based Scenario: Total Population of 173,394									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
31,495	35,215	9,000	21,943	22,908	8,890	14,453	2,950	11,329	15,211
18.16%	20.31%	5.19%	12.65%	13.21%	5.13%	8.34%	1.70%	6.53%	8.77%

POTENTIAL SHARE

2. **Potential Ridership:** potential ridership was based on a public survey that was undertaken as a component of the 2015 *New River Valley Passenger Rail Study*. Nearly 6,200 responses were collected. Total annual ridership is anticipated to be 40,000. Based on the survey results, approximately 55% of trips would be generated by residents, 22.5% university faculty/staff for work related/campus-generated travel, and an estimated 22.5% for students. Trip percentages were rounded for simplicity and factor in out-bound and in-bound trip generations. The table below shows the potential ridership projections used for the ridership-based scenario.

Ridership-Based Scenario: Total Ridership of 40,000									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
4,292	4,799	14,328	2,990	3,122	1,211	1,970	3,672	1,544	2,073
10.73%	12.00%	35.82%	7.48%	7.80%	3.03%	4.92%	9.18%	3.86%	5.18%

POTENTIAL SHARE

3. **Proximity:** proximity is based on as-the-crow-flies, from the center of the proposed passenger rail station property to the geographic center of each partnering local government or university campus. Unlike the first two scenarios, where each partner received a share of a known total, the proximity-based scenario relies on a factor of relativity. The community with the closest proximity receives a manually entered share and the other shares are distributed based on how much further away geographic centers are located. The table below shows the potential projections used for the proximity-based scenario.

Proximity-Based Scenario: Christiansburg Proximity/Location Proximity									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
2.71 mi.	6.27 mi.	5.46 mi.	0.49 mi.	17.56 mi.	20.33 mi.	8.22 mi.	7.36 mi.	20.07 mi.	14.62 mi.
18.08%	7.81%	8.97%	41.52%	2.79%	2.41%	5.96%	6.66%	2.44%	3.35%

POTENTIAL SHARE

4. **Relativity Factor Adjustments:** population, ridership, and proximity adjustments based off average values and share redistribution. Utilized as an initial combination factor adjustment. The table below shows the potential projections used for the relativity-based scenarios.

Relativity-Based Scenario #1: Population + Distance (R = 10.5 mi.)									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
5.84%	3.33%	4.81%	15.00%	-13.21%	-5.13%	1.66%	3.00%	-6.53%	-8.77%
24.00%	23.64%	10.00%	27.65%	0.00%	0.00%	10.00%	4.70%	0.00%	0.00%

Relativity-Based Scenario #2: Distance + Ridership (R = 3,250)									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
3.00%	-0.73%	5.00%	2.15%	-1.17%	-2.48%	-1.60%	0.79%	-2.78%	-2.18%
13.73%	11.27%	40.82%	9.63%	6.63%	0.55%	3.32%	9.97%	1.08%	3.00%

POTENTIAL SHARE

5. **Combination Adjustments:** combinations of population, ridership, and proximity based on weighting criteria. Weights are applied to single and combinations of multiple criteria. The table below shows the potential projections used for the combination-based scenario.

Combination-Based Scenario #1: Weighted Population (40%) + Ridership (60%)									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
13.70%	15.32%	23.57%	9.55%	9.97%	3.87%	6.29%	6.19%	4.93%	6.62%

Combination-Based Scenario #2: Weighted (Population + Distance (60%)) + Ridership (40%)									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
18.69%	18.98%	20.33%	19.58%	3.12%	1.21%	7.97%	6.49%	1.55%	2.07%

POTENTIAL SHARE

6. **Simplified Shared Cost:** combines partners with similar combination-based scenario shares and redistributes a rounded total equally. The table below shows the potential projections used for the simplification-based scenario.

Simplification-Based Scenario #1: Combination-Based Scenario #2, Rounded and Equally Distributed									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
78.00%				3.00%	1.00%	14.50%		1.75%	1.75%
19.50%	19.50%	19.50%	19.50%	3.00%	1.00%	7.25%	7.25%	1.75%	1.75%

Simplification-Based Scenario #2: Equal Distribution + If Opt-out Scenario									
Montgomery County	Town of Blacksburg	Virginia Tech	Town of Christiansburg	Pulaski County	Town of Pulaski	City of Radford	Radford University	Giles County	Floyd County
82.50%				3.00%	0.00%	14.50%		0.00%	0.00%
20.625%	20.625%	20.625%	20.625%	3.00%	0.00%	7.25%	7.25%	0.00%	0.00%

POTENTIAL SHARE

LOCALLY PREFERRED STRATEGY

Partners in Virginia’s New River Valley have a long-standing track record of collaboration to provide shared services. Emergency services, airports, water/sewer, and public transportation are each examples of current public services provided by two or more local governments and/or universities. For this reason, the Advisory Group recommends establishing a new authority for passenger rail service in the region. Further, option #6 simplified shared cost model is recommended to establish equity in ownership and providing a new public service. This section provides more detail regarding ownership and ongoing maintenance.

OWNERSHIP STRATEGY

Partners in the New River Valley propose to establish the NRV Passenger Rail Authority. The new authority will be guided by a Board of Directors that represent financial and strategic partners in the region. Voting membership will be extended to partners who are contributing financial resources in order to provide the new public service. Staffing needs will be limited to maintaining the station, parking areas, and grounds. Maintenance can be coordinated by the Town of Christiansburg and the costs of staffing needs will be shared among membership. Creating a new authority may or may not require enabling legislation passed by the Virginia state legislature.

REVENUE PLAN

Partners in the New River Valley propose to pursue a simplified shared cost model that equally distributes costs among partners with similar shares. The cost factors for station construction and maintenance are anticipated to be approximately \$360,000 annually. The annual costs are inclusive of 30-yr debt service for \$4.25M site construction, \$250,000 Public Information Display, and \$70,000 for building/grounds maintenance. Montgomery County, Virginia Tech, and the Towns of Blacksburg and Christiansburg may need to absorb additional portions of shares if potential partners choose not to participate. A potential revenue budget plan is highlighted below.

Simplification-Based Scenario #1: Locally Preferred Revenue Plan									
<i>Montgomery County</i>	<i>Town of Blacksburg</i>	<i>Virginia Tech</i>	<i>Town of Christiansburg</i>	<i>Pulaski County</i>	<i>Town of Pulaski</i>	<i>City of Radford</i>	<i>Radford University</i>	<i>Giles County</i>	<i>Floyd County</i>
78.00%				3.00%	1.00%	14.50%		1.75%	1.75%
\$69,746.06	\$69,746.06	\$69,746.06	\$69,746.06	\$10,730.16	\$3,576.72	\$25,931.23	\$25,931.23	\$6,259.26	\$6,259.26

