

NorthPort Station Feasibility Study

NORTHPORT STATION



Submitted to:
Hagerstown/Eastern Panhandle MPO
City of Ranson, West Virginia



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Acknowledgements

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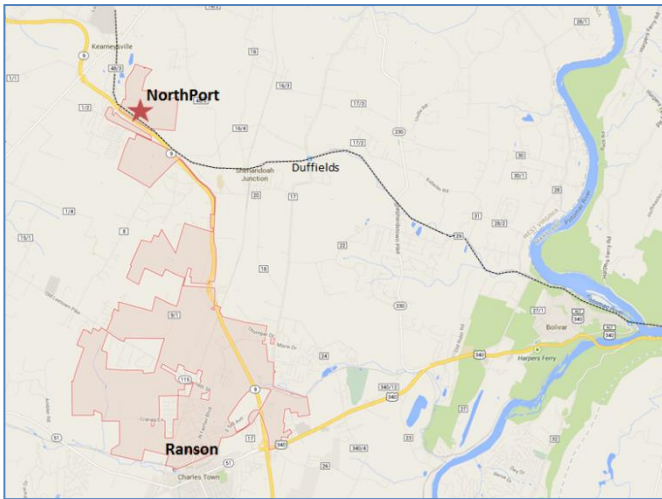
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NorthPort Station – Executive Summary



Background

NorthPort Station is a new MARC transit station and EPTA bus transfer center envisioned for the City of Ranson on the Jefferson Orchards property abutting Route 9 and the CSX railroad tracks.



The station includes a stand-alone building with an integrated pedestrian bridge that will replace the Duffields stop along MARC's Brunswick Line. The NorthPort Station has strong support from West Virginia's congressional delegation and state legislators. The West Virginia State Rail Authority has passed a resolution supporting the station relocation and has agreements with MARC and CSX. These efforts have led to this feasibility study that will be followed by the engineering and construction of the new station.

Regional Importance

NorthPort Station is the centerpiece of the region's "smart growth" vision and sustainable, transit oriented development (TOD) planning efforts. The accessibility of regional commuter rail service will attract developers to Jefferson Orchards. The property has approved and vested plans of mixed use zoning that will support economic development opportunities in the region.

The multi-modal facility will also serve as an EPTA bus transfer center that can be integrated with an enhanced bus route system to Martinsburg, Ranson, Charles Town and Harpers Ferry. The station will include bike and pedestrian facilities providing access to the TOD neighborhood and the regional bike path along Route 9.

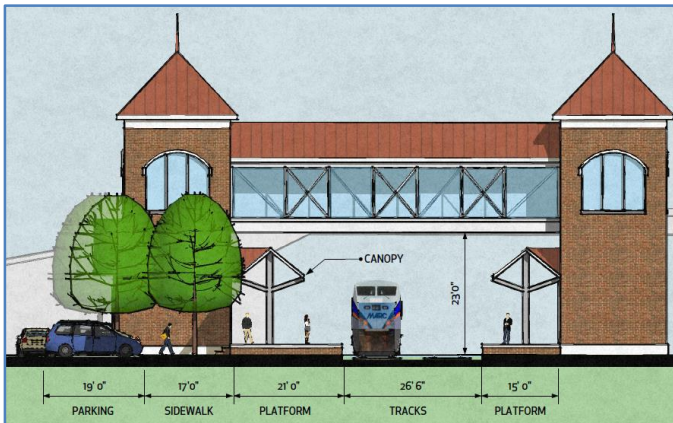




NorthPort Station Site Layout and Costs

This feasibility study identifies a preferred location, for the station, a phased site plan with commercial building structures, estimated costs, traffic impacts on existing roadways, and a station development implementation plan. The NorthPort Station Task Force provided guidance and direction in developing the station area site plan and specific station design elements. The station will include ample parking spaces, an integrated bus transfer facility, a station building, 400' platforms with canopies, and a pedestrian bridge. The station is designed to fit the area's historical character. The costs of the initial site layout and station are:

- **Preliminary Engineering - \$1.5 – 2.0 Million**
- **Final Design and Construction - \$11.1 – 14.3 Million**



Ridership Projections

Short term MARC ridership projections at NorthPort Station have been estimated based on diversions from other nearby MARC stations, integration of EPTA bus services, anticipated housing growth in the region, and potential commercial and entertainment districts along the Route 9 corridor. Additional ridership growth, beyond that estimated for the short term conditions, will be correlated to the planned TOD development at the Jefferson Orchards property with additional housing, office and commercial growth. Daily MARC ridership projections were estimated as:

- **Short term ridership = 410 riders/day**
- **Long term ridership = 980 riders/day**

Future AMTRAK service at NorthPort Station could provide additional ridership demand and incentives for development at the site.



Implementation Plan

The first step in the implementation of the NorthPort Station is to identify and assemble a funding package for the preliminary design and engineering pursuing all sources of private, local, and state funding that may be used to match federal grant programs. After the initial funding is secured for the project engineering, negotiations should be escalated with MARC and CSX for their approval on the selected alternative. The project will need environmental clearance under the National Environmental Protection Act (NEPA) and the initial screening indicates that there will likely be no issues, receiving a Finding of No Significant Impact (FONSI).

To save time once construction funding is secured, the NorthPort Station should be considered for an alternative design-build approach (a single contractor is given the preliminary engineering plans and the NEPA clearance to complete the final design and construction simultaneously).

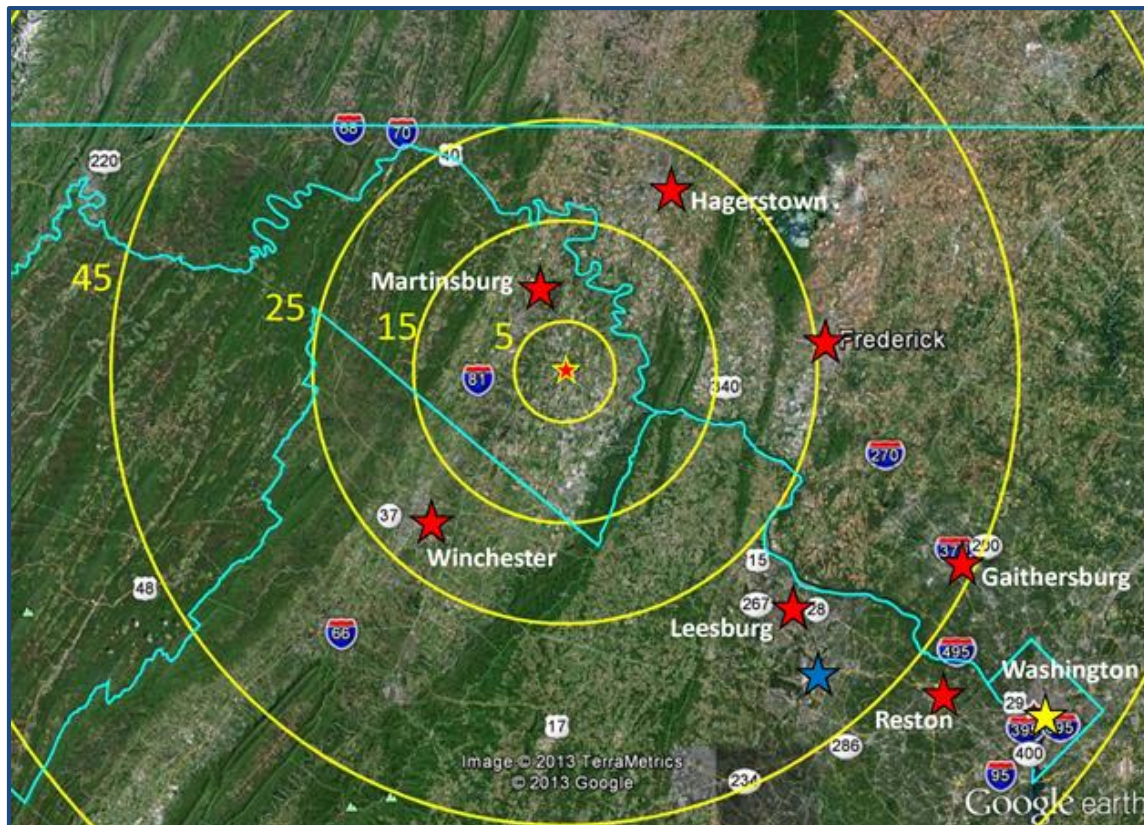


For Additional Information on the NorthPort Station Feasibility Study
www.hepmpo.net/Northport

Introduction

The City of Ranson is an innovative and growing city located in the Eastern Panhandle of West Virginia in Jefferson County. The city is strategically located 65 miles from both Baltimore, MD and Washington, D.C. as mapped in *Figure 1*. It is included in the Washington, D.C. Metropolitan Statistical Economic Area with easy access to Frederick, MD and the Dulles technology corridors.

Figure 1 – Ranson’s Location and Distance from Metropolitan Areas



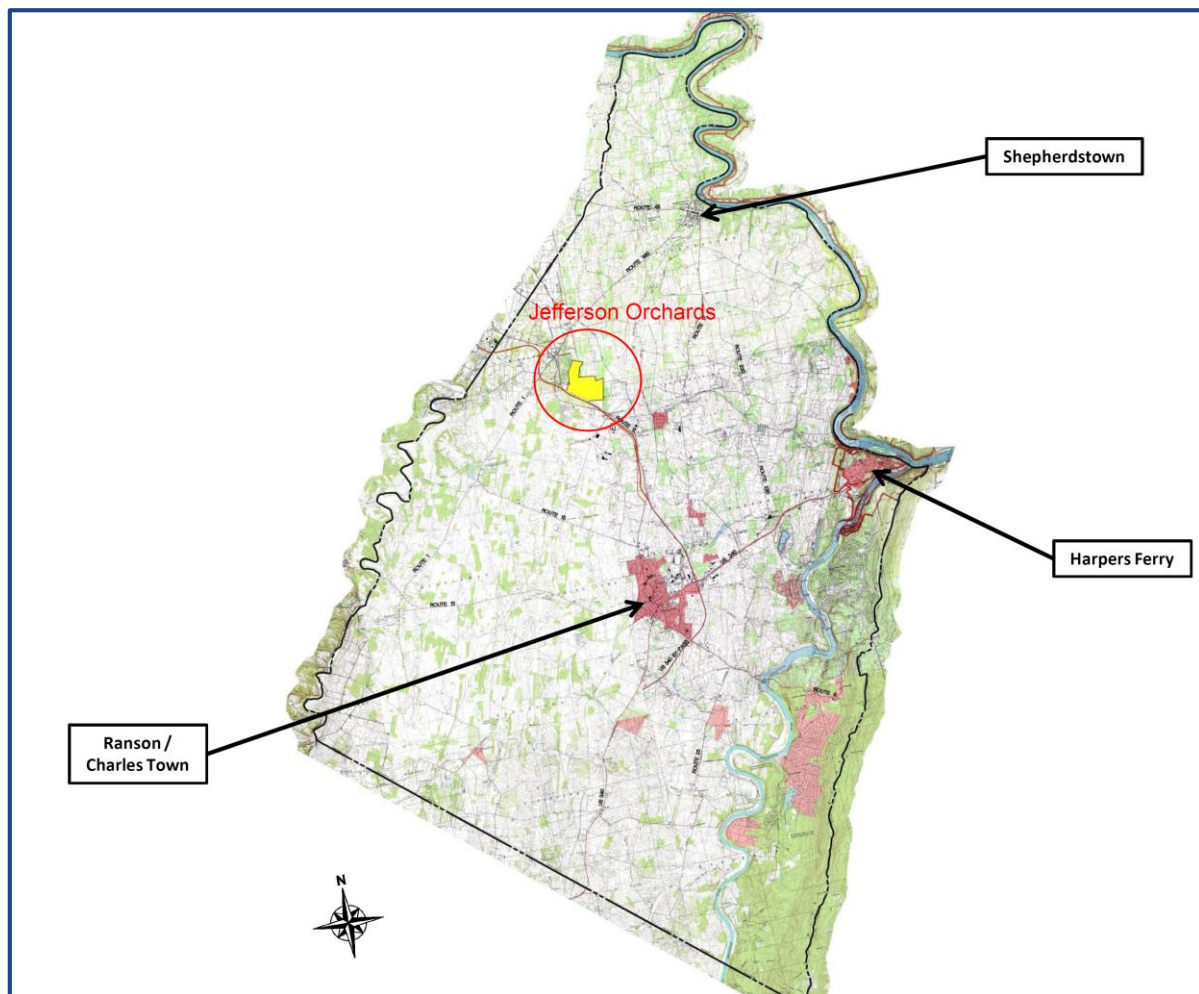
Ranson’s planning efforts provide a vision focusing on Sustainable Communities and Complete Streets to revitalize the effects of manufacturing closures and vacant industrial sites. The Ranson and Charles Town communities are serving as a national model for small rural cities on the fringe of a major metropolitan area by fostering sustainable economic development, transit and community livability through their planning efforts and infrastructure investments. Working closely with federal and state agencies, Ranson has leveraged significant grant and local funding to create a new vision and plan for smart growth. This includes Ranson’s use of a HUD Sustainable Communities Challenge Grant, a U.S. EPA Brownfields Area-Wide Planning Grant and other resources to create the Ranson Comprehensive Land Use Plan, a Ranson “Smart Code,” and a site use plan for the Jefferson Orchards property as described in this report.

Jefferson Orchards

Within the 2012 Ranson Comprehensive Plan, the Jefferson Orchards property is highlighted as one of the major development projects within the region. The project is expected to provide economic development opportunities in the region including jobs in the technology, manufacturing, service and tourism industries. The planned neighborhood will contain a balance mix of activities to meet the needs of all its residents and will be designed to support the use of transit.

The Jefferson Orchards property consists of 389 acres in Jefferson County abutting Route 9 and the CSX railroad tracks that also service the MARC Brunswick Line. The location of the property is highlighted in *Figure 2*. Under the adopted “Ranson Smart Code” land development ordinance, the Jefferson Orchards site has obtained full zoning and site plan entitlements from the City of Ranson to include commercial, residential and industrial mixed uses. The Transit Oriented Development (TOD) plan provides a smart growth vision for the property focused around a new MARC commuter station.

Figure 2 – Location of the Jefferson Orchard Property



MARC Train Service

The Maryland Transit Authority's (MTA) MARC "Brunswick Line" is MARC's longest line, providing commuter rail service from Martinsburg, WV to Washington, D.C.'s Union Station with three stops in West Virginia and fifteen stops in Maryland. The current service stops in West Virginia include Martinsburg, Duffields and Harpers Ferry. The Brunswick Line operates on CSX Transportation right-of-way, with 18 trains daily, including 6 trains (three in each direction) and two connecting buses that provide service to the West Virginia MARC stops, as shown in *Table 1* and *Figure 3*. The existing rail line also serves the CSX line (Cumberland Division) that holds the Amtrak Capitol Limited Line with service to Washington D.C., Pittsburgh, Cleveland and Chicago.

Table 1 – Current MARC Brunswick Line Schedule for WV Stops

Eastbound Schedule (Morning Service)			
Martinsburg	5:00	5:25	6:25
Duffields	5:16	5:41	6:41
Harpers Ferry	5:25	5:50	6:50

Westbound Schedule (Evening Service)					
Harpers Ferry	5:10*	6:05	7:18	7:54	9:00*
Duffields	5:25*	6:18	7:30	8:05	9:20*
Martinsburg	5:30*	6:39	7:50	8:25	9:25*

*Guaranteed dedicated connecting bus service to West Virginia

Figure 3 – MARC Service Stops along the Brunswick Line (including proposed NorthPort Station Location)



NorthPort Station

The City of Ranson has committed significant resources for the proposed relocation of the Duffields MARC stop to the Jefferson Orchards site. The proposed station at Jefferson Orchards has been referred to as “NorthPort Station.” The station is an important part of the region’s land development and transit access plans. It is expected to increase the visibility and accessibility of regional rail service and attract developers to Jefferson Orchards. The land at Jefferson Orchards has approved and vested plans for a mixed use development that orients around the future NorthPort Station multimodal facility. This development plan includes more intense mixed-use development around the station with residential neighborhoods and potential advanced manufacturing areas on the remainder of the roughly 400 acre parcel. The planned yield for the development is 872,000 square feet of commercial, office and retail development, 517 single family houses, 290 townhomes, and 248 multi-family units.

Expanding on the multimodal concepts planned for NorthPort, the commuter station will also serve as an EPTA bus transfer center that can be integrated with an enhanced bus route system to Martinsburg, Ranson, Charles Town and Harpers Ferry, as referenced in EPTA’s Transit Development Plan (TDP). The station will include bike and pedestrian facilities providing access to the neighborhood and to the regional bike path along Route 9.

The City of Ranson recognizes the importance of NorthPort Station in the planning and development of a sustainable, transit oriented development neighborhood at Jefferson Orchards. A Memorandum of Understanding (MOU) Agreement between the City of Ranson, Eastern Panhandle Transit Authority (EPTA), the West Virginia State Rail Authority (WV SRA) and the Jefferson Orchard property owners is being developed to specify roles and responsibilities for covering costs, structure for decision-making among the parties, and the confirmation of Jefferson Orchard’s intent to donate land for NorthPort Station. The agreements are included in Appendix C.

NorthPort Station Goals

- ✓ Provide enhanced accessibility to regional rail service
- ✓ Support transit oriented development at Jefferson Orchards
- ✓ Provide EPTA bus transfer center to improve multi-modal access
- ✓ Provide linkages to regional bike paths
- ✓ Replace Duffields MARC stop; Improved safety and amenities
- ✓ Attract developers to the region

In addition, the NorthPort Station project has strong support from West Virginia’s congressional delegation and state legislators. Pursuant to direction from the federal Passenger Rail Investment and Improvement Act of 2008, the WV SRA conducted a comprehensive process to create a new *West Virginia State Rail Plan*, (see www.westvirginiarailplan.com/Home.aspx). The WV Rail Plan identifies NorthPort Station as a way to expand and improve passenger rail capacity in the West Virginia Eastern Panhandle and greater Baltimore-Washington regions (see the WV State Rail Plan pages 2-23, 2-65 and 5.7). Further, the West Virginia legislature overwhelmingly enacted a new “West Virginia Commuter Rail Access Act” in 2013, which provides the State with new authority to work with the MARC system to fund commuter rail facilities and service in West Virginia. The WV SRA passed a resolution supporting the relocation and signed an agreement with MARC, and CSX to relocate the MARC stop at Duffields to the NorthPort location. This has led the City of Ranson to proceed with this feasibility study that will be followed by the engineering and construction of the new station.

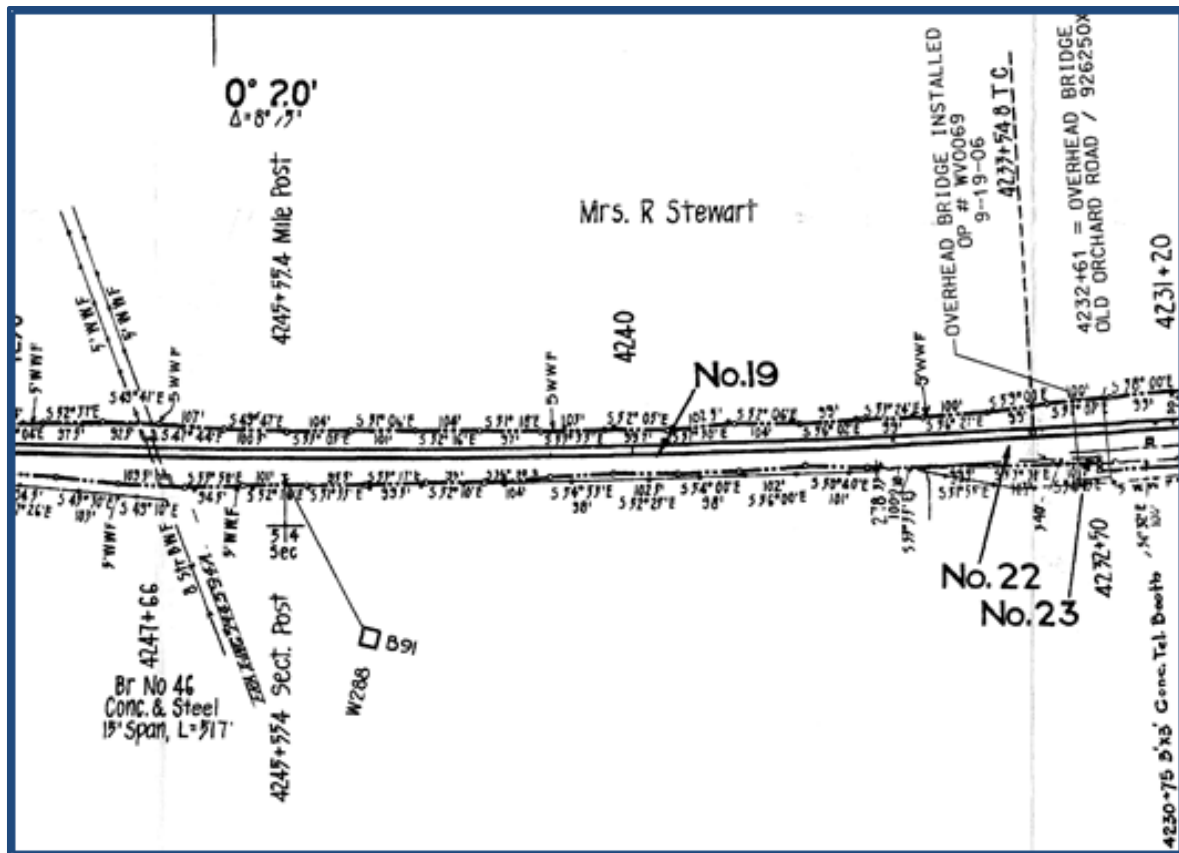
Initial Site Assessment

A site assessment was conducted for the Jefferson Orchards property and the existing Duffields MARC stop. The assessment and associated field visits focused on identifying key physical constraints that could affect the location of the NorthPort Station and design criteria for the station and its parking facilities. Other environmental issues are discussed in a separate section within this document.

Jefferson Orchards

The Jefferson Orchards property lies just north of the CSX railroad line and abuts the track for about 0.6 miles from just east of the NorthPort Bridge to the location where the track starts to turn further northward. Based on the Route 9 Right-of-Way (ROW) plans obtained from the West Virginia Department of Highway (WVDOH) and CSX valuation maps as shown in *Figure 4*, the Jefferson Orchards property boundary varies between 15-20 feet from the edge of the CSX track. The Jefferson Orchards site consists only of property on the northern side of the track. On the southern side of the track, the CSX ROW abuts WVDOH owned property.

Figure 4 – CSX Valuation Map Documenting CSX Right-of-Way



Several property features and structures were identified that impact the possible location of the station on the Jefferson Orchards property. These include an existing road tunnel under the CSX line, the NorthPort Bridge, and the elevation of CSX track along the property line. An assessment of CSX rail crossover locations was also conducted as it relates to the potential use of the property for industrial purposes.

CSX Tunnel: As illustrated in *Figure 5*, a CSX railroad tunnel currently exists approximately 0.3 miles west of the NorthPort Bridge. Initial discussions on station location concepts indicated the possible use of this tunnel for pedestrian access to a platform on the southern side of the CSX tracks. As part of the field assessment, a bridge engineer evaluated the tunnel to be structurally sound with sufficient clearance for use by pedestrians. Patch work and finishing would be required before pedestrian use, as well as the possible relocation or enclosure of existing utilities that currently run through the tunnel.

Figure 5 – CSX Rail Tunnel



Drainage was identified as a key issue in using the tunnel for pedestrian access to a separate rail station platform. As illustrated in *Figure 6*, the tunnel currently serves as a drainage structure for Route 9. A review of existing Route 9 drainage culverts and land elevation data indicate that the tunnel is at the lowest elevation point on the southern side of the CSX track. *Figure 7* illustrates the drainage flow direction within the tunnel vicinity. Water flows through the tunnel north onto the Jefferson Orchards property and then northwest. This creates some significant concerns regarding future runoff and the possibility of tunnel flooding. During the field visit, debris was observed at the southern tunnel opening.

Figure 6 – CSX Rail Tunnel Drainage



Use of the structure as a pedestrian tunnel would require additional alterations to the drainage facilities at this location. One option would include the boring of a new culvert under the track just west of the existing tunnel. This would require CSX approval, rework of the existing culvert outlet, and re-grading of the area. Such costs are estimated in the \$300,000-\$500,000 range.

Figure 7 – Area wide Drainage Flow Direction

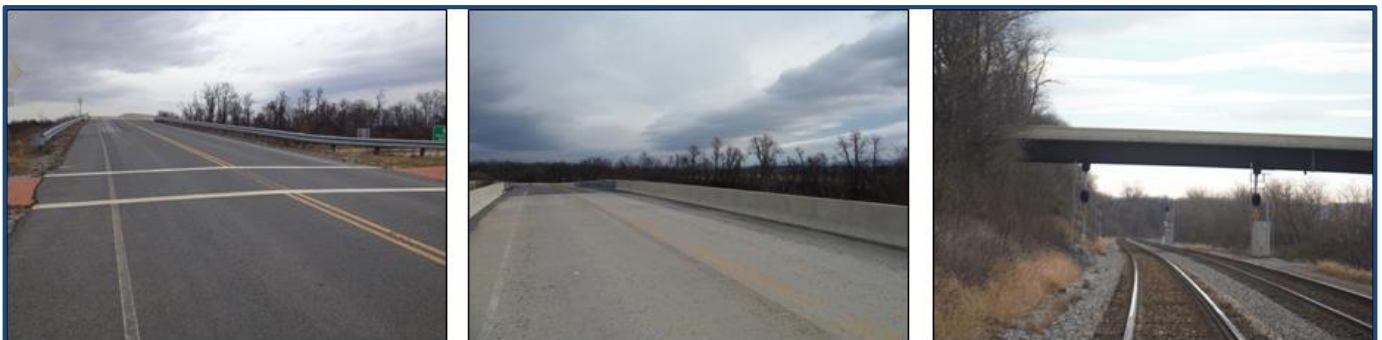


A second alternative would be to add a drainage culvert under the existing tunnel base. This option would also require CSX approval and oversight to ensure that the existing tunnel footers are not impacted. The culvert would need to run a significant distance to reach a point of lower elevation on the Jefferson Orchards property. During stakeholder meetings for this feasibility study, both WVDOH and CSX expressed concerns about the possible use of the tunnel for pedestrian use due to the drainage issues provided above.

NorthPort Bridge: The NorthPort Bridge, illustrated in *Figure 8*, provides the primary access from Charles Town Road (WV 115) to the Jefferson Orchards property. The bridge currently has a pavement width of 30 feet with the following delineations:

- Two Travel lanes = 12 feet each
- Southbound shoulder = 5 feet
- Northbound shoulder = 1 foot

Figure 8 – NorthPort Bridge



The bridge would serve as the primary vehicle access to the NorthPort Station. The bridge would also provide pedestrian access from WV 115 and from the existing bike path which runs along the southern edge of Route 9 from Martinsburg to the Charles Town/Ranson area. Additionally, the bridge could support access to a station platform

on the southern side of the CSX tracks. This would require additional ramps and/or elevators as the bridge clearance is 24 feet above the track.

The bridge pavement width will not be sufficient for providing American Disabilities Act (ADA) compliant barrier protected crossings for pedestrians and/or bikes. However, the existing five foot shoulder would be sufficient for a striped dual use bike and pedestrian lane. Additional pedestrian access and/or ramps and elevators would need to be a separate structure or connected to the bridge piers.

CSX Track Elevation: Track elevation can have a significant impact on transit station and platform design and construction costs. *Figure 9* illustrates the varying track elevation differences along the 0.3 mile stretch between the NorthPort Bridge and the existing CSX tunnel. At the tunnel location, the track's elevation difference is approximately 14 feet above the abutting ground. At this location, the construction of station platforms would require retaining walls. Tangent pile walls are one alternative, especially when there is limited ROW available. These consist of constructing drilled shafts to form a continuous wall. The costs associated with such walls and the associated ramps can be as high as two to three million dollars for a 400 foot platform.

Figure 9 – Track Elevation Differences at Jefferson Orchards



Elevation differences are at their lowest between 500-800 feet west of the NorthPort Bridge. At this location, the tracks are nearly at grade with the surrounding ground at Jefferson Orchards. This location would require less grading and ramps than other locations along the property. Elevation differences are at their highest just east of the NorthPort Bridge where the northern track land face is nearly 18 feet higher than the track.

CSX Track Crossovers: Current zoning for Jefferson Orchards allows for industrial uses on the western portion of the property. Potential industrial uses could incorporate a rail siding, which would need to be constructed in

coordination with CSX and their design specifications as provided in their “*Standard Specifications for The Design and Construction of Private Sidetracks*” manual.

Rail crossovers or double crossovers (e.g. interlocking) would be needed to allow trains to switch directions and to provide access to the rail siding. Currently, there are separate interlockings 1.7 miles southeast and 7.4 miles northwest of Jefferson Orchards. *Figure 10* illustrates the interlocking configuration of the one closest to Jefferson Orchards. Additional coordination with CSX would be required to evaluate the viability of a new rail siding. An existing siding for Ecolab Inc. is located 3.4 miles northeast of Jefferson Orchards, which can serve as an example.

Figure 10 – CSX Track Interlocking Southeast of Jefferson Orchards



Duffields MARC Stop

The Duffields MARC stop is located approximately 2.8 miles east of the Jefferson Orchards property. *Figure 11* illustrates some of the features of the current station. Stakeholders and rail authorities have identified inadequacies at the Duffields stop including the at-grade roadway crossing, inadequate parking, and the isolated location that poses security and safety issues. In addition, the land around the Duffields MARC stop is not zoned or suitable for transit-oriented development. The Duffields stop currently includes:

- 185 parking spaces
- Platform length = 200 feet, Platform width = 13 feet
- At-grade pedestrian crossing

The NorthPort Station would, at a minimum, need to include enough parking spaces to address the current demand at the Duffields location. Project stakeholders identified key station design criteria that should be enhanced for a new station. These include improved amenities including a possible station building, longer platform lengths, and separated grade crossings for pedestrians to ensure safety and to limit the potential for accidents and fatalities.

Figure 11 – Duffields MARC Stop



Station Location Options at Jefferson Orchards

Based on the key physical structures and constraints provided above and future development characteristics and zoning, three potential options for the NorthPort Station location are identified in *Figure 12*. Station locations west of the existing CSX tunnel were not considered due to the configuration of the track (e.g. sight distance issues) and the potential use of that land for industrial uses or a potential rail access siding.

Figure 12 – NorthPort Station Location Options



Each of the options would not greatly change the overall development plans at Jefferson Orchards. The station locations would most likely just impact the parcels of land along the CSX station as shown in *Figure 13*. *Table 2* summarizes the strengths and weaknesses of each location for the NorthPort Station. These considerations were used by the Task Force to develop a preferred location for the conceptual station plan.

Figure 13 – NorthPort Station Location Integration to Development

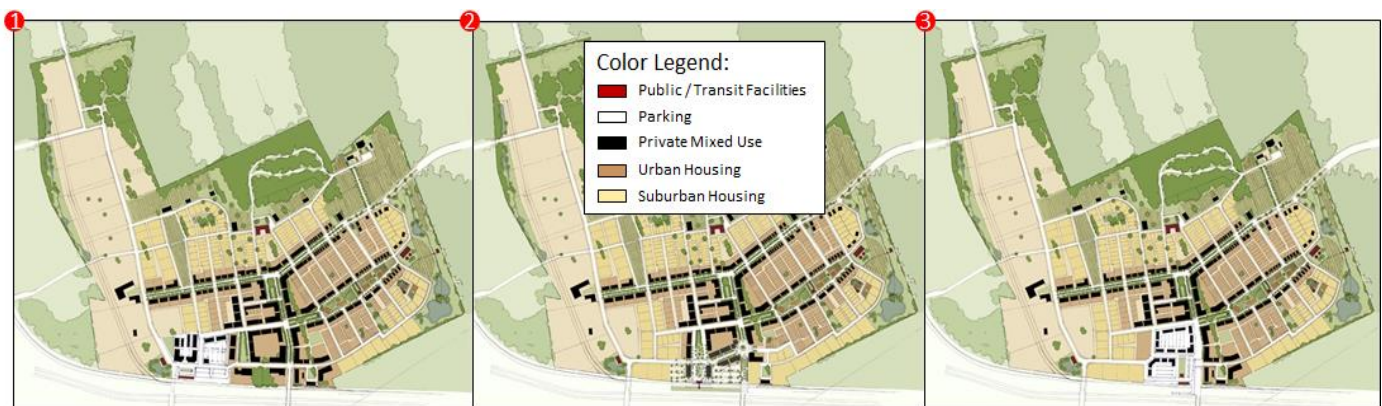


Table 2 – Strength and Weaknesses of NorthPort Station Location Options

Alternative Location	Strength	Weakness	Site Cost Issues
Option 1 Western End of Property Near CSX Tunnel	<ul style="list-style-type: none"> Existing tunnel available for pedestrian usage More flexibility for access road design Vicinity may be closer to alternative bus depot locations in industrial zoned areas 	<ul style="list-style-type: none"> Significant drainage issues to be addressed at the tunnel Fill and retaining walls needed on both side of the tracks due to track elevation Distance from roadway bridge and bike trail Longer bus access Village center and associated retail not near development access point May limit ability include a rail siding 	<ul style="list-style-type: none"> Tunnel Drainage = \$300,000 - \$500,000 Retaining Walls = \$2-3 million
Option 2 West of NorthPort Bridge	<ul style="list-style-type: none"> Station at grade with tracks, no major re-grading / retaining walls Location closest to core of villages, view of commercial from highway/roadway Closer access to RT 9 Bike Trail; Quick access for station access Buses not traveling through development 	<ul style="list-style-type: none"> Separate pedestrian (ADA) bridge needed to get to other side of tracks. Roadway design issues for turning busses (e.g. location close to roadway bridge) 	<ul style="list-style-type: none"> Pedestrian Bridges: \$1,500,000 – \$3,000,000 Ramps to platform (ADA accessible)
Option 3 East of NorthPort Bridge	<ul style="list-style-type: none"> Separates Park and Ride users from other development traffic. Allows for more bus parking options if this becomes a transfer point. Bus idling separated from rest of TOD development Closer access to Rt 9 Bike Trail Right in access off roadway (no waiting for left turn) 	<ul style="list-style-type: none"> Station not at village center Parking centric option that limits the retail/commercial potential Station at higher elevation of tracks which may require retaining walls 	<ul style="list-style-type: none"> Pedestrian Bridges: \$1,500,000 – \$3,000,000 Ramps to platform (ADA accessible)

Environmental Screening Assessment

An Environmental Due Diligence screening was completed for the parcel being considered for acquisition and development. The Environmental Due Diligence Document does not fulfill requirements under the National Environmental Policy Act (NEPA) but rather is intended to highlight environmental subject areas most likely to require detailed study as project planning progresses. If and when the project does progress, the appropriate coordination must occur with the WV Division of Highways (DOH), the WV State Rail Authority (WV SRA), the Federal Highway Administration (FHWA), the Federal Railroad Administration (FRA), and other agencies as indicated throughout the Environmental Due Diligence Document. A summary of the Due Diligence findings is provided in Table 3 and the full report is attached as Appendix B.

Table 3 – Summary of Due Diligence Findings

Environmental Subject Area	Recommendations for Additional Coordination or Analyses
Metropolitan Planning & Air Quality	N/A
Land Use & Zoning	N/A
Traffic	Impacts to all modes of traffic in the area will be investigated as part of the ongoing feasibility study being prepared for HEPMPO, and the findings will be incorporated into the project design. As planning and design progress beyond the scope of the feasibility study, a full Traffic Impact Study will be necessary. A preliminary scope for the Traffic Impact Study should be provided to WV DOH for review and concurrence, per DOH Traffic Engineering Directive 106-2 concerning access to/from DOH roadways.
Cultural Resources	Coordination with the WV SHPO is necessary in order to determine whether or not archaeological investigations are warranted. Also, if the multimodal facility work area encroaches on the nearby cemetery, then work must comply with state code and SHPO requirements. If any publicly or privately owned historic resources will be impacted by the project, then Section 4(f) requirements may apply.
Noise & Vibration	If federal funding is received, then noise and vibration impacts will need to be assessed per the Federal Transit Administration's <i>Transit Noise and Vibration Impact Assessment</i> manual.
Acquisitions & Relocations	Easements, coordination, and plan reviews by WV DOH, WV SRA, FHWA, FRA and other entities may be necessary for any work proposed outside of Jefferson Orchards' existing right-of-way.
Hazardous Materials	Due to the limited nature of the past screening effort, it is recommended that Phase I and Phase II Environmental Site Assessments be completed per American Society for Testing and Materials (ASTM) standards prior to property acquisition or development.
Community Involvement & Equity and Environmental Justice Analyses	Equity and environmental justice analyses should be completed to determine if the proposed project would result in disproportionately high or adverse impacts to minority or low-income populations present at either the NorthPort or the Duffields Stop locations.
Public Parkland & Recreation Areas	N/A
Wetlands	A qualified wetland professional should conduct an onsite wetland survey to confirm the absence of wetlands with the project area.
Floodplains	N/A
Water Quality & Navigable Waterways	If the CSX rail tunnel is utilized as a pedestrian underpass (Option 1), then impacts to site drainage will need to be investigated. Any proposals to modify the existing drainage system or to utilize the existing drainage structure for pedestrian access would need to be

Environmental Subject Area	Recommendations for Additional Coordination or Analyses
	vetted by the WV DOH and the FHWA. Regardless of what is proposed, the WV DOH will need to review the drainage layout and calculations to verify the level of impact on the State Highway System. Potential short-term and long-term surface and ground water quality impacts caused by implementation of the proposed project should be mitigated with the use of Best Management Practices, an Erosion and Sediment Pollution Control Plan, and/or a NPDES permit, according to all relevant standards and guidelines.
Endangered Species & Ecologically-Sensitive Areas	Further consultation with the USFWS is required under section 7 of the Endangered Species Act of 1973, as amended.
Safety & Security	N/A
Construction	N/A

No Concerns or Further Coordination/Analyses Identified

Additional Coordination or Analyses Warranted

Potential Concern Identified

MARC Station Lot Survey and Parking Demand

A MARC station survey was conducted to provide insights on the usage characteristics of the area's transit parking lots and to identify the potential level of support for a new transit station at Jefferson Orchards. The survey was conducted mid-week on February 11, 2015 by leaving postcards on vehicles parked at the Martinsburg, Duffields, Harpers Ferry and Brunswick MARC stops. A total of 550 postcards were distributed. In addition, flyers were posted around the station that provided smart phone scans to the survey. *Figure 14* displays the postcard survey.

Figure 14 – NorthPort Station / MARC Post Card Survey

MARC Station Lot Survey

Provide Your Responses on Back and Drop in Mailbox
OR
Take This Survey Online
<http://goo.gl/WLWwGX>

Smartphone Scan

For Additional Information visit: www.hepmo.net/Northport

The Hagerstown / Eastern Panhandle Metropolitan Planning Organization would like your assistance in understanding the usage characteristics of the area's transit parking lots and if you would support the relocation of the current Duffields station to a new location with additional amenities near the Wiltshire Road Exit off Route 9 in Ranson, WV.

Check Parking Lot Location: ☐ Duffields ☐ Martinsburg ☐ Harpers Ferry ☐ Brunswick

Where do you live? (zip code or city): _____

Where is your Destination? (zip code or city): _____

Mode of travel from lot to destination: ☐ MARC ☐ AMTRAK ☐ Carpool

Purpose of your trip: ☐ Work ☐ Shop ☐ Other

How often do you use this lot on an average week? ☐ 1-2 times ☐ 3-4 times ☐ 5+ times ☐ rarely

Would you use the relocated Duffields Station with easy access to Route 9 and new amenities? (See map to right on potential location) ☐ Yes ☐ No

Additional Comment on proposed lot relocation: _____

Postage Here

Michael Baker International
1304 Concourse Drive, Suite 200
Linthicum MD 21090

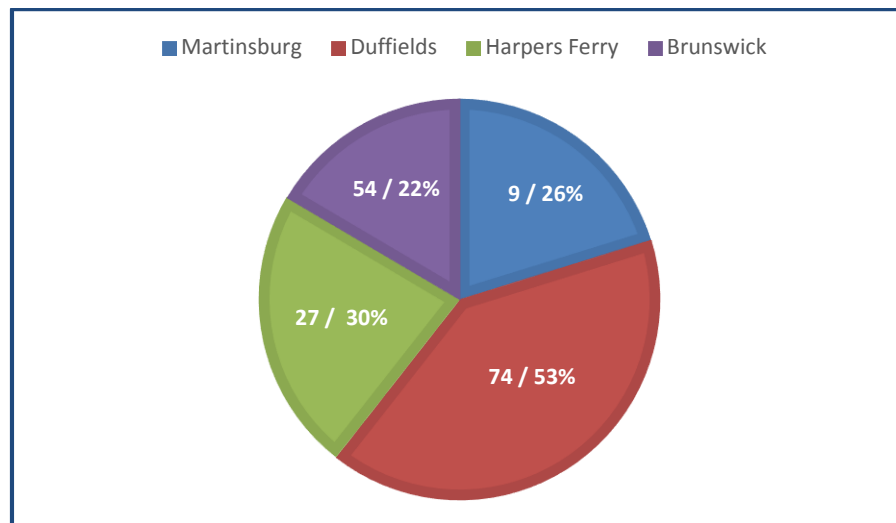
Possible new location

Current Duffields Station

The survey produced 164 responses, approximately thirty percent of the distributed postcards, with twenty-five percent of the responses completed on-line. The actual number of responses and percentages by station are shown in *Figure 15*. A summary of the postcard distribution is as follows:

- Brunswick – 250 post cards, the largest parking lot utilized by commuters from Maryland, Virginia and West Virginia, but only issued to vehicles with West Virginia and Virginia license plates,
- Duffields – 140 post cards, estimated 185 parking spaces that were 75 percent utilized,
- Harpers Ferry – 90 post cards, estimated 95 parking spaces that were 95 percent utilized, and
- Martinsburg – 34 post cards, estimated 68 parking spaces that were 50 percent utilized.

Figure 15 – Number and Response Rate of the Survey by Station



The survey included the following question: “Would you use the relocated Duffields stop with easy access to Route 9 and other amenities?” This information, along with the existing spaces and utilization at each lot, supported the estimation of parking demand and ridership for the NorthPort Station. A total 46 percent of the responders stated they would utilize the NorthPort Station. *Figure 16* provides the number of NorthPort responses by station. *Figure 17* shows the home locations on a Google Earth map for those responding “Yes” and “No” to the question.

Figure 16 – Usage of the NorthPort Station Responses by Station

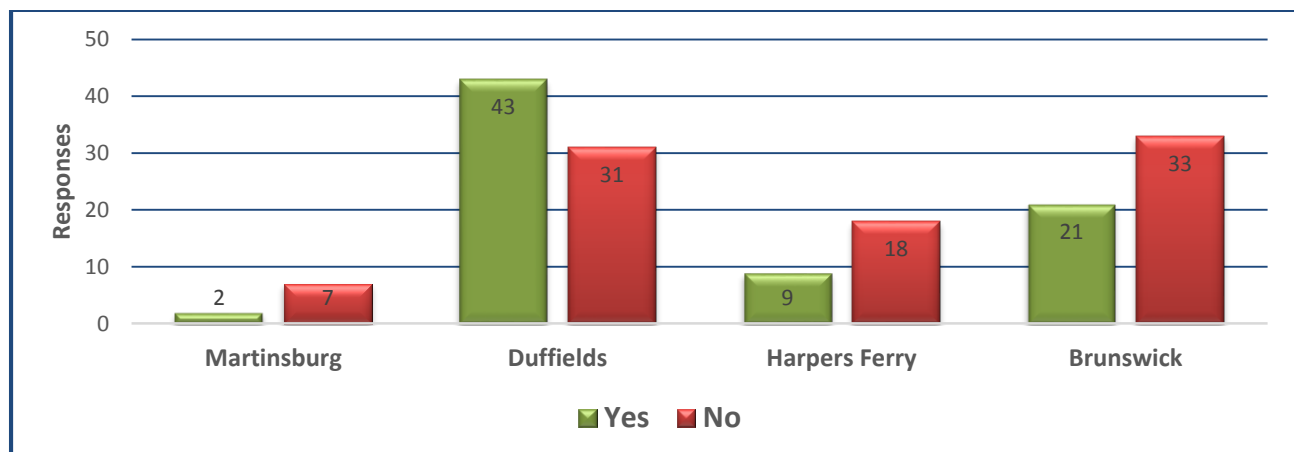
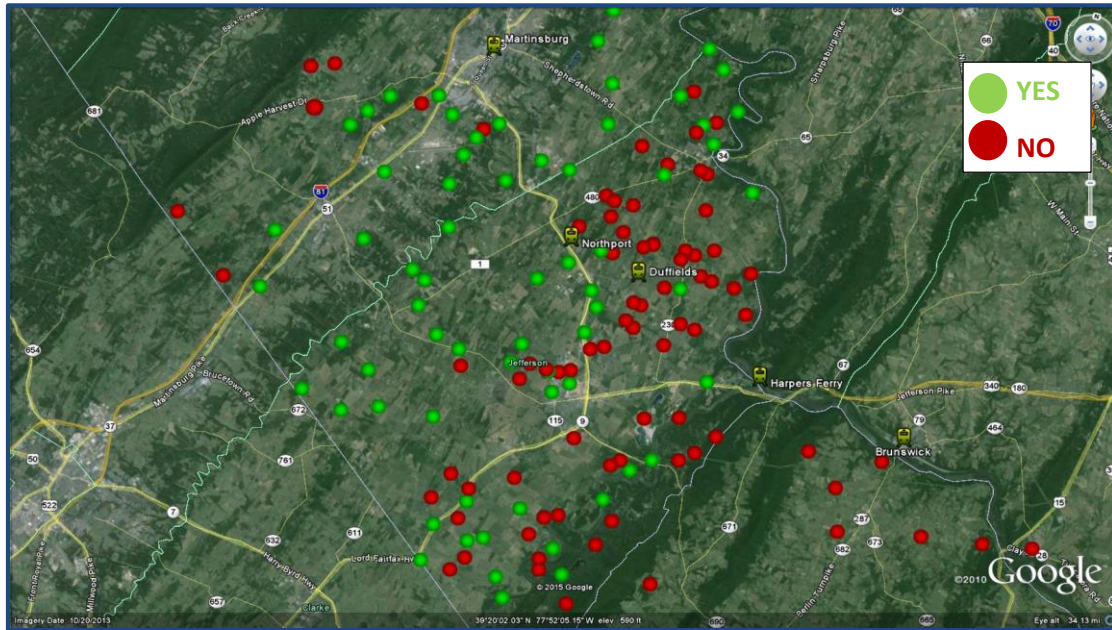


Figure 17 – Commuter Origin Locations with NorthPort Usage Responses



The survey provided a number of insights into the commuting patterns of the local residents (in Jefferson and Berkeley Counties) using MARC. In general, convenience, time and costs are driving factors for commuter decisions. The commuters living west of Route 9, east of I-81, near Shepherdstown, and those south of Charles Town that access Route 9 would generally switch to NorthPort. Those who would not utilize NorthPort provided comments of convenience to their existing station or cost increases. West Virginia commuters using Brunswick commented increased MARC service schedule and lower costs as reasons for not using West Virginia stations. Other trends from the survey include:

- The main commuter destination is Washington, D.C.
- MARC is the primary mode of travel, and only a few use Amtrak
- The overwhelming purpose of the commuter trip is for work
- 60 percent of commuters use MARC 5 days a week and 90 percent use MARC at least 3 days a week

The NorthPort Station parking demand was estimated based on observed lot utilization and survey responses related to the potential usage of the NorthPort station. The diversion from Duffields to NorthPort was increased to 80% (over the survey value of 60%) to ensure a more conservative estimate for parking demand. As shown in Table 4, in the short term it is projected that nearly 230 parking spaces will be needed at NorthPort station.

Table 4 – Estimated Number of Parking Spaces Needed for NorthPort Station

Station	Number of Parking Spaces	Percent Utilized	NorthPort Percentage	Number of Parking Spaces at NorthPort
Martinsburg	68	50%	20%	7
Duffields	185	75%	80%	112
Harpers Ferry	90	95%	33%	30
Brunswick	200 (WV users)	100%	40%	80
Brunswick	50 (VA users)	100%	0%	0
Totals	~600	~85%	~55%	~230

Preferred Location for NorthPort Station

This feasibility study has identified a preferred location, *Figure 18*, for the NorthPort Station to guide development of a more detailed site plan, station characteristics and costs. The project Task Force reviewed key aspects of the site assessment and property features to determine the preferred location. The selected site was based on the following criteria:

- Adequate sight distance
- Minimal elevation difference with CSX track
- Most flexibility for design and integration with other development at Jefferson Orchards
- Concerns over the use of the tunnel for pedestrian usage due to drainage issues
- Distance from zoned industrial usage and a possible rail siding
- Distance from NorthPort Bridge allowing for future bridge expansion without direct impact on the station or pedestrian bridge

Figure 18 – Preferred NorthPort Station Location on Jefferson Orchards Property



NorthPort Station Area Development

Building upon the identified preferred station location, the planning team established a list of parameters to be used in developing an overall station area site plan and specific station design elements. These parameters were identified through a review of similar stations, both regionally and nationally, and through objective data analysis designed to identify the realistic needs for the station area based on anticipated utilization and future land uses. In addition, input from the NorthPort Station Task Force (including WV SRA, MARC and CSX) was solicited through an in-person meeting in Ranson. At this meeting, sample stations that used different design elements were shown and discussed with the group and preferences were noted by the planning team. In the end, the following base parameters were used in the development of the station area site plan and specific station design elements:

- Minimum of 230 parking spaces in initial phase
- Integrated bus transfer facility
- Phased approach to integrate with future Transit Oriented Development (TOD)
- Station building between 500 and 1000 square feet for light retail and/or institutional use
- Fully ADA accessible station
- 400-ft low level platforms
- Independent pedestrian overpass for vertical circulation
- Short platform canopies for passenger comfort and winter maintenance
- Station design style that fits into the area's historical character
- Bike and pedestrian connections to the Route 9 bike path

Using the parameters developed in collaboration with the task force, the planning team underwent an iterative conceptual design phase to illustrate and document potential station area site plans and specific design elements for the future NorthPort Station. The station was designed to be cost-conscious, while having the ability to be integrated into a future mixed-use development but with independent utility in the interim.

Site Plan

Site plans for the NorthPort Station were developed to illustrate proposed roadway access to the station, vehicle parking, abutting buildings, pedestrian/bike facilities and the station building and platform structures. As illustrated in *Figure 19 -21* (full page size diagrams are included in Appendix A), the site plans were developed in multiple phases. The area of the multi-modal center, station and parking lot encompass about 6.1 acres of land. With the access roads and roundabout, the area is just over 8.5 acres. Appendix H illustrates the area calculations for different components of the site plan.

Phase 1: The initial phase focuses on the construction of the station, parking lots and roadway access from the NorthPort Bridge. The station is located approximately 650 feet west of the bridge adjacent to the existing train tracks. NorthPort Road will serve as the main access point to the station area. The construction of the roadways will include four lanes with a traffic roundabout. The roundabout is designed to support the turning of autos and large vehicles, such as busses and hauling trucks. The roads have been designed according to the initial conceptual plans provided in the comprehensive plan; however, Phase 1 does not include any expansion of the NorthPort Bridge which currently has two travel lanes. In the short term, a 5-foot dual pedestrian/bike path can be marked on the western side of the bridge. However, to ensure limited conflicts with pedestrians, bikers should be required to walk

their bikes across the bridge. If the bridge were to be expanded in the future, enhanced pedestrian and bike accommodations can be made to increase safety.

Figure 19 – NorthPort Phase 1 Site Plan



Planned as a multi-modal station area, the NorthPort Station will accommodate and provide access to commuter rail transit, bicyclists, local bus riders, automobile users, and local pedestrians. In addition, the station site provides a civic plaza and space for additional TOD as identified in the Jefferson Orchards land development plan. The station building and platforms are located on the tracks and fronts onto a bus transfer plaza perpendicular to the tracks and station platform. The station building may be used for a variety of purposes over both the short and long-term development. A separate pedestrian bridge will provide access between platforms at the station area. The elevator towers on the platforms are designed to be focal points that provide a wayfinding structure for travelers to the station. The bus transfer plaza has kiss & ride drop off points, handicap parking, ticketing facilities, and a civic space. The area has been designed to provide adequate turning radii for buses and to include locations for bus parking. A large parking area is located between the station platform and NorthPort Road. The lots include over 300 parking spaces to accommodate those who had used the Duffields stop plus additional diversions from other regional stations.

Phase 2-3: Additional phases illustrate potential future development near the NorthPort Station site. As illustrated in Figure 20, commercial buildings and a “town square” are planned to front onto the local streets and transit plaza in later phases of the development. Future buildings west of the plaza are located in the zoned special business district which allows for a wider variety of uses. Phase 3 of the plan illustrates the possible conversion of parking spaces into additional mixed use buildings.

Figure 20 – NorthPort Phase 2 Site Plan



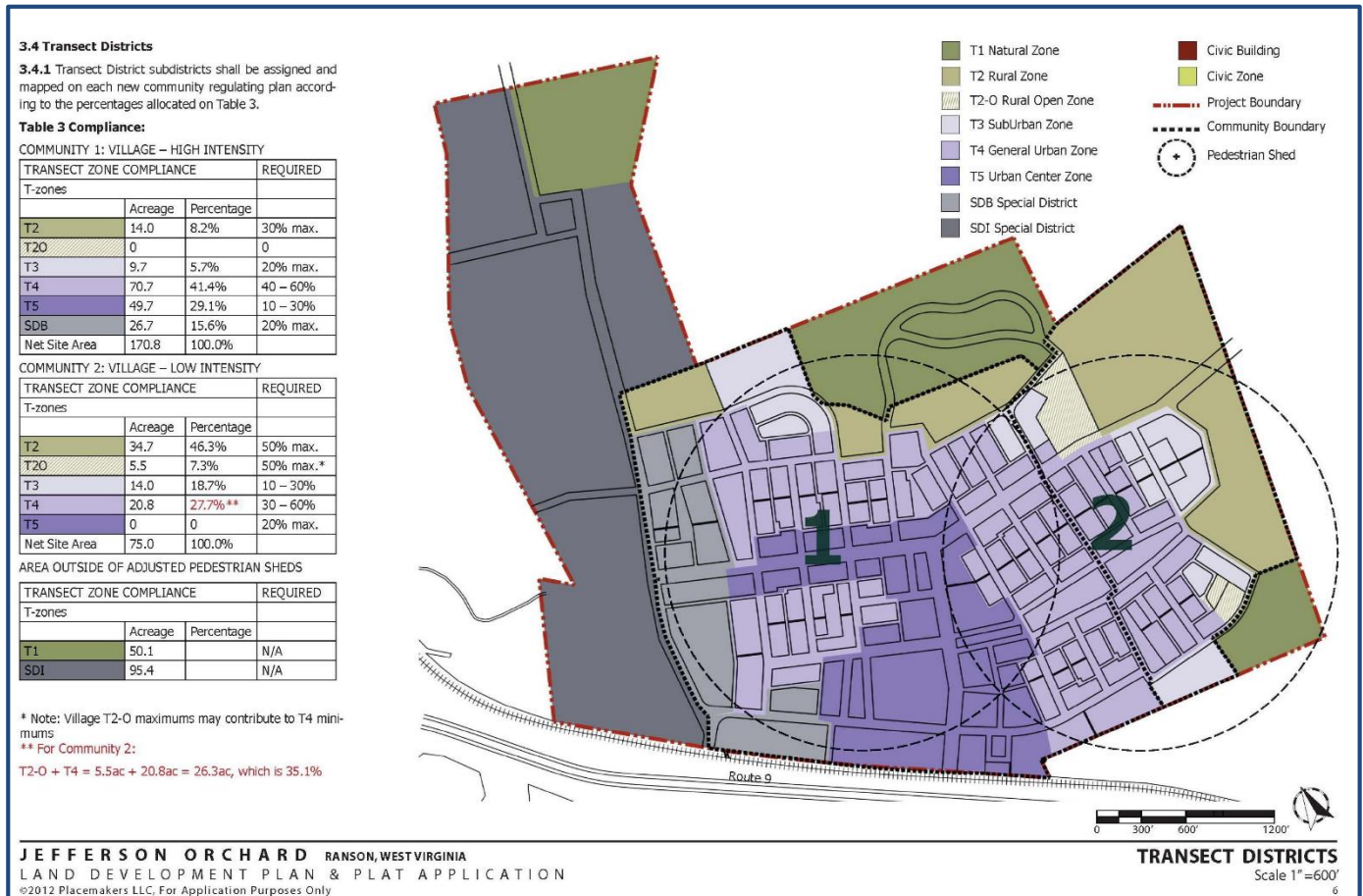
Figure 21 – NorthPort Phase 3 Site Plan



Station Integration with Jefferson Orchards Development

The NorthPort Station location is consistent with recent zoning districts established by the City of Ranson. The planning process started in 2012 with the city's Comprehensive Plan and Zoning Ordinance updates, which included the identification of Jefferson Orchards as a site that could be used to demonstrate "SmartCode" regulations to promote traditional-neighborhood, mixed-use, and green-focused development. Figure 22 illustrates the land development plan for the Jefferson Orchards property. This plan allows for a Village, Town Center or Transit Oriented development (TOD). Within the Comprehensive Plan, the proposed relocation of the Duffields MARC Stop to Jefferson Orchards is included as an important step to establishing a TOD.

Figure 22 – Jefferson Orchards Land Development Plan



Within the land development plan, the community unit types include two "Villages" with five defined transect zoning districts and special industrial and business districts. A major feature of transect zoning is that it incorporates a variety of residential and commercial spaces into a single neighborhood. The thoroughfares have high street connectivity defined mainly by a commercial street type with on-street parking (both parallel and angled). Other key characteristics of the development include small blocks with wide sidewalks, street landscaping and pedestrian-scaled lighting.

The preferred NorthPort Station location is specially located in the "High Intensity" village community unit type and facilitates ease-of access and supports future urban village development. The station satisfies zoning standards for the "T5-Urban Center Zoning District" including the block perimeter and civic space requirements. *Figure 23* illustrates how the proposed station site integrates with the remaining development at Jefferson Orchards. The figure is consistent with the TOD illustrative plan included in the 2012 City Comprehensive Plan, with the only change being the revised location for the NorthPort station.

Figure 23 – NorthPort Integration with Jefferson Orchards Development



Station Design Elements

As part of the planning process, conceptual designs were developed for the future NorthPort Station. These planning level designs were based on similar stations throughout the country, with particular focus paid to other MARC stations and other Mid-Atlantic and Northeast commuter rail stations. A visualization of the site and station location is shown in *Figure 24*. Details regarding specific station design elements are identified below.

Figure 24 – NorthPort Station and Site Visualization



Core Station Design Elements

Core station design elements consist of the principle components of a functional station. These design elements represent the largest costs associated with the construction of the new NorthPort Station.

Station Building

The proposed concept for the NorthPort station incorporates a stand-alone station building of approximately 1,100 square feet under roof. The station building is integrated with the pedestrian towers discussed below, and as such not all 1,100 square feet will be usable space. With the incorporation of the tower, approximately 900-1,000 square feet will be available for light retail, institutional, or commercial use.

The station building should include a small seated waiting area for passengers, passenger restrooms, a MARC and EPTA ticketing kiosk (preferable electronic rather than staffed), and a small office and/or retail area. Retail uses may include a news/refreshments area for train commuters, or a specialty retail shop that may draw additional patronage outside of the MARC commuters.

Station buildings are becoming less common at commuter rail stations given their expense to operate and maintain. It will be critical to the success of the NorthPort Station that tenants be secured prior to the opening of the station. While the community may decide the space is best used for government or institutional use, such as office space for

the Eastern Panhandle Transit Authority (EPTA), lease agreements should be structured to ensure that the tenants are responsible for a large portion of the operations and maintenance cost of the station building itself.

The concept design developed could be implemented without the station building component initially. After that construction of the station, the building could be added on at a later date once activity in the surrounding development begins to take shape.

Pedestrian Overpass and Towers

The biggest issue at commuter rail stations throughout the U.S., including at the current Duffields stop, is a lack of a grade-separated ADA-compliant path between platforms. During the development of the conceptual feasibility plans for NorthPort station, multiple options were considered for a path between platforms including:

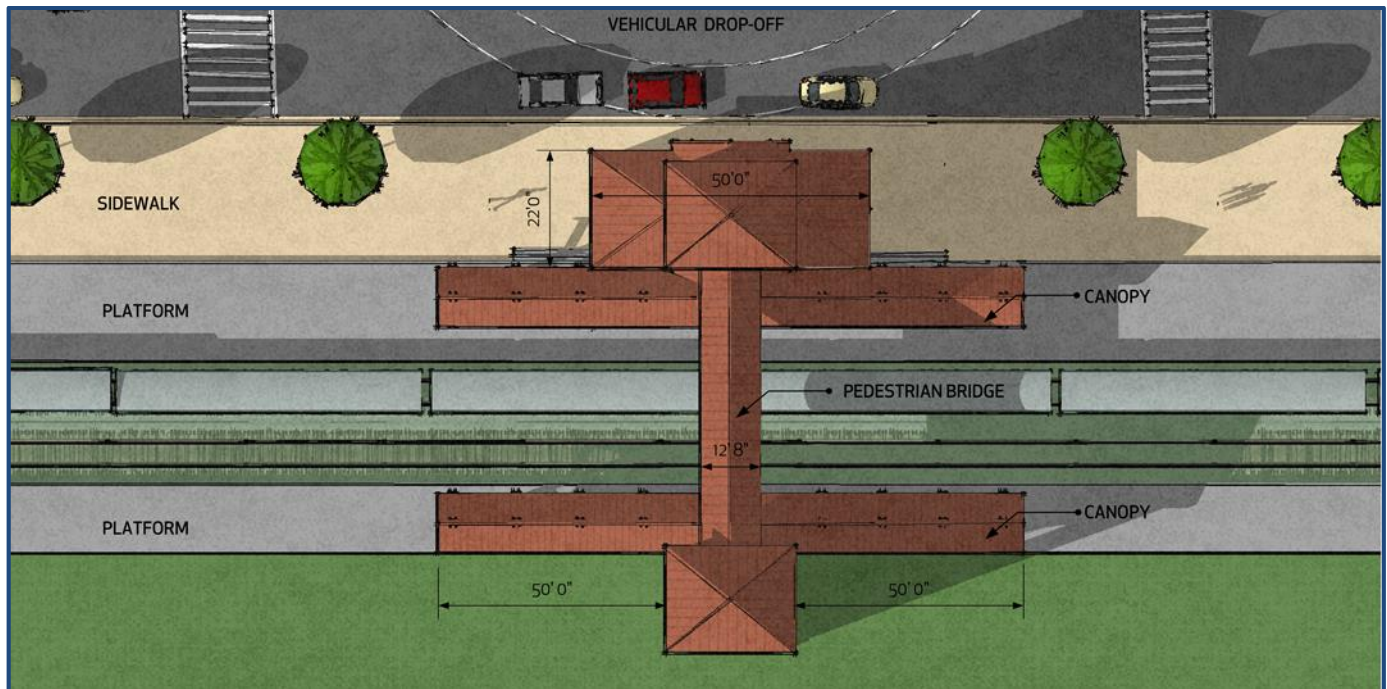
- Existing railroad underpass
- New tunnel under the existing rail bed
- Utilizing the existing NorthPort Avenue bridge
- New, independent pedestrian overpass

After vetting all options in coordination with MARC and CSX, the project team and the NorthPort Station Task Force identified a new, independent pedestrian overpass as the best option for the new NorthPort station. The existing tunnel is too far from the preferred location to be a viable alternative, and a new tunnel was determined to be cost-prohibitive at the preferred location. In addition, utilizing the existing NorthPort Avenue Bridge was determined to be infeasible given the unknowns associated with future expansion to four lanes and the potential for future direct connections between NorthPort Avenue and Route 9. Pedestrian overpasses are becoming commonplace around the country, and can be prefabricated to facilitate quick construction.

The pedestrian overpass is designed as a covered open-truss steel bridge. The conceptual design includes an overpass that is 12'8" wide and approximately 60 feet in length. To comply with CSX clearance requirements, the lowest point on the overpass should be no less than 23 feet from the top of rail. To save on construction costs and future operations and maintenance costs, the overpass is not anticipated to be climate-controlled, but must be enclosed to a level in which passengers cannot drop items onto the CSX railroad tracks.

Two pedestrian towers will access the pedestrian overpass, with both stairs and elevators. The towers represent the most significant architectural feature of the station, and may serve as prominent landmarks for the future development. The pedestrian towers are designed to be enclosed to protect from the elements. In future engineering phases, consideration should be given as to whether the towers should be climate controlled based on capital costs at the time of design, anticipated operations and maintenance costs, and ownership and maintenance requirements. An aerial view of the proposed station building and pedestrian towers are illustrated in *Figure 25*.

Figure 25 – Aerial View of the Station Building and Pedestrian Bridge



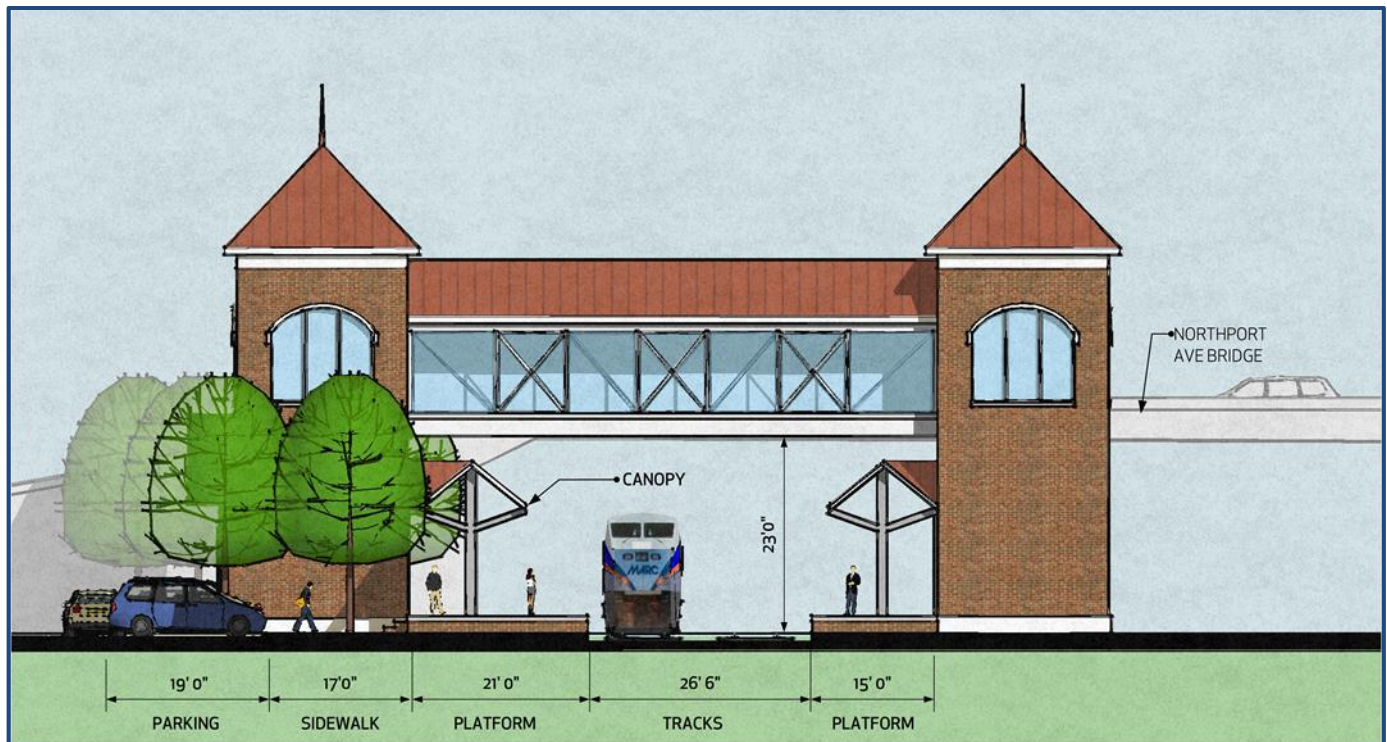
Crashwalls

Crashwalls are protective barriers designed to guard overhead support structures (i.e., bridge piers) from damage resulting from train crashes. Requirements for crashwalls are laid out in specifications provided by the American Railway Engineering and Maintenance-of-Way Association (AREMA) whenever the face of a bridge pier is closer than 25'-0" from the centerline of the nearest track. Crashwalls must be a minimum of 2'-6" thick, extend a minimum of 6'-0" from the top of high rail, and extend a minimum of 6'-0" beyond the column on each side. The requirements of crashwalls make them expensive to construct, and it is in the best interest of station owners to construct in a way that avoids the need for crashwalls wherever possible.

For the purpose of the NorthPort Station conceptual design, the northern pedestrian tower (left on the site section in *Figure 26*) was placed outside of the CSX right-of-way and beyond the 25'-0" requirement for crashwalls. Due to the presence of Route 9 right of way immediately adjacent to the southern pedestrian tower, it may not be possible to locate outside of the 25'-0" requirement for a crashwall. For the purpose of the development of planning-level capital cost estimates, it has been assumed that one crashwall will be needed. However, it is clearly preferred that the south pedestrian stair tower be located outside of the 25'-0" boundary if discovered possible during the design phase.



Figure 26 – NorthPort Station Conceptual Design of the Pedestrian Bridge and Canopies



Platforms and Canopies

To meet the needs of the current MARC service, two new platforms will be constructed on either side of the existing CSX tracks. The platforms will be a minimum of 400 feet long, fully ADA compliant, and low-level to accommodate the current MARC Train and any potential future train connections (i.e., Amtrak Capitol Limited service). The width of the platforms should be 12 to 15 feet wide. For the northern platform (outbound), the platform was conceptually designed to be approximately 21 feet wide to allow for the stair tower and station building to be fully outside of existing CSX right-of-way. An alternative design would allow for 15 feet platforms but include sidewalks to connect the station building area to the platforms.

Platform canopies are proposed to reduce maintenance costs and provide shelter for the elements for train passengers. Given the high cost of canopies, the conceptual design includes 100 linear feet of canopy, with 50 feet on either side of the pedestrian overpass. This concept was developed to minimize construction costs while retaining the convenience and comfort of canopies.

Capital Program Elements

Using the conceptual designs developed for the NorthPort Station, the planning team identified planning-level cost estimates of broad capital program elements to assist in the development of a strategic funding and implementation plan. The cost estimates relate to the Phase 1 Site Plan presented in previous sections. The estimates were derived from historical constructions costs for similar stations, as well as an assumed price escalation factor to current day dollars. A cost range (low, high) is provided to account for the variability in constructions costs between market areas. In addition, a project contingency fund is included to account for uncertainties in the actual design and construction phase of the project. Overall, the total construction cost of the new NorthPort Station and associated infrastructure improvements necessary to construct the station is between approximately **\$11 and \$14 million** as shown in *Table 4*.

Table 5 – Estimated Costs for NorthPort Station

Capital Program Element	Low Estimate	High Estimate
Access Roads (See Appendix G for additional detail)	\$3,200,000	\$3,600,000
Platforms	\$1,600,000	\$2,300,000
Pedestrian Towers and Bridge	\$1,500,000	\$2,000,000
Crash wall	\$400,000	\$500,000
Station Building	\$250,000	\$350,000
Canopies	\$600,000	\$800,000
Parking lot	\$850,000	\$1,250,000
Utilities (10% est.)	\$840,000	\$1,080,000
Site Preparation and Miscellaneous	\$840,000	\$1,080,000
Subtotal	\$10,080,000	\$12,960,000
Project Contingency (10%)	\$1,008,000	\$1,296,000
TOTAL	\$11,088,000	\$14,256,000

In addition to the actual construction costs associated with NorthPort Station, significant investment will be needed for engineering and environmental clearance prior to initiating construction. Generally, total engineering and environmental should be between 10% and 20% of the total project cost, dependent upon challenges identified later in the process. For the purpose of this project, it can be assumed that the total cost for engineering will be approximately **\$1.5 to \$2.0 million**.

NorthPort Station Ridership Assessment

The NorthPort Station is expected to be an important passenger rail and transit bus hub to serve the growing Eastern Panhandle region and to support future transit oriented development at the Jefferson Orchards site. The station will replace the existing Duffields MARC stop, providing enhanced access off Route 9 and improved amenities. In the short term, the station will serve many of the current users of the Duffields stop and additional diverted riders from nearby stations including Martinsburg, Harpers Ferry, and Brunswick as estimated from the surveys conducted for this study.

Continued housing development in the Ranson and Charles Town region will support future growth in transit and rail ridership. With a large number of Jefferson County residents working in other states, the NorthPort station is expected to provide a key multimodal transportation alternative for the region's residents. In addition, other multimodal access needs may result from anticipated commercial development, including at the Potomac Entertainment District just south of the Jefferson Orchards site in Ranson. Longer term development at Jefferson Orchards, including residential, office, industrial and/or commercial development, will result in future transit ridership growth at the station.

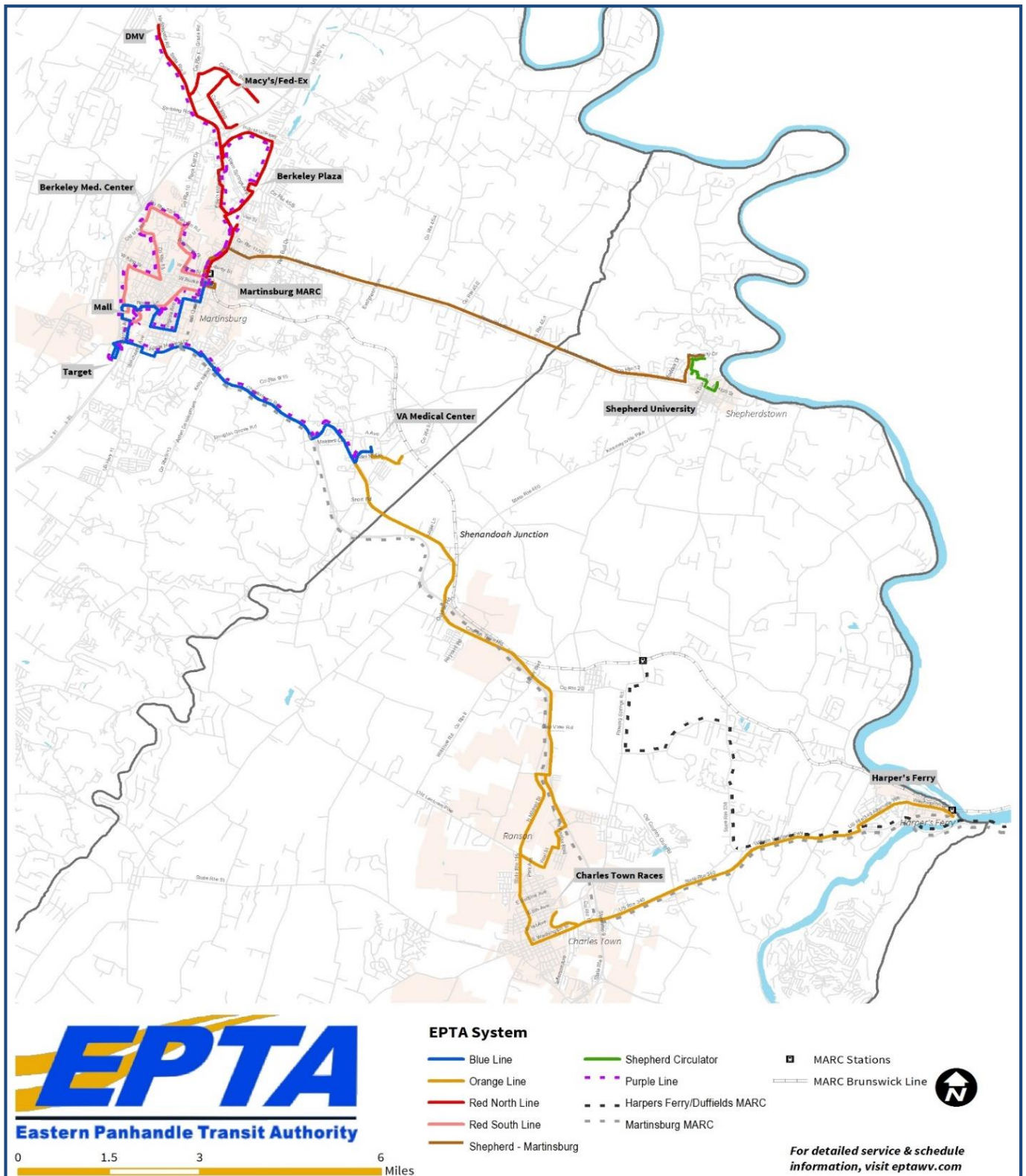
Integration of EPTA and Amtrak Service

The NorthPort station is expected to serve as a transit bus hub and has been designed to include bus bays to support passenger transfers. As plans for the station progress, it will be important for EPTA to coordinate their services with the station. Initially, the Orange Line (*Figure 27*) could be diverted to serve the site, and Orange Circulator trips could be extended to provide all day service. Eventually, as development continues, additional connections to the site from Martinsburg, Shepherdstown, and Charles Town should be considered, along with a neighborhood circulator that would connect residential areas to the station. Further integration of EPTA transit routes, staff offices and bus storage facilities at Jefferson Orchards may elevate the importance of the station to regional transit operations.

To further support future development and regional access, local authorities may work with Amtrak to identify opportunities to provide service at NorthPort. Amtrak service to the site may provide additional future multi-modal alternatives for residents and commercial areas in Ranson and Charles Town. In Fiscal Year 2013, Amtrak had over 9,300 passengers getting on or off at the Martinsburg station, and over 6,200 on/off passengers at Harpers Ferry.¹

¹ <http://www.amtrak.com/ccurl/730/658/FY13-Record-Ridership-ATK-13-122.pdf>

Figure 27 – Existing EPTA Transit Lines



Short Term Ridership Estimate

Historic ridership numbers for regional MARC stations are provided in *Figure 28*. Short term projections for NorthPort ridership were determined based on the following:

- Number of historic riders using Duffields stop
- Diversions from other nearby MARC stations
- Anticipated housing and commercial entertainment growth in the region and potential transit usage

Figure 28 – Historic Weekday Ridership at MARC Stations
(12 Month Averages by Calendar Year)
Obtained from MTA

	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Martinsburg	160	178	183	197	212	214	209	196	191	187	180	167
Duffields	145	162	158	165	174	176	173	160	146	149	167	144
Harpers Ferry	122	142	133	131	137	135	137	116	86	100	103	89
WV Total	427	482	474	493	523	525	519	472	423	436	450	400
Brunswick	683	691	663	709	747	745	774	751	706	722	643	582
Point of Rocks	408	427	436	437	440	453	490	484	463	427	455	418

Based on input received from the survey, ridership estimates should assume free parking options and some amenities, including a possible waiting room and restroom facilities, at the NorthPort station.

Ridership Diversion: Historic weekday ridership numbers were averaged over a 5-year period from 2010-2014. Based on the completed survey, diversion percentages were applied to each station's 5-year ridership average number to estimate those that would use the NorthPort station. From the post card survey, only about 60% of the current Duffield riders would use the NorthPort location. It was assumed the remaining users would divert to other locations, but it is unlikely users would travel the extra-long distance to Brunswick or attempt the fairly inaccessible Harper's Ferry station that has inadequate parking. The NorthPort Station will have better parking, easier access and amenities; therefore, it was assumed that about 80% of the Duffields riders will eventually use the new station. This estimation process resulted in approximately 270 riders for NorthPort.

Housing Development: Additional ridership is expected based on continued housing development and population increases in the region. *Figure 29* illustrates future property development plans in the Ranson and Charles Town area. Several of these properties are expected to include housing construction over the next 5-8 years. These include Shenandoah Springs, Clay Hill Farm, Lakeland Place and President's Pointe. It is difficult to determine the exact timing of the development, but expectations are that these locations could result in nearly 2,000 new households in the Ranson area.

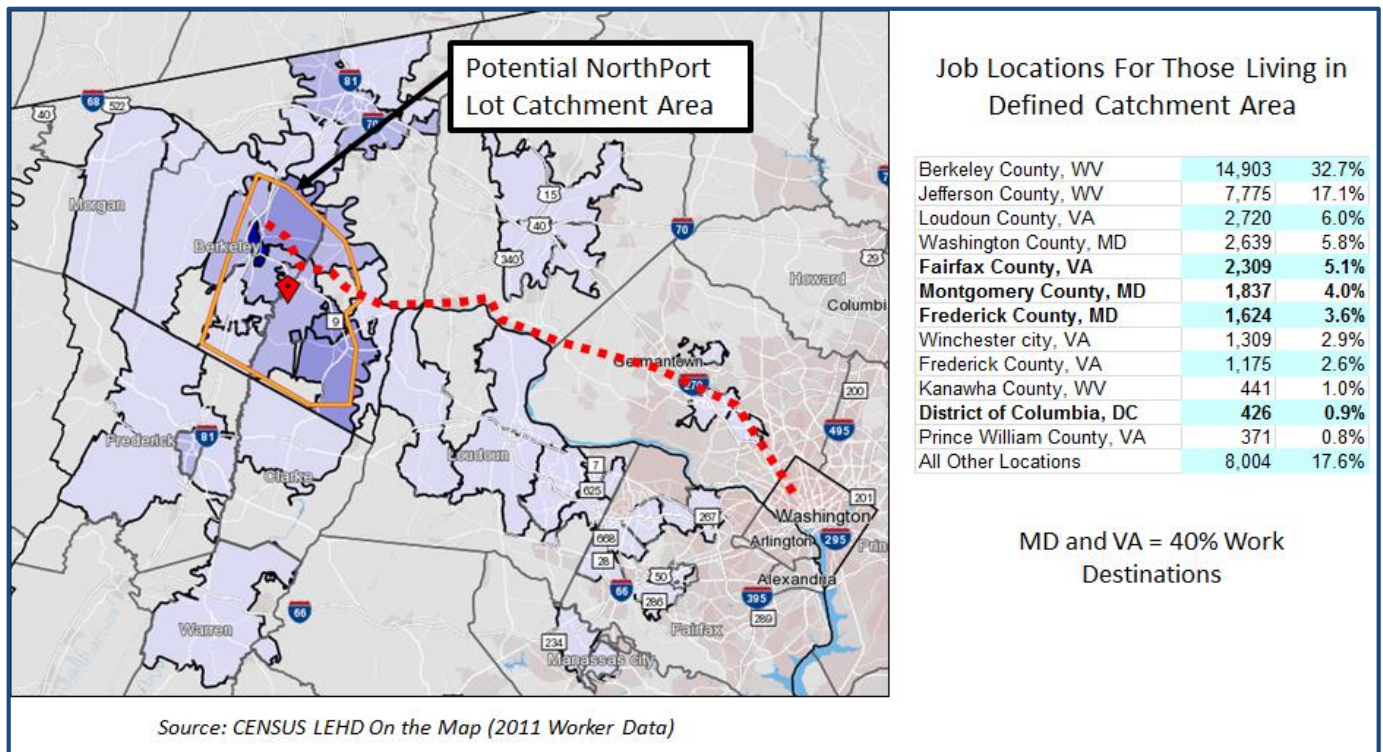
The estimation on how these new regional households could impact transit ridership was based on information from the CENSUS and the American Community Survey (ACS). Jefferson County has the highest levels of multimodal activity related to work commuting in the region. Only 74.0% of commuters drive alone, which is approximately 2.0% below the national average and 6.0% below the HEPMPPO regional average. Carpooling (13.0%) is the second most popular mode of travel for Jefferson County commuters followed by working from home (6.0%), walking or biking (5.0%), and public transit (3.0%). The public transit usage relates primarily to the use of MARC rail service to areas in Maryland and Virginia. As illustrated in

Figure 30, approximately 40% of Jefferson County resident workers are employed in those areas. Based on the current public transit usage rates, additional NorthPort ridership related to new housing and population growth in the region could result in 50 additional riders in the short term.

Figure 29 – Housing Development in Region



Figure 30 – Worker Destinations for Current Households Located in Jefferson County (CENSUS LEHD)



Potomac Entertainment District: A Commercial and retail development is planned along the Route 9 Corridor, between Hollywood Casino & Racing, through Potomac Marketplace, up to the Jefferson Orchards property. The development has the potential to elevate regional tourism and provide a catalyst to the county's economy. The NorthPort station is in very close proximity to this development and would be an important component in attracting major businesses and providing multi-modal access. An evaluation of the potential trip generation characteristics was conducted using land use classifications contained within the *Institute of Transportation Engineering (ITE) Trip Generation Handbook, 9th edition*. Categories of land use (e.g. resort hotels, entertainment centers, etc.) that could attract visitors from areas in Maryland and Virginia were used to estimate potential ridership to the NorthPort station. These estimates assume that other transportation options including regional bus or private shuttle service would be provided from NorthPort to the entertainment locations. Based on the planning-level estimate, an additional 90 riders are estimated at the NorthPort station on an average weekday.

Short Term Ridership: Based on the above assessments, short term ridership at the NorthPort station is estimated to be nearly 410 riders on an average weekday as summarized in Table 6.

Table 6 – NorthPort Short Term Ridership Estimate

Category	Average Weekday Ridership Estimate
Diversion from other MARC stations	270
New Regional Housing Development	50
Potomac Entertainment District	90
Total	410

Long Term Ridership Estimate

Additional ridership growth at the NorthPort station, beyond that estimated for the short term conditions, will be correlated to the planned development at the Jefferson Orchards site and additional housing and commercial regional growth throughout eastern portion of Jefferson County.

Jefferson Orchards: The land development plan for Jefferson Orchards includes zoning for both residential and commercial development. The full build-out consists of over 1,000 residential units (both single family homes and townhouses) in four of the zoned transect areas of the property. In addition, over 870,000 square feet of commercial space is available with most designated for the special zoning districts on the property.

Ridership estimates related to development at Jefferson Orchards was estimated using available tools including the EPA's *Mixed-Use Trip Generation Model*² and available research data on travel mode splits at transit oriented development sites.³ It is projected upon full build-out of the property, ridership may increase by about 400 riders per day.

Other Regional Development: The current HEPMPO Long Range Transportation Plan (LRTP) provides longer term forecasts of housing and employment growth out to a horizon year of 2040. This information is based on information from *Woods and Poole's 2012 State Profile* (containing county projections) and local development plans. Long term growth trends indicate the potential for over 7,500 additional households in Jefferson County (beyond that projected in the short term and that for Jefferson Orchards). Based on the current public transit usage rates, additional NorthPort ridership related to new housing and population growth in the region could result in an additional 170 riders on an average weekday.

Additional commercial and entertainment districts in the region and other regional employment generators can have a significant impact on future ridership trends. The viability of ridership growth at NorthPort will also be tied to adequate transit service. If NorthPort station is constructed, EPTA will need to evaluate the role of NorthPort in its transit system as to maximize the potential ridership and multi-modal access opportunities in the region.

Long Term Ridership: Based on the above assessments, long term ridership at the NorthPort station is expected to be nearly 1,000 riders on an average weekday as summarized in *Table 7*

Table 7 – NorthPort Long Term Ridership Estimate

Category	Average Weekday Ridership Estimate
Short Term Ridership Estimate	410
Jefferson Orchards Full Build-Out	400
Other Regional Development	170
Total	980

² <http://www2.epa.gov/smart-growth/mixed-use-trip-generation-model>

³ <http://www.vtpi.org/tdm/tdm45.htm> (Table5)

Traffic Assessment

Access to Jefferson Orchards is currently from NorthPort Avenue, which intersects with WV 115 and heads northeast across Route 9 onto the property. Initially, NorthPort Avenue is expected to serve as the primary access to the station and parking facilities. As the Jefferson Orchards property is developed, additional access options may be needed and a formal traffic impact study should be undertaken. This section provides an initial assessment of traffic operations for short term and long term development assumptions at the two intersections along WV 115 (NorthPort Avenue and Wiltshire Road) as highlighted in *Figure 31*.

Figure 31 – Primary Intersections Affecting NorthPort Station Access



Analyses have been conducted to examine the impacts of future traffic growth on intersection operations related to the NorthPort Station and Jefferson Orchards development. The Synchro and SimTraffic software tools have been used to analyze traffic conditions based on traffic volume growth and intersection and signal characteristics. Synchro is a software application for optimizing traffic signal timing and performing capacity analysis. SimTraffic performs micro simulation and animation of vehicular traffic to allow for estimation of queuing.

Traffic analyses have been conducted for several scenarios: (1) existing conditions, (2) short term projections including NorthPort Station with no other development at Jefferson Orchards, and (3) longer term projections that include transit oriented mixed-use development at Jefferson Orchards. Potential mitigation strategies are discussed for scenarios in which intersection congestion exceeds acceptable standards.

Existing Conditions

An analysis was conducted for existing conditions to identify if there are any current traffic concerns at the intersections on WV 115. The Synchro software analysis utilizes procedures in the Highway Capacity Manual to estimate key measures include volume to capacity ratio (V/C) and level-of-service (LOS). Values of LOS of “E” or “F” indicate intersection movements with significant delays or queuing.

Available traffic count and signal timing data was compiled from WVDOH. That data was complemented by peak hour turning movement counts conducted on March 18–19, 2015 at the intersection of WV 115 and Wiltshire Road. The existing conditions analysis results are provided in *Figure 32*. The analysis indicates that both intersections currently operate at an acceptable LOS. The only significant queuing that was observed during the peak hours was

related to a crossing train that impacted vehicles to and from Luther Jones Road. Increased train operations in the future could create additional delays and affect overall intersection operations.

Figure 32 – Existing Roadway Capacity Analysis

Intersection Movement	AM Peak Hour: 8:00 – 9:00 AM			PM Peak Hour: 4:00 – 5:00 PM		
	Delay (sec/veh)	V/C Ratio	LOS	Delay (sec/veh)	V/C Ratio	LOS
WV 115 & Wiltshire Rd / Luther Jones Rd						
Overall Intersection	13.2	-	B	15.7	-	B
Eastbound Left	16.0	0.14	B	19.1	0.40	B
Eastbound Through/Right	16.3	0.38	B	17.6	0.44	B
Westbound Left/Through/Right	14.8	0.13	B	15.5	0.13	B
Northbound Left	19.0	0.30	B	21.2	0.52	C
Northbound Through/Right	4.4	0.06	A	5.4	0.14	A
Southbound Left	10.2	0.01	B	13.1	0.02	B
Southbound Through	11.1	0.21	B	13.6	0.13	B
Southbound Right	11.1	0.19	B	13.3	0.08	B
WV 115 & NorthPort Avenue						
Southbound Approach	9.8	-	A	10.7	-	B

NorthPort Station - Short Term

The completion of the NorthPort station will attract additional vehicle trips to the WV 115 intersections with Wiltshire Road and NorthPort Avenue. An analysis scenario was developed that assumes 250 additional vehicles access the station each day based on the expected daily ridership and available parking spaces at the station. This scenario assumes no other significant development at Jefferson Orchards including any commercial or office space. EPTA transit buses are also expected to access the site under this scenario, though the number of buses is assumed less than 10 per day.

Based on existing MARC train schedules, current AM departures from Duffields stop include 5:16am, 5:41am and 6:41am. At NorthPort station, departures would be expected to be about 5-7 minutes earlier. With riders typically arriving at least 15 minutes before departure, most vehicles would arrive before 6:15am. As a result, it is expected the NorthPort station would have a minimal impact on morning peak hour congestion or traffic near North Jefferson Elementary School. Under a conservative assumption, 10% of the daily commuters were added to the morning peak hour traffic to identify if any congestions issues would occur. Return trains at Duffields are currently at 5:25pm, 6:18pm and 6:59pm. Trips to and from NorthPort station are expected to be distributed across the evening peak period. As a conservative estimate, 20% of the daily commuters are assumed to be added to the evening peak hour traffic volume to estimate delay impacts.

As illustrated in *Figure 33*, the WV 115 intersections are expected to operate at a sufficient LOS under this short term scenario. As such, no significant improvements are required to the existing intersection configurations.

Figure 33 – NorthPort Station Short Term Analysis

Intersection Movement	AM Peak Hour: 8:00 – 9:00 AM		PM Peak Hour: 4:00 – 5:00 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
WV 115 & Wiltshire Rd / Luther Jones Rd				
Overall Intersection	13.3	B	15.7	B
WV 115 & NorthPort Avenue				
Southbound Approach	9.9	A	11.8	B

The NorthPort short term ridership assessment included the potential impacts of the Potomac Entertainment District. These additional trips are assumed to be distributed across the day and are not expected to result in individual vehicle access to the site. Instead, such riders may be served by private shuttles or additional EPTA bus service. These additional shuttle buses are expected to be distributed across the day and not be of a level to jeopardize intersection operations in the short term.

NorthPort Station – Long Term

The long term impacts on vehicular traffic access to the NorthPort station site are affected by the growth in transit ridership as shown previously in *Table 7* and other development traffic related to Jefferson Orchards. Much of the transit ridership growth is anticipated to be from those originating or destined to Jefferson Orchards. As a result, the additional ridership is not expected to generate vehicle trips that would impact the access roads and intersections along WV 115. Through the planned neighborhood design, these riders would primarily access the station by either the walk or bike modes. Other regional housing and employment growth, outside of Jefferson Orchards, could result in up to 200 more vehicles accessing the NorthPort Station over the daily period. As discussed for the short term estimates, many of these vehicles would occur outside of the typical AM and PM peak traffic hours.

Additional test runs were conducted to determine what traffic volume increases (over existing conditions) would result in unacceptable intersection operations. *Figure 34* summarizes the results of the test runs.

Figure 34 – Traffic Volume Increases Resulting in Need for Intersection Improvements

Intersection	Condition	AM Peak Hour Volume Increase Resulting in Condition (above existing)	PM Peak Hour Volume Increase Resulting in Condition (above existing)
WV 115 / NorthPort Avenue	Unacceptable Intersection Delays (Signal Warranted at Intersection)	+ 280 NorthPort Ave SB Left Turn Vehicles	+ 200 NorthPort Ave SB Left Turn Vehicles
WV 115 / Wiltshire Road	Unacceptable Intersection Delays	+ 1,025 Wiltshire EB Left or WV 115 SB Right Turn Vehicles	+ 900 Wiltshire EB Left or WV 115 SB Right Turn Vehicles

Traffic directly attributable to NorthPort Station will most likely not meet the threshold traffic increases shown in the figure; however, some strategies may be implemented to improve safety and to ensure that turning vehicles encounter small delays.

The development at Jefferson Orchards will also generate a significant number of vehicle trips, not related to the use of NorthPort Station. These additional trips will be estimated in future traffic impact studies conducted for the site development. This additional traffic, which could exceed 1,000 vehicle trips in the AM and PM peak hours, may result in an unacceptable LOS at each of the WV 115 intersections. Under such a scenario, additional mitigation strategies may be required for implementation.

Mitigation Strategies at Intersections

As addressed above, the NorthPort station, itself, is not expected to generate enough vehicle trips to require significant capacity increasing projects along WV 115. However, increased turning movements on NorthPort Avenue may initiate a need to signalize the intersection with additional exclusive turn lanes. Signalization would also allow for the inclusion of pedestrian phasing at the intersection, allowing for safer pedestrian access to the station.

As the Jefferson Orchards development progresses, mitigation strategies and additional intersection improvements will likely be required to alleviate congestion. Using the Synchro and Simtraffic software, scenarios were analyzed to determine a package of strategies that could address future build-out conditions at Jefferson Orchards. The strategies, as illustrated in *Figure 35*, include signalization and widening the NorthPort Avenue intersection with WV 115, widening of the intersection of Wiltshire Road and WV 115, and possible widening of WV 115 to four lanes between the two intersections.

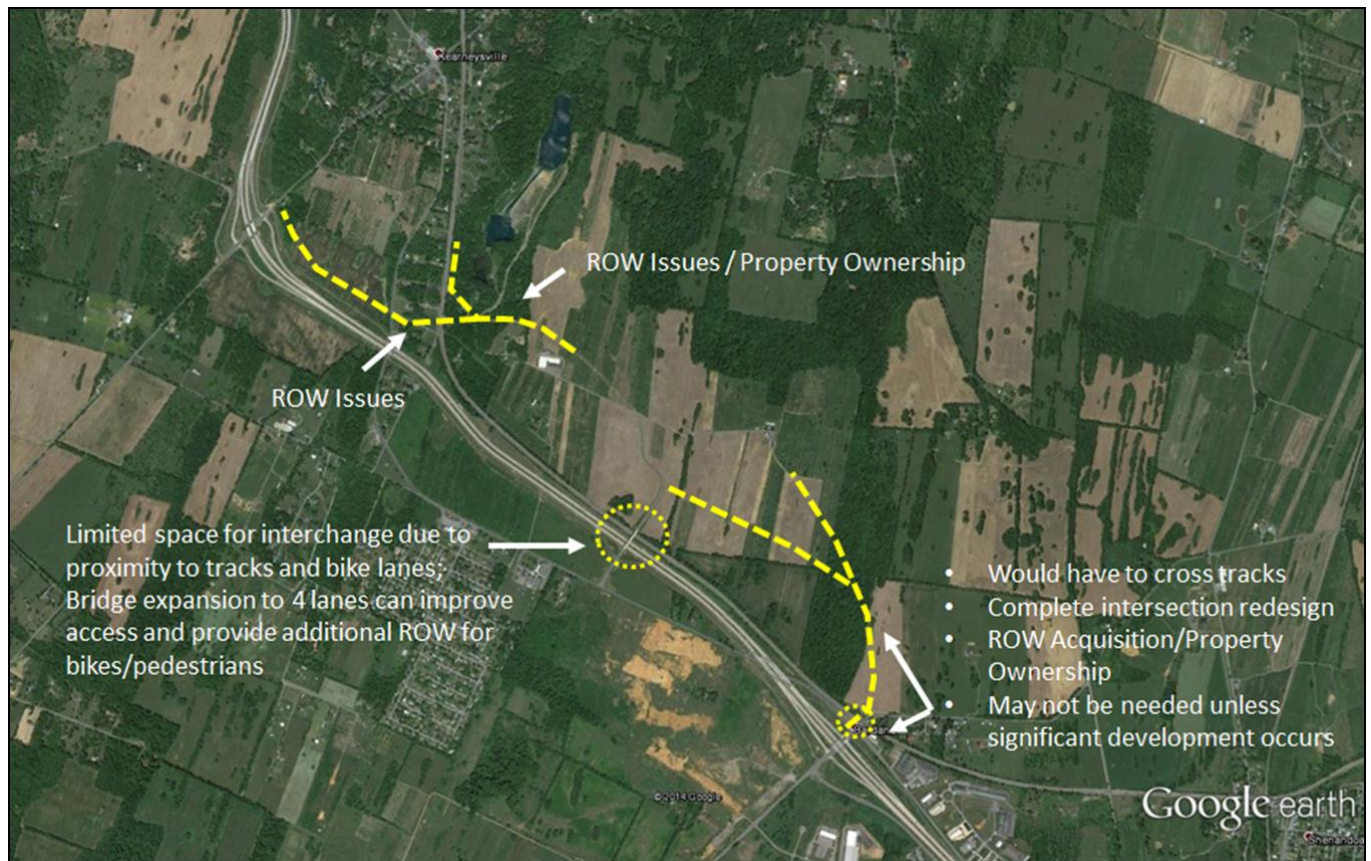
Figure 35 – Potential Intersection Improvement Strategies



Other Transportation Access Options

A qualitative assessment of other transportation access options was conducted with input from the project task force. *Figure 36* summarizes key access alternatives and issues that may be considered in future transportation studies for the Jefferson Orchards development.

Figure 36 – Assessment of Other Transportation Access Options



Positive Community Impacts

Along with the City of Ranson's economic redevelopment efforts, the NorthPort Station will provide access to jobs, regional employment centers, and attract new visitors to the tourist attractions in the area including the Harpers Ferry National Park, Washington Heritage Trail, John Brown Museum historic sites, Charles Town Races and Slots, Appalachian Trail, and other outdoor recreation activities and planned entertainment districts. Commuter and passenger rail service and bus connections to access the amenities of the region will reduce the transportation cost to the average visitor.

Boost the Local and Regional Economy

In conjunction with the Ranson Renewed Plan and the Ranson/Charles Town Brownfields Area-Wide Plan, the TOD area plan serves as a national model for how small rural cities can foster sustainable economic development and create livable communities through targeted strategic planning and investments like the NorthPort Station. The development around the station will create new business opportunities, support economic development, and create new jobs and neighborhoods.

In addition to benefiting cyclists, outdoor enthusiasts, and all Jefferson County residents, the NorthPort Station will also positively benefit historically underrepresented groups, including: economically disadvantaged populations, non-drivers, senior citizens, and person with disabilities by enabling these populations to travel without the need of an automobile, thereby enhancing their quality of life and providing access not previously available.

Property Value

The NorthPort Station will also benefit the community through an increase in property values. Research has shown that property values located near train stations increase between 4% and 49%. It is likely that property values in the Ranson and nearby towns will benefit from a new train station. Property values may increase significantly more through time as ridership increases at the station and as new economic development continues throughout the area.

Encourage Bicycle and Pedestrian Usage

The NorthPort Station will have connections from the TOD neighborhood and employment center to the regional bike path along Route 9, with connections to Martinsburg, Shepherdstown, Charles Town and Harpers Ferry, and other attractions in the immediate vicinity. Encouraging bicycle travel will reduce vehicular travel. The environment created by such multimodal use boosts the effectiveness of the train station and its impact on the local economy.

Reduce Greenhouse Gas Emissions and Reliance on Foreign Oil

The project will promote environmental sustainability by improving energy efficiency, reducing dependence on oil, reducing greenhouse gas emissions, and providing other qualitative benefits to the environment. Increased use of multimodal travel will result in significant, measurable air quality improvements throughout the region. In addition, by implementing the NorthPort Station, a cultural shift will begin to occur by introducing thousands of current residents and millions in future generations, to the benefit of travel by means other than personal automobile.

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Implementation Strategy

The NorthPort Station Task Force developed the following implementation strategy to move the project toward completion based on the current project status. The implementation strategy identifies objectives and concrete action strategies that should be undertaken over a multiple-year horizon, the timeframe and probable costs for implementation of each recommendation, the potential sources of funding available to help offset costs associated with each recommendation, and the entities that should be involved in implementing the recommendations and achieving each objective. The implementation strategy is focused on four objectives: (1) Establishing a project structure and confirming the roles of key parties for implementation; (2) Positioning the Jefferson Orchards property for sale and TOD development; (3) Securing funding for design, engineering and other pre-construction activities, and conducting those activities; and (4) Securing funding for construction, and conducting those activities.

GOAL	OBJECTIVES AND ACTION STRATEGIES	TIMEFRAME	PROBABLE COSTS	SOURCES OF FUNDING	LEAD PARTNERS
Objective #1: Establish a project structure and confirm the roles of key parties to conduct the NorthPort Station project.					
Confirm vital partnerships and establish a structure to conduct the project	R1.1 – Establish a formal relationship between Jefferson Orchards and the City of Ranson through development of a Memorandum of Understanding (MOU) regarding development of the Jefferson Orchards property as a mixed-use Transit Oriented Development (TOD). The MOU should detail the terms of the dedication of land in the Jefferson Orchards property, the principles of a TOD, and potential approaches to identifying and applying for grant funding for the project. The MOU will confirm that the “Land Development Plan and Plat” for the Jefferson Orchard property, approved by the Ranson Planning Commission on March 16, 2012, includes the dedication of land for the purposes of a multimodal transit station. That MOU also specifies that the Northport Multimodal Station concept plan created in this feasibility study is incorporated into and part of the Land Development Plan and Plat approved by Ranson for the future development.	June-July 2015	Consultant/Legal costs	Jefferson Orchards, EPTA, Ranson (Each party to bear own costs)	City of Ranson Jefferson Orchards
	R1.2 – Establish a formal relationship among the City of Ranson, the West Virginia State Rail Authority, the Hagerstown-Eastern Panhandle Metropolitan Planning Organization, and the Eastern Panhandle Transit Authority through development of an MOU to coordinate development of the Northport Station. The MOU should discuss the roles of each party, designation of a parties to own and operate the facility, financial roles and commitments of each entity, co-location of bus and rail service at the proposed station, and other implementation issues.	June-July 2015	Consultant costs	EPTA, Ranson	City of Ranson WV State Rail Authority EPTA HEPMPO
Cultivate and maintain support from key stakeholders	R1.3 – Maintain the “Northport Station Task Force” as a base of support from key organizations, providing periodic updates to its members, and using its members to build support for funding proposals and other approvals.	Ongoing until station is opened	NA	NA	MOU parties
	R1.4 – Use briefing materials, press releases, web site updates, and in-person briefings to key organizations and the public to maintain support and momentum.	Ongoing until station is opened	NA	NA	MOU parties



GOAL	OBJECTIVES AND ACTION STRATEGIES	TIMEFRAME	PROBABLE COSTS	SOURCES OF FUNDING	LEAD PARTNERS
Identify owner/operator of Northport Station	R1.5 – Before the station is constructed, MOU parties will need to determine which entity will operate, manage and maintain the Northport Station, and which parties might contribute financially to that O&M.	Prior to construction	TBD	TBD	Designated entity from MOU parties, potentially WV State Rail Authority, City of Ranson, or future developer
Objective #2: Position the Jefferson Orchards property to market and sell to a regional or national mixed-use developer.					
Strategically position the Jefferson Orchard property in the marketplace	R2.1 –Jefferson Orchards to continue to market the property for development compatible with the location of the Northport Station and its use as a commuter rail station and bus terminal.	Summer 2015	NA	NA	Jefferson Orchards, in consultation with City of Ranson
	R2.2 – Consult with the Carl M. Freeman Companies about collaboration on the development of Northport in conjunction or aligned with development of the Potomac Entertainment District.	Summer 2015	NA, except potential consultant costs	NA	Jefferson Orchards
	R2.3 – Consider extending the Potomac Entertainment District (PED) Community Enhancement District (CED) boundary to include the Northport Station, or consider establishment of stand-alone Northport CED. Likewise, consider whether to include Northport in a PED Tax Increment Finance (TIF) issued by Jefferson County, or to establish a stand-along Northport TIF with Jefferson County. In 2014, the City of Ranson was granted home rule powers through the West Virginia Municipal Home Rule Pilot Program Phase II. Home rule powers allow the City of Ranson to establish CEDs which allow the city to use non-tax assessment fees to support public bonds for construction of infrastructure, public parks and recreational facilities, and other amenities at both new developments and areas targeted for revitalization – which could include the Northport Station facility.	2015-2016	Consultant costs	City of Ranson	Jefferson Orchards City of Ranson
Objective #3: Secure funding for design, engineering, permitting and other pre-construction costs of the NorthPort Station, and conduct these activities.					
Determine project costs and schedule	R3.1 – Finalize the estimate of probable costs and complete the technical and cost proposal for preliminary engineering, permitting, and final design for development of the Northport Station and associated mixed-use development.	2015	\$10,000 - \$20,000	MOU parties	Baker
	R3.2 – Prepare a detailed project schedule that includes each component and phase of the development project. A realistic project schedule is a key element in identifying viable sources of funding and building and implementing a funding strategy.	2015	\$2,500 - \$5,000	MOU parties	Baker



GOAL	OBJECTIVES AND ACTION STRATEGIES	TIMEFRAME	PROBABLE COSTS	SOURCES OF FUNDING	LEAD PARTNERS
Secure pre-construction funding	<p>R3.3 – Seek WV funding for approximately \$1.5 million in pre-construction design, engineering, permitting, construction bid documentation, and other activities to get the Station project “shovel-ready”. These pre-construction funds may come in phases. Many of these sources depend on congressional re-authorization of MAP-21. Sources could include:</p> <p>State of WV</p> <ul style="list-style-type: none"> WV state legislature, via Rail Commuter Access Fund WV state legislature, through transfer to WV State Rail Authority Section 5311 pass-through to HEPMPO Transportation Alternatives Program via WV DOT <p>Federal</p> <ul style="list-style-type: none"> TIGER Planning grant (if Congress funds) USDA Rural Development, Community Facility grant <p>Critical first steps in pursuing potential pre-construction funding are to:</p> <ul style="list-style-type: none"> Seek and secure support of the eastern panhandle legislative delegation Seek and secure support from the WV congressional delegation Meet, perhaps several times, with WV DOT officials including senior management, planning office, transit office Meet with U.S. DOT FTA officials to obtain guidance and support Seek support from Office of the Governor and WV legislative leadership <p>These efforts will require both conference calls and visits to the State Capital in Charleston, the WV congressional delegation, and the Federal Transit Administration HQ in Washington, DC. The first outreach should be to WV Senator Herb Snyder, the author and primary sponsor of the WV Commuter Rail Fund legislation, and to Cindy Butler, the Director of the West Virginia State Rail Authority. These efforts will also require that the MOU parties draft and submit effective grants packages for available funds.</p>	2016	\$1.0 to \$1.5 million, plus costs of grants consultants	State & Federal grants (see column to left)	MOU parties, potentially with consultant support
	R3.4 – Identify and secure matching funds of between 20-40%	2016	\$200,000-\$600,000	Ranson CED or TIF; MARC/MTA; EPTA; Federal Home Loan Bank Community Investment Program subsidized loan	MOU parties
Conduct design, engineering and permitting activities	R3.5 – Determine the party that will administer and manage the design, engineering and other pre-construction activities.	2016, after securing funding	NA	NA	Likely WV State Rail Authority, HEPMPO, or City of Ranson
	R3.6 – Ensure robust public and stakeholder outreach in design, to maintain community support.	2016, during D&E	NA	NA	Lead on Task R3.3, working with Northport Task Force
	R3.7 – Procure contractors for D&E, permitting and other pre-construction activities.	2016 or 2017, depending on when funding secured.	\$1 million - \$1.5 million	Sources listed in R3.3	Lead on Task R3.5



GOAL	OBJECTIVES AND ACTION STRATEGIES	TIMEFRAME	PROBABLE COSTS	SOURCES OF FUNDING	LEAD PARTNERS
Objective #4: Secure funding for construction, and conduct construction.					
Identify and pursue public funding opportunities	<p>R4.1 – Identify and evaluate the viability of potential state and federal sources of funding for project components. Much of this funding depends upon reauthorization of MAP-21. Sources could potentially include:</p> <ul style="list-style-type: none"> • Transportation Alternatives Program • TIGER • Section 5309 Small Starts and/or Bus & Bus-Facilities grants • WV legislative funding into Commuter Rail Fund or infrastructure bonding package • Surface Transportation Project funding, via WV DOT • Maryland Transportation Administration (unlikely, particularly if State of WV not funding) • USDA Rural Community Development grants and loans • FHLB Community Investment Program loans <p>To determine the viability of each funding source for the project, the project team should identify the following information for each potential funding source: type of assistance (i.e., loan, grant, etc.), goals and priorities of the funding agency/program, eligible uses of funding (i.e., design, construction, remediation etc.), window of opportunity for application submission, minimum and maximum funding request amounts, percent and type of matching funds required, availability of funding, and size of potential award. Information about each funding source should then be compared to the Northport Station project components and timeline to identify and prioritize the funding sources with the greatest potential for an award.</p> <p>Critical first steps in pursuing potential construction funding will be:</p> <ul style="list-style-type: none"> • Re-confirm support of the eastern panhandle legislative delegation • Re-confirm support from the WV congressional delegation • Meet with WV DOT officials including senior management, planning office, transit office • Meet with U.S. DOT FTA officials to obtain further support • Seek support from Office of the Governor and WV legislative leadership <p>These efforts will require both conference calls and visits to the State Capital in Charleston, the WV congressional delegation, and the Federal Transit Administration HQ in Washington, DC.</p> <p>These efforts will also require that the MOU parties draft and submit effective grants packages for available funds.</p>	2017-beyond	\$11M-\$14M, plus costs of grants consultants	See potential sources in column to left	MOU parties
Identify & confirm matching funds	R4.2 – There must be a 20-50% match on construction to be competitive for grant funding, which could include local sources, developer contributions,	2017-beyond	\$2.2 million to \$7 million, depending on construction	See potential sources in column to left	MOU parties



GOAL	OBJECTIVES AND ACTION STRATEGIES	TIMEFRAME	PROBABLE COSTS	SOURCES OF FUNDING	LEAD PARTNERS
	<p>and/or proceeds from borrowings (debt that will of course need to be serviced over time). Potential sources could include:</p> <ul style="list-style-type: none"> • Value of Jefferson Orchards land grant • Future developer contributions • Ranson CED and/or Jefferson County TIF bond proceeds • EPTA contributions • FHLB Community Investment Program loans • USDA Community Facilities grants or loans • State of WV resources including state bonding package proceeds (not yet authorized or issued), STP pass-through, WV Rail Commuter Access Fund 		cost and level of match required		
Seek inclusion of project in HEPMPO's and State's Transportation Improvement Plans	R4.3 – To secure and use funding, the project sponsors and supporters should seek to have HEPMPO and the WV DOT include the project as a priority in their Transportation Improvement Plans	2016, at both pre-construction and construction phases	NA	NA	MOU parties, working with HEPMPO
Conduct construction and administer funding	R4.4 – This is a major set of tasks, requiring a separate analysis beyond the scope of this implementation plan.	2017-beyond	Consultant costs	NA	MOU parties / lead Northport Station entity.



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Next Steps

This report outlines the feasibility and required elements for a new NorthPort Station. To make the NorthPort Station a reality, a number of steps must be undertaken by local and regional stakeholders. These steps include:

- ✓ **Secure funding for pre-construction activities**
- ✓ **Obtain Host Railroad (CSX) Support**
- ✓ **Identify Project Owner**
- ✓ **Preliminary Engineering**
- ✓ **Environmental Clearance**
- ✓ **Secure funding for construction activities**
- ✓ **Final Engineering**
- ✓ **Construction**

The first step in the implementation of the NorthPort Station is to identify and assemble a funding package for the pre-construction design and engineering and permitting as identified in the **Implementation Plan** section. Given the scarcity of local resources, it will be difficult to identify the required match that most grant programs require. Ranson should pursue all sources of private, local, and state funding that may be used to match federal grant programs. Once the local funding is identified, the Federal grant program process will become much easier.

After the initial funding is secured for the project engineering, negotiations should be escalated with CSX for their approval on the selected alternative. Although initial discussions have been held, a final decision from CSX is unlikely until construction funding has been secured and the project can move forward. Political support for the project is strong and the new station will have minimal impact on CSX freight operations, making the project a logical choice to move forward as a regional priority if funding is in place.

Once support from CSX is gained, project stakeholders will need to identify project owners for each of the improvements based on the scenarios presented above. Identified owners must enter into agreements with the funding authority and other appropriate parties to move forward.

While owners are being identified, preliminary engineering based on the concepts outlined in the study should commence. Preliminary engineering should advance the project design to approximately 30%. Design reviews will need to occur with WV SRA, MTA/MARC and CSX, and the initiation of preliminary engineering, and a 30% design submission will likely be required prior to further advancement.

Prior to moving past preliminary engineering, the project will need environmental clearance under the National Environmental Protection Act (NEPA). This report preliminarily screened all indicators for an Environmental Assessment (EA), and found that there will likely be no issues receiving a Finding of No Significant Impact (FONSI). Traditionally, the EA is completed during the preliminary engineering phase, but some grant programs may require it to be completed prior to initiation of the project. The concepts presented in the report are advanced enough to successfully complete the NEPA process.

Upon receipt of FONSI and completion of preliminary engineering, the project will proceed into final engineering and securing construction funding. Typically, a 60%, 90%, and 100% design submission will need to be made to WV SRA, MTA / MARC and CSX prior to the initiation of construction.

Construction should take between six to 12 months, depending on the final complexity of the project as determined in the engineering phase. During construction of the platforms, and associated track infrastructure improvements, railroad protection forces will be needed.

To save time, the NorthPort Station construction should be considered for an alternative design-build approach. Using this technique, a single contractor is given the preliminary engineering plans and the NEPA clearance to complete the final design and construction simultaneously.