

BUS STOP SAFETY AND ACCESSIBILITY

A STUDY FOR PULASKI AREA TRANSIT

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

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Table of Contents

Execu	itive Summ	ary	1
		-	
	Study Outco	mes	1
Tvono	it Comico		2
Irans			
	Kideisiiip		4
Stake	holder Out	reach	5
	Working Gro	oup	5
	Work Sessio	ns and Other Meetings	5
	Rider Survey	<i>y</i>	6
Ruc S	ton Prioriti	zation	7
Dus 3	•	24(1011	
		ents	
	0	pes	
	. ,,		
Actio		•••••	
		y Stops Overview	
		2	
		Project Sheets	
	•	Meadow View Apartments	
		Washington Square Apartments	
	,	Community Services	
	,	Dollar Tree	
	,	Hospital Entrance	
	,	Food Lion	
	•	Food City	
	Stop 9:	Pulaski Village	
	Stop 10:	Martin's Pharmacy	31
Fundi	ing Sources	and Next Steps	33
	_	:e	
	•		
	Next Steps		34
Δ	٠. ما:		25
Appe	naix	••••••	33
		<u>List of Figures</u>	
	_	lership	
	_	vice Map	
		oritization Process	
		oritization Criteria	
		oritization Exercise	
		oritization Criteria and Weighting	
		rh-Priority Stops	
		rh-Priority Stop Scores	
	Figure 9: Hig	rh-Priority Stop Locations	12
		<u>List of Tables</u>	



EXECUTIVE SUMMARY

Purpose

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

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

Study Outcomes

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

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

High-Priority Stops

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

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

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

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

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







TRANSIT SERVICE

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

Background

Pulaski Area Transit (PAT) started in 2004, with the mission to provide safe, reliable and efficient transportation service to the residents of both the Town of Pulaski and Pulaski County. It is governed by the New River Valley Senior Services Board of Directors and the PAT Advisory Council, and is funded by the Federal Transportation Administration (FTA), the Virginia Department of Rail and Public Transportation (VDRPT), and local match by both the Town and County of Pulaski.

Bus Service

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

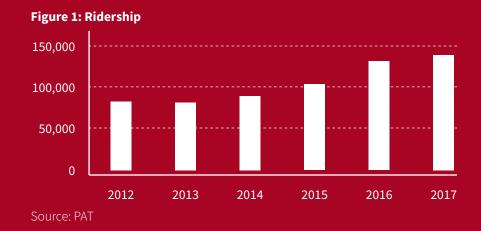
riders traveling between the Town of Pulaski and the Fairlawn community in Pulaski County, and serves riders along this route with a 24-hour notice, and delivers them directly to their destination. Stops along the deviated fixed route include Dublin, the New River Community College, and Fairlawn as well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

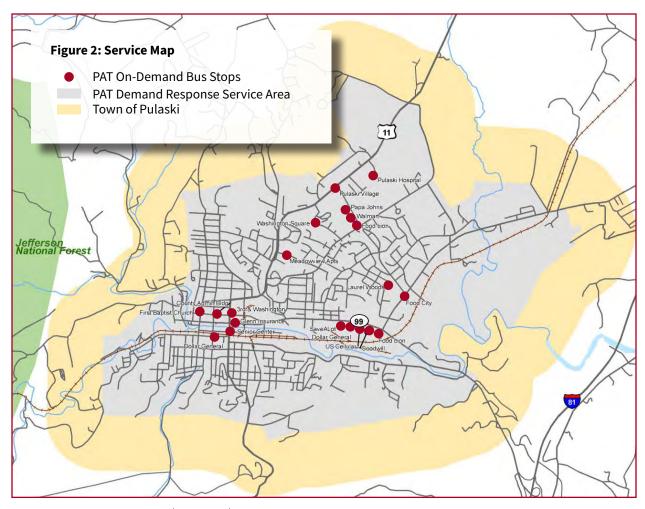
Fares

Fares for PAT trips range from \$ 0.75 to \$ 2.00, depending on the trip. Students receive a \$1 discount on purchased passes, and Social Services and Community Services provide bus passes to eligible riders. Children age three and under ride free.

Ridership

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





Source: 2011 PAT Transit Development Plan



STAKEHOLDER OUTREACH

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

Working Group

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

Work Sessions and Other Meetings

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



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



Rider Survey

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

Overall, the majority of respondents indicated that they feel safe while using the bus stops serviced by Pulaski Area Transit. When asked if they had difficulty getting to or from a bus stop, 80% stated that they did not have difficulties, while 20% said that they did or sometimes had difficulties. Finally, the last question asked about proposed bus stop improvements. Twelve people stated that improvements would encourage them to use transit more, while three people stated it would not, two people saying they did not know, and three indicating that it made no difference to them.





BUS STOP PRIORITIZATION

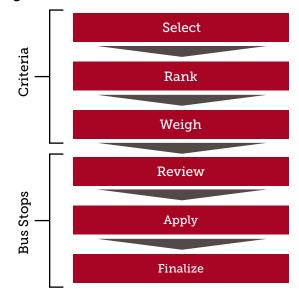
A prioritization exercise was used to identify bus stops with the greatest needs.

Process

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

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

Figure 3: Prioritization Process



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

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

Figure 4: Prioritization Criteria

- Transit Use
- Service Type
- Pick-up/ drop-off locations
- Bus Stop Amenities
- Connectivity
- Accessibility
- Safety
- ADA compliance
- Cost and Constructibility

Figure 5: Prioritization Exercise

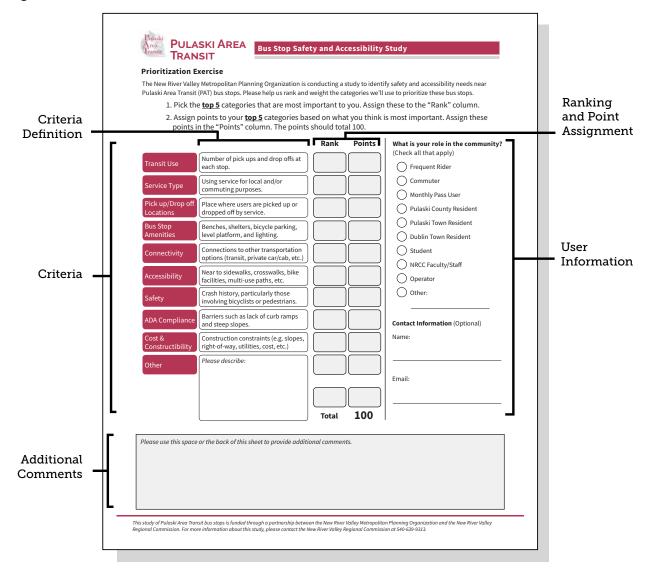


Figure 6: Prioritization Criteria and Weighting

Criteria	Weight	Description
Transit Use	17.90%	Number of pick-ups and drop-offs at each stop.
Service Type	1.23%	Using service for local and/or commuting purposes.
Pick-up/Drop-off Locations	24.69%	Place where users are picked-up or dropped-off by service.
Bus Stop Amenities	14.20%	Benches, shelters, bicycle parking, trash receptacles, and lighting.
Connectivity	1481%	Connections to other transportation options (transit, private, etc.)
Accessibility	12.96%	Near by sidewalks, crosswalks, bike facilities, multi-use paths, etc.
Safety	3.09%	Crash history (involving bicyclists, pedestrians, and vehicles).
ADA Compliance	8.02%	Barriers such as lack of curb ramps and steep slopes.
Cost and Constructability	1.85%	Construction constraints (slopes, right-of-way, utilities, cost, etc.)
Other	1.23%	Other recommendations

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

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

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

Adaptability

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

Design Elements

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

Bus Stop Types

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

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



Table 1: Bus Stop Types and Elements

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

Source: APTA 2010; TCRP 2005



ACTION PLAN

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

High-Priority Stops Overview

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

Action Plan

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

Figure 7: High-Priority Stops

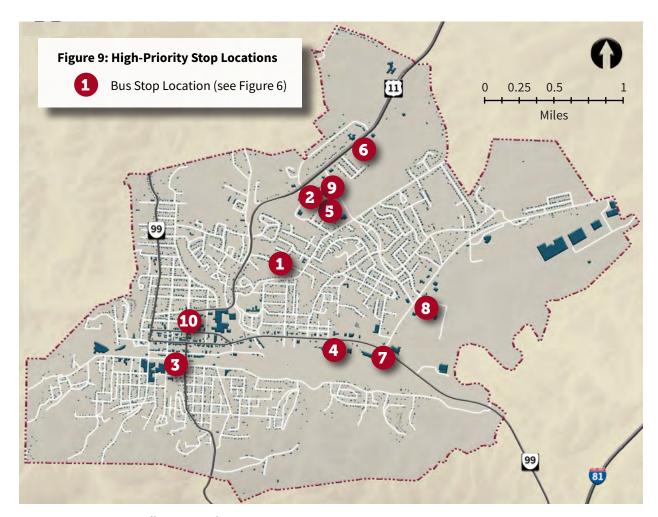
- 1 Meadow View Apartments
- 2 Washington Square Apartments
- **3** Social Services
- 4 Community Services
- 5 Dollar Tree
- 6 Pulaski Hospital
- 7 Food Lion
- 8 Food City
- 9 Pulaski Village
- Martin's Pharmacy

Score Range

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

Figure 8: High-Priority Stop Scores





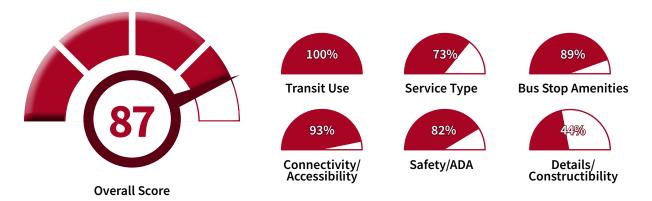
Source: New River Valley Regional Commission



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



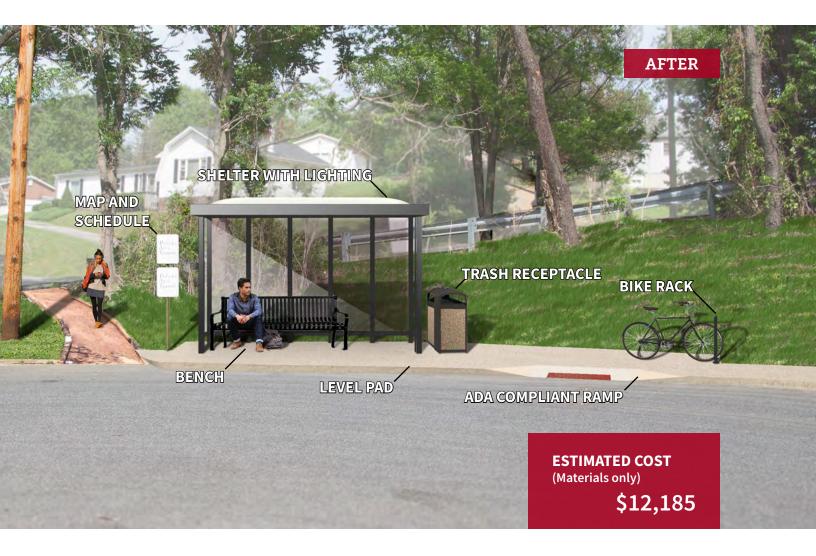
Score



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

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



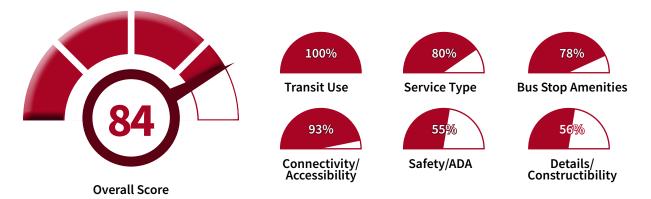




This basic stop is located at the Washington Square Apartment complex. While the sign for the stop is located at the Apartment's entrance, most users wait at, or around, a bench set in grass in the middle of the complex. There are small shade trees on either side of the waiting area, however, curb and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



Score



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

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



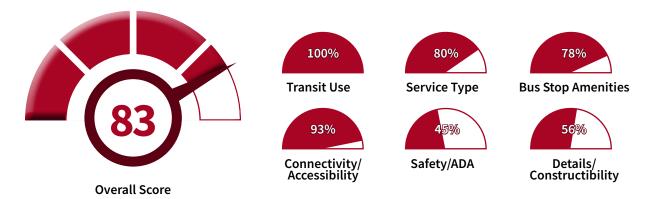




This basic stop is located in a shopping center in downtown Pulaski. Not only is the stop used for shopping services, but also for Pulaski County Social Services. This stop is situated such that users are picked up/dropped off in the parking lot of the shopping center. The Town Municipal Building and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



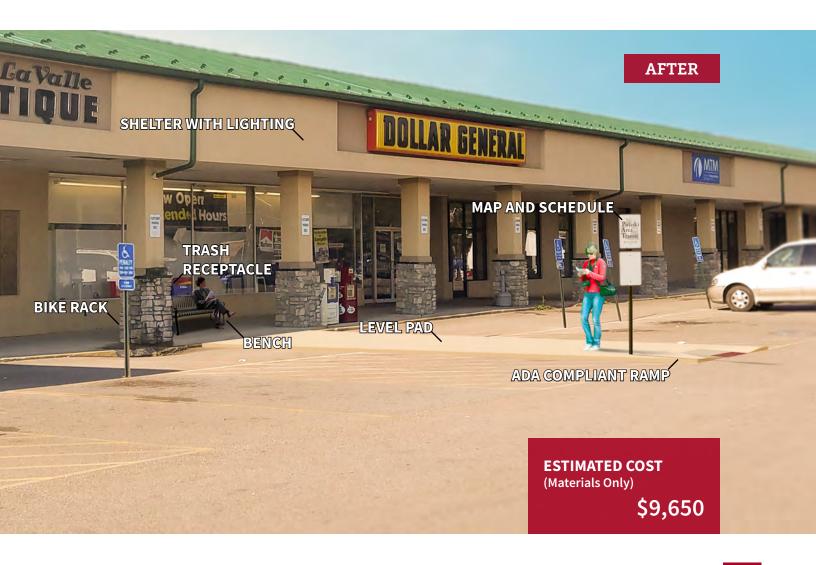
Score



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

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



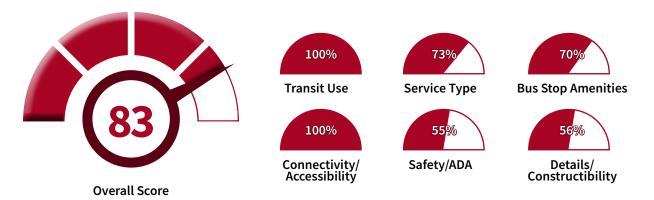




This basic stop connects users to many services, including NRV Community Services. The stop does have a ramp from the parking lot to the shopping center, but could be moved to a location out of low drainage points. The combination of businesses and the NRV Community Services encourages many types of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



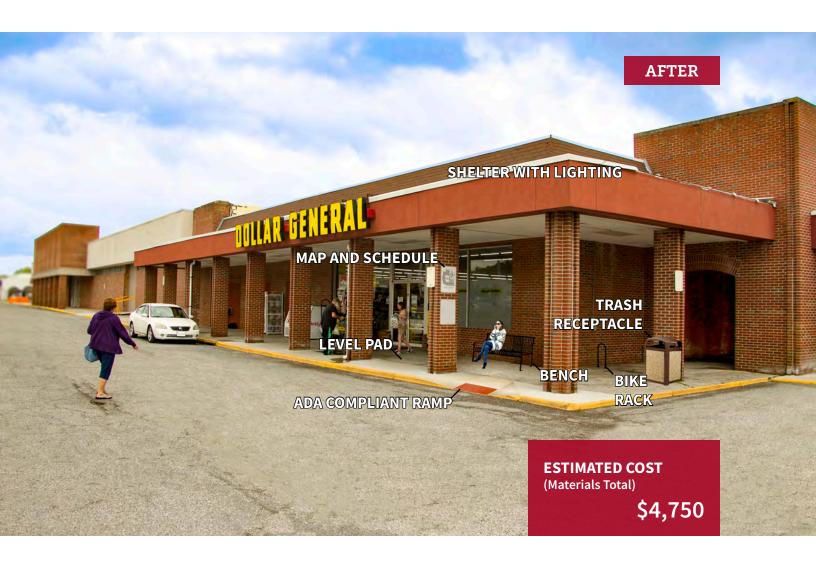
Score



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

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



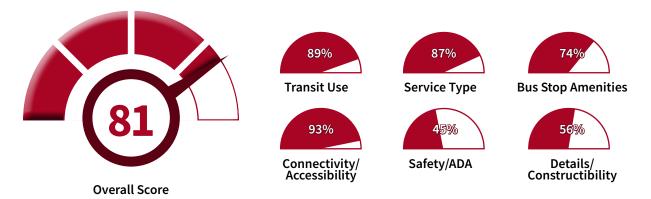




While the sign for this basic stop is located at Magic Mart, users are picked up or dropped off at different points throughout the shopping complex. There is a walkway throughout the complex, but there are currently few ADA-compliant ramps onto the walkway.



Score



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

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



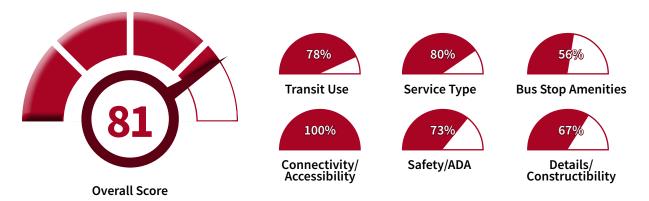




This stop has a few elements of an enhanced stop, such as a trash can and seating nearby. It is also unique because of its service type. Users are dropped off in the parking lot below the main entrance, and then use stairs to access the hospital. The entrance is covered, and there is seating inside.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



Score



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

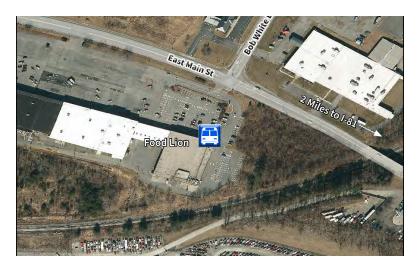
- Work with property owner to improve connections
- Install ADA compliant ramp, sign, and bench



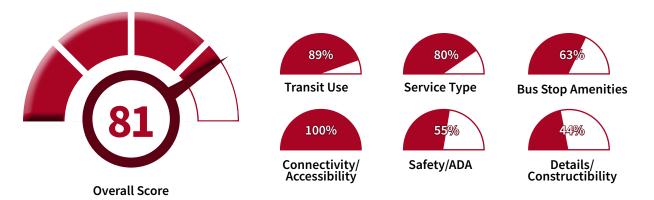




This basic stop does have elements of an enhanced stop, such as trash receptacles, and a covered bench area. The stop provides access to the shopping center. While there are many amenities already available at the stop, it currently lacks definition. Connections to the local pedestrian transportation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



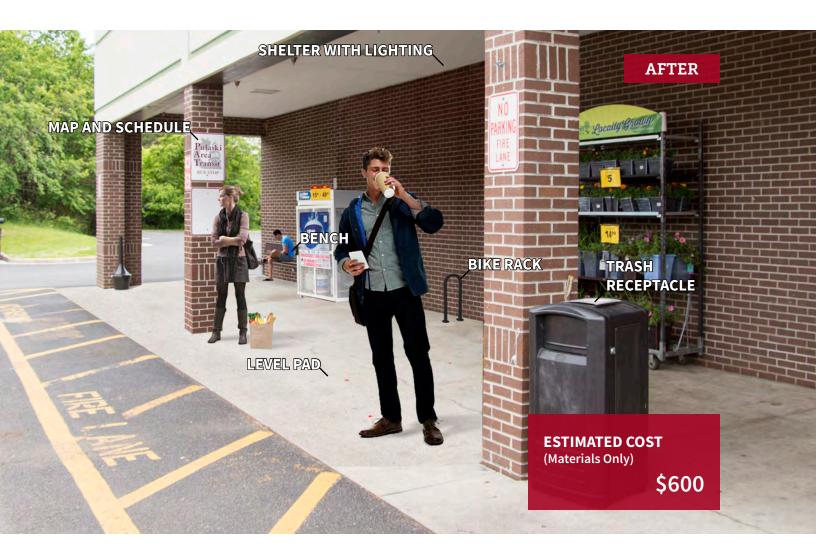
Score



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

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



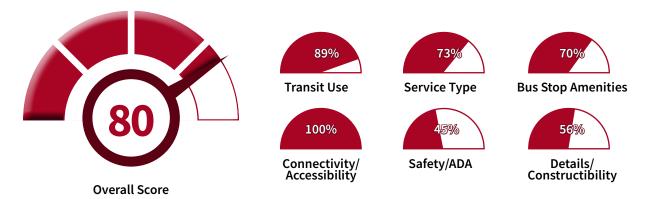




Food City is a basic stop. It is not connected to the pedestrian network, but is well lit, and has trash receptacles on site. While there is a sign at the stop, it lacks definition, and users are often dropped off at different locations within the shopping complex.



Score



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

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



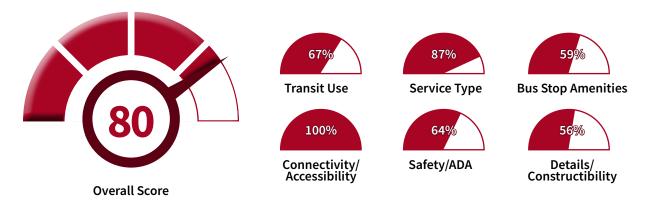




This basic stop serves Pulaski Village, an affordable housing facility near the Dollar Tree and Washington Square Apartments stops. This stop does have a shelter and bench provided on grass near the front offices. Lighting is minimal, and users currently step up a curb to access the stop.



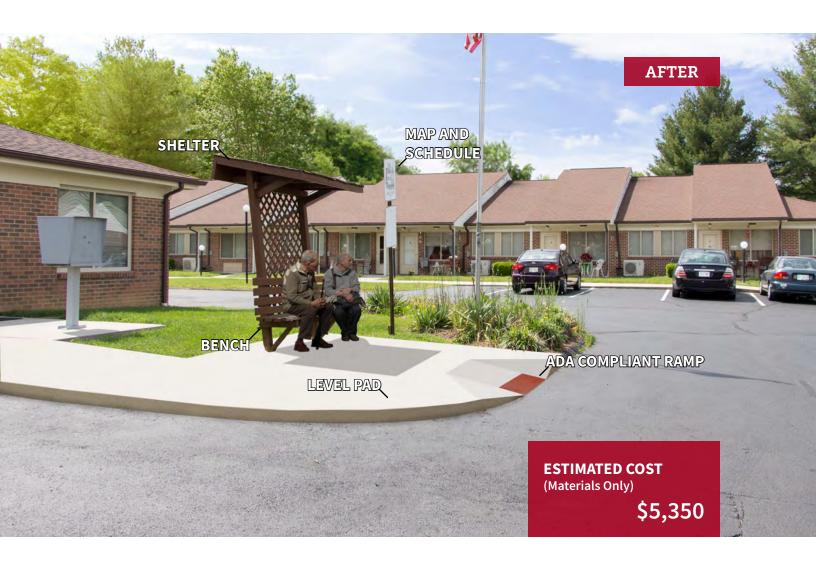
Score



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

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



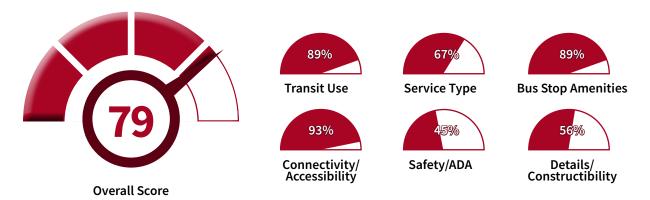




Currently, this basic stop is located at the entrance to Martin's Pharmacy in downtown Pulaski. Users can wait inside the pharmacy to be picked up. At its current location, the stop has no connection to a local pedestrian transportation network, outside of walking through the entrance of the parking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



Score



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

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







FUNDING SOURCES AND NEXT STEPS

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

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

Federal/State

<u>DRPT State Aid Grant Programs- Capital Assistance</u> Program

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

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

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

<u>Transportation Alternatives Set-aside Program</u>

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

FTA Rural Areas Program Grants (Section 5311)

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

Local

Local contributions

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

<u>Infrastructure Improvement Projects</u>

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

Town of Dublin (2017-18 budget)

•	Street lighting	\$21,326

• Street department\$3,000

Town of Pulaski (2016-17 budget)

•	Street improvement	\$438,680
		(VDOT eligible)

• Street improvement\$3,000 (ineligible)

Public-Private Partnerships

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

Next Steps

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

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



