Bus Stop Safety and Accessibility Study

A Study Commissioned by the New River Valley Metropolitan Planning Organization and the New River Valley Regional Commission
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EXECUTIVE SUMMARY

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

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

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

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

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

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

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

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

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

Recommended for this Stop

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

$11,150
Estimated Cost: (Materials Only)
BUS STOP SAFETY AND ACCESSIBILITY STUDY

TRANSPORT SERVICE

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

Bus Service
Radford Transit serves the City of Radford, Radford University, and Fairlawn as well as several other locations in the New River Valley. A map of the system’s routes is shown in Figure 1. The route schedules align with RU’s academic calendar, providing “regular” service when school is in session and “city-only” service in the summer and during school breaks. The current routes are geared to serve RU students, faculty and staff as well as city residents for a variety of needs. The seven routes with 126 stops are specifically designed to serve Radford University (RU)'s campus that city-wide destinations, commercial and shopping services, and a connector to key destinations in Christiansburg and Blacksburg:

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

FIGURE 2: RT TRANSIT SYSTEM MAP-RADFORD
• **15/University Highlander**: provides service to Radford University’s campus, Dedmon Center, Greenhill, Highland Village, and The Hub. This route operates on Saturdays only during Regular Service and Monday through Saturday during City Only Service. It operates year-round at a 30-minute frequency and is a blend of the 10 and 50 routes which do not operate during “city-only” service.

• **20/New River Rapid**: connects Radford and the RU campus to the commercial areas in Fairlawn. It operates year-round with an hourly frequency.

• **30-31/Cross City**: serves the Radford Recreation Center and main corridors through the city. It operates year-round with an hourly frequency.

• **40/NRV Connect**: provides service to stops in Christiansburg and Blacksburg (Christiansburg Aquatic Center, NRV Mall, Squires Student Center). This route operates during “regular” service at an hourly frequency.

• **50/Highlander Circulator**: operates service from East Main Street and Burlington Lot to the Radford University campus and the Hub Transfer Center. Operating only during “regular” service, the route runs on a 10-minute frequency.

• **60/South Beech Express**: serves the campus and Copper Beech student housing during “regular” service on weekdays. Frequency varies depending on the time of day, but during school hours, it operates at a 15-minute frequency.

Visit www.radfordtransit.com for more details.

**Ridership**

In 2016, Radford Transit’s ridership totaled 339,982 (see Figure 2). The most popular route is by far the 10/University Express which serves the RU campus and student housing. Other routes with higher ridership are also student-oriented: the 50/Highlander Circulator and 60/South Beech Express. Lot A and Greenhill Apartments are the most active stops on these routes. Greenhill is the largest student apartment complex and Lot A is the main campus time check stop. The HUB also sees a great deal of both as the main transfer stop. Route 30/Cross-city is the most popular city route connecting riders to the 20 which serves the Fairlawn shopping centers.
Working Group
A Working Group was formed to assist with the study process. The Group’s purpose was to select bus stop prioritization criteria, review bus stops within the transit system, and check the results of the final analysis. Members of this Working Group were selected from Radford Transit staff and drivers, and representatives from the City of Radford, Radford University, and the New River Valley Metropolitan Planning Organization.

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

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

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

FIGURE 4: WORK SESSIONS AND OTHER MEETINGS

<table>
<thead>
<tr>
<th>MONTH</th>
<th>MEETING TYPE</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARCH</td>
<td>Initial Group Meeting</td>
<td></td>
</tr>
<tr>
<td>APRIL</td>
<td>Working Group Meeting</td>
<td></td>
</tr>
<tr>
<td>JUNE</td>
<td>Working Group Meeting</td>
<td></td>
</tr>
<tr>
<td>SEPTEMBER</td>
<td>Radford U. S.G.A Meeting</td>
<td></td>
</tr>
<tr>
<td>NOVEMBER</td>
<td>Working Group Meeting</td>
<td></td>
</tr>
<tr>
<td>DECEMBER</td>
<td>Radford City Council</td>
<td></td>
</tr>
</tbody>
</table>
**Rider Survey**

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

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

**Riders feel safe**

**Riders can access stops easily**

**Improvements would encourage more use**
**Process**

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

1. **Select Criteria**
   - Criteria was based on input from the Working Group and current design standards (see Appendix A and Figure 4). These criteria were based on data collected by Radford Transit, studies and industry reports, and observations by the Working Group.

2. **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 nominal points to the criteria.

3. **Weight Criteria**
   - From the 29 Prioritization Exercises completed, an average of each of the criteria were compiled, and a weight for each of the criteria was finalized (see Figure 6). For a comprehensive overview of the of prioritization weighting, see Appendix B.

4. **Bus Stop Review**
   - The Working Group selected 50 stops within the transit system as either heavily used or having some form of importance. These were compiled in a geographic information system (GIS), and then each were visited, photographed, and documented based on the prioritization criteria.

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

6. **Finalize Priority Bus Stops**
   - The priority bus stops were then reviewed by the Working Group for any qualitative observations that could not be obtained through the analysis. Following this review, twelve bus stops were selected as priority stops for safety and accessibility improvements.
Bus Stop Safety and Accessibility Study

Prioritization Exercise

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

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

Transit Use
- Boarding and alightings, particularly bicycles and wheelchairs.
- Midday and late evening service.

Service Hours
- Distance to the next closest bus stop.

Bus Stop Distance
- Benches, shelters, bicycle parking, trash recepticles, and lighting.

Bus Stop Amenities
- Service for multiple bus routes.

Connectivity
- Near by sidewalks, crosswalks, bike facilities, multi-use paths, etc.

Accessibility
- Crash history (involving bicyclists, pedestrians, and vehicles).

Safety
- Barriers such as lack of curb ramps and steep slopes.

ADA Compliance
- Construction constraints (e.g. slopes, right-of-way, utilities, cost, etc.)

Cost and Constructibility
- Locations recommended by the community to the City and drivers.

Community Support
- Local context and mix of residential and commercial land uses.

Land Use/Design
- Please describe.

Other

What is your role in the community? (Check all that apply)
- Frequent Rider
- Commuter
- Monthly Pass User
- Radford City Resident
- Pulaski County Resident
- Montgomery County Resident
- Chburg/Burg Resident
- Radford University Student
- Radford University Faculty/Staff
- Virginia Tech Student
- Virginia Tech Faculty/Staff
- Operator
- Other

Contact Information (Optional)
Name:
Email:

Please use this space or the back of this sheet to provide additional comments.
FIGURE 7: PRIORITIZATION CRITERIA WEIGHTING

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

Design Elements

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

Bus Stop Types

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

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

### TABLE 1: BUS STOP TYPES AND ELEMENTS

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

Source: APTA 2010; TCRP 2005
High-Priority Stops and Action Plan

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

FIGURE 8: HIGH-PRIORITY STOP LOCATIONS

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

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

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

AMENITIES

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

RECOMMENDATIONS

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

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

Estimated Cost: (Materials Only) $11,150
HIGHLAND VILLAGE

CONTEXT

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

SCORE

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

- **TRANSIT USE**: 100%
- **SERVICE TYPE AND LOCATION**: 63%
- **AMENITIES**: 96%
- **CONNECTIVITY/ACCESSIBILITY**: 87%
- **SAFETY/ADA COMPLIANCE**: 68%
- **DETAILS/CONSTRUCTABILITY**: 47%
1. ADA COMPLIANT RAMP
2. BIKE RACKS
3. TRASH RECEPTACLE
4. SEATING
5. MAP AND SCHEDULE
6. SHELTER WITH LIGHTING

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

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

**Estimated Cost:**
(Materials Only) $12,550
DELI MART WEST

CONTEXT

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

SCORE

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

- TRANSIT USE: 67%
- SERVICE TYPE AND LOCATION: 67%
- AMENITIES: 67%
- CONNECTIVITY/ACCESSIBILITY: 87%
- SAFETY/ADA COMPLIANCE: 67%
- DETAILS/CONSTRUCTABILITY: 53%

2 Miles to US Route 11
2 Miles to I-81
Deli Mart
DELI MART WEST

AMENITIES

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

RECOMMENDATIONS

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

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

Estimated Cost: (Materials Only) $10,000
This stop (RT Stop #18) currently features few amenities, but does have a sign and an emergency phone nearby. It is located on a curb, with a sharp slope into a parking lot and brush, leaving few places to stand. A fire hydrant is located at the stop. Lighting is provided by powerline across the street.

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

CONCEPT

AMENITIES

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

RECOMMENDATIONS

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

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

Estimated Cost: $7,500 (Materials Only)
This stop (RT Stop #107) has many amenities, including a large shelter, vending machines, lighting, trash receptacles, and benches. The area is level, and access to the stop is largely unhindered. Line-of-sight is good facing east, but is blocked by the shelter wall to the west.

The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.
1. LARGE SHELTER
2. TRASH RECEPTACLE
3. SEATING
4. MAP WITH SCHEDULE
5. LIGHTING
6. EMERGENCY PHONE
7. WINDOW

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

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

Estimated Cost: Materials Only

$3,700
The Greenhill Clubhouse stop (RT Stop #19) is a basic stop, and is across New River Drive from the Greenhill Apartment complex. The stop is a drop-off location, and has level grass as its waiting area. Lighting is provided by the power line.

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

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

RECOMMENDATIONS

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

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

Estimated Cost: (Materials Only) $10,000
This stop (RT Stop #109) is located southeast of Radford University. It is a basic stop, with users standing on a grass slope away from the road. Users use the road to access the stop, and there is little to no lighting.

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

CONCEPT

AMENITIES

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

RECOMMENDATIONS

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

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

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

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

**SCORE**

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

- **TRANSIT USE**
  - Score: 50%

- **SERVICE TYPE AND LOCATION**
  - Score: 59%

- **AMENITIES**
  - Score: 85%

- **CONNECTIVITY/ACCESSIBILITY**
  - Score: 87%

- **SAFETY/ADA COMPLIANCE**
  - Score: 59%

- **DETAILS/CONSTRUCTABILITY**
  - Score: 40%
BURLETON AND CLEMENT

CONCEPT

AMENITIES

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

RECOMMENDATIONS

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

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

Estimated Cost:  
(Materials Only) $10,000
This stop (RT Stop #1) is located in the parking lot of Greenhill Apartment complex, north of Radford University. It has many amenities, such as a shelter, lighting, a trash receptacle, seating, a sign, and a vending machine. The stop is maintained by the owner.

The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see Appendix.
1. ADA COMPLIANT RAMP
2. TRASH RECEPTACLE
3. SEATING
4. MAP WITH SCHEDULE
5. SHELTER LIGHTING

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

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

**Estimated Cost:**
Materials Only $2,000
The Hub (RT Stop #11) is located off of East Main Street and Tyler Avenue, near Radford University. This stop is a staging point for all other routes on the Radford Transit system. The stop features a large shelter, benches, elevated landing, trash receptacle, some external lighting, and an emergency phone. The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.
THE HUB

AMENITIES

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

RECOMMENDATIONS

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

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

Estimated Cost: (Materials Only) $200,000
DAVIS AND WILSON

CONTEXT

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

SCORE

The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see Appendix.
This stop would benefit from basic amenities, such as a level pad, map and schedule, seating, and shelter with lighting. It is also encouraged to connect this stop to an alternative transportation network.

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

**Estimated Cost:**
Materials Only
$6,550
**CONTEXT**

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

**SCORE**

The following scores represent a normalized sum of needed improvements for each site. The higher the score, the greater the need. For more information, please see the Appendix.
An ADA compliant ramp, map and schedule, seating, and shelter with lighting is recommended for this stop. Because of limited space between the road right-of-way and private property, it is recommended a sidewalk be rerouted behind the shelter. A retaining wall may be needed to retain grass slope.

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

**Estimated Cost:**
(Materials Only) $11,300
The ultimate outcome of the Bus Stop Safety and Accessibility Study is to move its recommended improvements from planning to design, and construction. To this end, Radford Transit must identify funding sources and establish a timeline for implementation. Funding for bus stop improvements, pedestrian facilities, and bikeways range from local partnerships to federal grants. Existing and potential funding sources are described in detail below.

**Federal and State**

**Transportation Alternatives Set-Aside Program**

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

**FTA Urbanized Area Formula Grants (Section 5307)**

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

**DRPT State Aid Grant Programs- Capital Assistance Program**

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

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

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

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

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

Capital Improvement Program

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

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

Public-Private Partnerships

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

Next Steps

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

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