

**FY 2020 Town Council Budget Development Questions Packet #1**

**Councilmember Thiel’s Question- February 25, 2019 Budget Work Session**

- 1.) **Please list the planned projects for the Capital Improvements Program project 20005: Miscellaneous Roadway, Pedestrian, and ADA Projects for Fiscal Year 2020.** The projects are not defined specifically for Fiscal Year 2020 at this time. This is a similar practice in place in the Utilities Fund miscellaneous water and sewer lines capital projects included in the Capital Improvements Program. Funding is to address issues on the roadways, trails, and sidewalks that are considered beyond recurring maintenance such as deep patching repair for roadways, concrete repair for trip hazards, and asphalt for trails and/or parking lots

The deep patching will be performed in advance of the milling and paving work with priority given to primary routes such as Battlefield Parkway and then moving to collectors such as Mason’s lane. The concrete repair for the trip hazards will initially concentrate in areas around schools and medical facilities. The asphalt for trails and parking lots will focus on two trails that have been identified as in poor condition and at Tuscarora Park and Foxridge Park.

For Fiscal Year 2020, the planned use of the \$400,000 included in the FY 2020-2025 Capital Improvements Program as follows:

<b>Project Type</b>	<b>Fiscal Year 2020</b>
Roadway	\$150,000
Trails	\$100,000
Sidewalks	\$100,000
ADA Compliance/ Improvements	\$25,000
Project Management	\$25,000
<b>TOTAL</b>	<b>\$400,000</b>

**Councilmember Fox’s Question- February 25, 2019 Budget Work Session**

- 2.) **Please provide a breakdown of the Capital Projects Fund Administration costs for Fiscal Year 2020.** Project Management and Capital Projects Fund Administrative combined reflect the costs of Town staff to directly and indirectly administer the Town’s Capital Improvements Program. All of the administrative costs are included in the General Fund and reimbursed by the Capital Projects Fund through an inter-fund transfer; similar to how the Utilities Fund reimburses General Fund Town Staff that assist administering the Utilities. Capital Projects Fund administrative costs reflect staff support not associated with any single, specific project. These costs can include preparing studies and evaluating potential future projects, the administrative efforts surrounding procurement, legal, accounting, payroll, debt financing, budgeting, and completing projects by the Office of Capital Projects staff.

One of the remaining financial goals of the Town Council is to fully fund the Capital Projects Fund Administrative costs through recurring revenue (local tax funding). Depending on the resulting administrative costs of any given year of the Capital Improvements Program, some of the costs continue to be funded through non-recurring revenue such as General Obligation Bonds. Utilizing non-recurring revenue to cover these costs results in less local tax funding to be required to cover the expense. This is an acceptable practice, but it is not considered a long term financial best management practice.

The following table includes the allocation by department of staff costs based on the average time spent associated with administering the Capital Improvements Program and the Capital Projects Fund. These costs are determined annually based on the workload of the CIP and the allocation of time by applicable staff.

<b>Department</b>	<b>FY 2020 Administrative Costs</b>
Town Council	\$2,880
Town Manager's Office	\$41,720
Town Attorney's Office	\$218,150
Clerk to the Town Council	\$4,330
Finance and Administrative Services	\$240,190
Police Department	\$146,670
Public Works and Capital Projects	
Administration Division	\$164,230
Engineering/ Inspections Division	\$32,030
Building Maintenance Division	\$9,170
Fleet Division	\$9,990
Traffic Management Division	\$43,880
Office of Capital Projects (not specific to any CIP projects)	\$190,210
Planning and Zoning	\$36,980
Plan Review	\$77,870
<b>TOTAL</b>	<b>\$1,218,300</b>

**Mayor Burk's Question- February 25, 2019 Budget Work Session**

- 3.) Please have Loudoun County provide the list of the Town of Leesburg bus stops in the defined prioritized order for the ADA compliance/improvements funded in Fiscal Years 2019 and 2020. Attachment 1 includes the Loudoun County Bus Stop Inventory and ADA Compliance Plan from April 2018. Tables 13-21 on pages 14-18 of the report reflect the seven priority categories with the Leesburg bus stops highlighted.

**Councilmember Campbell's Question- February 25, 2019 Budget Work Session**

- 4.) **Please provide information regarding the operational issues surrounding the implementation of universal call taker system in the Loudoun County Emergency Communications Center; a financial plan for the resulting Town cost savings associated with consolidation; and identify the clear benefits should the Town continue to have maintain a separate ECC compared to Loudoun County operating a universal call taker/ consolidated center as proposed.** There is no anticipated fiscal impact for Fiscal Year 2020 with the Loudoun County proposal to implement a county-wide universal call taker system. There may be a potential impact in Fiscal Year 2021. The provisional operating budget for Fiscal Year (FY) 2021 includes \$1,647,326 associated with the civilian dispatch personnel (12.0 FTE) and annual contract for the current Computer Aided Dispatch (CAD) and Records Management System (RMS).

There is approximately \$2M programmed in FY 2020 of the proposed Capital Improvements Program (CIP) to replace the current CAD/RMS with upgraded technology similar to Loudoun County's CAD/RMS system. The funding source of the \$2M in the proposed CIP is from Loudoun County. However, Loudoun County's stance now is their reserved \$2M for Leesburg CAD/RMS will only be used by the County to absorb Leesburg Police Department dispatch functions if Leesburg formally requests the County to absorb all dispatch functions and dispatching function will be part of the county-wide universal call taker system.

No financial plan has been initiated at this point. The details and terms of the Memorandum of Agreement with Loudoun County, the priorities of the Police Department and Town, as well as the timing of implementing the universal call taker system at the Loudoun county Emergency Communications Center are all factors to be determined that will have a direct impact in developing a financial plan. The proposed implementation is not anticipated to occur until late FY 2020/ early FY 2021 and will further require up to 12-18 months of sufficient training for Leesburg Police Department staff.

For the last two years, Loudoun County and the Town of Leesburg have been involved in active discussions in reference to increasing efficiency in the receiving, transferring and dispatching of 911 calls. In 2017, Loudoun County hired Federal Engineering, an independent consultant, to conduct a study on operational deficiencies and organizational structure for the County and Town's dispatch centers. Federal Engineering reported several deficiencies including call transfer lag time of 15-30 seconds, and recommended Loudoun County Fire and Rescue (LCFR), Loudoun County Sheriff's Office (LCSO), Leesburg Police Department (LPD), and Loudoun County Animal Services (LCAS) consolidate their communications operations into a stand-alone agency. Federal Engineering also recommended the agencies move towards implementing universal call-takers. The consultant stated in the report that removing the transfer of a 911 call from LCFR to any other agency reduces call processing time and provides a higher level of service to the citizens of the Town of Leesburg and Loudoun County.

Leesburg Police Department's approach has always been to address these operational deficiencies by assessing our technological needs and building a more robust infrastructure with an understanding that consolidation or centralization was a possible eventuality. In 2016, the Chief of Police proposed transitioning to the CAD/RMS system the County utilizes to address these same issues. The Sheriff and the County Administrator agreed that this approach was the most salient in addressing any immediate operational deficiencies and was the most cost-effective. After numerous staff meetings throughout 2017 and 2018 an agreement was met to allow the Town to move towards transitioning to Motorola P1 CAD/RMS, the same system utilized by Loudoun County agencies; which will provide seamless communication with the County Emergency Communication Center (ECC). Although this does not directly address the universal call-taker issue, it would result in a decrease in transfer time of calls from the PSAP (LCFR) to the Town.

It should be noted that the national average police response times hovers around 11 to 12 minutes. Leesburg Police Department's response times can be as low as 45 seconds, but usually do not go beyond 2 minutes for priority calls. Calls are calculated from the receipt of a call to 911 to the actual law enforcement officer's arrival on scene. This process is disrupted with the current system as the call is received by LCFR, transferred to LCSO and subsequently switched over the LPD. The Universal Call Taker model will reduce this call transfer time. Switching LPD to the County's CAD/RMS will further reduce dispatch time, as calls can be monitored in real time by field supervisors and patrol units prior to a dispatcher sending the call to the assigned unit. Operationally this will enhance the dispatching of 911 calls and should reduce response times.

Notable concerns of the Chief of Police about centralization or consolidation include the possibility of a reduction in the quality of service to Leesburg citizens, businesses, and visitors. A county-wide universal call taker model may enhance 911 dispatch calls, but may decrease the level of accountability and customer service the Town prides itself in delivering. Another concern would be the absorption of current LPD dispatchers into the centralized ECC. As noted by the County's memo to the Board of Supervisors, the new universal call taker model calls for an additional eight positions. LPD currently employs 12 dispatchers. The Town Manager has requested these Leesburg Dispatchers be transferred to Loudoun County as part of the implementation process.

The current location of the Loudoun County ECC is 801 Sycolin Road, Leesburg, VA. Any relocation could cause an operational impediment as LPD officers have to frequently pick up paperwork (warrants, criminal history, etc.) from the ECC. Additional concerns surround the authority and oversight of the ECC under the proposed county-wide universal call taker model.



**Bus Stop Inventory and ADA Compliance Plan**

**TABLE OF CONTENTS**

**1 INTRODUCTION .....1**

1.1 Loudoun Transit Organization.....1

1.2 Background Plans and Studies .....1

1.3 ADA Standards .....1

**2 METHODOLOGY .....2**

2.1 Study Area .....2

2.2 GIS Data.....2

2.3 Field Investigation .....3

2.3.1 Evaluation of ADA Compliance .....3

2.3.2 Surrounding Site and Pedestrian Conditions .....3

2.3.3 Existing Amenities .....4

2.3.4 Utilities and Right-of-Way.....4

2.3.5 Summary .....4

2.4 Proposed Recommendations .....4

2.4.1 Standard Improvements .....4

2.4.2 Non-Standard Improvements .....5

**3 COST ESTIMATES .....5**

3.1 Standard Costs .....6

3.1.1 Landing Pad.....6

3.1.2 Sidewalk Connection.....6

3.1.3 Curb Ramp.....7

3.1.4 Reconstruct Shelter Pad.....7

3.1.5 New Sign .....7

3.1.6 Relocate Bus Stop Sign.....7

3.2 Summary .....8

**4 PRIORITIZATION .....9**

4.1 Primary Criteria .....9

4.2 Secondary Criteria.....11

4.2.1 Handicapped Rider Assistance .....11

4.2.2 Paratransit Service .....11

**5 RESULTS .....14**

**6 IMPLEMENTATION .....19**

6.1 Bus Stop Standard Details.....19

6.2 Other Considerations .....19

**LIST OF TABLES**

Table 1: ADA Compliance Results .....4

Table 2: Unit Costs for Standard Improvement Items .....6

Table 3: Landing Pad Cost Estimate .....6

Table 4: Sidewalk Connection Cost Estimate .....6

Table 5: Pedestrian Curb Ramp Cost Estimate .....7

Table 6: Shelter Pad Reconstruction Cost Estimate.....7

Table 7: New Sign Cost Estimate .....7

Table 8: Relocate Sign Cost Estimate .....8

Table 9: Bus Stops Where Handicapped Rider Assistance Was Provided (8/9/17 through 10/11/17) .....11

Table 10: Bus Stops Within 0.1 Walking Miles of Paratransit Pick-up or Drop-off Locations (October 2017) .....11

Table 11: Bus Stops Between 0.1 and 0.25 Walking Miles from Paratransit Pick-Up or Drop-Off Locations (October 2017) .....12

Table 12: Prioritization Results .....14

Table 13: Priority 1 Bus Stops .....14

Table 14: Priority 2 Bus Stops .....15

Table 15: Priority 3 Bus Stops .....16

Table 16: Priority 4 Bus Stops .....17

Table 17: Priority 5 Bus Stops .....17

Table 18: Priority 6A Bus Stops .....18

Table 19: Priority 6B Bus Stops .....18

Table 20: Priority 6C Bus Stops .....18

Table 21: Priority 7 Bus Stops .....18

**LIST OF FIGURES**

Figure 1: ADA-Compliant Bus Stop .....2

Figure 2: Study Area.....2

Figure 3: "Accessible" and "Non-Accessible" Bus Stops .....9

Figure 4: Prioritization Methodology .....10

**APPENDICES**

Appendix A Bus Stop Summary Sheets





## Bus Stop Inventory and ADA Compliance Plan

### 1 INTRODUCTION

The *Loudoun County Assessment of Transit and Mobility Services for People with Disabilities Final Report* (January 2014), describes the requirement for Loudoun County to make its public transportation program, including bus stops, accessible to people with disabilities. As the operator of public bus transit services, the County must ensure that all bus stops meet the requirements in the latest Americans with Disabilities Act (ADA) Standards and develop a plan for improving those bus stops that do not meet the ADA Standards. This report serves as the County's Transition Plan for upgrading all bus stops in the County to ADA compliance.

The purpose of this Study was to evaluate all the bus stops in Loudoun County for compliance with the latest ADA Standards, recommend improvements at bus stops that are not ADA-compliant, develop cost estimates for the recommended improvements, and prioritize the bus stops so that the County has a strategy for how to implement the improvements. In most cases, implementation of the improvements will be the responsibility of the facility owner, which in Loudoun County includes the Loudoun County Department of Transportation and Capital Infrastructure (DTCI), the Virginia Department of Transportation (VDOT), the Towns of Leesburg and Purcellville, and private landowners. This Transition Plan will help the County coordinate with the non-County facility owners on what improvements are needed to upgrade the bus stops to ADA compliance.

This Transition Plan is organized in the following six chapters:

- **Chapter 1 – Introduction.** Overview of the project, existing transit service, background plans and studies, and the current ADA standards.
- **Chapter 2 – Methodology.** Descriptions of the study area, field investigation, summary of the field work, and proposed recommendations.
- **Chapter 3 – Cost Estimates.** Descriptions of how the unit costs were developed and a summary of the total costs of implementing the proposed recommendations at each bus stop.
- **Chapter 4 – Prioritization.** Overview of the criteria that were used to prioritize the bus stop improvements.
- **Chapter 5 – Results.** The prioritization of the bus stops.
- **Chapter 6 – Implementation.** A discussion on factors the County should consider prior to implementing the proposed recommendations.
- **Appendix A – Bus Stop Summary Sheets.** One-page summary sheets of each bus stop, including the existing conditions, photographs, proposed recommendations, cost estimates, and schematic plan of the proposed recommendations.

#### 1.1 Loudoun Transit Organization

The DTCI oversees operations of Loudoun transit services in Loudoun County, which include:

- Local fixed-route bus transit within urbanized portions of the County, which are primarily concentrated in the eastern portion of the County, along the Route 7 corridor, and in the Towns of Leesburg and Purcellville;
- Commuter bus transit service to the employment core areas of downtown Crystal City, Rosslyn, the Pentagon, and Washington, D.C.;
- Metro Connection bus transit service to the Washington Metropolitan Area Transit Administration (WMATA) Metrorail system; and
- Paratransit on-demand service for persons with disabilities.

Loudoun County has operated the Local fixed-route bus transit service since 2013, the Commuter bus transit service since 1994, and the Metro Connection bus transit service since 2003. Prior to 2013, the Local fixed-route service was operated by Virginia Regional Transit (VRT), a rural transit operator that was receiving federal Section 5311 rural transit funds. However, in 2013, the Virginia Department of Rail and Public Transportation (DRPT) classified the eastern portion of Loudoun County as a portion of the Washington, D.C. urbanizing area, making this portion of Loudoun County ineligible for Section 5311 federal funds. With the loss of federal funding for VRT, Loudoun County accepted responsibility for maintaining the Local fixed-route service east of Purcellville. The County currently has a contract with MV Transportation to operate the Local fixed-route service east of Purcellville. VRT still operates the local service in the Town of Purcellville and on demand service from the rural area of Loudoun County.

Rapid population growth is projected to continue in Loudoun County, and additional transit demand and service changes are expected around 2020 with the introduction of WMATA Metrorail service into the eastern portion of the County. Therefore, the contents in this report should be regarded as a snapshot in time as future changes to bus transit service (i.e., new, modified, and discontinued routes) could affect the recommendations and prioritization.

#### 1.2 Background Plans and Studies

Previously completed plans and reports that were used for background information and as guidance in this Study include:

- *Loudoun County Assessment of Transit and Mobility Services for People with Disabilities Final Report* (January 2014).
- Loudoun County 2010 Countywide Transportation Plan (adopted June 15, 2010; amended through March 6, 2018). This Plan was referenced for general information regarding the County's proposed transportation improvements.
- Transit Development Plan for Loudoun County DTCI (2016). This Plan provided the ridership data that was used for the prioritization.

#### 1.3 ADA Standards

The ADA Standards for bus stops are defined in the *2010 ADA Standards for Accessible Design*, as published by the Department of Justice. Requirements specific to bus transit areas are specified in Chapter 8, as described below.

Bus boarding and alighting areas (landing pads) shall meet the following requirements:





## Bus Stop Inventory and ADA Compliance Plan

1. The landing pad shall have a firm, stable surface.
2. The landing pad shall have a minimum length of eight feet (measured perpendicular to the roadway) and a minimum width of five feet (measured parallel to the roadway).
3. The landing pad shall connect to a street, sidewalk, or pedestrian path via an accessible route (described below).
4. Parallel to the roadway, the slope of the landing pad shall be the same as the roadway. Perpendicular to the roadway, the landing pad shall not be steeper than 1:48 (2.08 percent).

For a bus shelter to be ADA-compliant, it must contain a clear area that meets the following requirements:

1. The clear area within the bus shelter must be at least 30 inches by 48 inches. Where the clear area is confined on all or part of three sides, the clear area must be at least 36 inches by 48 inches.
2. The slope of the clear area shall not be steeper than 1:48 (2.08 percent).
3. The bus shelter must connect to a landing pad via an accessible route (described below).

Note that the ADA Standards for landing pads and bus shelters reference the term “accessible route.” Per Chapter 4 of the *2010 ADA Standards for Accessible Design*, an accessible route must be at least 36 inches wide, have a running slope not steeper than 1:20 (five percent), and have a cross slope not steeper than 1:48 (2.08 percent).

Figure 1: ADA-Compliant Bus Stop



## 2 METHODOLOGY

### 2.1 Study Area

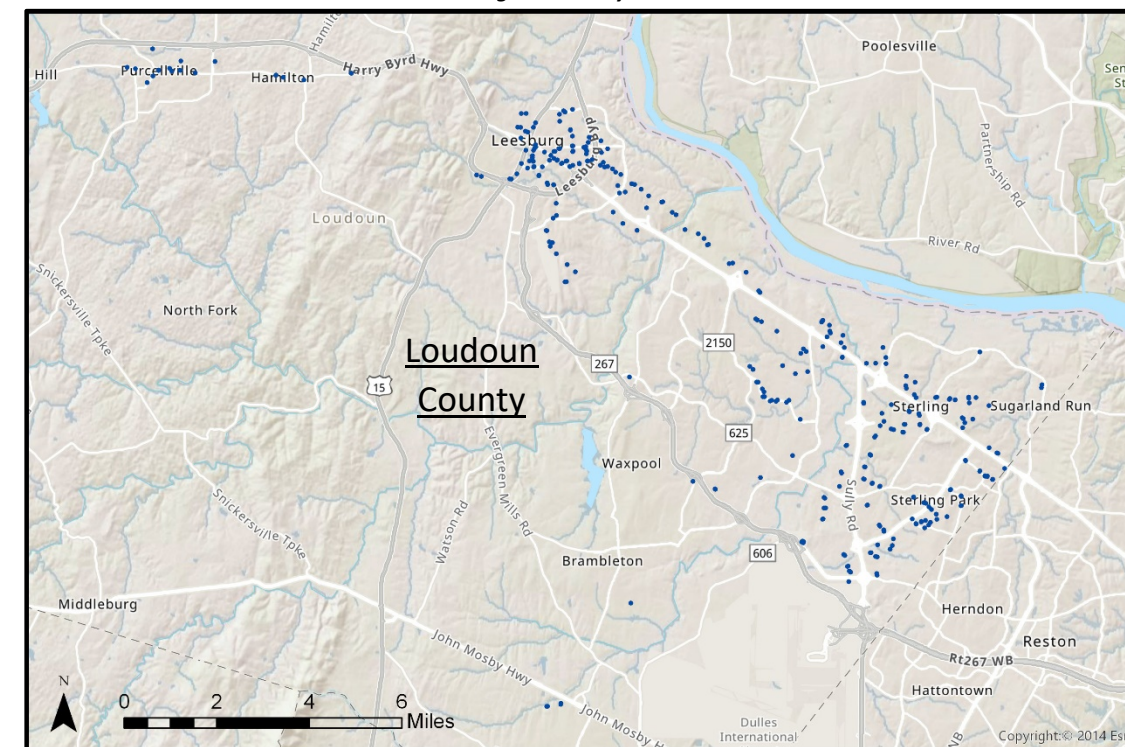
The study area included all bus transit stops located within Loudoun County. A total of 339 bus stops were identified, 303 of which are served by local bus routes and 36 of which are served by commuter bus routes. Bus stops are generally concentrated within the unincorporated areas of Sterling and Ashburn, and the Towns of Leesburg, Hamilton, and Purcellville. A map of the study area and the bus stops (represented by filled circles) is provided as **Figure 2**.

### 2.2 GIS Data

Existing bus stop locations were provided in GIS format by Loudoun County for review and analysis. Each bus stop was assigned a bus stop identification (ID) number so that it could be easily tracked and referred to throughout the Study. The format for the ID is LXXXX for local bus stops and CXXXX for commuter bus stops. It is recommended that the County continue to use the bus stop IDs established in this Study for consistency and ease of reference.

The original GIS file provided by the County included one point for each bus stop. However, many of the commuter stops include multiple shelters and landing pads that each had to be analyzed for ADA compliance. Therefore, those points were split out into multiple points to account for each shelter or bus bay and were appended via a suffix ID in the format CXXXXA, CXXXXB, CXXXXC, etc. For example, the Loudoun Station commuter bus stop was split into two bus stops, identified as C0055A and C0055B to account for the two shelters / bus bays at that location.

Figure 2: Study Area







## Bus Stop Inventory and ADA Compliance Plan

### 2.3 Field Investigation

A field investigation was conducted at all 339 bus stops located within Loudoun County to verify existing conditions and to determine if the stop is ADA compliant. To ensure that the information gathered at each bus stop during the field investigation would be both adequate and consistent, a checklist was developed prior to initiating the field investigation. The checklist was loaded onto a GIS software application called Collector for ArcGIS, which allows data collected in the field to be geolocated on an online webmap. The Collector for ArcGIS application was loaded onto iPads so that all data collected during the field investigation could be electronically recorded and saved to the webmap, including pictures of each bus stop. The bus stop summary sheets in **Appendix A** include the key existing conditions data that was collected during the field investigation.

The data that was collected during the field investigation is described in more detail below.

#### 2.3.1 Evaluation of ADA Compliance

To check for ADA compliance at each bus stop, all the individual features, dimensions, and slopes that are specified by the ADA Standards were included in the checklist, including:

- Is there a landing pad with a firm, stable surface? If yes,
  - Is the landing pad length at least 8' (perpendicular to roadway)?
  - Is the landing pad width at least 5' (parallel to roadway)?
  - Is the landing pad cross-slope less than or equal to 2% (perpendicular to roadway)?
  - Does the landing pad longitudinal slope match the roadway slope (parallel to roadway)?
  - Does the landing pad connect to a street, sidewalk, or pedestrian path? If yes,
    - Is the width of the connection 36 inches or greater?
    - Is the cross-slope of the connection less than or equal to 2%?
    - Is the longitudinal slope of the connection less than or equal to 5%?
- Is there a bus shelter? If yes,
  - Does the landing pad connect to the shelter? If yes,
    - Is the width of the shelter connection 36 inches or greater?
    - Is the cross-slope of the shelter connection less than or equal to 2%?
    - Is the longitudinal slope of the shelter connection less than or equal to 5%?
  - Is the opening of the shelter at least 32 inches?
  - Is a 30-inch by 48-inch clear area provided within the shelter?
  - Is the clear area confined on all or part of three sides? If yes,
    - Does smallest confined side protrude at least 24 inches? If yes,
      - Is width of clear area at least 36 inches?
- Is the bus stop ADA-compliant?

#### 2.3.2 Surrounding Site and Pedestrian Conditions

While the ADA compliance of each bus stop was the primary focus of this study, a secondary focus was the accessibility to and from each bus stop. Bus stops that are ADA-Compliant but do not have a curb ramp into the street at the nearest intersection could be considered just as inaccessible as a bus stop that does have a curb ramp but is not ADA-compliant. Therefore, the surrounding pedestrian conditions, including the features provided at the nearest intersection, where documented for each bus stop. However, the surrounding features were not checked for ADA compliance. Those features that were documented include:

- What is the width of the sidewalk or pedestrian path?
- What is the cross-slope of the sidewalk or pedestrian path?
- What is the width of the grass buffer?
- Is parking allowed at the bus stop?
- Can a bus maneuver to be in alignment with the curb or edge of pavement?
- What is the adjacent roadway configuration (through lane, turn lane, shoulder, parking, etc.)?
- What is the major street at the nearest intersection?
- What is the minor street at the nearest intersection?
- How many crosswalks are provided at the nearest intersection?
  - Is a crosswalk provided for the north leg?
  - Is a crosswalk provided for the south leg?
  - Is a crosswalk provided for the east leg?
  - Is a crosswalk provided for the west leg?
- How many curb ramps are provided at the nearest intersection?
  - On the northeast corner, is a curb ramp provided for crossing the north leg?
  - On the northeast corner, is a curb ramp provided for crossing the east leg?
  - On the southeast corner, is a curb ramp provided for crossing the east leg?
  - On the southeast corner, is a curb ramp provided for crossing the south leg?
  - On the southwest corner, is a curb ramp provided for crossing the south leg?
  - On the southwest corner, is a curb ramp provided for crossing the west leg?
  - On the northwest corner, is a curb ramp provided for crossing the west leg?
  - On the northwest corner, is a curb ramp provided for crossing the north leg?
- Are pedestrian warning signs provided at the nearest intersection?
- Are flashing beacons provided at the nearest intersection?
- Is the nearest intersection signalized?
- Does the major street at the nearest intersection have a stop sign?
- Does the minor street at the nearest intersection have a stop sign?



## Bus Stop Inventory and ADA Compliance Plan

- Are pedestrian traffic signals provided at the nearest intersection?
- Are accessible audible pedestrian traffic signals provided at the nearest intersection?

### 2.3.3 Existing Amenities

To help the County develop an inventory of the existing amenities provided at each bus stop, the field investigation also included documenting any existing amenities that were present at each bus stop, as detailed below.

- What is the distance from the bus stop to the nearest lighting?
- What is the type of the nearest lighting (pedestrian-level street lighting, roadway, bus shelter, etc.)?
- Is there a bench?
- Is there a garbage can?
- Is there a recycling bin?
- Is there a bicycle rack?
- Describe any other existing amenities.

### 2.3.4 Utilities and Right-of-Way

A visual inspection for any above-surface utilities, such as utility poles, manholes, and drop inlets, was also performed for each bus stop. The purpose of the visual inspection was to document the location of utilities that could potentially be impacted by any proposed improvements at each stop. However, the utility investigation was limited to what could be visibly seen during the field investigation, and did not include utility designating or coordination with the utility owners.

Using the County's GIS parcel file, the approximate location of the existing right-of-way line was documented for each bus stop so that the potential for right-of-way impacts could be determined for any proposed improvements. However, the accuracy of the right-of-way analysis is limited to the accuracy of the GIS parcel file, which appeared to be skewed near some bus stops. For example, near some bus stops, the GIS parcel file shows the existing right-of-way line in the limits of the street. The actual location of the right-of-way line is likely behind the curb at most bus stops. However, for consistency, and because detailed right-of-way research and plat retrieval were not included in this Study, the existing right-of-way line description was always based on what was shown in the GIS parcel file.

### 2.3.5 Summary

Of the 339 bus stops in the County, 34 were found to be ADA-compliant and 305 were found to be not ADA-compliant. **Table 1** breaks down the compliant and non-compliant stops by the local and commuter-served stops.

*Table 1: ADA Compliance Results*

Service	ADA-Compliant Stops	Non-ADA-Compliant Stops	Total Stops
Local	18	285	303
Commuter	16	20	36
Total	34	305	339

## 2.4 Proposed Recommendations

Using the information gathered during the field investigation, the minimum improvements that would be required to bring each stop to ADA compliance were identified. Furthermore, the improvements required to make each bus stop accessible to the street-level from the nearest intersection were also developed. Since the ADA Standards for bus stops only require that the landing pad connects to a pedestrian path, and do not dictate the requirements for where that pedestrian path must go, it is possible that an ADA-compliant bus stop could connect to a sidewalk that does not connect to the nearest intersection. While this condition would allow a disabled bus rider to safely board and alight the bus, the rider would not be able to physically or safely travel to or from the bus stop if there are gaps in the pedestrian network that connects to the bus stop. Therefore, this Study included not only the improvements required to make each bus stop ADA-compliant, but also recommends where sidewalk could be installed to connect bus stops to the nearest intersection and where pedestrian curb ramps could be installed at those intersections to provide access to the street level.

It should be noted that while the gaps in the pedestrian network were identified, the ADA compliance of the existing pedestrian paths were not evaluated. Since they are not directly related to the bus stops, they were not checked in this Study. Furthermore, the County recognizes that installing pedestrian curb ramps at one corner of an intersection may warrant constructing curb ramps at all corners of the intersection. However, to contain the scope of this Study, it was assumed that the ADA-improvements required at the intersections would be evaluated in a separate study, and that this Study would focus on the bus stops.

The proposed recommendations are also included on the bus stop summary sheets in **Appendix A**.

### 2.4.1 Standard Improvements

Several standard improvements were identified that if implemented, could bring most of the bus stops in the County up to ADA standards and connect each bus stop to the nearest intersection. At some bus stops, only one of the standard improvements would be needed and at other bus stops, a combination of improvements would be required. The standard improvements include:

- **Constructing a five-foot-wide by eight-foot-deep landing pad.** The landing pad is an essential feature at an ADA-compliant bus stop and it was the most common type of improvement that was recommended. Many bus stops in the County, especially those with a grass buffer between the curb and sidewalk, did not have a landing pad. For the bus stops that did have a landing pad, the slopes or dimensions did not meet ADA Standards in most cases.
- **Constructing a five-foot-wide sidewalk.** The landing pad must connect to a pedestrian path, so in some cases a five-foot-wide sidewalk was proposed to provide that connection. For example, if a bus stop had a 20-foot-wide grass buffer and no landing pad, after the landing pad is constructed there would still be a 12-foot-long gap between the back of the landing pad and the existing walkway. In those cases, a five-foot-wide sidewalk was proposed to connect the proposed landing pad to the existing walkway.

Other instances in which a sidewalk was proposed include providing a connection between the landing pad and a bus shelter and providing a connection to the nearest intersection if there was not already a continuous connection.



## Bus Stop Inventory and ADA Compliance Plan

- **Constructing a pedestrian curb ramp.** Pedestrian curb ramps were proposed where there was no way for a pedestrian to access the street-level from the landing pad. In most cases, the proposed pedestrian curb ramps are located at the nearest intersection corner. As mentioned previously, the ADA compliance of any existing curb ramps was not checked in this Study, so just because a curb ramp is not proposed at an intersection does not mean the existing curb ramps are ADA-compliant.
- **Reconstructing the bus shelter pad.** The ADA Standards specify the maximum surface slopes inside a bus shelter. At some bus stops, the cross-slopes of the clear area inside the shelter exceeded two percent and were therefore deemed to be not ADA-compliant. This improvement would be to reconstruct the concrete pad beneath each bus shelter to meet the slope requirements. In most cases, the cross-slopes were only slightly above two percent so the adjustment to the concrete pad would be minor. Therefore, it was assumed that the pad could be adjusted without removing and replacing the bus shelter.
- **Relocating the bus stop.** Due to the existing site conditions, it would be impossible to make some bus stops ADA-compliant at their current locations. At other bus stops, it may be possible to make them ADA-compliant, but the improvements would be extensive and expensive. For both of these reasons, it was recommended that some bus stops be relocated to a nearby location.
- **Restricting parking.** During the field investigation, it was noted that parallel parking is allowed at some bus stops. Therefore, even if the bus stop met all ADA Standards for the landing pad and sidewalk connection, it would still be inaccessible because the bus would not be able to pull up directly to the curb and align with the landing pad. Therefore, at bus stops where parking was allowed at the bus stop, it was recommended that signing be installed to restrict parking so the bus can pull directly to the curb.

### 2.4.2 Non-Standard Improvements

While the standard improvements would apply to most of the bus stops in the corridor, there are several bus stops that would require a specialty recommendation. These non-standard improvements would be required at bus stops with unique site conditions that cannot be accommodated by the standard improvements. Examples of the non-standard improvements that were proposed throughout the County include:

- **Removing vegetation.** In some instances, providing the required landing pad or accessible route could not be done without first removing overhanging or overgrown vegetation.
- **Constructing a header curb around a landing pad to act as a small retaining wall.** While no design was completed in this Study, the proposed recommendations were visually assessed during the field investigation. In some cases, it was noted that installing a landing pad may require a small curb around the landing pad in order to make up an elevation difference between the proposed landing pad and the existing ground. This improvement most often occurred at bus stops with no grass buffer and where installing an eight-foot-deep landing pad would require constructing into the area behind the existing sidewalk.
- **Constructing a bus bulb.** While “restricting parking” is noted as a Standard Improvement, there were a few bus stops where installing signing to restrict parking would result in the loss of many parking spaces that were actively being used during the field investigation. In order to reduce the number of parking impacts, a bus bulb was proposed at these bus stops. While a bus bulb would be more expensive than installing signing to restrict parking, it was determined to be the best solution for these bus stops. Before

implementing any bus bulbs, the impacts to roadway drainage should be identified. In addition, vehicle-turning radii should be checked with a program such as AutoTurn to verify that emergency vehicles can maneuver around the proposed bus bulbs.

- **Replacing the bus shelter.** In a couple of rare instances, the bus shelter itself was the reason a bus stop was not ADA-compliant because it did not provide the adequate clear area. These bus shelter should be replaced with bus shelters that do provide adequate clear area.

## 3 COST ESTIMATES

The cost of implementing the proposed recommendations at each bus stop, including design, right-of-way purchase, utility relocation, and construction, were estimated for each bus stop. The cost estimates are included on the bus stop summary sheets in **Appendix A**. Some general assumptions were made in developing the cost estimates:

- **Design and Construction.** It was assumed that very little design would be required for the proposed recommendations. At most bus stops, the proposed improvements are limited to constructing a landing pad and a small section of sidewalk and/or a pedestrian curb ramp. The County could develop a standard detail for each of these items that is to be used by an on-call contractor to construct the improvements. In this manner, topographic surveys and detailed design could likely be limited to the bus stops with more significant improvements.

Using Virginia Department of Transportation (VDOT) standard items, construction cost estimates were developed for each bus stop as described in more detail below. The unit prices for each item were identified by using the VDOT District Averages, with adjustments to account for the preliminary nature of this Study and for the limited design work associated with each item.

- **Right-of-Way.** For any bus stop where the proposed recommendation would include work beyond the existing right-of-way line in the GIS parcel file, the cost of purchasing the required right-of-way or establishing a permanent easement was estimated. At this point in the Study, it has not been determined whether the right-of-way would be purchased or a permanent easement would be established; however, the cost for either approach is assumed to be \$20 per square foot. Since no design or plans of the proposed recommendations have been developed, it was assumed that all the proposed improvements at any bus stop with a right-of-way impact would require right-of-way purchase.

It should be noted that the assumed cost of \$20 per square foot for right-of-way purchase only accounts for the actual purchase of the land. It does not account for any of the “soft” costs associated with right-of-way or easement establishment, such as survey, plat development, title work, recordation, or legal fees that could be incurred by the County. These costs could be expensive, especially compared to the overall construction costs of the proposed improvements. The “soft” costs were not included in the estimate for each bus stop because as described in Chapter 2, the right-of-way impacts are based on a GIS parcel file and more detailed research needs to be performed to determine if there would be impacts. Furthermore, as described in Chapter 4, cost is a prioritization criterion and it would not be appropriate to heavily weigh some bus stops with the “soft” costs of right-of-way when the right-of-way impacts are the biggest unknown.



**Bus Stop Inventory and ADA Compliance Plan**

- **Utility Relocation.** In most cases, improvements were proposed that would avoid utility conflicts, so there are very few bus stops where utility relocations would be required. For those that would require a utility relocation, a utility relocation cost of \$5,000 was assumed.

To estimate the cost of implementing the proposed improvements at each bus stop, unit costs for the standard improvements were developed and are shown in **Table 2**. Detailed backup for how each of the standard unit costs were developed is provided in the sections below. Site-specific, individual cost estimates were developed for any bus stop that required non-standard improvements, listed as “Other” costs on the bus stop summary sheets in **Appendix A**.

*Table 2: Unit Costs for Standard Improvement Items*

Description	Units	Unit Cost
Landing Pad	EA	\$2,700
Sidewalk Connection	LF	\$200
Pedestrian Curb Ramp	EA	\$7,100
Bus Shelter Pad Reconstruction	EA	\$8,000
New Sign (Bus Stop or No Parking)	EA	\$1,300
Relocate Sign	EA	\$1,500

**3.1 Standard Costs**

For each of the standard improvement items, the unit costs include the following assumptions:

- Mobilization was calculated as 15% of the total, including contingency, maintenance of traffic (MOT) during construction, erosion and sediment control (E&S) and construction overhead.
- A lump sum item was included for site preparation for any miscellaneous site work that is not included in the other items.
- The subtotal was increased by 50% to account for contingencies, MOT, and E&S.
- Construction overhead was assumed to be 12.3% based on guidance from other jurisdictions.

**3.1.1 Landing Pad**

The cost estimate shown in **Table 3** is for all work required to construct a five-foot-wide by eight-foot-deep landing pad, including excavation, base material, concrete surface material, and curb and gutter replacement.

*Table 3: Landing Pad Cost Estimate*

VDOT Item Code	Description	Unit	Quantity	Unit Price	Total Price
00100	MOBILIZATION	LS	1	\$330	\$330
00120	REGULAR EXCAVATION	CY	1.2	\$200	\$240
10128	AGGR. BASE MATL. TY. 1 NO. 21B	TON	1.6	\$45	\$72
10636	ASPHALT CONC. TY. SM-9.5D	TON	0.2	\$450	\$90
10642	ASPHALT CONC. BASE COURSE TY. BM-25.0A	TON	0.4	\$350	\$140
12600	STD. COMB. CURB & GUTTER CG-6	LF	5	\$50	\$250
13220	HYDRAULIC CEMENT CONC. SIDEWALK 4"	SY	5	\$75	\$375
N/A	SITE PREPARATION	LS	1	\$100	\$100
Subtotal					\$1,597
Contingency/MOT/E&S (50%)					\$799
NEAT Construction					\$2,396
Construction Overhead (12.3%)					\$295
TOTAL PER EA					\$2,700

**3.1.2 Sidewalk Connection**

The cost estimate shown in **Table 4** is for all work required to construct a one-foot-long section of five-foot-wide sidewalk, including excavation, base material, and concrete surface material.

*Table 4: Sidewalk Connection Cost Estimate*

VDOT Item Code	Description	Unit	Quantity	Unit Price	Total Price
00100	MOBILIZATION	LS	1	\$24	\$24
00120	REGULAR EXCAVATION	CY	0.1	\$200	\$28
10128	AGGR. BASE MATL. TY. 1 NO. 21B	TON	0.1	\$45	\$6
13220	HYDRAULIC CEMENT CONC. SIDEWALK 4"	SY	0.6	\$75	\$42
N/A	SITE PREPARATION	LS	1	\$18	\$18
Subtotal					\$118
Contingency/MOT/E&S (50%)					\$59
NEAT Construction					\$177
Construction Overhead (12.3%)					\$22
TOTAL PER LF					\$200





**Bus Stop Inventory and ADA Compliance Plan**

**3.1.3 Curb Ramp**

The cost estimate shown in **Table 5** is for all work to construct a pedestrian curb ramp, including excavation, base material, concrete surface material, curb and gutter replacement, and detectable warning surface.

*Table 5: Pedestrian Curb Ramp Cost Estimate*

VDOT Item Code	Description	Unit	Quantity	Unit Price	Total Price
00100	MOBILIZATION	LS	1	\$825	\$825
00120	REGULAR EXCAVATION	CY	2.1	\$200	\$420
10128	AGGR. BASE MATL. TY. 1 NO. 21B	TON	5.0	\$45	\$226
10636	ASPHALT CONC. TY. SM-9.5D	TON	0.4	\$450	\$180
10642	ASPHALT CONC. BASE COURSE TY. BM-25.0A	TON	1.1	\$350	\$385
12600	STD. COMB. CURB & GUTTER CG-6	LF	15	\$50	\$750
13108	CG-12 DETECTABLE WARNING SURFACE	SY	1.2	\$360	\$432
13220	HYDRAULIC CEMENT CONC. SIDEWALK 4" (For ramp, landing, and side flares)	SY	11.6	\$75	\$870
N/A	SITE PREPARATION	LS	1	\$100	\$100
Subtotal					\$4,188
Contingency/MOT/E&S (50%)					\$2,094
NEAT Construction					\$6,282
Construction Overhead (12.3%)					\$773
TOTAL PER EA					\$7,100

**3.1.4 Reconstruct Shelter Pad**

The cost estimate shown in **Table 6** is for all work required to reconstruct an existing bus shelter pad, including partially reconstructing the top portion of the concrete pad and maintaining the shelter during construction.

*Table 6: Shelter Pad Reconstruction Cost Estimate*

VDOT Item Code	Description	Unit	Quantity	Unit Price	Total Price
00100	MOBILIZATION	LS	1	\$960	\$960
13220	HYDRAULIC CEMENT CONC. SIDEWALK 4"	SY	16	\$75	\$1,200
24420	DEMO. OF PAVEMENT (RIGID)	SY	8	\$36	\$288
N/A	MAINTAIN EXISTING BUS SHELTER	LS	1	\$2,200	\$2,200
N/A	SITE PREPARATION	LS	1	\$100	\$100
Subtotal					\$4,748
Contingency/MOT/E&S (50%)					\$2,374
NEAT Construction					\$7,122
Construction Overhead (12.3%)					\$876
TOTAL PER EA					\$8,000

**3.1.5 New Sign**

The cost estimate shown in **Table 7** is for all work required to install a new sign, including the panel, post, and concrete foundation.

*Table 7: New Sign Cost Estimate*

VDOT Item Code	Description	Unit	Quantity	Unit Price	Total Price
00100	MOBILIZATION	LS	1	\$152	\$152
50108	SIGN PANEL	SF	1	\$50	\$50
50430	SIGN POST STP-1, 2"	LF	10	\$30	\$300
50490	CONCRETE FOUNDATION STP-1, TYPE F	EA	1	\$250	\$250
Subtotal					\$752
Contingency/MOT/E&S (50%)					\$376
NEAT Construction					\$1,128
Construction Overhead (12.3%)					\$139
TOTAL PER EA					\$1,300

**3.1.6 Relocate Bus Stop Sign**

The cost estimate shown in **Table 8** is for all work required to remove an existing sign and replace it with a new sign at a new location.





## Bus Stop Inventory and ADA Compliance Plan

Table 8: Relocate Sign Cost Estimate

VDOT Item Code	Description	Unit	Quantity	Unit Price	Total Price
00100	MOBILIZATION	LS	1	\$177	\$177
50108	SIGN PANEL	SF	1	\$50	\$50
50430	SIGN POST STP-1, 2"	LF	10	\$30	\$300
50490	CONCRETE FOUNDATION STP-1, TYPE F	EA	1	\$250	\$250
50600	REMOVE TY.I SIGNS	EA	1	\$100	\$100
Subtotal					\$877
Contingency/MOT/E&S (50%)					\$439
NEAT Construction					\$1,316
Construction Overhead (12.3%)					\$162
TOTAL PER EA					\$1,500

### 3.2 Summary

The assumptions and unit costs described in this Chapter were applied to each of the bus stops in the Study Area. The total estimated cost to implement all the proposed recommendations is \$2,834,200 and the average cost per bus stop is approximately \$8,400.



## Bus Stop Inventory and ADA Compliance Plan

### 4 PRIORITIZATION

Recognizing the large number of bus stops in the Study Area and the possibility that all the proposed recommendations may not be able to be implemented at the same time, an approach for prioritizing the recommendations was developed. The goal of prioritizing the bus stops is to aid the County in budgeting for the improvements and establishing a logical approach to selecting which stops to improve when funding for bus stop upgrades becomes available.

#### 4.1 Primary Criteria

The prioritization approach was developed based on comments heard at the Disability Services Board (DSB) and input from the workgroup stakeholders. Members of the workgroup included representatives from DTCI, DSB, the towns of Purcellville and Leesburg, and Virginia Regional Transit (VRT). Meetings were held with the workgroup on November 14, 2017 and February 20, 2018 to discuss the prioritization criteria. The prioritization approach that was decided upon by the workgroup is based on five primary criteria, including:

- **ADA Compliance.** Some of the ADA-compliant bus stops included recommendations such as installing a bus stop sign or pedestrian curb ramp at the nearest intersection. However, this criterion would be used to prioritize any bus stop that is not currently ADA-compliant higher than any bus stop that is ADA-compliant.
- **Right-of-Way.** There are several bus stops that are located on private developments or properties, such as shopping centers, retirement communities, and church parking lots. These bus stops present a special challenge as the County does not have the authority to simply purchase right-of-way and construct the improvements. These bus stops could require extensive coordination with the property owners and the improvements may ultimately be the owners' responsibility to implement. Therefore, this criterion would be used to prioritize any bus stop that is along public right-of-way higher than any bus stop that is located on a private development. Note that this criterion does not apply to bus stops along public right-of-way that may require purchase of right-of-way or easement establishment to construct the proposed recommendations.
- **Accessibility.** Although there are some bus stops in the County that are not ADA-compliant, they are still "accessible" because they include a landing pad and sidewalk connection. Other bus stops that do not have a landing pad or a sidewalk connection are not "accessible." Based on the feedback heard at the DSB meeting, this criterion would be used to prioritize bus stops that are not "accessible" higher than bus stops that are already "accessible."
- **Ridership.** Using ridership as a prioritization criterion is a way to ensure that the improvements made by the County benefit as many transit users as possible. Daily boarding and alighting data for nearly two-thirds of the local bus stops in the County were obtained from the most recent Transit Development Plan (TDP).

DTCI staff provided general usage guidance for the remaining local bus stops. Ridership counts for the commuter stops were also provided by the County. This criterion would be used to prioritize bus stops with more riders higher than bus stops with fewer riders.

- **Cost.** As described in Chapter 3, cost estimates were developed for each bus stop. This criterion would be used to prioritize bus stops with cheaper costs higher than bus stops with more expensive costs.

Figure 3: "Accessible" and "Non-Accessible" Bus Stops



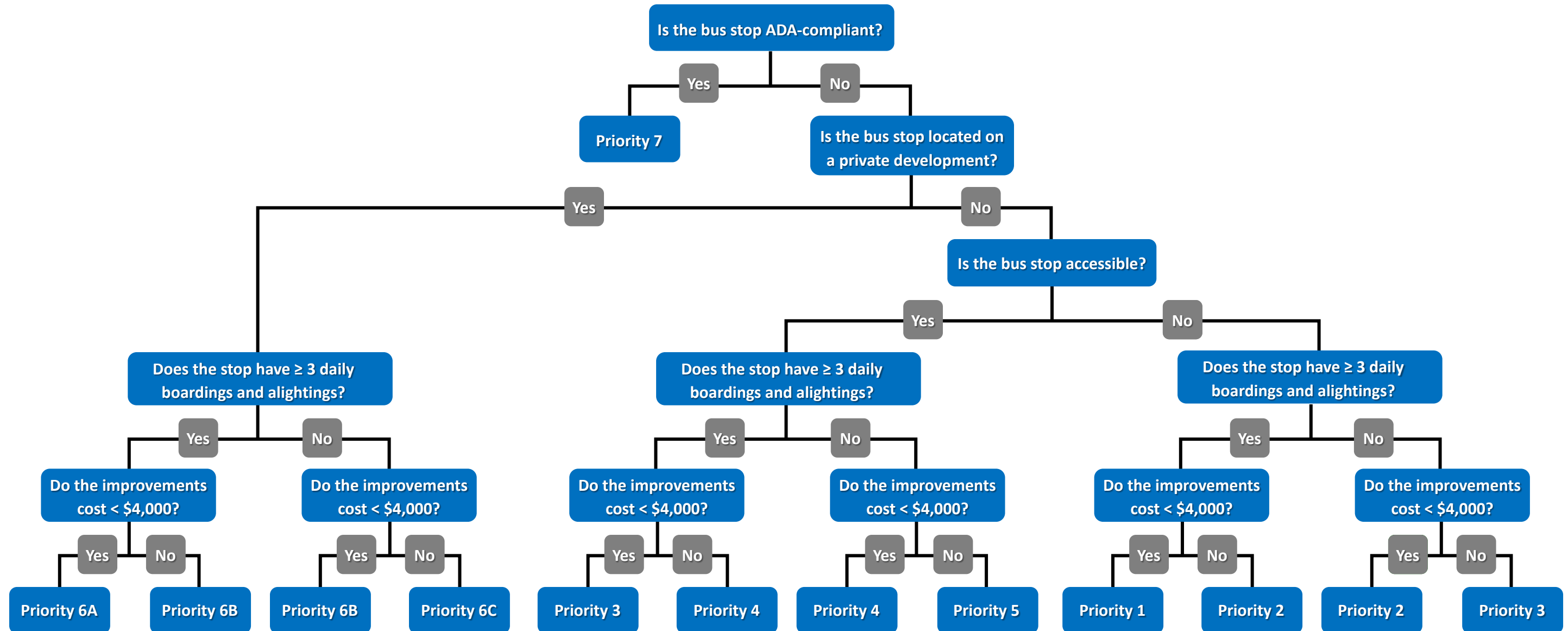
The prioritization methodology that uses the five criteria described above is presented as a flowchart in **Figure 4**. To split the bus stops by high and low ridership and high and low cost as evenly as possible, the median values of ridership and cost were used as the breakpoint between high and low. The median daily boardings and alightings for all bus stops in the County where ridership counts were available is three people. Likewise, the median cost for implementing the proposed recommendations is approximately \$4,000.

As shown in **Figure 4**, the methodology results in seven priorities of bus stops, with Priority 1 being the highest priority and Priority 7 being the lowest priority. The bus stops that are already ADA-compliant are Priority 7. The bus stops that are located on private developments are Priority 6 as the County may have limited authority to make changes to those bus stops and extensive coordination with the private property owners may be required.

There are eight groupings of bus stops that are neither ADA-compliant nor on private development. The eight groupings are divided into Priorities 1 through 5. The Priority 1 bus stops are not ADA-compliant, not on a private development, not accessible, serve more than 3 daily riders, and would cost less than \$4,000 to implement. Conversely, the Priority 5 bus stops are accessible, serve less than 3 daily riders, and would cost more than \$4,000 to implement. Priorities 2, 3, and 4 were developed by combining the remaining six groupings.



Figure 4: Prioritization Methodology





## Bus Stop Inventory and ADA Compliance Plan

### 4.2 Secondary Criteria

While the primary criteria will be used to prioritize the bus stop improvements, two secondary criteria were identified that could be used to help identify bus stops that would serve areas with the most need. These secondary criteria were not used to adjust the results of the prioritization, but are rather included as information and to make decision-makers aware of other factors that could influence the prioritization. The two secondary criteria include stops where handicapped rider assistance was provided and stops near paratransit pick-up and drop-off locations.

#### 4.2.1 Handicapped Rider Assistance

Over the two-month period from August 9, 2017 through October 11, 2017, MV Transportation logged the bus stops where handicapped rider assistance was provided to either board or alight the bus. Assistance was provided at the 18 bus stops in **Table 9** during the two-month period. Since these stops are known to serve handicapped riders, the County should consider prioritizing them higher than wherever they are prioritized using the primary criteria. The total ridership during this period of time was 74,499.

**Table 9: Bus Stops Where Handicapped Rider Assistance Was Provided (8/9/17 through 10/11/17)**

Bus Stop ID	Location
L0001	Ashby Ponds
L0002	Potomac Green
L0004	Ashburn Village Giant
L0006	Gloucester Pkwy & Tillman Terr
L0010	Wingler House
L0011	Wingler House
L0065	Dulles Town Center
L0067	Walmart
L0077	Enterprise St @ East Maple Ave
L0091	Loudoun County Government Center
L0110	Potomac Station Dr & Battlefield Pkwy
L0212	Russell Branch Pkwy & Wellfleet Dr
L0253	Shenandoah Building
L0259	Palisade Pkwy & Sandstone Sq
L0290	Inova Hospital
L0294	Arbys
L0299	Sterling Public Library
L0302	One Loudoun

#### 4.2.2 Paratransit Service

MV Transportation provided the pick-up and drop-off locations for all paratransit service trips provided by the County for the month of October 2017. A total of 1,161 paratransit trips were made throughout the month. A GIS walkshed analysis was conducted to determine the number of bus stops in the County that are within a walking distance of 0.1 miles and 0.25 miles from a paratransit pick-up or drop-off location. It was assumed that all roadways aside from freeways have pedestrian paths and are 'walkable.' More detailed analysis would be required to determine if there are in fact pedestrian paths or if there are missing links in the pedestrian network. The results of the walkshed analysis are provided in **Tables 10 and 11** and show that 70 bus stops are within 0.1 walking miles and 142 bus stops are within 0.25 walking miles of either a paratransit pick-up or drop-off location.

**Table 10: Bus Stops Within 0.1 Walking Miles of Paratransit Pick-up or Drop-off Locations (October 2017)**

Bus Stop ID	Location
L0001	Ashby Ponds
L0004	Ashburn Village Giant
L0010	Wingler House
L0011	Wingler House
L0026	Ida Lee
L0027	Rust Library
L0030	Wirt St & North St
L0031	Old Waterford Rd & Gibson St
L0032	Inova
L0033	Ayr St & Memorial Dr
L0035	Sycolin Rd & Hope Pkwy
L0043	Harrison St & Depot Ct
L0044	Healthworks Manor Apartments
L0049	Ridgetop Cir & Center Oak Plz
L0053	Plaza St & Market St
L0056	Riverside Pkwy & Heatherstone Te
L0063	Market St & Sycolin Rd
L0064	Signal Hill Plz & Cottage Rd
L0065	Dulles Town Center
L0076	Providence Village Dr & Maple Ave
L0077	Enterprise St @ East Maple Ave
L0079	Dranesville Town Center - GIANT
L0085	Rabbit Run Te & Woodson Dr



**Bus Stop Inventory and ADA Compliance Plan**

Bus Stop ID	Location
L0089	Cascades Village
L0094	Catoctin Cir & Edwards Ferry Rd
L0095	Catoctin Cir & Market St
L0099	Exeter Fieldstone Apartments
L0100	Catoctin Cir & Edwards Ferry Rd
L0101	Catoctin Cir & Market St
L0106	Harrison St & South St
L0108	Catoctin Cir & Parker Ct
L0109	Shenandoah Building
L0112	Russell Branch Pkwy & Red Hawk La
L0116	Market St & Plaza St
L0118	Market St & Catoctin Cir
L0137	King St & Royal St
L0139	Fort Evans Rd & Market St
L0141	Fort Evans Rd & Heritage Way
L0143	Walmart
L0145	Staples
L0146	Kohls
L0149	Potomac Station Dr & Fort Evans Rd
L0150	Fort Evans Rd & Potomac Station Dr
L0151	Fort Evans Rd & Heritage Way
L0152	Fort Evans Rd & Meadows Ln
L0153	Fort Evans Rd & Market St
L0155	Plaza St & Market St
L0156	Fort Evans Rd & Evans Ridge Te
L0193	Enterprise Rd & Maple Ave
L0194	Enterprise Rd & Maple Ave
L0195	Maple Ave & Sterling Blvd
L0205	George Washington Blvd & Research Pl
L0219	Fort Evans Rd & Pine View Sq
L0225	Jennings Farm Dr & Cedar La
L0226	Woodson Dr & Rabbit Run Te

Bus Stop ID	Location
L0230	Rabbit Run Te & Frederick Dr
L0231	Woodson Dr & Rabbit Run Te
L0233	Jennings Farm Dr & Lakeland Dr
L0236	Potomac View Road/NOVA
L0241	Pidgeon Hill Dr & Edds La
L0246	Riverside Pkwy & Golf Vista Plz
L0253	Shenandoah Building
L0254	Fort Evans Rd & Forest Spring Dr
L0260	Potomac View Rd & Signal Hill Plz
L0277	Harrison and Crescent
L0293	Wegmans
L0295	Christiana & Cornstalk
L0297	Raflo Park
L0299	Sterling Public Library
L0300	Sterling Public Library

**Table 11: Bus Stops Between 0.1 and 0.25 Walking Miles from Paratransit Pick-Up or Drop-Off Locations (October 2017)**

Bus Stop ID	Location
L0003	Gloucester Pkwy & Vosburg Terr
L0005	Alderwood Terr & Gloucester Pkwy
L0009	Cohasset Terr & Gloucester Pkwy
L0012	Rainsboro Dr & Gloucester Pkwy
L0022	Market St & Liberty St
L0029	Union St & King St
L0040	Loudoun Center Pl & Courage Ct
L0045	Dicks Sporting Goods
L0046	Heritage Way & Edwards Ferry Rd
L0047	Market St & Harrison St
L0048	Woodshire Dr & Springlake Ct
L0050	Palisades Pkwy & Cascades Pkwy
L0055	Edwards Ferry Rd & Banyan Cove Sq





## Bus Stop Inventory and ADA Compliance Plan

Bus Stop ID	Location
L0057	Market St & Sycolin Rd
L0058	Market St & Loudoun St
L0066	Atlantic Blvd @ Walmart and Sams Club
L0067	Walmart
L0068	Atlantic Blvd Orbital
L0069	Atlantic Blvd Orbital
L0073	Holly Ave & Alder Ave
L0074	Holly Ave & Sterling Blvd
L0081	Maple Ave & Dickensen Ave
L0082	Providence Village Dr & Coventry Sq
L0086	Woodson Dr
L0091	Loudoun County Government Center
L0105	Madison House
L0113	Potomac Station Dr & Planters Grove Ct
L0114	Heritage Way & Adams Dr
L0115	Fort Evans Rd & Meadows Ln
L0117	Market St & Sycolin Rd
L0121	Harrison St & Catoctin Cir
L0122	Harrison St & Catoctin Cir
L0138	Market St & Plaza St
L0140	Fort Evans Rd & Meadows La
L0142	Heritage Way & Adams Dr
L0147	Leesburg Corner Premium Outlets
L0148	Wegmans
L0157	Pacific Blvd & Auto World Cir
L0160	Pacific Blvd & Auto World Cir
L0173	Glenn Dr & Carpenter Dr
L0176	Davis Dr & Sally Ride Dr
L0178	Shaw Rd & International Dr
L0179	Shaw Rd & Terminal Dr
L0184	Woodshire Dr & Ridgetop Cir
L0185	Woodshire Dr & Springlake Ct

Bus Stop ID	Location
L0186	Woodshire Dr & Ridgetop Cir
L0187	Ridgetop Cir & Loudoun Tech Dr
L0188	Ridgetop Cir & Waterview Plz
L0190	Nokes Blvd & City Center Blvd
L0206	George Washington University & Research Pl
L0207	George Washington Blvd & River Ridge Te
L0214	Russell Branch Pkwy & Atwater Dr
L0215	Russell Branch Pkwy & Ashbrook Commons Plz
L0218	Fort Evans Rd & Sycamore Hill Dr
L0221	Riverside Pkwy & Upper Belmont Pl
L0223	Cottage Rd & Mirror Ridge Pl
L0227	East Frederick Dr & Thomas Jefferson Dr
L0229	East Frederick Dr & Thomas Jefferson Dr
L0232	Woodson Dr
L0234	Palisades Pkwy & River Meadows Te
L0238	Cascades Pkwy & Palisades Pkwy
L0239	Pidgeon Hill Dr & Denizen Pl
L0240	Pidgeon Hill Dr (Regal Cinemas)
L0242	Pidgeon Hill Dr
L0247	Riverside Pkwy & Upper Belmont Pl
L0252	Evans Ridge Apartments
L0259	Palisades Pkwy & Sandstone Sq
L0263	Ridgetop Cir & Waterview Plz
L0264	Palisades Pkwy & Whitfield Pl
L0265	Fort Evans & Battlefield
C0059	Cascades
C0062	Leesburg Gvt Ctr



**Bus Stop Inventory and ADA Compliance Plan**

**5 RESULTS**

Using the methodology described in Chapter 4, the 339 bus stops in the Study Area were sorted into seven priorities. The number of bus stops, average cost per bus stop, and total cost within each priority are presented in **Table 12**. The priority of each bus stop is included on the summary sheets in **Appendix A**.

*Table 12: Prioritization Results*

Priority	Number of Bus Stops	Average Cost Per Bus Stop	Total Cost
1	61	\$3,100	\$192,100
2	105	\$10,400	\$1,091,600
3	64	\$11,600	\$748,500
4	23	\$9,000	\$206,800
5	13	\$10,300	\$133,600
6A	4	\$3,500	\$14,000
6B	30	\$12,200	\$365,000
6C	5	\$7,400	\$37,000
7	34	\$1,400	\$48,700
Total	339	\$8,400	\$2,834,200

The locations of the individual bus stops within each priority, as well as the daily ridership values and cost estimates are provided in **Tables 13 through 21**. Ridership values with a decimal represent bus stops for which no ridership data was available. The ridership values of 0.5, 2.5, or 10.5 were assigned based on feedback from DTCl on the approximate use of each stop as being limited, occasional, or frequent.

*Table 13: Priority 1 Bus Stops*

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0003	Gloucester Pkwy & Vosburg Terr	5	\$2,700
L0008	Glenburne Terr & Gloucester Pkwy	3	\$3,500
L0021	Main St & 20th St	5	\$3,500
L0042	Harrison St & Rockbridge Dr	3	\$3,500
L0048	Woodshire Dr & Springlake Ct	14	\$2,700
L0050	Palisades Pkwy & Cascades Pkwy	15	\$3,500
L0055	Edwards Ferry Rd & Banyan Cove Sq	47	\$3,500
L0063	Market St & Sycolin Rd	3	\$3,500
L0070	Magnolia Rd & Grand Central Sq	8	\$3,500
L0072	Holly Ave & Alder Ave	20	\$2,700

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0075	Holly Ave & Fillmore Ave	26	\$3,500
L0078	East Frederick	6	\$3,500
L0081	Maple Ave & Dickensen Ave	3	\$2,700
L0086	Woodson Dr	4	\$3,500
L0087	Sugarland Run Dr & Baker La	17	\$3,500
L0094	Catoctin Cir & Edwards Ferry Rd	3	\$2,700
L0095	Catoctin Cir & Market St	3	\$2,700
L0099	Exeter Fieldstone Apartments	8	\$2,700
L0101	Catoctin Cir & Market St	10.5	\$3,500
L0110	Potomac Station Dr & Battlefield Pkwy	5	\$2,700
L0118	Market St & Catoctin Cir	7	\$3,700
L0119	George Washington Blvd & Lakeview Overlook Plz	5	\$2,700
L0130	Miller Dr & Blue Seal Dr	4	\$2,700
L0142	Heritage Way & Adams Dr	10.5	\$2,700
L0150	Fort Evans Rd & Potomac Station Dr	3	\$3,500
L0154	Plaza St & Edwards Ferry Rd	23	\$3,500
L0156	Fort Evans Rd & Evans Ridge Te	24	\$2,700
L0185	Woodshire Dr & Springlake Ct	13	\$2,700
L0188	Ridgetop Cir & Waterview Plz	5	\$3,500
L0189	Ridgetop Cir & Horseshoe Dr	8	\$3,500
L0193	Enterprise Rd & Maple Ave	28	\$2,700
L0194	Enterprise Rd & Maple Ave	15	\$3,500
L0204	George Washington Blvd & Bar Harbor Te	22	\$2,700
L0206	George Washington University & Research Pl	6	\$2,700
L0207	George Washington Blvd & River Ridge Te	10	\$2,700
L0208	George Washington Blvd & Bar Harbor Te	5	\$2,700
L0211	George Washington Blvd & Academic Way	12	\$3,500
L0216	Russell Branch Pkwy & Ashbrook Commons Plz	15	\$2,700
L0218	Fort Evans Rd & Sycamore Hill Dr	12	\$3,500
L0219	Fort Evans Rd & Pine View Sq	16	\$3,500
L0220	Riverside Pkwy & Upper Belmont Pl	10	\$3,500
L0222	Potomac View Rd & Brethour Ct	16	\$2,700
L0227	East Frederick Dr & Thomas Jefferson Dr	5	\$2,700
L0231	Woodson Dr & Rabbit Run Te	10.5	\$3,500
L0235	Palisades Pkwy & Potomac View Rd	49	\$2,700
L0238	Cascades Pkwy & Palisades Pkwy	11	\$3,500
L0243	Tripleseven Rd (Villas of Countryside)	7	\$3,500



**Bus Stop Inventory and ADA Compliance Plan**

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0246	Riverside Pkwy & Golf Vista Plz	3	\$3,500
L0252	Evans Ridge Apartments	26	\$3,500
L0257	Nokes Blvd & Ridgetop Cir	10.5	\$3,500
L0258	Nokes Blvd & Ridgetop Cir	4	\$3,500
L0259	Palisade Pkwy & Sandstone Sq	28	\$2,700
L0263	Ridgetop Cir & Waterview Plz	8	\$3,500
L0264	Palisade Pkwy & Whitfield Pl	5	\$3,500
L0274	Colonial Hwy & Harmony Church Rd	5	\$2,700
L0280	Russell Branch and Commonwealth	17	\$2,700
L0282	Atlantic and Magnolia	10.5	\$2,700
L0283	Atlantic and Magnolia	10.5	\$2,700
L0299	Sterling Public Library	35	\$3,500
L0300	Sterling Public Library	42	\$3,500
C0060	Our Lady of Hope	86	\$3,500

Table 14: Priority 2 Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0006	Gloucester Pkwy & Tillman Terr	2.5	\$2,700
L0007	Gloucester Pkwy & Chamberlain Terr	2.5	\$3,500
L0009	Cohasset Terr & Gloucester Pkwy	2.5	\$3,500
L0012	Rainsboro Dr & Gloucester Pkwy	8	\$4,100
L0013	Cromwell Rd & Edds Dr	7	\$5,300
L0015	Brentwood Rd	39	\$14,000
L0018	Maple Avenue Apartments	6	\$13,500
L0028	King St & Ida Lee Dr	12	\$5,000
L0035	Sycolin Rd & Hope Pkwy	1	\$2,700
L0038	Miller Dr & Sycolin Rd	3	\$19,800
L0041	Miller Dr & Pink Azalea Te	0.5	\$3,500
L0046	Heritage Way & Edwards Ferry Rd	5	\$6,880
L0049	Ridgetop Cir & Center Oak Plz	2.5	\$3,500
L0051	Palisades Pkwy & Potomac View Pl	32	\$8,000
L0053	Plaza St & Market St	35	\$4,200
L0056	Riverside Pkwy & Heatherstone Te	8	\$4,700
L0058	Market St & Loudoun St	12	\$4,300
L0059	Fort Evans Rd & Sentinel Dr	9	\$6,700
L0060	Riverside Pkwy & Kingsport Dr	6	\$9,500

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0061	Riverside Pkwy & Coton Reserve Dr	12	\$8,000
L0066	Atlantic Blvd @ Walmart and Sams Club	11	\$41,000
L0067	Walmart	41	\$54,700
L0068	Atlantic Blvd Orbital	1	\$2,700
L0069	Atlantic Blvd Orbital	4	\$8,000
L0071	Holly Ave & Sycamore St	4	\$17,800
L0073	Holly Ave & Alder Ave	4	\$21,800
L0080	Maple Leaf Pl & Tamarack Ridge Sq	7	\$17,300
L0082	Providence Village Dr & Coventry Sq	4	\$24,980
L0085	Rabbit Run Te & Woodson Dr	2.5	\$3,500
L0089	Cascades Village	75	\$4,100
L0093	Catoctin Cir & King St	1	\$3,500
L0098	Catoctin Cir & Oakcrest Manor Dr	1	\$3,300
L0100	Catoctin Cir & Edwards Ferry Rd	2	\$2,700
L0102	King St & Davis Ave	0.5	\$2,700
L0111	Potomac Station Dr & Bonnie Ridge Dr	10	\$8,600
L0112	Russell Branch Pkwy & Red Hawk La	2.5	\$3,500
L0113	Potomac Station Dr & Planters Grove Ct	3	\$5,000
L0121	Harrison St & Catoctin Cir	4	\$5,600
L0123	Riverside Pkwy & Silverwood Te	6	\$12,800
L0124	King St & Davis Ave	0.5	\$2,700
L0125	Harrison St & Shenandoah St	3	\$24,900
L0126	Harrison St & Rockbridge Dr	2	\$2,700
L0131	Miller Dr & Pink Azalea Te	1	\$2,700
L0139	Fort Evans Rd & Market St	2	\$2,700
L0148	Wegmans	31	\$5,000
L0151	Fort Evans Rd & Heritage Way	6	\$18,400
L0152	Fort Evans Rd & Meadows Ln	10.5	\$5,300
L0153	Fort Evans Rd & Market St	2.5	\$3,500
L0158*	Pacific Blvd & Severn Way	0	\$2,700
L0159*	Pacific Blvd & Severn Way	0	\$2,700
L0160*	Pacific Blvd & Auto World Cir	1	\$2,700
L0161	Pacific Blvd & AOL Way	10.5	\$6,500
L0163*	Pacific Blvd & Business Ct	4	\$19,800
L0170	Doubletree Hotel	4	\$8,300
L0172	Davis Dr & Shepard Dr	4	\$11,000
L0173	Glenn Dr & Carpenter Dr	3	\$14,180



**Bus Stop Inventory and ADA Compliance Plan**

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0180	Davis Dr & Shepard Dr	5	\$18,600
L0184	Woodshire Dr & Ridgetop Cir	10.5	\$24,680
L0186	Woodshire Dr & Ridgetop Cir	7	\$5,600
L0190	Nokes Blvd & City Center Blvd	206	\$86,240
L0192	Providence Village Dr & Holly Ave	14	\$4,000
L0195	Maple Ave & Sterling Blvd	10	\$18,500
L0196	Holly Ave & Sycamore St	3	\$4,000
L0200	Lincoln Ave & Beech Rd	3	\$5,300
L0202	Magnolia Rd & Boxcar Sq	5	\$4,700
L0203	Magnolia Rd & Grand Central Sq	3	\$7,100
L0212	Russell Branch Pkwy & Wellfleet Dr	4	\$8,600
L0214	Russell Branch Pkwy & Atwater Dr	8	\$5,800
L0215	Russell Branch Pkwy & Ashbrook Commons Plz	12	\$7,700
L0217	Riverside Pkwy & Pickens Manor La	3	\$12,700
L0221	Riverside Pkwy & Upper Belmont Pl	5	\$5,900
L0223	Cottage Rd & Mirror Ridge Pl	2	\$2,700
L0226	Woodson Dr & Rabbit Run Te	10.5	\$6,700
L0228	East Frederick	5	\$4,000
L0230	Rabbit Run Te & Frederick Dr	1	\$3,500
L0244	Spotswood Rd & Algonkian Pkwy	6	\$26,300
L0247	Riverside Pkwy & Upper Belmont Pl	14	\$4,400
L0250	Riverside Pkwy & Upper Meadow Dr	5	\$8,300
L0251	Riverside Pkwy & Whitehorn Te	5	\$13,800
L0253	Shenandoah Building	37	\$11,000
L0255	Fort Evans Rd & Orchid Dr	8	\$5,300
L0256	Riverside Pkwy & Pickens Manor La	6	\$37,700
L0262	Glenburne Terr & Gloucester Pkwy	5	\$12,700
L0266	Colonial Hwy & King St	5	\$20,680
L0269	McDonalds	13	\$22,700
L0272	Cardinal Bank	5	\$6,500
L0273	GIANT	1	\$3,500
L0279	Marblehead and Western Gales	0.5	\$3,300
L0284	Shaw and Tippet	0	\$3,500
L0286	Shaw and International	10.5	\$27,680
L0287	Shaw and Faulke	10.5	\$30,500
L0288	Catalina and Pacific	0	\$3,500
L0289	Sycolin and Battlefield	0.5	\$2,700

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0291	Walmart	10.5	\$4,000
L0294	Arbys	1	\$2,700
L0295	Christiana & Cornstalk	0.5	\$2,700
L0298	Lowes	0.5	\$2,700
L0301	Windmill Parc	8	\$9,500
L0304	Russell Branch Pkwy & Exchange St	0	\$3,800
L0305	Holly Ave & Commerce St	0	\$2,700
L0308	Plaza St & Edwards Ferry Rd	32	\$14,500
C0033	CFC	502	\$20,680
C0036	Broadlands P&R	190	\$27,680
C0054	Dulles South	3	\$4,000
C0065	Dresden St & Broderick Dr	0.5	\$3,500

\*Service to bus stop will be discontinued on 7/1/2018

Table 15: Priority 3 Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0005	Alderwood Terr & Gloucester Pkwy	8	\$2,700
L0016	Winding Rd & Idlebrook Te	9	\$3,500
L0017	Hamilton Post Office	2	\$4,000
L0019	Bailey Lane Transit Center	2	\$22,480
L0020	Main St & 32nd St	2	\$5,500
L0024	Pacific Blvd AOL	0.5	\$8,300
L0027	Rust Library	10.5	\$3,500
L0029	Union St & King St	0.5	\$27,800
L0036	Battlefield Pkwy & Flowering Dogwood Te	2	\$7,700
L0037	Miller Dr & Blue Seal Dr	1	\$21,300
L0047	Market St & Harrison St	28	\$3,500
L0062	Ridgetop Cir & Horseshoe Dr	2.5	\$12,680
L0074	Holly Ave & Sterling Blvd	13	\$2,700
L0076	Providence Village Dr & Maple Ave	2	\$15,800
L0083	Lincoln Ave & Argone Ave	1	\$5,300
L0084	Lincoln Ave & Church St	2	\$20,180
L0088	Sugarland Run Dr & Sanderson Dr	16	\$3,500
L0091	Loudoun County Government Center	250	\$3,500
L0103	King St & Second St	2	\$13,700
L0104	King St & Fairfax St	4	\$3,500
L0116	Market St & Plaza St	9	\$2,700





**Bus Stop Inventory and ADA Compliance Plan**

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0127	Gateway Dr & Hetzel Te	1	\$4,000
L0128	Gateway Dr & Hetzel Te	1	\$4,000
L0132	Battlefield Pkwy & Plaza St	1	\$41,000
L0133	Battlefield Pkwy & Catoctin Cir	0.5	\$41,000
L0135	Marshall Dr & Plaza St	0.5	\$4,000
L0138	Market St & Plaza St	8	\$3,500
L0140	Fort Evans Rd & Meadows La	3	\$2,700
L0157*	Pacific Blvd & Auto World Cir	0	\$11,000
L0162*	Pacific Blvd & Global Pl	2	\$20,500
L0164*	Pacific Blvd & Business Ct	1	\$21,800
L0165	Pacific Blvd & Indian Creek Dr	3	\$2,700
L0166*	Pacific Blvd & Business Ct	0	\$6,700
L0167*	Pacific Blvd & Global Pl	0	\$8,000
L0168	Pacific Blvd & Dresden St	1	\$13,300
L0171	Davis Dr & Shepard Dr	2	\$17,500
L0174	Glenn Dr & Sally Ride Dr	2	\$7,900
L0175	Sally Ride Dr & Glenn Dr	1	\$26,680
L0176	Davis Dr & Sally Ride Dr	2.5	\$12,200
L0177	Shaw Rd & Holiday Dr	2	\$21,100
L0178	Shaw Rd & International Dr	2.5	\$18,680
L0179	Shaw Rd & Terminal Dr	2.5	\$26,100
L0181	Davis Dr & Shepard Dr	2.5	\$5,500
L0182	Dulles Sportsplex	2	\$6,800
L0187	Ridgetop Cir & Loudoun Tech Dr	13	\$3,500
L0191	Magnolia Rd & Boxcar Sq	2	\$8,600
L0197	North Lincoln	0.5	\$14,100
L0198	Lincoln Ave & Beech Rd	2	\$4,000
L0232	Woodson Dr	1	\$15,500
L0233	Jennings Farm Dr & Lakeland Dr	2	\$14,100
L0237	Nokes Blvd & City Center Blvd	2	\$69,800
L0245	Sutherlin Place (The Reserve)	4	\$3,500
L0248	Shaw Rd & Holiday Dr	1	\$11,800
L0249	Riverside Pkwy & Kipheart Dr	1	\$4,700
L0254	Fort Evans Rd & Forest Spring Dr	12	\$3,500
L0261	Gloucester Pkwy & Winola Terr	2	\$6,500
L0265	Fort Evans & Battlefield	13	\$3,500
L0267	Colonial Hwy & Laycock St	1	\$14,480

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0278	Marblehead and Rubble	0.5	\$5,900
L0285	Shaw and Great Trail	0.5	\$6,700
L0296	Marblehead & Duxbury	0.5	\$5,600
L0297	Raflo Park	0.5	\$6,500
C0002B	Leesburg P&R - 2	196	\$900
C0068	Broderick Dr + Dresden Dr	0.5	\$21,680

\*Service to bus stop will be discontinued on 7/1/2018

Table 16: Priority 4 Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0022	Market St & Liberty St	3	\$4,000
L0023	16th Street Shelter	3	\$6,300
L0030	Wirt St & North St	1	\$3,500
L0034	Harrison St & Shenandoah St	3	\$19,900
L0057	Market St & Sycolin Rd	5	\$5,500
L0092	Tuscarora Apartments	5	\$5,300
L0107	Catoctin Cir & Industrial Ct	0.5	\$2,700
L0115	Fort Evans Rd & Meadows Ln	5	\$4,000
L0117	Market St & Sycolin Rd	8	\$9,800
L0134	Catoctin Cir & Coltsridge Te	10.5	\$4,200
L0136	Clubhouse Dr & Kins St	9	\$37,980
L0141	Fort Evans Rd & Heritage Way	1	\$2,700
L0149	Potomac Station Dr & Fort Evans Rd	7	\$12,700
L0155	Plaza St & Market St	27	\$5,500
L0169	Pacific Blvd Raytheon	10.5	\$10,100
L0199	Holly Ave & Ithaca Rd	4	\$4,000
L0201	North Lincoln	0.5	\$2,700
L0225	Jennings Farm Dr & Cedar La	3	\$5,300
L0236	Potomac View Road/NOVA	34	\$18,000
L0275	Main St & Hatcher Ave	8	\$8,500
C0002C	Leesburg P&R - 3	196	\$15,300
C0002D	Leesburg P&R - 4	196	\$4,400
C0019A	Harmony P&R	204	\$14,400

Table 17: Priority 5 Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0031	Old Waterford Rd & Gibson St	1	\$4,700





**Bus Stop Inventory and ADA Compliance Plan**

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0043	Harrison St & Depot Ct	1	\$5,000
L0044	Healthworks Manor Apartments	0.5	\$10,700
L0096	Plaza St & Appletree Dr	0.5	\$4,200
L0097	Plaza St & North St	0.5	\$4,000
L0108	Catoctin Cir & Parker Ct	0.5	\$4,200
L0114	Heritage Way & Adams Dr	1	\$16,500
L0122	Harrison St & Catoctin Cir	2.5	\$4,200
L0229	East Frederick Dr & Thomas Jefferson Dr	1	\$7,380
L0270	Nursery St & K St	0.5	\$13,500
L0271	School St & Nursery Ave	1	\$10,800
L0292	Plaza & Appletree	0.5	\$14,480
L0303	Waltonwood at Ashburn	0	\$33,900

Table 18: Priority 6A Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0032	Inova	11	\$3,500
L0145	Staples	10.5	\$3,500
L0260	Potomac View Rd & Signal Hill Plaza	9	\$3,500
L0290	Inova Hospital	171	\$3,500

Table 19: Priority 6B Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0001	Ashby Ponds	10.5	\$5,500
L0002	Potomac Green	10.5	\$6,500
L0010	Wingler House	3	\$5,300
L0014	Winding Road (Village at Potomac Falls)	10	\$21,980
L0039	County Complex ADC	25	\$5,500
L0040	Loudoun Center Pl & Courage Ct	10.5	\$15,800
L0045	Dicks Sporting Goods	10.5	\$5,300
L0052	George Washington Blvd & Exploration Hall	10.5	\$5,300
L0065	Dulles Town Center	354	\$5,300
L0077	Enterprise Street @ East Maple Avenue	10.5	\$5,300
L0105	Madison House	5	\$12,680
L0109	Shenandoah Building	19	\$9,380
L0129	Miller Dr & Blue Seal Dr	2.5	\$1,300
L0147	Leesburg Corner Premium Outlets	10.5	\$33,500
L0209	George Washington Blvd & Innovation Hall	7	\$5,300

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0239	Pidgeon Hill Dr & Denizen Pl	5	\$4,300
L0240	Pidgeon Hill Dr (Regal Cinemas)	6	\$6,500
L0241	Pidgeon Hill Dr & Edds La	6	\$42,680
L0242	Pidgeon Hill Dr	10.5	\$12,680
L0293	Wegmans	12	\$35,680
C0001	711 West Main St	112	\$14,480
C0018A	Dulles North	188	\$10,000
C0018B	Dulles North - 2	188	\$10,000
C0018C	Dulles North - 3	188	\$10,000
C0018E	Dulles North - 5	188	\$14,400
C0018F	Dulles North - 6	188	\$14,400
C0018G	Dulles North - 7	188	\$13,500
C0031	Dulles South	622	\$5,300
C0061	Lowes Island Back	84	\$21,980
C0066	Lowes Island Front	84	\$5,300

Table 20: Priority 6C Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0011	Wingler House	1	\$5,300
L0033	Ayr St & Memorial Dr	0.5	\$6,300
L0064	Signal Hill Plz & Cottage Rd	2	\$5,300
L0183	Dulles Eastern Plz & Nokes Blvd	0.5	\$5,580
L0268	Patrick Henry College	1	\$14,480

Table 21: Priority 7 Bus Stops

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0004	Ashburn Village Giant	10.5	\$1,300
L0025A	Dulles Town Center Park & Ride Lot	1	\$1,300
L0025B	Dulles Town Center Park & Ride Lot 2	1	\$0
L0025C	Dulles Town Center Park & Ride Lot 3	1	\$0
L0025D	Dulles Town Center Park & Ride Lot 4	1	\$0
L0026	Ida Lee	10.5	\$0
L0079	Dranesville Town Center- GIANT	56	\$0
L0106	Harrison St & South St	1	\$1,300
L0120	Ashburn North Park & Ride Lot	10	\$0
L0137	King St & Royal St	0.5	\$22,100
L0143	Walmart	10.5	\$1,300



## Bus Stop Inventory and ADA Compliance Plan

Bus Stop ID	Location	Daily Ridership	Cost Estimate (\$)
L0146	Kohls	10.5	\$0
L0205	George Washington Blvd & Research Pl	23	\$2,600
L0210	George Washington Blvd & Exploration Hall	10.5	\$2,600
L0234	Palisades Pkwy & River Meadows Te	2	\$0
L0277	Harrison and Crescent	0.5	\$0
L0281	City Center and Mirage	10.5	\$0
L0302	One Loudoun	57	\$0
C0002A	Leesburg P&R	196	\$8,700
C0002E	Leesburg P&R - 5	196	\$0
C0002F	Leesburg P&R - 6	196	\$0
C0018D	Dulles North - 4	188	\$1,300
C0019B	Harmony P&R - 2	204	\$0
C0032	Ashburn North	192	\$0
C0034	Brambleton	260	\$1,300
C0035	Goose Creek Village	90	\$1,800
C0055A	Loudoun Station	85	\$1,800
C0055B	Loudoun Station - 2	85	\$1,300
C0059	Cascades	70	\$0
C0062	Leesburg Gvt Ctr	0.5	\$0
C0063	Verizon	0	\$0
C0075A	Stone Ridge II P&R	10.5	\$0
C0075B	Stone Ridge II P&R - 2	10.5	\$0
C0075C	Stone Ridge P&R - 3	10.5	\$0

## 6 IMPLEMENTATION

This ADA Compliance Plan is the first step in advancing all the bus stops in the County towards ADA compliance. As funding becomes available, the County should reference the prioritization results to begin implementing the proposed recommendations. Using the prioritization results will ensure that the first bus stops the County targets will be stops that are currently inaccessible, have high ridership, and are relatively inexpensive to retrofit.

It is recognized that other factors that are not known at this time could affect the order in which the County implements the proposed recommendations. However, the County is not required to implement the improvements in the exact order specified in this Plan, and should remain flexible to adapt to future considerations. In that sense, the prioritization results outlined in this Plan should be viewed more as a guide for which bus stops could potentially be cost-effective investments. Furthermore, the recommendations in this Plan are based on a snapshot in time of

the existing conditions, and changes to the existing conditions or transit service in the County may affect the order in which the improvements are implemented.

### 6.1 Bus Stop Standard Details

Many of the bus stops in the County could be made ADA-compliant with minimal improvements, such as installing a five-foot-wide by eight-foot-deep landing pad or a short section of sidewalk. The County DTCI should consider developing standard construction details for these minimal improvements. The details could include information about how to match existing curbs, sidewalks, or grade to the existing ground, so that they could be constructed without detailed survey or design. For example, a single plan sheet with a GIS basemap could be prepared that shows the contractor the location of a proposed landing pad and the standard detail to be used in constructing the landing pad. A contractor with ADA experience should be able to construct the proposed landing pad according to the construction detail, even without existing ground or proposed elevations.

Different details could be developed for the most commonly recommended improvements in the County, such as:

- Installing a landing pad where there is no grass buffer or a minimal grass buffer. This detail would show how to reconstruct the curb and the sidewalk slabs on either side of the proposed landing pad to ensure a smooth transition between the sidewalk and the landing pad. It would also show how to tie-in to the existing ground on the back side of the landing pad.
- Installing a landing pad where there is a wide grass buffer. This detail would show how to reconstruct the curb and how to tie-in to the existing ground on the sides of the landing pad. This could be paired with a sidewalk detail to show how to connect the proposed landing pad to the existing pedestrian path.
- Installing a pedestrian curb ramp.
- Reconstructing the cross-slopes on a bus shelter pad.

A review of standard bus stop details used by other local jurisdictions found that most bus stop design guidelines focus on stop placement and spacing, the different types of bus stops, and how to select which amenities should be placed at a bus stop. Examples of these guidelines include the *Fairfax County Bus Stop Guidelines* (July 2004) and the *WMATA Guidelines for the Design and Placement of Transit Stops* (December 2009). These guidelines include useful information such as bus stop placement relative to the intersection that should be referenced by Loudoun County prior to implementing any of the proposed recommendations.

Both the Fairfax County and WMATA guidelines provide schematics of an ADA-compliant bus stops, including a landing pad and sidewalk connections. However, they do not show the standard materials or items that would be used for construction so they could not be directly applied to a plan without further details. Loudoun County could consider developing similar schematics and adding the necessary information to create construction details that could be referenced on a plan sheet.

### 6.2 Other Considerations

To increase efficiency with the implementation and decrease procurement, it is also recommended that the County hire one or multiple on-call contractors to build the improvements as opposed to issuing separate contracts for



## ***Bus Stop Inventory and ADA Compliance Plan***

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each grouping of bus stops. Using an on-call contractor would also allow the County to work through any issues that the contractor experiences with the first grouping of bus stops before beginning the second grouping of bus stops.

The County should also track other infrastructure projects within the County, as some of the proposed recommendations in this Plan could potentially be incorporated within those other projects, particularly if they are near the bus stops in this Study. This would include other projects from the County, VDOT, and the Town of Leesburg. Examples of other projects that could incorporate ADA improvements to bus stops include roadway widening, resurfacing, intersection improvement, pedestrian safety, and other ADA projects.

Finally, the County should work to ensure the proper project or development review processes are in place to ensure that any new bus stops, whether proposed by the County, VDOT, or a private developer, are designed to meet current ADA Standards. This will ensure that the non-compliant bus stops in the County are limited to those included in this Plan and that all future bus stops will be constructed to ADA compliance.



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**APPENDIX A**  
**BUS STOP SUMMARY SHEETS**