

**GENERAL**

## 1. Description

This standard identifies minimum requirements that shall be met for all Bus Stops in the design and construction of elements for Arlington County Horizontal Design Standards. This standard meets the County's guiding principles for increasing pedestrian safety and accessibility, decreasing county infrastructure costs and balancing the use of the Right-of-Way between all modes of transportation.

## 2. Related Arlington County Standards

- A. Arlington County Construction Standards and Specifications
- B. Arlington County Horizontal Standards H-3.3 Curb Extensions
- C. Arlington County Horizontal Standards H-X.X Sidewalks
- D. Arlington County Horizontal Standards H-X.X On Street Parking
- E. Arlington County Master Transportation Plan

## 3. Applicable Standards and Specifications

- A. Americans with Disabilities Act - Accessibility Guidelines for Building and Facilities (ADAAG)
- B. American with Disabilities Accessibility Guidelines for Public Rights-of-Way (PROWAG)

## 4. Quality Assurance

- A. Reserved

## 5. Submittals

- A. Design and placement of all bus stops shall be approved by both the DES Transit Bureau Chief and DES Transportation Engineering and Operations (TE&O) Bureau Chief

**DESIGN CONSIDERATIONS**

## A. Purpose

The purpose of a bus stop is to provide a safe, accessible, easily identifiable, and comfortable area for waiting, boarding, and alighting of bus passengers

## B. Definitions

1. Bus Stop - A bus stop is an area used for the waiting, boarding and alighting of bus passengers, and the roadway area needed for the bus to service the stop. Bus stops typically include the street and curb space, sidewalk area, signing, and associated amenities for bus passengers. There are four general placement types for bus stops:
  - a. Near side – bus stop is located in advance of an intersection, before the crosswalk, in the direction of travel.
  - b. Far side – bus stop is located immediately beyond an intersection, past the crosswalk, in the direction of travel.
  - c. Mid Block – bus stop is located between intersections.
  - d. Off Street – bus stop is not located on the street.
2. Elements
  - a. Signs – post and sign panel (Flag) indicating the presence of a bus stop and used by the bus operator to gauge where to stop the vehicle. Also used to convey information to passengers.
  - b. Boarding area – an ADA compliant paved surface adjacent to the sign used by boarding passengers to enter the bus.
  - c. Waiting area – typically a paved surface within or adjacent to the pedestrian clear zone used for waiting passengers. The boarding area may be included within the waiting area. If provided bus stop amenities are located within the waiting area.
  - d. Transit vehicle areas
    - i. Stopping area – The portion of the roadway used by the bus to stop and wait for the boarding and alighting of passengers. This can include in-lane stopping areas where the bus remains within the active travel lane including bicycle lanes. On street parking restrictions may be required.
    - ii. Moving area – The portion of the roadway used by the bus to approach and depart the bus stop. On street parking restrictions may be required if a curb extension is not present
  - e. Back door alighting area - typically a paved surface within or adjacent to the pedestrian clear zone used by passengers exiting the rear doors of a bus.
  - f. Bus pad - The bus pad is a concrete pavement area within the roadway at the bus stopping area to bring greater durability and longevity to the roadway pavement under frequent braking action by buses. A bus pad is not always an included element.
3. Amenities – structures or devices that may be included at a bus stop for passenger comfort.
  - a. Shelter – A free standing structure including a roof at a minimum and may include weather protection panels on the front, rear and sides. A shelter is placed within the waiting area.
  - b. Seating – A structure located at a bus stop for passenger comfort. Seating may consist of either a bench or lean bar.

- c. Lighting – Lights located within or adjacent to the waiting area that are not part of the street lighting system.
- d. Heating – may be provided for passenger environmental comfort or to melt ice and snow.
- e. Information Systems – A static and or dynamic system providing additional passenger information.
- f. Fare Vending Equipment – An electronic device used for the dispensing of transit fare media.
- g. Trash Receptacle – A container for the deposit of trash or recyclables either free standing or mounted to a shelter.
- h. Bike Parking – a structure, device or accommodation for the storage of bicycles.
- i. Publication Vending Area - area used for the distribution and vending of periodicals.

### C. Applicability

These standards apply to all public transportation bus stops that in whole or in part occupy public rights-of-way or dedicated easements.

## PLACEMENT

### A. Placement

1. The placement of a bus stop shall be determined through consultation with the TE&O and Transit Bureau chiefs to ensure compatibility and consistency with County transportation planning and operations.
2. Consideration for the placement of a bus stop include:
  - a. Ridership demand, especially for seniors and persons with disabilities
  - b. Bus routing and operations
  - c. Vertical and horizontal sight distance
  - d. Presence of sidewalks
  - e. Available right-of-way
  - f. Signalization and marked crosswalks
  - g. Obstructions, such as utility poles, structures, and significant trees
  - h. Adjacent property use
  - i. Curb space use
  - j. Traffic operations and safety
  - k. Placement of nearby bus stops

## DESIGN

### A. Elements

1. Signs – Sign post shall be placed a minimum of 2' from back of curb. Sign panels shall be installed no lower than 7' from the bottom of the panel to the sidewalk.

2. Boarding area – This area shall be 5’ wide (parallel to curb) and 8’ long(transverse to curb), connected to the pedestrian clear zone, located adjacent to the bus stop sign and may extend into the pedestrian clear zone. This area shall remain obstacle free. The maximum slope perpendicular to the curb shall be 2 percent.
3. Transit vehicle areas
  - a. Stopping area – This area shall be 40’ long. If a bus pad is included it shall be a minimum of 40’ long and the full width of the active lane width.
  - b. Moving areas
    - i. For near side bus stops this area shall be 60’ long and located before the stopping area. (The stopping area plus moving area is 100’ long.)
    - ii. For far side bus stops this area shall be 30’ long located after the stopping area. (The stopping area plus moving area is 70’ long.)
    - iii. For mid block bus stops this area shall be 90’ long with 60’ located before and 30’ after the stopping area. (The stopping area plus moving area is 130’ long.)
  - c. Back door alighting area – this area shall begin 14’ from the sign and end 28’ from the sign and shall be connected to the pedestrian clear zone. This area shall remain obstacle free.
4. Bus stops on curb extensions
  - a. The minimum tangent length of a curb extension is 40 feet. Refer to Arlington County Horizontal Standards H-3.3 Curb Extensions for further information.

#### B. Amenities

1. Shelter - The County has two standard styles of bus shelters.
  - a. Type 1 – Traditional Bus Shelter
    - i. 12’ long x 5’ wide x 7’ high
    - ii. 12’ long x 4’ wide x 7’ high
    - iii. 10’ long x 3’ wide x 7’ high for use in constrained settings
  - b. Type 2 –Modern Styled Bus Shelter
    - i. 16’ long x 5’ wide x 7’ high
    - ii. 12’ long x 5’ wide x 7’ high
    - iii. 10’ long x 3’ wide x 7’ high for use in constrained settings

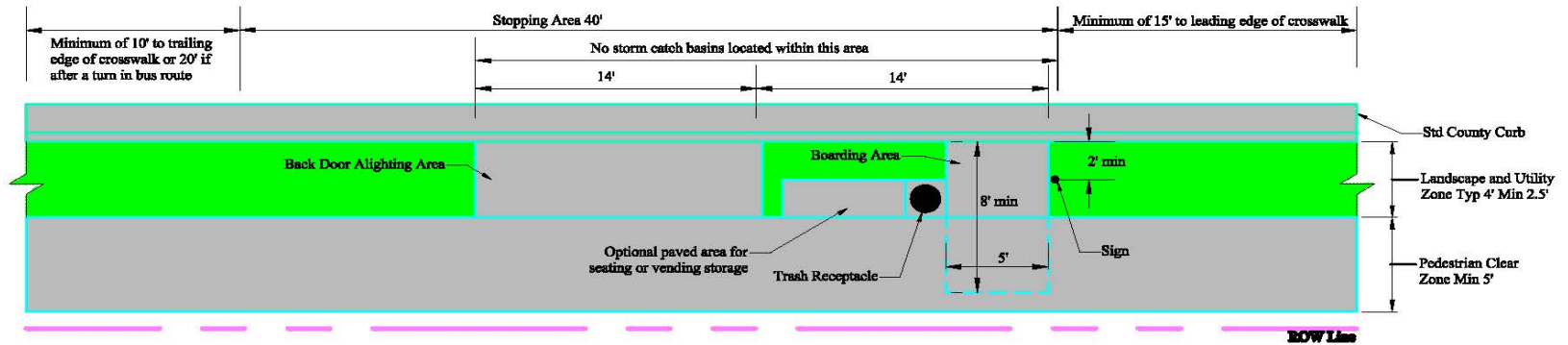
Bus shelter placement shall follow the layout options shown in Drawing No. BS-1.0. In cases where recommended layouts are not feasible, bus shelters shall be positioned in such a way to maintain.

- a. Clear 5’ wide route from the waiting area inside the shelter to the boarding area.
- b. Clear 5’ wide route from the back door alighting area to the pedestrian clear zone.

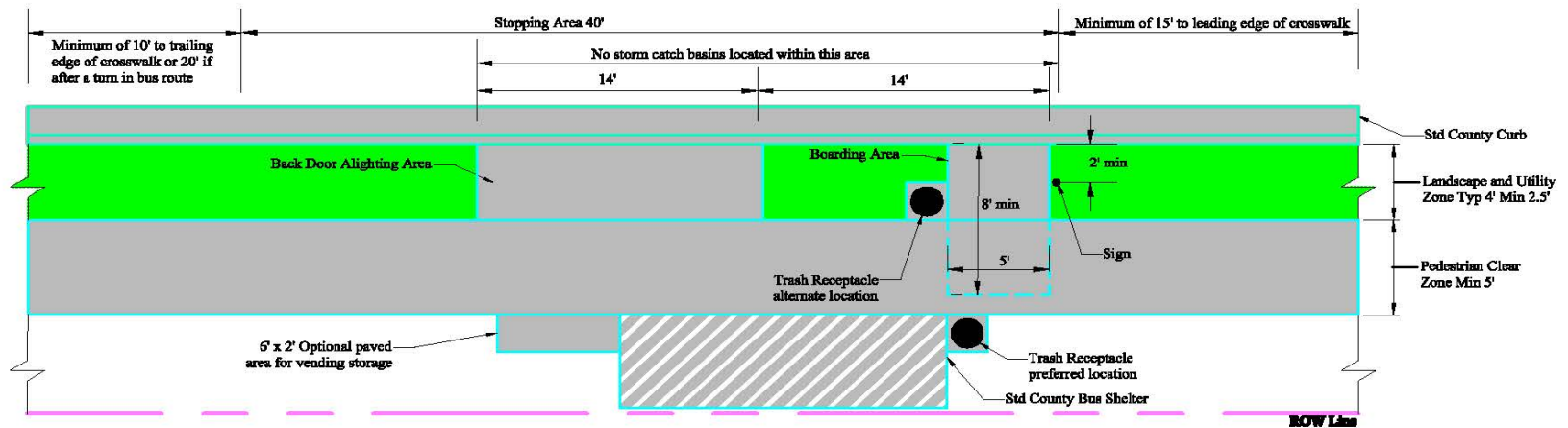
2. Seating
  - a. Seating shall be placed on a paved surface. This surface shall include a 3' x 4' area for wheelchair use and may be part of the backdoor alighting area.
  - b. Seating placed outdoors shall not encroach upon the boarding area or the pedestrian clear zone.
  - c. Seating placed within shelters shall not encroach upon the ADA accessibility of the shelter. An area 3' wide and the depth of the shelter shall be provided for wheelchair use within the shelter.
  - d. It is preferred that seating not be placed closer than 3' from the curb or 6' from the curb if a travel lane is directly adjacent to the curb.
3. Lighting and Information Systems
  - a. On a case by case basis two 2-inch HDPE conduits may be placed as required for future uses.
4. Trash receptacles – Receptacles are required at all bus stops that have shelters. Trash receptacles are preferred at all bus stops. Only County approved trash receptacles shall be installed. In some locations blast resistant designs may be desirable. Trash receptacles shall not infringe upon the boarding area or the pedestrian clear zone.
5. Publication Vending Area – A 2' x 6' concrete pad may be provided on a case by case basis. Vending storage shall not be located within the boarding area, back door alighting area, shelters, or the pedestrian clear zone.
6. Bus Pad - A bus pad may be included at bus stops with high frequency of service, e.g. greater than four buses per hour.

### C. Materials

1. The standard material used for bus stops is poured in place concrete.
2. Materials other than poured in place concrete may be used in limited installations on a case by case basis.
3. All alternate materials shall be ADA compliant.
4. Bus pads – Shall be 10" thick reinforced concrete with welded wire fabric 6" x 6" – W2.9 x W2.9 over a 6" aggregate base.



Typical Bus Stop - No Shelter



Typical Bus Stop - With Shelter

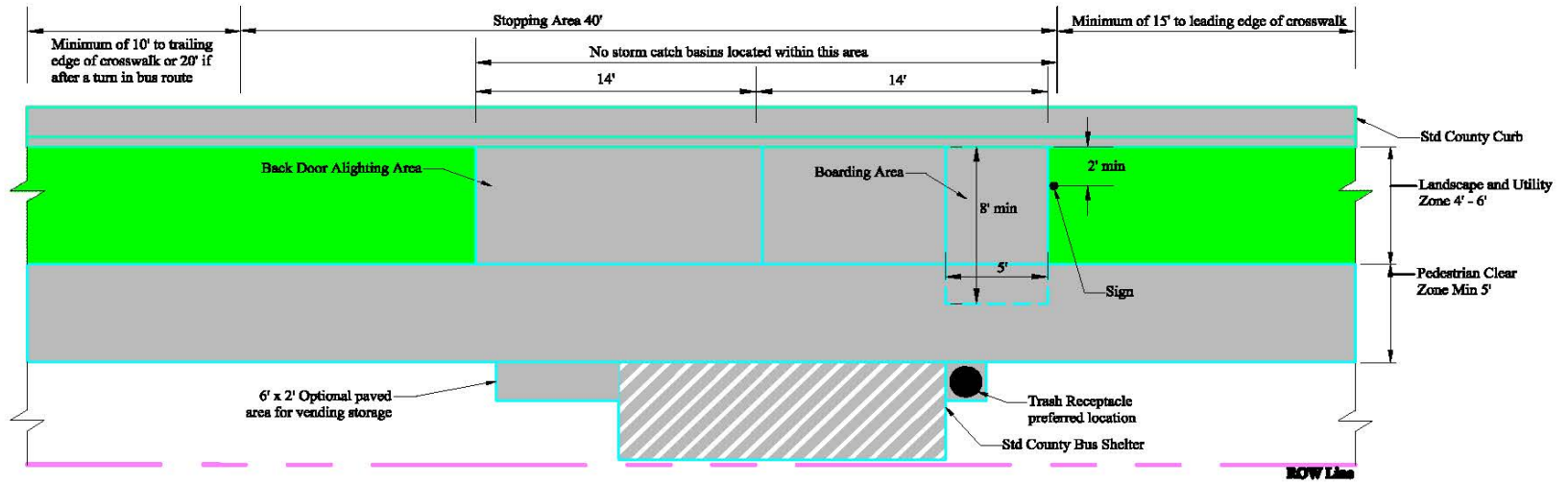
**BUS STOPS**

<b>REVISION &amp; DATE</b>	



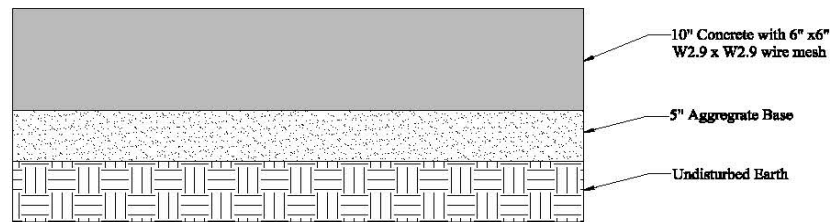
ARLINGTON COUNTY, VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL SERVICES

**DRAWING NO.**  
**BS-1.0**  
**Sheet 1 of 2**



Typical Bus Stop in commercial area

Bus Pad Cross-Section



**BUS STOPS**


REVISION & DATE



**ARLINGTON COUNTY, VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL SERVICES**

**DRAWING NO.  
BS-1.0  
Sheet 2 of 2**