

2019



METROBUS STATION CUSTOMER SERVICE

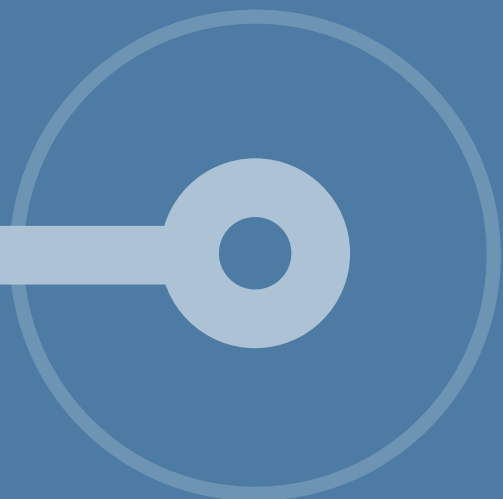
BUS STOP AMENITY REFERENCE GUIDE



Washington Metropolitan
Area Transit Authority

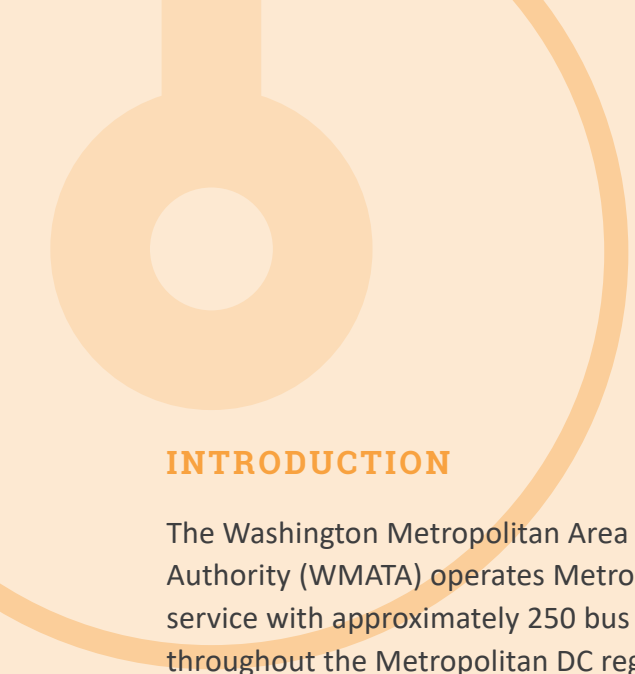


Prepared by



CONTENTS

INTRODUCTION	2
HOW TO USE THIS GUIDE	3
<i>Ridership population</i>	3
<i>Nearby land use</i>	3
<i>Joint partnerships</i>	3
HOW TO COORDINATE WITH US	4
<i>Design</i>	4
<i>ADA</i>	4
<i>Installation</i>	4
<i>Maintenance</i>	4
ADDITIONAL RESOURCES	4
BUS STOP TYPES	5
Basic Stop	5
Enhanced Stop	9
Transit Center Stops	11
BUS STOP AMENITIES	13
Built Environment	13
Bus Stop Flag	14
Benches	14
Shelters	16
Route Maps and Schedules	17
Dynamic Information Signage	17
Lighting	18
Additional Bus Stop Enhancements	18



INTRODUCTION

The Washington Metropolitan Area Transit Authority (WMATA) operates Metrobus service with approximately 250 bus routes throughout the Metropolitan DC region and is embarking on an effort to improve the bus customer experience at bus stops. The majority of WMATA's bus stops are owned and managed by others. This Bus Stop Amenity Reference Guide provides guidance for agencies, jurisdictions, developers, and property owners regarding amenities provided at bus stops served by Metrobus.

The Guide aims to achieve best practices for providing a high-quality regional transit system by:

Maximizing customer comfort and safety

Ensuring that bus stops are easily identifiable

Creating a predictable waiting experience

Striving for accessibility and equity

THE METROBUS CUSTOMER EXPERIENCE PLAN

This report is being produced as part of the Metrobus Customer Experience Plan (MCEP). The MCEP consultant project team includes VHB, Rhodeside and Harwell, and Arup. The key components of this project include:

Metrobus Asset Inventory

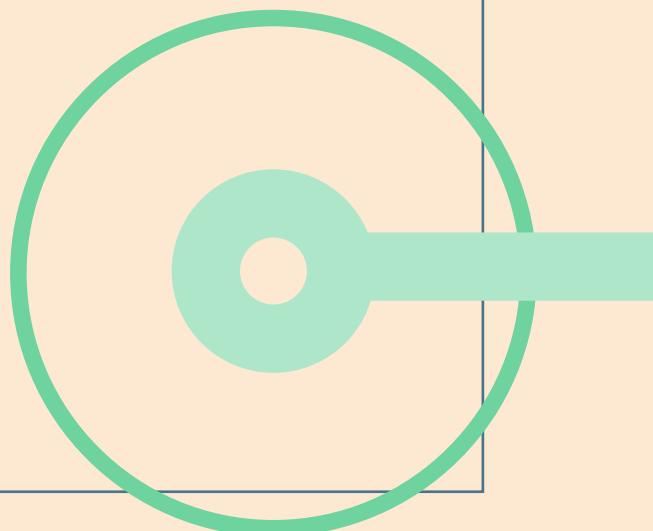
Task goal: Document the condition of customer assets at bus loops and on-street and tee up capital improvements by station.

Metrobus Bus Stop Guide

Task goal: Document guidelines and standards for bus stop amenities, with a focus on regional coordination.

Metrobus Wayfinding Strategy

Task goal: Develop wayfinding guidelines and standards within the WMATA design rubric to aid passengers transferring between rail and bus.



HOW TO USE THIS GUIDE

WMATA understands that the siting and design of a bus stop considers the context of the space it occupies, and that agencies and jurisdictions require flexibility to integrate bus stops with their surroundings. For this reason, the Bus Stop Amenity Reference Guide is meant to outline best practices, not strict standards.

WMATA considers several elements when providing amenities at a bus stop. The principle factor is the bus stop type, which is determined by the type of bus service provided at the stop. WMATA categorizes its bus stops into three types:

BASIC



These are primary stops that serve as access points to the Metrobus system

ENHANCED



These stops receive MetroExtra limited stop service and/or Bus Rapid Transit (BRT) service



These stops serve multiple routes and have over 500 boardings per day

The bus stop type dictates the kind and quantity of facilities that should be provided at the stop. **Sections 3 and 4** describe the amenities recommended for each bus stop type, the specifications for each amenity, and the suggested placement of these amenities. WMATA prioritizes the Americans with Disabilities Act Accessibility Guidelines

(ADAAG) requirements in its bus stop design, and WMATA's amenity specifications meet or surpass ADAAG requirements. Specifications are also informed by WMATA's 2009 *Guidelines for the Design and Placement of Transit Stops* and its 2017 *Station Area Planning Guide*.

While bus stop type is an important consideration, WMATA recognizes that other factors influence the way the bus stop will be used, and that the amenities may need to be adjusted to maximize the bus stop's benefit to its users. These factors include:

RIDERSHIP POPULATION

The population that would use the stop should be considered when determining the kind of amenities to provide at the stop. For example, a bus stop located by a senior living facility is likely to have senior passengers and may require more benches.

NEARBY LAND USE

The land use surrounding a bus stop can influence the volume of bus stop users and the activities that users engage in while waiting for the bus. For instance, a bus stop located near a convenience store may require a trash receptacle to minimize litter at the stop.

JOINT PARTNERSHIPS

Private developers, business improvement district operators, and other organizations may contribute to establishing a bus stop by participating in the planning, installation, and/or maintenance of a bus stop. WMATA acknowledges that partner organizations may want bus stops integrated with the look and feel of their development or business district.

HOW TO COORDINATE WITH US

As agencies and jurisdictions advance bus stops and amenities throughout the region, WMATA is committed to participating in the implementation and maintenance of these facilities with the following expectations from localities:

DESIGN

During early planning stages, coordinate with WMATA's bus planning division to evaluate local context, identify desired bus stop elements, and document design objectives.

ADA

WMATA understands that some bus stop sites precede the passage of the Americans with Disabilities Act of 1990 and may not be fully ADA-compliant. As agencies and jurisdictions renew or redevelop infrastructure, it is recommended that they coordinate with local accessibility officers or WMATA to ensure future compliance.

INSTALLATION

Submit conceptual or preliminary design plans for WMATA's approval prior to installation. Include provisions for electricity, if a shelter is present or if dynamic information signage is planned.

MAINTENANCE

WMATA will maintain amenities it owns at bus stops, such as bus stop flags and poles. Agencies, jurisdictions, or site owners are responsible for regular maintenance of the remaining bus stop assets to keep the bus stop fully functioning. They should also anticipate the replacement of bus stop infrastructure and amenities at the end of their use life to maintain a fully functioning bus stop.

HOW TO CONTACT US

Through collaboration with agencies and jurisdictions, WMATA aims to promote customer safety, accessibility, and comfort at bus stops. WMATA understands that bus stops are informed by their local context, and that flexibility is needed to establish public facilities that complement their surroundings. To coordinate with WMATA on the design of bus stops, please contact:

[insert points of contact]

ADDITIONAL RESOURCES

The best practices outlined in this guide complement guidelines provided in other documents. For more information, please refer to these other documents:

[*Americans with Disabilities Accessibility Guidelines*](#) (as amended through 2002)

[*WMATA Guidelines for the Design and Placement of Transit Stops*](#) (2009)

[*WMATA Station Area Planning Guide*](#) (2017)



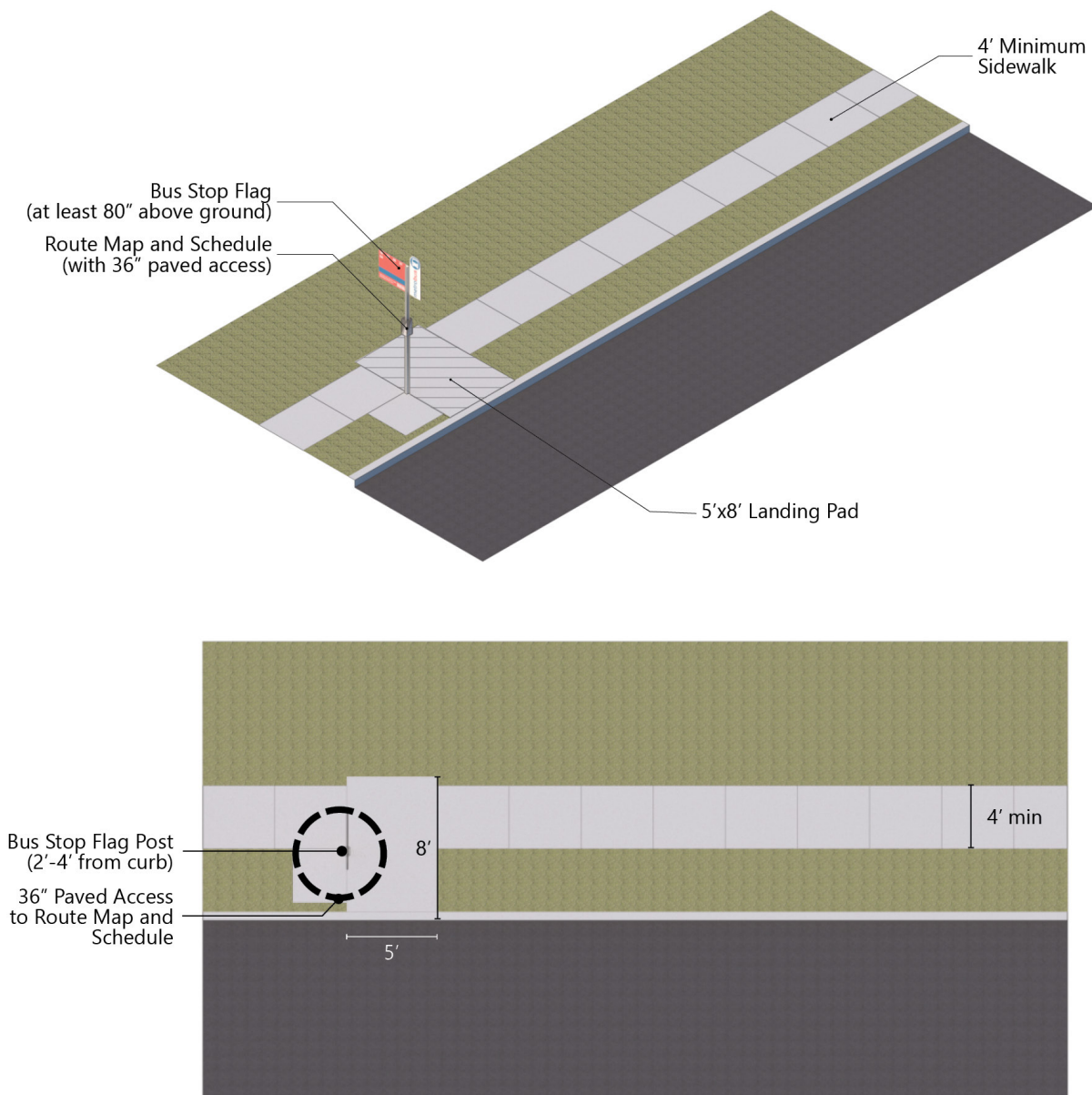
BUS STOP TYPES

Figures 1 through 5 illustrate the standard variety of bus stop types, as well as the desired layout of key features including sidewalks, bus stop flag posts, seating, and shelters. Bus stops are ultimately configured based on local context, however, the general dimensions outlined below should be considered by agencies and jurisdictions. Specifications for amenities can be found in **Section 4**.

BASIC STOP

Figures 1 through 3 illustrate different variations of a basic bus stop: a minimal basic stop, a basic stop with a bench, and a basic stop with a shelter and a bench. WMATA recommends providing shelters for bus stops with 50 or more boardings per day.

Figure 1 Basic Bus Stop with Less Than 50 Daily Boardings



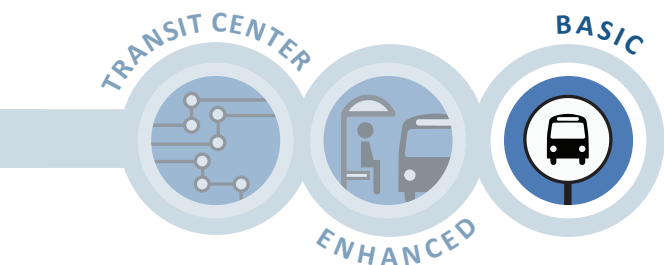


Figure 2 Basic Stop with Less Than 50 Daily Boardings, and Stand-Alone Bench

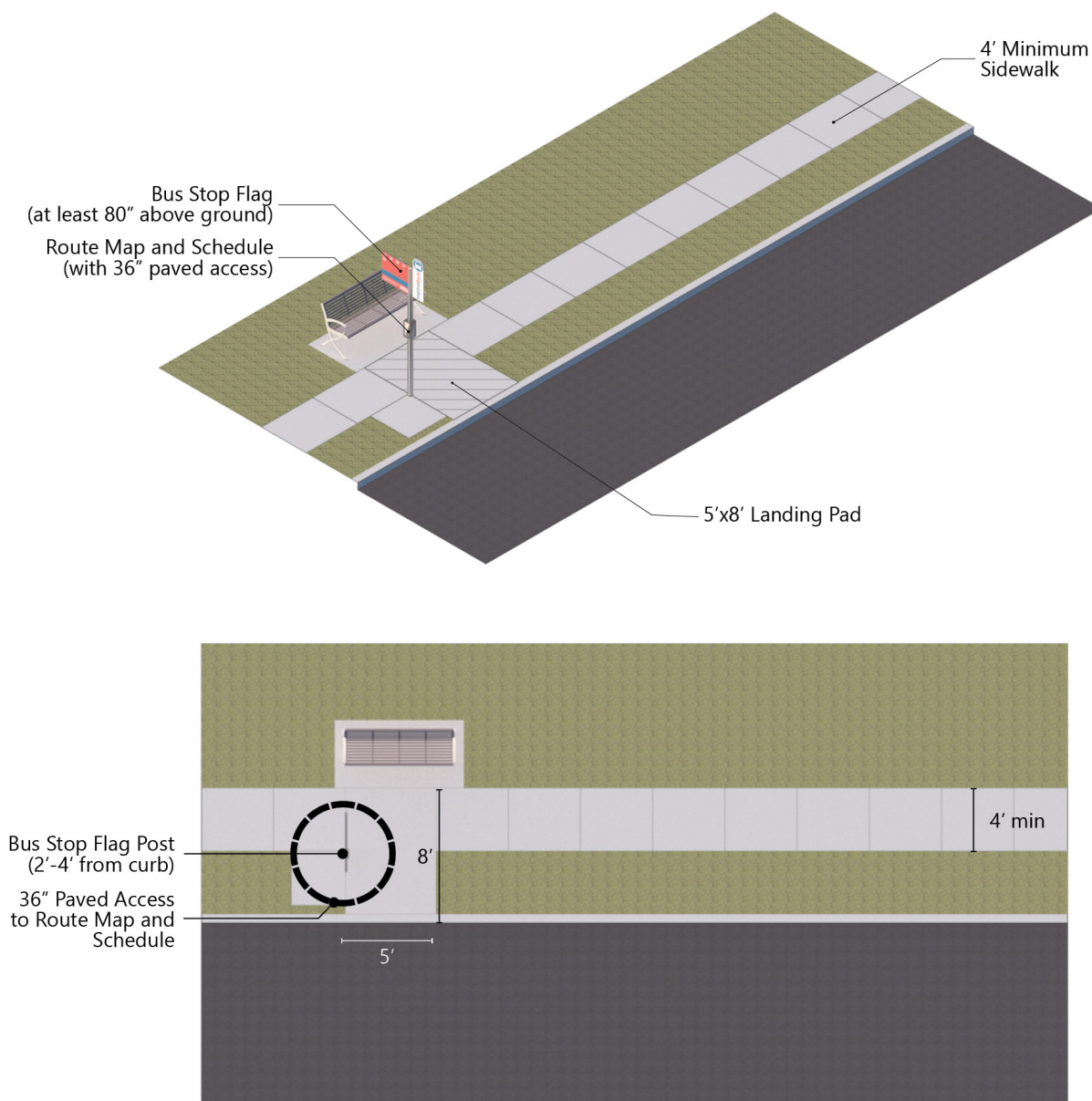
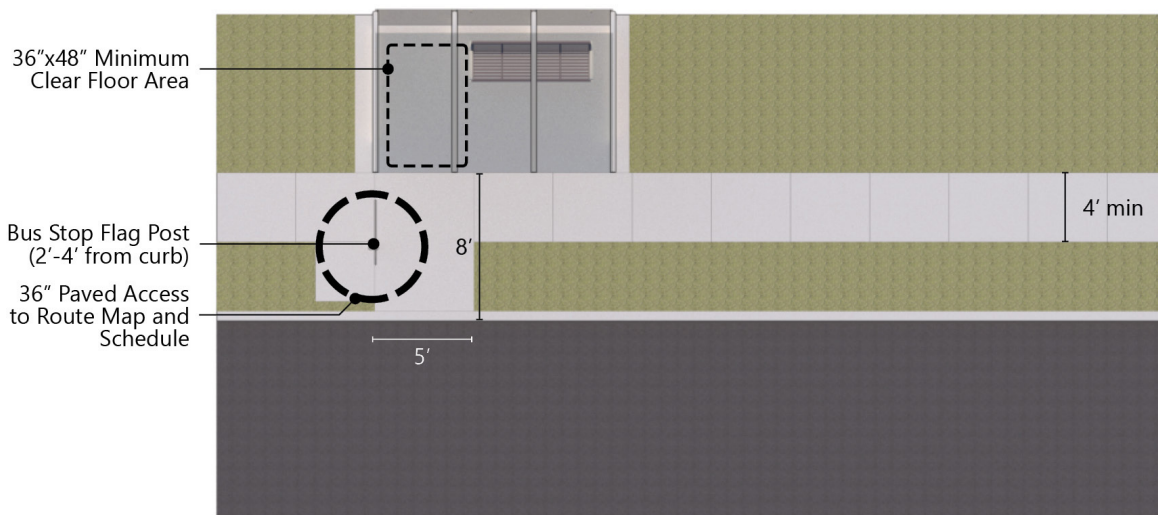
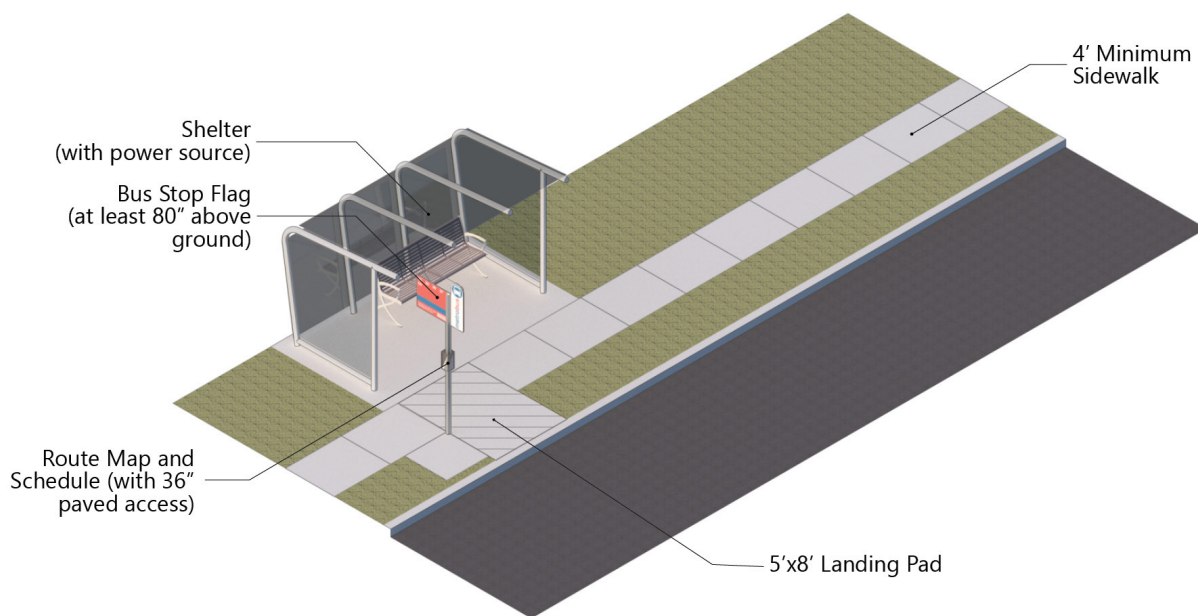
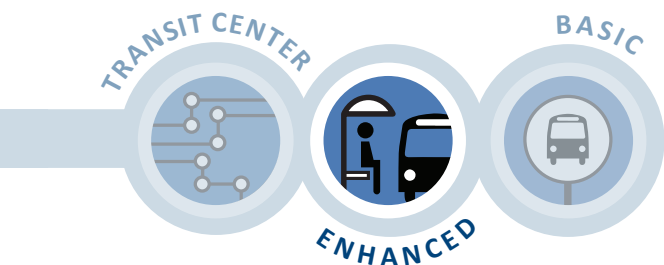


Figure 3 Basic Stop with 50 Daily Boardings or More

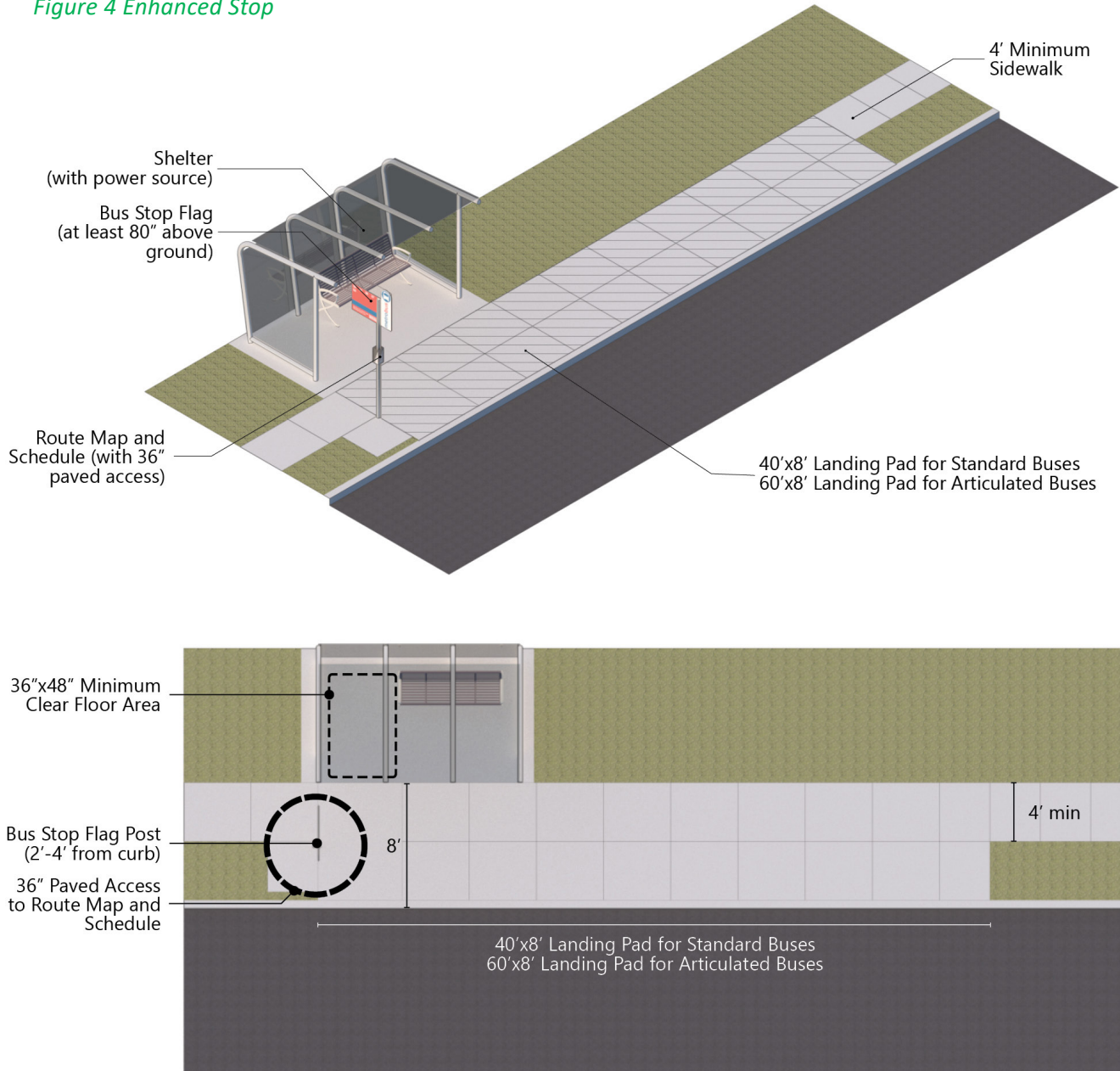


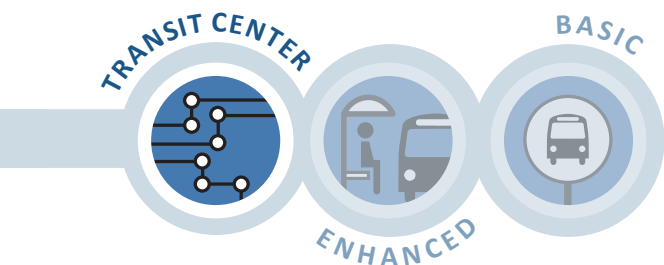


ENHANCED STOP

Figure 4 illustrates an enhanced bus stop. These stops feature a shelter and an expanded pad for passengers boarding and alighting the bus through its front and back doors.

Figure 4 Enhanced Stop

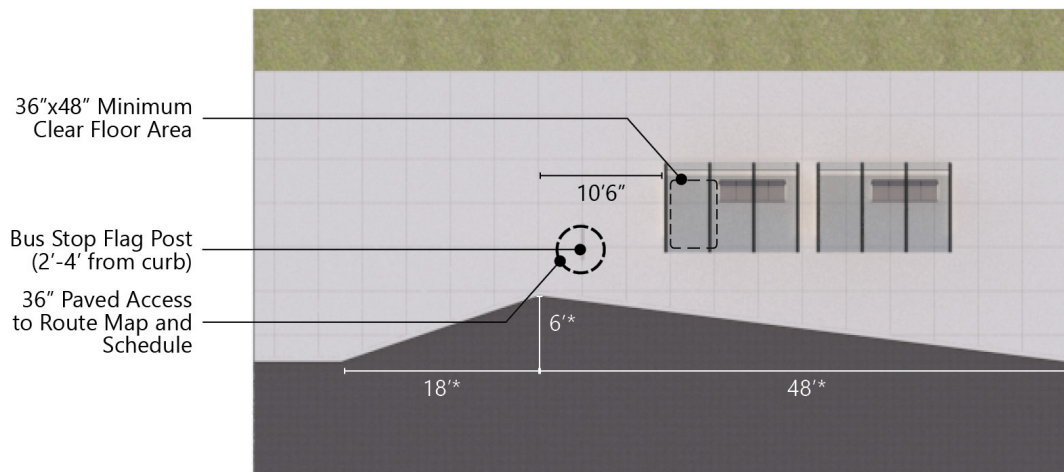
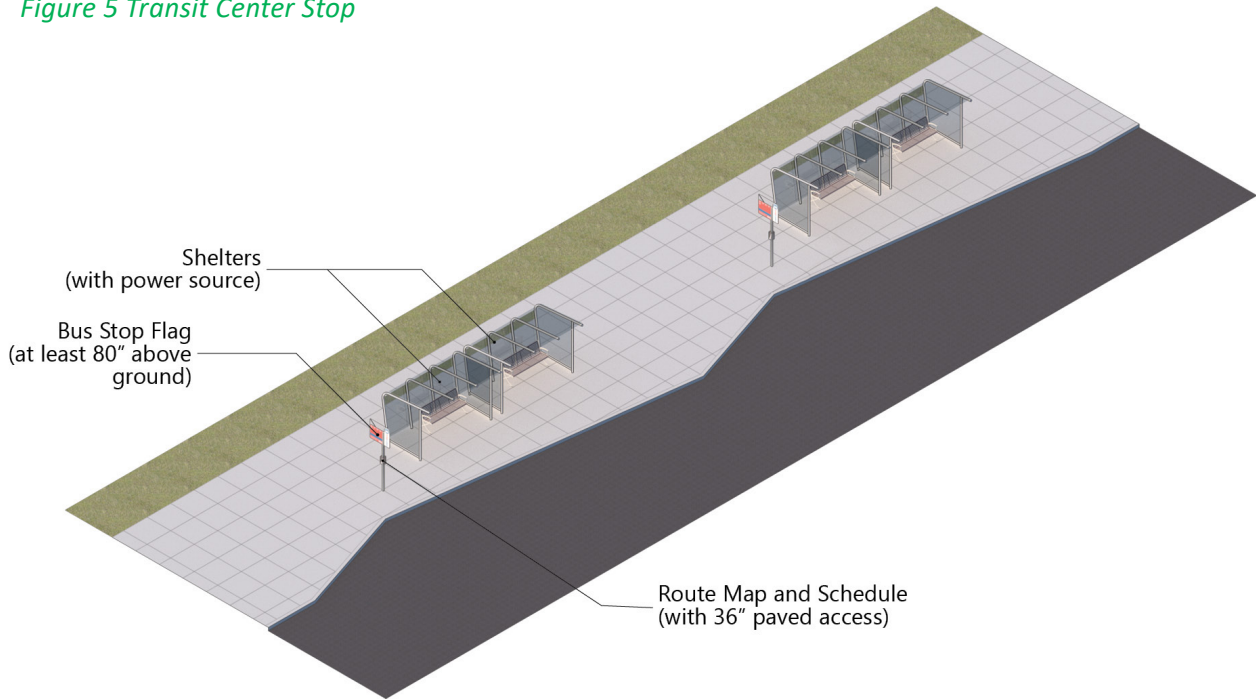




TRANSIT CENTER STOPS

Figures 5 illustrates a Transit Center stop. These stops may feature a sawtooth bus bay with multiple shelters, which is the preferred design for Metrobus facilities. Additional design requirements for sawtooth bus bays are provided in WMATA's Station Area Planning Guide.

Figure 5 Transit Center Stop



* Dimensions may vary per bus type. Refer to "Facility Standard" table on page 18.

BUS STOP AMENITIES

The following guidelines for bus stop amenities are meant to complement **Figures 1 through 5** and should be considered through coordination with WMATA.

BUILT ENVIRONMENT

Bus stops are a part of a larger setting that includes the landing pad, crosswalks, sidewalks, and curbs. The combination of these elements influences the operation of the stop, as well as access to it. Since the built environment is dependent on the surrounding context and can exist in varying configurations, WMATA proposes the following general design principles that support safe and accessible bus stops:

Flat – the grade of sidewalks, crosswalks, and curbs should conform with ADAAG guidelines to facilitate wheelchair movement to and around the bus stop area.

Clear – crosswalks, sidewalks, and any paths used by customers to access the bus stop and its amenities should be unobstructed to allow free movement.

GUIDELINES

LANDING PAD

- Provide a firm, stable, and level surface.
- Measure at least 5 feet wide by 8 feet long, with the 5 feet edge parallel to the curb and the 8 feet edge perpendicular to the curb. For high volume stops, the landing pad length should be 40 feet if served by standard stop and 60 feet if served by articulated buses.

- Remain clear of obstructions, including other bus stop amenities.
- Connect to the curb.
- Connect to a paved sidewalk with a curb cut at the corner nearest the bus stop with a matching curb cut on at least one adjacent corner.
- Sloped (parallel to the roadway) the same as the roadway, to the maximum extent practicable.
- Perpendicular to the roadway, the slope of the landing pad should not be steeper than 1:48 to ensure wheelchairs can access the landing pad from the roadway.

SIDEWALKS

- Measure at least 4 feet wide to accommodate pedestrians.

CROSSWALKS

- Locate at nearby vehicular crossings.
- Incorporate textured pavement, color, striped markings, and/or lighting, etc., to maximize visibility to drivers and users.

BUS STOP FLAG

BUS STOP TYPE



Bus stop flags ensure that bus stops are visible and identifiable to customers by clearly communicating the bus service that is delivered at the stop.

GUIDELINES

PLACEMENT

- Place bus stop flag pole one foot beyond far side of front door landing area, so that the nose of the bus aligns with the sign when stopped at the bus stop.
- Install two to four feet from the face of the curb to avoid conflicts with buses.
- Maintain a clear zone of four feet from other obstructions for free movement.
- Mount bus stop flag so the bottom of the flag is at least 80 inches from the ground. Flag should only be mounted on a bus stop flag post.

ACCESSIBILITY

- Comply with ADAAG requirements for height, width, and visibility.

VISIBILITY

- Use standard Metrobus flag, provided by WMATA.
- Securely mount Metrobus flag at the top of the bus stop flag post above other transit agency flags so that it is visible to customers and drivers.

BENCHES

BUS STOP TYPE

Depends on trip generation.



Seating at bus stops enhances passenger comfort, especially for patrons who have difficulty walking and standing. Benches can be especially beneficial if bus headways are longer than 15-minutes. Stand-alone benches can also be considered at locations where the landowner has denied permission to construct a shelter, sites frequently used by elderly people or people with disabilities, and locations where transit patrons are often sitting or standing on nearby land or structures.

GUIDELINES

PLACEMENT

- Install adjacent to the landing area.
- Ensure bench is connected to the bus stop landing pad and sidewalk.

ACCESSIBILITY

- Should meet ADAAG requirements for bench accessibility, including dimensions and strength.
- If installed inside shelters, position the bench so there is a clear floor area measuring at least 36 inches by 48 inches for use by customers in wheelchairs.

SAFETY

- Design to discourage sleeping on bench.



ADA-compliant benches, courtesy WMATA.

SHELTERS

BUS STOP TYPE

Required for Basic Stops with 50 or more daily boardings.



Shelters protect customers waiting at the bus stop from the elements and distinguishes the bus stop area, making it more identifiable. When combined with seating and lighting, shelters can enhance the overall comfort for customers.

GUIDELINES

PLACEMENT

- Orient opening toward the sidewalk and street to minimize the distance customers travel to access the shelter.

ACCESSIBILITY

- Avoid placing shelter on the landing pad or on the sidewalk where it would prevent at least a four foot minimum clear walking path.
- Position shelter at bus stop to provide adequate boarding and alighting space for customers, especially those in a wheelchair.
- Ensure shelter opening is at least 36 inches wide to allow wheelchair access.
- Provide a usable clear floor of at least 36 inches wide by 48 inches deep to allow for wheelchair maneuvering space entirely within the shelter.

- Maintain adequate maneuvering space outside of the shelter opening to ensure clear access to shelter entrance and provide an unobstructed connection to the landing pad via an accessible route.

VISIBILITY

- Place name of stop on shelter.

SAFETY

- Where possible, incorporate lighting in shelter.
- Feature transparent sides for greater visibility. Glass should be shatter proof, resistant to fading and clouding, and be marked to indicate their presence.
- Include interior seating designed to discourage sleeping.

MAINTENANCE

- Clean regularly.
- Remove graffiti promptly.
- Replace components immediately if damaged.

INSTALLATION

- Provide power for shelter lights and dynamic information signage with hard-wired infrastructure. If hard-wire infrastructure is a challenge to install, solar-powered shelter lighting is an alternative option. Dynamic information signage requires 120-volt power.

ROUTE MAPS AND SCHEDULES

BUS STOP TYPE



Route maps and schedule information inform the customer about the frequency of service at the stop and the destinations along the route. The information allows customers to use the system more efficiently.

GUIDELINES

ACCESSIBILITY

- Provide paved access (minimum 36 inches wide) to the information display.
- Comply with ADAAG requirements for post-mounted objects to eliminate any potential hazards for pedestrians.

VISIBILITY

- Display on a post or on a bus shelter designed to accommodate information.

MAINTENANCE

- Update information to accurately reflect the service provided at the stop.
- In the event of a service change, information should be updated before the first day that services changes take effect.

DYNAMIC INFORMATION SIGNAGE

BUS STOP TYPE

Contingent on presence of shelter.



Dynamic information signage provides arrival times of approaching buses for waiting passengers. These signs eliminate uncertainty for customers.

GUIDELINES

VISIBILITY

- Display operator name, route number, destination, and minutes to bus arrival.

INSTALLATION

- Dynamic Information signage requires a 120-volt continuous power supply.



Example of Dynamic Information Signage, courtesy WMATA.

LIGHTING

BUS STOP TYPE

Required for stops served by early morning and evening service hours.



Lighting enhances customer safety by providing quality visibility in the early morning and evening. It also ensures that customers are visible to approaching bus drivers.

GUIDELINES

SAFETY

- Provide ambient lighting and shelter lighting if a shelter is present.
- Shelter lighting should be 3.0 footcandles and can be hard-wired or solar-powered.
- Stops without shelter lighting should be located within 30 feet of an overhead light source.

MAINTENANCE

- Entity supplying ambient lighting or shelter lighting must keep lighting in working order during service hours.

ADDITIONAL BUS STOP ENHANCEMENTS

Agencies and jurisdictions may consider additional features to provide added benefits to customers, to better integrate bus stops with the surrounding community, or to enhance safety.

BIKESHARE, BIKE RACKS, AND BIKE LOCKERS

Agencies and jurisdictions may identify destinations where bike racks are desired to support multimodal activity. In addition, bikeshare stations and bike storage at Transit Centers can support transit usage. It is recommended that bikeshare stations, bike racks, and bike lockers be located outside of ADA-compatible landing pads, clear zones, and travel paths outlined earlier in this guide.

TRASH AND RECYCLING RECEPTACLES

Trash and recycling receptacles are important to keeping bus stops litter-free and inviting. They should be considered for bus stops where the surrounding uses may generate trash, such as a bus stop located near a convenience store. If provided, WMATA recommends that the receptacles not be attached to the WMATA bus stop pole or placed on the landing pad, and that they not obstruct access to the bus stop.

BUS BAYS

Bus bays provide a protected area away from the flow of traffic where customers can access transit and bus operators can safely stop for passengers. Bus bays can be either on-street or off-street (i.e., transfer centers, rail stations, park and ride lots). WMATA has established design guidelines for bus bays that are provided in Chapter 3 – Bus and Regional Rail Facilities, of its Station Area Planning Guide.

FACILITY STANDARD	
Sawtooth Bus Bays for Standard Bus (40' overall length)	66' length with 6' indent
Sawtooth Bus Bays for Commuter Bus (45' overall length)	70' length with 6' indent
Sawtooth Bus Bays for Articulated Bus	96' length with 6' indent
Tangent Bus Bay (Standard Bus)	15' including gutter x 44' + 48' taper at rear of bus bay and 70' taper at front of bus bay
Tangent Bus Bay (Articulated Bus)	15' including gutter x 66' + 48' taper at rear of bus bay and 70' taper at front of bus bay
Bus Lane Widths	15' including gutter for outer through lanes. 13' for inner through lanes if applicable
Bus Layover Bays	Same as tangent bays
Bus Shelter	Minimum equivalent of one 6' x 12' or 6' x 24' shelter per bus bay, as directed by WMATA
Bus Loop Radii	60' outside radius to curb, 45' centerline radius, 30' inside curb radius
Bus Stop Landing Pad	Minimum 90' parallel to road, 10' wide concrete pad in roadway

PEDESTRIAN FENCING

Pedestrian fencing is installed to prevent bus patrons from crossing or falling into a potentially dangerous area, such as an adjacent roadway. By creating a physical barrier, the fencing channels riders to safer areas for walking, such as a crosswalk. Pedestrian fences are recommended for transit islands where customers may be enticed to jaywalk. Transit Centers are also candidates for pedestrian fencing depending on the surrounding context.



Pedestrian fencing, courtesy WMATA.

SECURITY CAMERAS AND PUBLIC ANNOUNCEMENT SYSTEMS

Agencies and jurisdictions may elect to install security cameras and public announcement (PA) systems at areas with high passenger volumes, like Transit Centers, or areas with safety concerns. The cameras can serve as a tool for local police to prevent and investigate crime at transit facilities. PA systems can be used to alert patrons of emergencies or developing situations that affect safety or service. WMATA defers to the guidance provided by local police for the installation of security equipment and PA systems. It

is important to note that lighting and the location of structures (which can obstruct sight lines at bus stops) impact safety too and should be coordinated with the use of security cameras.

PUBLIC ART

WMATA supports the installation of art projects in transit systems to elevate the customer experience and to encourage the artistic interests of the region. Public art can also increase the appeal of transit to communities. WMATA's support of the arts is embodied through its Art in Transit Program, which integrates visual and performance art into its Metrorail system. Art projects that have been featured through the program include murals, mosaics, and sculptures. WMATA encourages partnerships between agencies, jurisdictions, developers, local art commissions, and other community development organizations to bring artistic elements to bus stops. It is also strongly recommended that the community be involved in the process as much as possible. For bus stops served by Metrobus, WMATA welcomes public art installations so long as they do not impede the operation of the bus stop (i.e., block access to the landing pad or other amenities), reduce accessibility to the bus stop (i.e., obstruct the sidewalk), or compromise safety at the bus stop (i.e., reduce sight lines between the bus operator and waiting passengers).

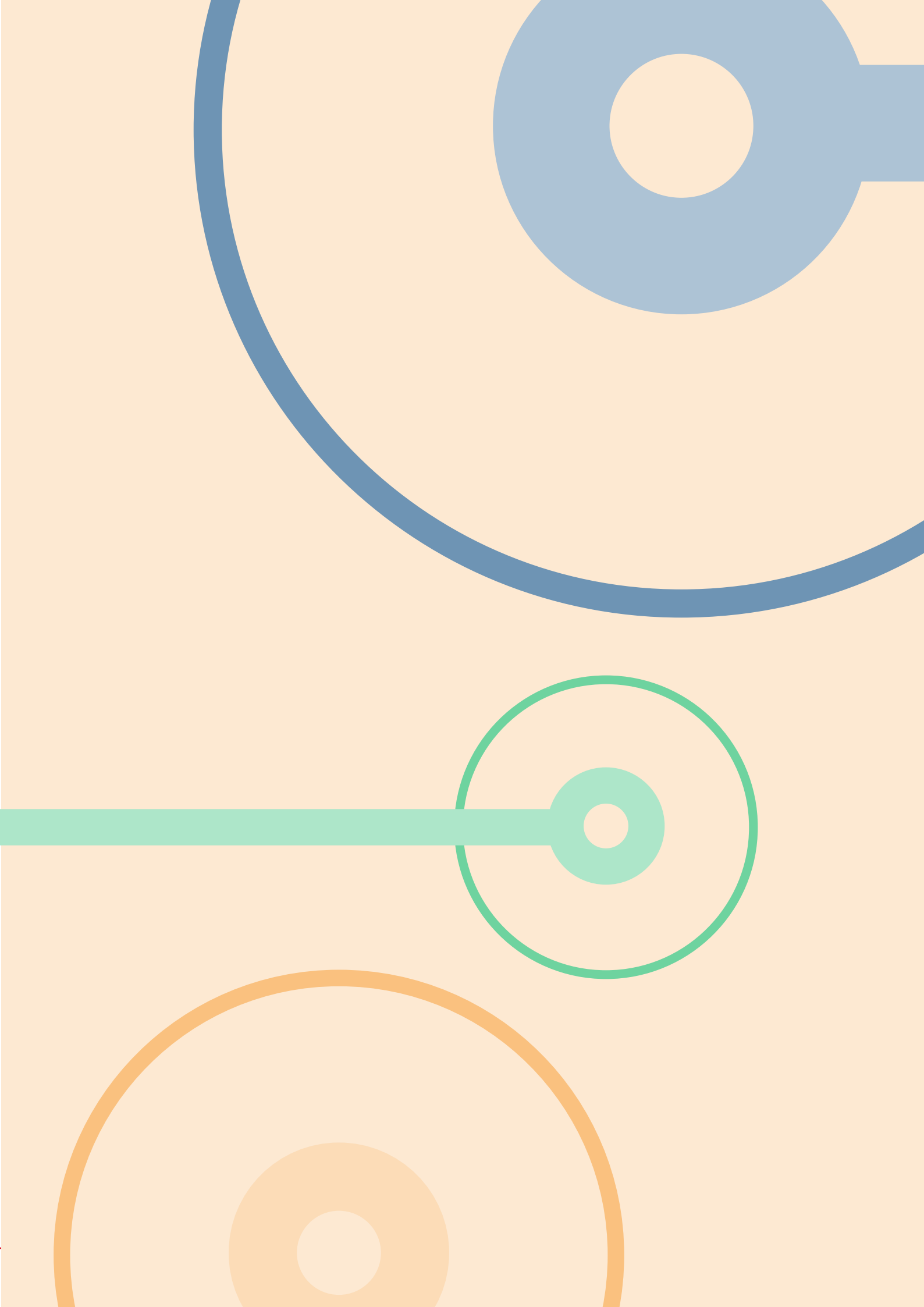
LANDSCAPING

Street trees can benefit waiting passengers by providing shade, and landscaping enhances the appeal of the bus stop to the surrounding community. Street trees and landscaping installed near bus stops should not compromise the function of the



Above: Art in Transit, Bethesda. Below: Art in Transit, West Hyattsville, courtesy WMATA.

bus stop or reduce accessibility to it. This involves appropriately siting plantings and regularly maintaining them (i.e., pruning of tree branches). Plants and trees should also be positioned so that they can thrive (i.e., they have access to appropriate sunlight and sufficient soil root volumes).





Washington Metropolitan
Area Transit Authority

