



Transit Facilities Planning & Design Manual

Madison, Wisconsin

September 2026

Table of Contents

1. Introduction.....	1
2. Policies, Codes, Guides, and Regulations	1
3. Design Transit Vehicles.....	2
4. Bus Stop Location and Type	5
5. Bus Stop Design	8
6. Bus Stop Change Process.....	14
7. Signage and Information	17
8. Bus Rapid Transit Stations	18
9. Detours and Temporary Bus Stops.....	18
10. Other Transit Facilities and Services.....	21

Appendix A: Standard Bus Stop Design Details

Appendix B: Bus Stop Accessibility Checklist

Revision History

Version	Date Issued	Change Summary
1	September 2026	Adopted by the City of Madison Transportation Commission on September 16, 2026

1. Introduction

1.1 Objective

Metro Transit provides accessible and reliable public transit service throughout the Greater Madison region, connecting residents and visitors to jobs, education, healthcare, entertainment, and other destinations. Service consists of a fixed-route bus network, paratransit service, and bus rapid transit (BRT) covering more than 110 square miles across the City of Madison and surrounding communities, providing about 12.3 million passenger trips each year. Metro has over 500 employees and operates a fleet of standard 40-foot transit buses and 60-foot articulated electric buses.

This document is intended to serve as a guide for the planning and design of new and altered bus stops, as well as a planning guide for laying out bus stops along bus routes, including opening, closing, and relocating bus stops.

1.2 Document Adoption

The Transit Facilities Planning and Design Manual (transit facilities manual) is created and maintained by Metro Transit. The effort is led by Metro Transit's Capital Projects section. The manual will be reviewed at a minimum every three years in conjunction with Metro Transit's Title VI Plan by a the Transit Facilities Review Panel, approved by the Metro General Manager, and then adopted by the City of Madison Transportation Commission.

The Transit Facilities Review Panel consists of the following representatives.

- Metro Transit Capital Projects
- Metro Transit Planning and Scheduling
- Metro Transit Operations
- Metro Transit Safety and Security
- Metro Transit Building and Grounds
- City of Madison Traffic Engineering
- City of Madison Parking
- City of Madison Engineering
- City of Madison Transportation
- City of Madison Streets
- City of Madison Disability Rights and Services Specialist (ADA Coordinator)

2. Policies, Codes, Guides, and Regulations

The following policies, codes, guides, and regulations have been used to assemble this manual.

- The Americans with Disabilities Act (ADA) Title II, enacted in 1990, prohibits discrimination by public entities based on disability. All new bus stops and transit facilities are required to be consistent with the ADA Design Standards, and Guidance on the ADA Design Standards. The current version used to assemble this manual is 2010, published by the U.S. Access Board. www.ada.gov/law-and-regs/design-standards.
- The City of Madison ADA Transition Plan is required by Title II of the ADA. It is intended to guide the City's efforts to provide accessible and useable public facilities for people with disabilities. The ADA Transition Plan addresses accessibility within public right of way, including transit stops within the City of Madison. <https://www.cityofmadison.com/civil-rights/programs/disability-rights-services-program/ada-transition-plan>
- The Public Right-of-Way Accessibility Guidelines (PROWAG) are published by the U.S. Access Board. The U.S. Department of Transportation issued a final rule adopting PROWAG as part of its ADA standards for new construction and alterations of transit stops in the public right-of-way. www.access-board.gov/prowag

- The NACTO Urban Street Design Guide charts the principles and practices of engineers, planners, and designers. A blueprint for designing streets, the guide is a toolbox to make streets safer, more livable, and more economically vibrant. www.nacto.org/publication/urban-street-design-guide
- The NACTO Transit Street Design Guide, developed through a new peer network of NACTO members and transit agency partners, provides street transportation departments, transit operating agencies, leaders, and practitioners with the design guidance and tools to actively prioritize transit on city streets. www.nacto.org/publication/transit-street-design-guide
- The City of Madison Standard Specifications for Public Works Construction are the set of rules, directions, and requirements that all parties involved in public works construction in the City of Madison are required to follow. www.cityofmadison.com/engineering/developers-contractors/standard-specifications
- This Complete Green Streets Guide provides a framework for implementing complete streets while also considering the green infrastructure needed to address sustainability goals. The Complete Streets policy was implemented with RES-09-00997 in 2009. www.cityofmadison.com/transportation/initiatives/complete-green-streets
- Vision Zero is a data driven strategy intended to eliminate traffic deaths and severe injuries on all roadways, bikeways and sidewalks. The City of Madison Vision Zero initiative strives to improve safety for everyone moving about the city, whether walking, biking, driving and riding transit; and to improve the identified high injury locations, all in an effort to prevent fatal crashes and severe injuries. www.cityofmadison.com/transportation/initiatives/vision-zero
- The Wisconsin Department of Transportation (WisDOT) Facilities Development Manual (FDM) provides policy, procedural requirements, and guidance for highway improvements on the state trunk highway system, and other street and highway systems for other highways for which WisDOT may act as an administrative agent or administer funding. <https://wisconsindot.gov/pages/doing-bus/eng-consultants/cnslt-rsrcs/rdwy/fdm.aspx>
- Transit Cooperative Research Project (TCRP) Report 19 – Guidelines for the Location and Design of Bus Stops, 1996, provides some universal planning and design concepts for bus stops. <https://www.trb.org/TCRP/TCRP.aspx>
- The Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), published by the Federal Highway Association (FHWA), defines the standards used to install and maintain traffic control devices on all streets, highways, pedestrian and bicycle facilities, and site roadways open to public travel. <https://mutcd.fhwa.dot.gov/>
- A Policy on Geometric Design of Highways and Streets, published by the FHWA, commonly referred to as the “Green Book,” provides guidance to highway engineers and designers who strive to make unique design solutions that meet the needs of highway users while maintaining the integrity of the environment. <https://highways.dot.gov/safety/pedestrian-bicyclist/safety-tools/417-policy-geometric-design-highways-and-streets-6th>

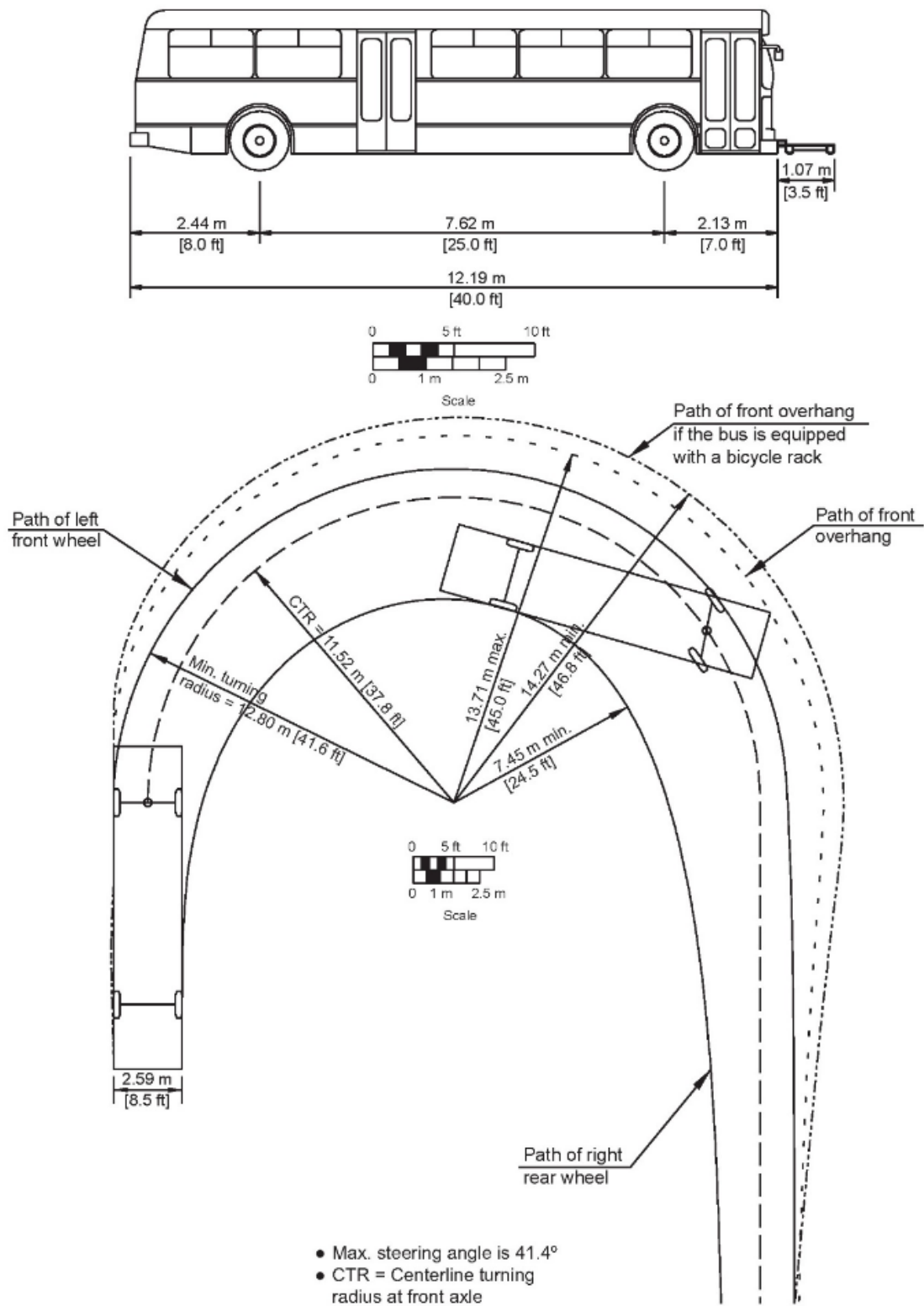
This transit facilities manual is intended to be consistent with all these policies, codes, guides, and regulations. Where inconsistencies exist between this guide and other sources, established legal requirements shall take precedence.

3. Design Transit Vehicles

3.1 Design Vehicle

Metro Transit uses a combination of standard 40-foot transit buses and 60-foot articulated buses. The physical characteristics of buses should be considered in all transit-related design elements. Standard 40-foot buses typically have more constrained turning requirements than the articulated buses. Key dimensions for this vehicle are consistent with the American Association of State Highway and Transportation Officials (AASHTO) City Transit Bus (CITY-BUS); typically this design vehicle shall be used in determining transit-related geometric design requirements.

Facilities associated with BRT and Routes A, B, F, 75 and 80 should be designed for 60-foot articulated buses. However, as bus stop design is concerned, all bus stops shall be designed to accommodate 60-foot buses because they may be used on any individual trip.



3.2 Turning movements

Curb radii should be designed to accommodate buses making the turn without tracking over curbs, encroaching into parallel lanes on the approach, or any oncoming lanes. The curb radius needed depends on how many lanes are between the bus and the curb on both the approach and the receiving roadway, since buses are allowed to encroach over parallel parking and bike lanes, as well as parallel vehicle receiving lanes. For example, if the approach to the right turn lane is offset from the curb (i.e., there is a parking or similar lane between the turn lane and curb), a smaller curb radius is necessary and may promote slower speeds at intersections.

Turning movements should be checked using turn templates or software. The following desired curb radii are recommended based on Metro operational experience. Typically, right turns are more likely to inhibit bus movements than left turns.

- Bus turning right from one lane to one lane – 40' curb radius
- Bus turning right from one lane into multiple lanes – 30' curb radius
- Bus turning right from offset lane into one lane – 30' curb radius
- Bus turning right from offset lane into multiple lanes – 20' curb radius

Articulated buses can make sharper turns than 40-foot non-articulated buses, since an articulated 60-foot bus behaves as two 30-foot buses connected through the articulation joint. Therefore, all turning movements should be designed to accommodate a 40-foot non-articulated bus, regardless of which type is planned for the route.

3.3 Horizontal clearance

All transit buses that Metro operates have the maximum allowable vehicle body width of 8.5 feet. In addition, mirrors add about 9 inches to each side of the bus, making the full width of the vehicle and mirrors about 10 feet. Mirrors have varying designs and are adjustable. Because buses are wider than most vehicles and mirrors stick out beyond the body of the bus, side swipes and mirror strikes are common incident types.

Travel lane widths are established in the City of Madison's Complete Green Streets policy.

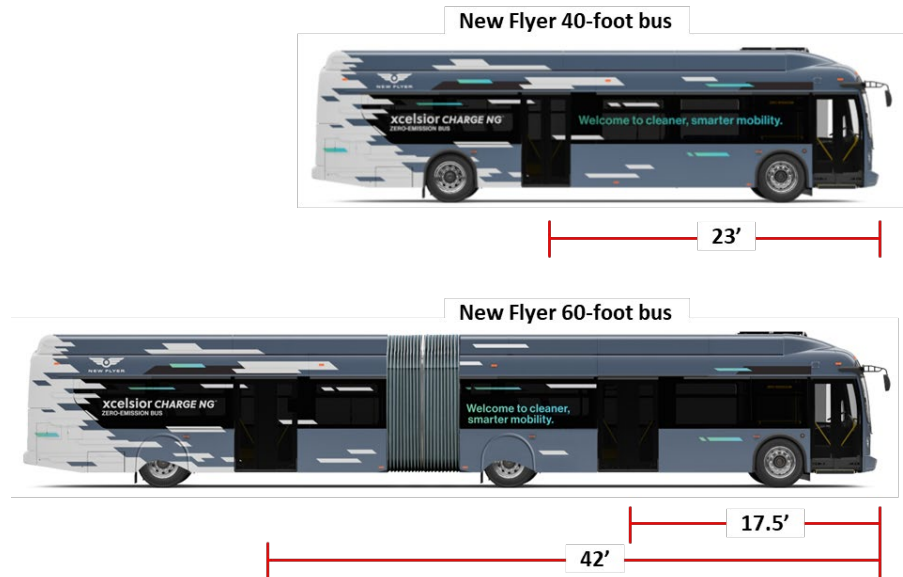
The desired width for bus stop pullouts is 10 feet. This width accommodates the 8.5-foot bus body as well as the left side mirror without encroaching on the adjacent travel lane, while the right-hand side mirror overhangs the curb. The 10-foot width can include the gutter pan, as buses will pull up to the curb face.

In many locations, parking lanes serve as bus stop pullouts. Parking is restricted through the bus stop zone, allowing the bus to pull into the parking lane to serve the bus stop. Most parking lanes are 7 to 8 feet wide. While this width is less than desired for a bus pullout, the practice is routine and acceptable, with the understanding that large vehicles passing a bus may need to wait or encroach on a parallel lane.

Bike lanes along bus routes are often 5 to 6 feet wide. This width is insufficient for a bus stop pullout. Buses serving bus stops along a corridor with standard width bike lanes will block the bike lane and about half the vehicle travel lane. This should be avoided if possible by routing bikes along the sidewalk or widening the bike lane and/or gutter pan to have 10 feet (measured to face of curb) through the bus stop zone; however, a bus stop that coincides with a standard bike lane is unavoidable in many circumstances and is acceptable, but the least preferred option.

3.4 Door locations

Metro Transit's 40-foot transit buses have a front door and rear door, both on the right side. The 60-foot articulated buses have a front door on the right side, in addition to a middle and rear door on both the right and left side. Door locations on the design vehicle are important so that hazards can be avoided where people board and exit the bus. Important dimensions are shown below.



3.5 Ramps and Floor Heights

The design vehicle has a nominal floor height of 14 inches. The actual floor height can vary due to suspension adjustments and tire pressure. Low-floor buses have a kneeling feature that allows the front right corner of the bus to dip, which is used when the ramp is deployed, or when it is requested by a passenger. In the kneeling state, the front door floor height is reduced to about 10 inches.

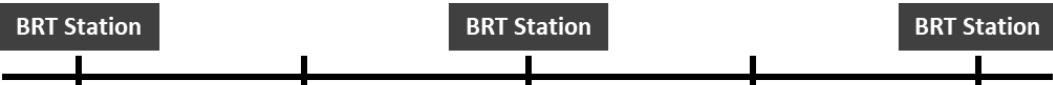
All front doors feature a fold out ramp. The ramp is nominally 4 feet long and 32 inches wide. The rear door of 40-foot buses is not equipped with a ramp.

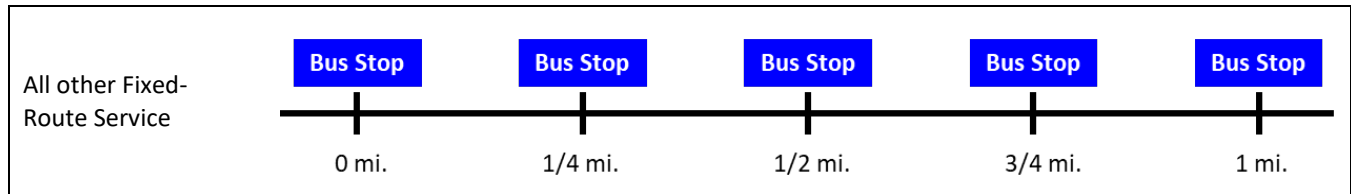
60-foot articulated buses have bridge plates at all four rear doors. Bridge plates are nominally 18 inches long and 36 inches wide. Bridge plates may only be used at BRT platforms, since they are not long enough to be deployed at standard curb height while achieving the necessary accessible slope.

4. Bus Stop Location and Type

4.1 Bus Stop Spacing Guidelines

The following bus stop spacing guidelines establish the standard distances between stops for each Metro Transit service type. In some cases, deviations from these guidelines may be necessary. For example, commuter-oriented service may have longer distances between stops. In general, deviations from this guidance that locate bus stops closer than the standard distance should be avoided. Bus stop spacing should be consistent throughout the service area. For example, bus stops should not be closer together in downtown areas – while destinations are more dense, the frequent stopping also has a more severe impact on ride quality and travel times.

Type of Service	Desired Bus Stop Spacing				
Bus Rapid Transit					
	0 mi.	1/4 mi.	1/2 mi.	3/4 mi.	1 mi.



4.2 Locating Bus Stops

In general, bus stops should be located at major intersections to integrate bus service with the pedestrian access route. When routes intersect, bus stops should be provided to allow for transfer opportunities to passengers.

In between major intersections, bus stops generally should be evenly distributed along the route at intervals consistent with the bus stop spacing guidelines in the section above. These intermediate bus stops should be oriented towards high-quality pedestrian crossings including signalized intersections, crosswalks with rapid flashing beacons, or well-marked crosswalks. Bus stops should be "paired" with a stop going in each direction at the same intersection, where applicable.

Bus stops should be located as proximate as possible to major attractions and destinations such as high-density multi-family apartment buildings, health care facilities, major employers, and education institutions.

Other considerations for bus stop locations may be the suitability of the intersection for bus operations and pedestrian facilities. For example, if a crosswalk only exists on one side of the intersection, it may be desirable to locate bus stops on that side of the intersection.

Turning maneuvers should be considered when locating bus stops. Generally, bus stops at intersections where the bus makes a left turn must be far side so that the bus can turn from the appropriate lane. In most cases, the bus stop will need to be located farther downstream than normal so that the bus can make the turn and square to the curb before making the stop. Bus stops prior to a left turn should be investigated to ensure that the bus has sufficient space to merge into the left lane to make the turn.

Bus stops should be located so that they do not block crosswalks when the bus is serving the stop.

4.3 Near Side and Far Side Bus Stops

At intersections, bus stop locations are recommended by Metro Transit staff based on these design guidelines and site conditions. Projects should reach out to Metro Transit early in the design phase to discuss bus stop placement options.

Based upon guidance from NACTO and other sources, bus stops on the far side of intersections function better than bus stops on the near side of intersections in most situations. There are several reasons for this, as described below.

Advantages of far side bus stops:

- Operators can process traffic queues, stop signs, and traffic signals, and pass through the intersection efficiently, and then focus on serving the bus stop with these conflict points behind them.
- The risks associated with pedestrians crossing in front of the bus are minimized.
- Converging routes can serve a common stop for riders traveling in the same direction, and diverging routes are able to serve separate stops for riders traveling in different directions.
- The bus is not blocked from serving the stop by traffic queues, which can lead to buses stopping a second time and waiting through a second traffic signal cycle.
- Conflicts between buses and right-turning vehicles is reduced.
- Sightlines are not blocked by the bus for vehicles turning from the side street.

- Parking restrictions are minimized because buses can use the width of the intersection to pull into the bus stop.

Some exceptions where near side stops exist, as described below. Locations where near side bus stops may be preferable are:

- On single lane streets at a signalized intersection where the bus stop is in lane. In these situations, a far side bus stop may prevent vehicles from clearing the intersection.
- At roundabouts where a far side bus stop would typically need to be placed far from the intersection and crosswalk.
- On low-volume single-lane streets at stop-controlled intersections. In these locations, a near side bus stop can prevent the bus from stopping twice.
- Where pedestrian facilities do not exist on the far side, or the crosswalk is on the near side.
- Where driveways, roadway geometry, or other constraints prevent a far side bus stop.
- Where near side bus stops may already exist and function without problems.

Generally, mid-block bus stops outside of intersections should be avoided to prevent encouraging pedestrian crossing outside of crosswalks. If mid-block bus stops are used, they should be installed with marked crosswalks to allow pedestrians to access the bus stops.

Locations where mid-block bus stops may be considered should normally meet the following criteria:

- A bus stop is necessary to achieve a roughly one-quarter mile bus stop spacing
- Major activity generators exist in the area
- A street intersection is not available nearby
- A high-quality crosswalk exists so that people can access bus stops in both directions

4.4 Locating Terminals

A route terminal is typically a single bus stop that serves as both the first and last stop on a bus route. Terminals are unique in that the bus will be stopped for an extended period, typically 5 to 15 minutes. In some cases, off-route terminals are used where the bus travels from the last bus stop to a separate non-revenue terminal, and then from the terminal to the first bus stop, and passengers are not allowed to board or exit at the non-revenue terminal.

Terminals should be located where the following conditions are met:

- A bus pullout exists or can be constructed to avoid lengthy disruptions to traffic
- The presence of a standing, idling bus is not disruptive to the surrounding neighborhood
- An operator restroom is available or can be established
- No or minimal deadheading is required to get to and from the terminal
- Passengers have seamless connections to and from other routes nearby, if applicable

4.5 In-Lane and Pullout Bus Stops

Bus stops can be either located in the travel lane (in-lane), or in a pullout where the bus leaves the travel lane and stops outside the flow of traffic. In-lane bus stops offer several advantages for most bus stops outside of terminals and time points.

Advantages of in-lane bus stops include:

- The bus is not delayed by waiting for a gap in traffic to reenter the travel lane.
- The sidewalk and bus stop area is more spacious, allowing for improved pedestrian flow and bus stop amenities.
- The likelihood of a sideswipe crash as traffic passes the stopped bus is reduced.
- The bus can more easily be squared to the curb, minimizing the gap between the curb and bus.

Pullout bus stops are advisable in some locations. The locations where pullout bus stops are advisable are:

- At terminals, pullouts are required to prevent the bus from blocking a travel lane for long periods of time.
- At time-points, pullouts are advisable to prevent the bus from blocking a travel lane for a period of time longer than a typical bus stop.
- On single lane streets, at a signalized intersection, where the bus stop is on the far side, and traffic volume is significant. In these locations, an in-lane bus stop would cause traffic behind the bus to block the intersection.
- Where a parking lane is used as a travel lane at some times of day. An in-lane bus stop during off-peak travel times would conflict with the added travel lane. In these situations, the bus stop is a pullout when parking is allowed, and an in-lane stop when the lane is used as a travel lane.
- On higher speed roads, for example where speeds exceed 40 miles per hour, an in-lane bus stop may pose a risk of rear end crashes.
- Other unique circumstances may call for pullouts. Metro routinely works with other agencies to balance the unique needs of every project.

At pullout bus stops, transit signal priority (TSP) may be used to aid the bus in merging back into traffic.

Pullout bus stops often exist on streets with on-street parking, but some pullouts are specially constructed turnout areas. Where pullouts simply consist of a parking restriction and traffic volumes are relatively low, a pullout in the parking lane typically represents little merge delay and is often acceptable.

Specially constructed pullouts should be avoided unless they are required as they add cost to projects, require maintenance, reduce sidewalk space, and may require the acquisition of right-of-way.

Pullout bus stops can be converted to in-lane bus stops by removing the pullout bay, or by adding a bus bulb in the parking lane. Bus bulbs do not normally reduce parking availability. For streets with bike lanes, bus bulbs eliminate conflicts between buses and bikes and allow the bus to fully occupy the travel lane. When constructing bus bulbs, the impacts on snow clearing operations and drainage should be considered. See Appendix A.

5. Bus Stop Design

5.1 Bus Boarding and Exit Pads

Bus boarding pads provide a firm, stable, slip-resistant, accessible surface for passengers to get on and off the bus using the front door of the bus. Boarding pads are not required where concrete terraces exist, but the boarding area in concrete terraces must meet the same requirements of a boarding pad. Boarding pads should be constructed according to Appendix A and the City of Madison Standard Specifications for Public Works Construction and need to comply with all accessibility requirements including the ADA Standards for Accessible Design, PROWAG, and any other applicable standards. Any modifications to bus stop facilities must bring them into compliance with applicable requirements.

General requirements are below.

- Boarding pads must connect seamlessly between the curb and sidewalk or pedestrian route
- Boarding pads should be at least 10 feet long, the absolute minimum is 6 feet long
- Boarding pads must have a maximum cross slope of 1:48 (2.1%)
- Boarding areas must be free from obstructions for a minimum length of 6 feet
- Boarding pads have a minimum clear depth of 8', a portion of which may be the sidewalk

In some cases, the sidewalk and curb are situated such that the boarding pad would exceed the 1:48 maximum cross slope requirement. Two primary strategies are used to reduce the terrace slope.

Strategies for reducing terrace cross slope to achieve an acceptable boarding pad slope:

- Lower the sidewalk. Lowering the sidewalk reduces the grade difference allowing for a compliant boarding pad slope. It may not be practical, however, if lowering the sidewalk would impact adjacent properties or result in non-compliant grades along the mainline sidewalk. Grading behind the sidewalk can require an easement or “pedestrian curb” on the back of the sidewalk to make up the elevation difference between the sidewalk and surrounding land.



Sidewalk lowered with pedestrian curb

- A taller curb head. A modified curb design can be used with a curb head height of more than the standard 6 inches. This strategy also reduces the grade difference allowing for a compliant boarding pad slope and has a side benefit of reducing the step height onto the bus. Curb heights should be limited to 9 inches, as a taller curb would prevent the front-door ramp from landing on the pad. A wider curb head is recommended with a taller curb. If raised curb heads are used, PROWAG R205.5 requires a detectable warning surfaces at the boarding platform. PROWAG R104.1 defines a “boarding platform” as “a platform raised above standard curb height”.



Raised curb head with detectable warning fields

If neither of these strategies will successfully result in a boarding pad cross slope of 1:48 or less, it may be necessary to relocate the bus stop.

Back door exit pads are not required for accessibility but can be used to provide a better experience for people entering or exiting the back door. Exit pads should be installed at new or reconstructed bus stops and retrofitted when opportunities exist at medium-use bus stops (see table in Section 5.4). Exit pads should follow the same design guidelines, if possible, as front door boarding pads, but steeper cross slopes of up to 5% are acceptable. In many cases, front door boarding pads and back door exit door pads will simply be combined into a continuous length of paved terrace. 60-foot buses have two back doors, and bus stops regularly served by 60-foot buses should have an exit pad for both the middle and back door.

5.2 Bus Shelters

Bus shelters provide passengers with protection from weather and contain a bench for people to sit. Bus shelters, if present, have certain accessibility requirements that must be met, such as being connected with the pedestrian access route, and having a location within the shelter accessible to wheelchair users.

Currently, most Metro Transit bus shelters consist of one of two varieties – “split front” and “enclosed” shelters. A third type, the “cantilever” shelter, can also be found.

- “Split front” shelters contain a back wall, half side walls, and half front wall. These are older shelters that have been in service for several years.



Typical Metro Transit “split front” shelter

- “Enclosed” shelters contain a back wall, full sides, and half front wall.



Typical Metro Transit “enclosed” shelter

- “Cantilever” shelters contain a back wall, half side walls or no side walls, and no front wall.



Typical Metro Transit “cantilever” shelter

The majority of Metro’s split front and enclosed type shelters are nearing or beyond their useful life. Cantilever shelters offer several benefits listed below. Due to these benefits, it is expected that most new shelters will be of the cantilever type.

Cantilever type shelters have the following benefits over split front and enclosed type shelters:

- The shelter design allows for improved pedestrian circulation, allowing people to enter and exit more easily.
- Cleaning and maintenance is more straight-forward as trash does not accumulate in the enclosed area.
- Air circulation is improved, though the shelter blocks the wind from most directions.
- The shelters are more compact and can be installed in more locations.

- The shelters can be installed facing the street in most locations.
- Visibility is improved, reducing the chance of a passenger being passed by the bus.

Shelters should be installed with the back wall away from the street and the front opening facing towards the street. This allows people to sit on the bench and watch for the approaching bus and enter the bus more directly.

If installing the shelter in the configuration described above is not possible, shelters can also be installed with the back wall towards the street and the entrance facing the sidewalk. This practice is only recommended if it is the only way to install a shelter, typically when the terrace is not wide enough. Care should be taken to locate the shelter as far from the roadway as possible, in a location that does not impede the boarding area.

Shelter pads should be constructed according to Appendix A and the City of Madison Standard Specifications for Public Works Construction. Cantilever type shelters may create additional forces on the concrete and anchors that they are installed upon, including potential uplift forces on the rear anchors. The manufacturer for the existing cantilever type shelters recommends a concrete thickness of at least 6 inches. Designers and installers should consider these factors and install shelters per manufacturers' recommendations.

Many of Metro Transit's partner agencies own, install, and maintain shelters. In addition, several private shelters exist.

5.3 Benches

Benches provide a place for people to sit while they wait for the bus.

Most benches at bus stops are a standard six feet long and are installed laterally parallel to the roadway. Four-foot benches are also available. Four-foot benches have the advantage of being able to be installed in more places – specifically, on a standard 10-foot boarding pad. Benches should have a clear floor space of at least 30 by 48 inches at one end to accommodate a person who uses a wheelchair.

Benches should be “backless”. They should be constructed entirely of steel or similar durable material (as opposed to wood or plastic) to promote durability and should be of a standard, modern design that promotes easy installation, cleaning, drainage, and maintenance.

Care should be taken to locate the bench as far from the roadway as possible to promote passenger safety. Benches must be placed a minimum of 36”, preferred 48”, from the face of curb. If insufficient width is available, the site should not be considered appropriate for a bench. Benches should be placed where they do not impede the boarding area or sidewalk.



Typical 6-foot bench

5.4 Locating Amenities at Bus Stops

Amenities are allocated based on need, availability of equipment, and space availability at the bus stop. Need for an amenity is defined quantitatively by the number of daily boardings, combined with qualitative factors such as proximity to

senior living or healthcare facilities, or the bus stop serving as a transfer location. Benches are generally used at bus stops with a moderate level of boardings and shelters are used at stops with a higher level of boardings. Other factors may be considered such as regular use of the stop by seniors or people with disabilities. Barriers to installing amenities include the cost of the amenity itself as well as the space available at the bus stop and the need for a concrete mounting surface.

Typical bus stop usage and facilities guidelines are shown below. “Boardings per day” is defined as an average of non-holiday weekday boardings, estimated at the bus stop level, during the spring or fall. Planners should consider the qualitative factors listed above in addition to these usage guidelines. New or reconstructed bus stops should include concrete for potentially needed amenities; for example, a lower-use stop may be designed to accommodate amenities provided at medium-use bus stops.

Bus stop characteristics	Appropriate amenities
Lower use stop – 0 to 15 boardings per day	Boarding pad, sign
Medium use stop – 15 to 30 boardings per day	Boarding pad, sign, bench, exit pad
High use stop – 30 to 500 boardings per day	Boarding pad, sign, shelter, exit pad, bench
Very high use stop – more than 500 boardings per day	Consider multiple shelters

Public trash cans should be supplied based on request or documented need. For example, if Metro Transit receives multiple reports of trash left at a bus stop, it may make request a trash can. Within the City of Madison boundary, trash cans are supplied by the City of Madison Streets Department and are collected using automated trash collection equipment. Trash cans must not be placed on the boarding surface.

Bus stops should be laid out based on the diagrams in Appendix A. All bus stops need to be reviewed by Metro Transit when siting new amenities due to unique site conditions.

5.5 Funding of Transit Facilities

Within the City of Madison, bus stop facilities such as boarding pads, signs, benches, and shelters, are funded by local sources as well as federal funds and other grants. Local funding for bus stop amenities in Madison is provided by Metro Transit. Boarding pads, exit pads, shelter pads, as well as curb and sidewalk work are funded based on how they are procured.

Local funding for bus stop infrastructure concrete and related work is generally funded according to the following.

- Work associated with the City of Madison district sidewalk program is covered by the City of Madison Engineering budget.
- Work associated with city-wide sidewalk program is covered by Metro Transit, following a cost estimate and internal approval process.
- Work associated with resurfacing, reconstruction, and similar projects is covered by the project budget.
- Work associated with other projects is generally covered by the project if it is within the scope of the project, or by Metro Transit if out of scope and requested by Metro, following a cost estimate and internal approval process.

Bus stop facilities outside the City of Madison are covered by external jurisdictions. In some cases, private funding may be used to install transit facilities, see Section 6.6 Development Projects.

5.6 Removal of Transit Facilities

This manual primarily address criteria that may qualify a bus stop for additional amenities, however other factors may be considered when adding or removing an amenity. Some bus stops may see amenities removed due to declining use of the bus stop, increased needs at other bus stops, or other factors.

Transit amenities are in place because they are important infrastructure that serves passengers. Therefore, removal is not a routine action.

Concerns about bus stops may arise for a variety of reasons. Metro Transit staff will examine each unique situation and decide on a proper course of action with input from all relevant City of Madison departments.

The final decision to remove an amenity rests with the Metro Transit General Manager with notification to the appropriate alder.

When bus stops are closed, the pads are typically left in place while all other facilities and amenities are immediately removed. Bus stop pads that are no longer in use may be removed if there is little chance that the pad will be used again. Metro Transit staff reviews the scope of work in the annual district sidewalk program and recommend the removal of unused bus stop pads, if applicable.

6. Bus Stop Change Process

6.1 Identifying the Need for Bus Stop Changes

Bus stops are opened, closed, and relocated to improve service along the route. They can also be modified in the same location by adding or adjusting boarding pads and amenities. Needs for bus stop changes are identified and tracked within the Metro Transit Capital Projects section. Bus stop deficiencies are identified through several mechanisms as described below.

Processes that identify needs for bus stop changes include:

- Metro Transit planning staff implement changes to a route, necessitating adjustments to bus stops.
- Metro Transit capital projects staff find bus stops to be inconsistent with these guidelines.
- Metro Transit operations staff identify needed changes to bus stops.
- Needs are identified by Metro Transit safety staff or the Metro Transit Safety Committee.
- Bus stops are evaluated in conjunction with planning for transportation projects like street reconstruction.
- Requests and complaints from the public identify needs for improvements.

These needs are tracked and categorized for future implementation as resources are available.

Members of the public may request changes to bus stops by visiting cityofmadison.com/metro/contact where they can reach Metro Transit staff by calling (608) 266-4466 or emailing mymetrobus@cityofmadison.com. Requestors are asked to identify the specific bus stop using the bus stop ID or a location description and describe the change desired and reasons for the change. These requests are forwarded to Metro Transit Capital Projects staff who review each request and share and review with planning and operations staff. Capital Projects staff will then document and relay to the requestor any recommended change along with a possible timeline for implementation.

6.2 Internal Planning Process

The required steps for changes to bus stops are described below.

- Documentation of need. The Metro Transit Capital Projects section documents the need for the change. Documentation typically consists of those who requested the change, rationale for change, and whether or not the change is consistent with this manual.

- Description of proposed improvement. The Metro Transit Capital Projects section provides a description of how the change will be implemented, typically including maps, drawings, or graphics. A cost estimate and funding source is required if change includes a cost to Metro Transit. Impacts to maintenance or Metro Transit’s available equipment supply may also be included. Descriptions may include alternatives that are under consideration or alternatives that have been dismissed.
- Transit Facilities Review Panel review. Changes are reviewed as required by the Transit Facilities Review Panel. Members of the panel are identified in Section 1.2, but in some cases a smaller panel may be used if the change does not affect the work of the panel member. Documentation of the review is maintained to resolve any conflicts. Changes that directly affect other City of Madison departments must be approved by those departments.
- Transit General Manager approval. A final project summary is approved by the Metro Transit General Manager following these steps.
- Transportation Commission approval. “Significant” changes to bus stops must be approved by the Transportation Commission, while “minor” bus stop changes are approved administratively. Significant and minor bus stop changes are described in Section 6.3: Transportation Commission Approval. Bus stop changes presented to the Transportation Commission include prior notice to the alder in whose district the bus stop is located.
- Partner Jurisdiction approval. Bus stop changes outside the City of Madison must be approved by partner jurisdictions. This approval process may vary as partner jurisdictions have separate procedures.
- Implementation. Bus stop changes are typically constructed when practical, and changes to bus stop locations are implemented with official service changes that occur four times per year.
- New and altered facilities are evaluated for ADA compliance using the Bus Stop Accessibility Checklist (Appendix B). A copy of the evaluation, based on the design of the bus stop, is submitted to the Disability Rights and Services Program as part of Madison’s ADA Transition Plan monitoring.

Bus stop changes in the State Street and Capitol Square area should be coordinated with the City of Madison Mall Concourse Supervisor.

6.3 Transportation Commission Approval

Per M.G.O. 33.56(7)(f), “significant changes in bus stop locations, removals of bus stops, or consolidation of bus stops” require Transportation Commission approval. Metro Transit defines significant bus stop changes as changes that involve the following:

- A new bus stop is opened
- An existing bus stop is closed
- A bus stop is moved to a different intersection (one pair is opened, and another is closed)

“Minor” bus stop changes do not require Transportation Commission approval, but are approved administratively by the Metro Transit General Manager. Examples of minor bus stop changes are below.

- A bus stop is relocated within the same intersection, for example from near side to far side
- A bus stop amenity (shelter or bench) is added or changed
- An amenity is removed
- A bus stop pad is constructed, reconstructed, or expanded
- A former bus stop pad at a previously closed bus stop is removed

In some cases, bus stop changes coincide with route changes. For example, if a route is changed or eliminated, bus stops along it are closed. If a route is changed or added, new bus stops will be added. These bus stop changes are presented to the Transportation Commission along with the route change and approved simultaneously.

Bus stop changes that coincide with public works projects are typically presented with the public works project, and approved simultaneously, so that the Transportation Commission and public can review the proposed change in the context of the project.

Transportation Commission approval, including the date when the change was approved and any adjustments made by the Transportation Commission, are documented by the Metro Transit Capital Projects section.

6.4 Public Outreach and Notification

When a “significant” bus stop change is proposed, Metro posts an informational flyer at bus stops prior to the action being taken up at the Transportation Commission. Flyers include pertinent information such as a summary of the change being proposed, the date it will be decided, and how to contact Metro. Metro also sends a letter to properties adjacent to proposed new bus stops, or any bus stops where concrete work will be performed, informing residents and businesses of the planned change.

Prior to implementation, Metro Transit may install a second flyer informing riders of the upcoming change, including the date that the change will take place.

Flyers should be placed at least one week, but not more than four weeks before action is taken.

6.5 Implementation of Bus Stop Changes

Bus stop changes are carried out through the means described below.

- Boarding pads are constructed through coordination with the City of Madison Engineering Department, and/or partner agencies.
- Bus stop signs are all fabricated by the City of Madison sign shop, and installed by City of Madison Traffic Engineering, or supplied to partner agencies for installation.
- Amenities like benches and shelters are procured and installed by Metro Transit within the City of Madison. Outside the City of Madison, they are procured and installed by partner agencies.

New bus stop infrastructure, including boarding pads, benches, and shelters may be required as a condition of approval from development projects subject to review by the City of Madison Plan Commission or under requirements of the City of Madison Transportation Demand Management ordinance. Details are provided in Section 6.6: Development Projects.

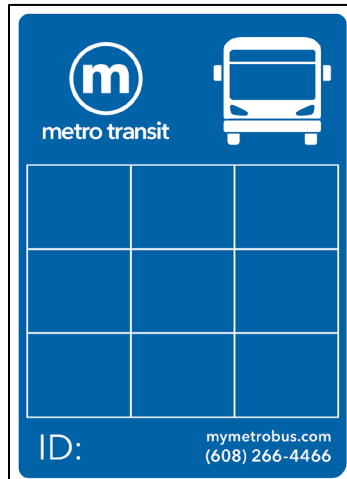
6.6 Development Projects

Bus stop changes may be required of development projects as a condition of approval. These improvements, such as boarding pads, signs, and amenities, are installed by the developer. Amenities installed within the right-of-way then become property of Metro Transit and are maintained by Metro Transit. Amenities installed on private property remain as private property, are maintained by the property owner.

7. Signage and Information

7.1 Bus Stop Signs

Bus stop signs must comply with PROWAG R410 Visual Characters on Signs. The current bus stop sign design shown below. Signs primarily feature the routes that stop at the bus stop and bus stop identification number. The back side of a bus stop sign is blank with a sticker with the words “BUS STOP” applied.



Typical Metro Transit bus stop sign

The Metro Transit bus stop sign is designed to clearly identify the area as a bus stop, as well as to convey basic information to transit riders. Other information that is not provided on bus stop signs is destinations of the routes serving the bus stop, schedule information, or wayfinding. Adding this information may be investigated and included in future planning work.

Bus stop signs are installed using standard street sign poles. New bus stop signs shall be installed on their own poles. Sign plaques are provided by the City of Madison sign shop. Signs are installed with the plaque perpendicular to the street so that they can be read from the sidewalk or the street. The bus stop sign is always located at the downstream end of the boarding pad, adjacent to the boarding pad.

Parking restrictions are provided separately from the bus stop sign. See Appendix A.

7.2 Map and Schedule Information at Bus Stops

Metro Transit does not currently provide map or schedule information at typical bus stops. Riders typically access map and schedule information prior to arriving at the stop or by using mobile devices.

7.3 Lighting

Bus stops should be reviewed for adequate pedestrian lighting during the planning and design process. Lighting is typically provided by overhead streetlights and pedestrian scale lights. Dark areas should be avoided to promote the safety of bus passengers as well as operators and pedestrians. Adequate lighting helps operators see and identify passengers waiting for the bus.

Terminals should receive a more rigorous analysis of available lighting since passengers may spend more time there and operators may be moving about the terminal area. Passageways between the bus stop and any nearby facilities such as restrooms should be included in the review at terminals. Sufficient lighting levels will promote passenger and operator safety at terminals.

If insufficient lighting is available at a proposed bus stop location, lighting improvements are warranted. In some cases, it may be advisable to relocate the bus stop to an area that is better lit.

8. Bus Rapid Transit Stations

Bus Rapid Transit (BRT) stations feature custom designs that are unique to the Madison Metro Rapid BRT system. This transit facilities manual does not cover BRT station or runningway design but addresses specific elements of the BRT system that are applicable to planning and maintenance around existing BRT stations. The East-West BRT system consists of 31 station locations and 45 platforms. The North-South BRT project is anticipated to be completed in 2030, adding an additional 24 stations and 29 platforms.

8.1 BRT Platforms

The BRT system includes both center-running platforms with doors opening on the left, and side running platforms with doors opening on the right. The typical width of the platforms is 12 to 14 feet for center-running and double-sided platforms, and 10 feet for side-running platforms. Platforms are 50 to 60 feet long and serve all doors of the bus.

Platform edges are required to have detectable warning fields as they are above standard curb height. The platform is raised above the pavement surface in order to be as level as possible with the floor of the bus. BRT platforms use a yellow docking guide strip to prevent the bus body from colliding with the platform.

At many stations, a separate curbside boarding pad with a standard curb height is located near the platform that can be used if the station is closed.

8.2 BRT Amenities

Metro Rapid BRT shelters are custom design. Center-running platforms have openings to serve the middle and rear door. Side-running platforms are open to the street and serve all three right-hand doors of the bus.

Amenities normally provided at BRT platforms are:

- Real time information signs with audible announcements
- Heating
- A snow-melt system within the platform surface
- Lighting
- Public address system
- Cameras
- Benches
- Signage, including a station marker, station name plaques and route signs

9. Detours and Temporary Bus Stops

Per PROWAG requirements, when bus stops are closed for construction activities or special events and routes are detoured, alternative accessible bus stops need to be identified. Route detours should be designed to reduce the number of missed stops and keep the detoured route and alternative stops as close to the normal route and stops as possible.

9.1 Design of Temporary Bus Stops

Alternative bus stops can be identified in a number of ways. In some cases, the detour route follows the path of a different bus route, and in that case, the stops along that path are used. If no bus stops exist on the detoured route, temporary bus stops may need to be established.

All temporary bus stops must meet the same accessibility requirements as standard bus stops (PROWAG R204.2), including an accessible firm and stable boarding surface. Temporary boarding surfaces can be created with concrete, asphalt, or panels made from a suitable firm, stable, and slip resistant material. In some cases, an existing paved terrace area can be used. Temporary bus stops can also be created by delineating an accessible boarding area on the street surface with a defined accessible pedestrian route to the sidewalk network. Temporary bus boarding areas need to be created by the project or event necessitating the detour, but Metro Transit provides the temporary bus stop sign and detour information, if applicable.

On minor detours, a single bus stop may be closed with passengers directed to the previous or next bus stop. However, closing two or more consecutive bus stops requires alternate bus stop locations to be evaluated. Alternatively, on more extensive detours, shuttle service may be required per PROWAG requirements. Metro considers alternative bus stops along the detour route to be unacceptable if the detour route is more than one-half mile from the normal route.

9.2 BRT Detours

Special consideration should be given to detouring BRT service away from the stations. BRT has specific challenges that make it more difficult to close the stations and redirect bus passengers. Since BRT stations are farther apart than standard bus stops, closing a station causes significant increases in passenger walking distances to board a bus. Alternative BRT routing can, however, use standard bus stops if served by the right-hand doors – it is not necessary to reproduce the raised boarding platform height at alternative BRT stations. Temporary bus stops located for BRT stations must serve the right front door of the bus.

Most BRT detours affect the downtown Madison area such as a closure of State Street or the Capitol Square. In general, BRT routes do not stop at every local bus stop along the detour route but stop at specific designated bus stops that replace a BRT station that is not served. Several standard detour routes have been established for the BRT system. Local routes downtown typically follow the same routes.

Established downtown Madison BRT detours are shown below.

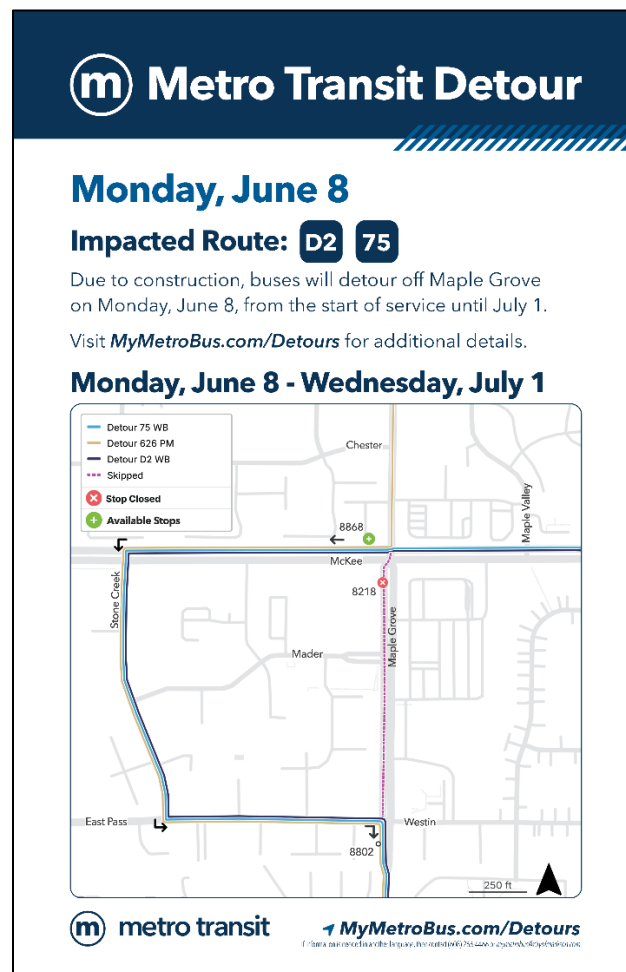
Corridor Closed	Detour Route	Stations Affected
State Street at Mifflin Street and Carroll Street	- Westbound via Wisconsin and Dayton - Eastbound via Fairchild and Washington	None
Capitol Square	Capitol Loop detour: - Westbound via Webster and Dayton - Eastbound via Fairchild, Doty, and Webster	- Westbound Capitol Square relocated to Dayton at Wisconsin - Eastbound Capitol Square relocated to Doty at Martin Luther King
State Street	- Westbound via Wisconsin and Gorham - Eastbound via Bassett and Washington	- Westbound State Street relocated to Gorham at State - Eastbound State Street relocated to Bassett at Dayton
South Capitol Square (Main and Doty Streets)	- Westbound via Wisconsin and Gorham - Eastbound via Johnson, Wisconsin, eastbound Mifflin, southbound Pinckney, and Washington, with temporary two-way bus-only operation on Mifflin and Pinckney	- Eastbound State Street relocated to Johnson at State - Westbound State Street relocated to Gorham at State - Eastbound Capitol Square relocated to Washington at Pinckney

9.3 Establishing Temporary Bus Stops

Metro Transit encourages early coordination with construction projects and events to identify detour routes and alternative bus stops.

Basic steps for establishing detour routes and temporary bus stops are below.

- Plan the detour route and ensure it is operable by Metro buses. Metro Transit leads detour planning. The project or event should coordinate with Metro. All projects should be coordinated with other applicable departments such as Traffic Engineering, Parking, and Parks.
- The project or event establishes accessible bus stop areas by designating or installing temporary boarding surfaces before the detour takes effect.
- Metro places temporary parking restrictions related to the detour, and signage at affected bus stops.
- Metro places temporary bus stop signs, if applicable, as close to the start of the detour as possible.
- The bus detour takes effect and ends.
- Signage, temporary bus stops, and parking restrictions are removed as soon as practical. If a temporary boarding surface was constructed and is no longer needed, the area is restored.



Typical Metro Transit detour flyer

10. Other Transit Facilities and Services

10.1 Bus On-Route Charging

Metro uses on-route opportunity chargers to charge its electric buses. Chargers use an inverted pantograph system that lowers conductors to make contact with charging rails on the roof of the bus. On-route chargers should be considered at terminals that serve electric buses. On-route chargers are complex and require significant planning and design work.

Metro will maintain a list of locations where on-route charging would be useful. Any projects that involve new construction in these locations should evaluate adding on-route bus charging or reserve space for future charging.



On-route charger, Junction Road Park and Ride

10.2 Operator Restrooms

Restrooms at route terminals not only provide for the basic needs of Metro's employees, but they also reduce the number of delays and service disruptions caused by operators using restrooms along the route.

Restrooms can be provided through a number of ways.

- Purpose-built restrooms that are only open to Metro personnel
- Nearby public buildings with restrooms
- Nearby businesses who are in agreement with Metro's use of their facility

- Portable restrooms

There are many challenges to establishing restrooms at route terminals, including the availability of space and budget. Besides the construction of new operator restrooms, adjusting the location of route terminals may be a solution to providing an operator restroom (See Section 4.4 Locating Terminals).

10.3 Park and Ride Lots

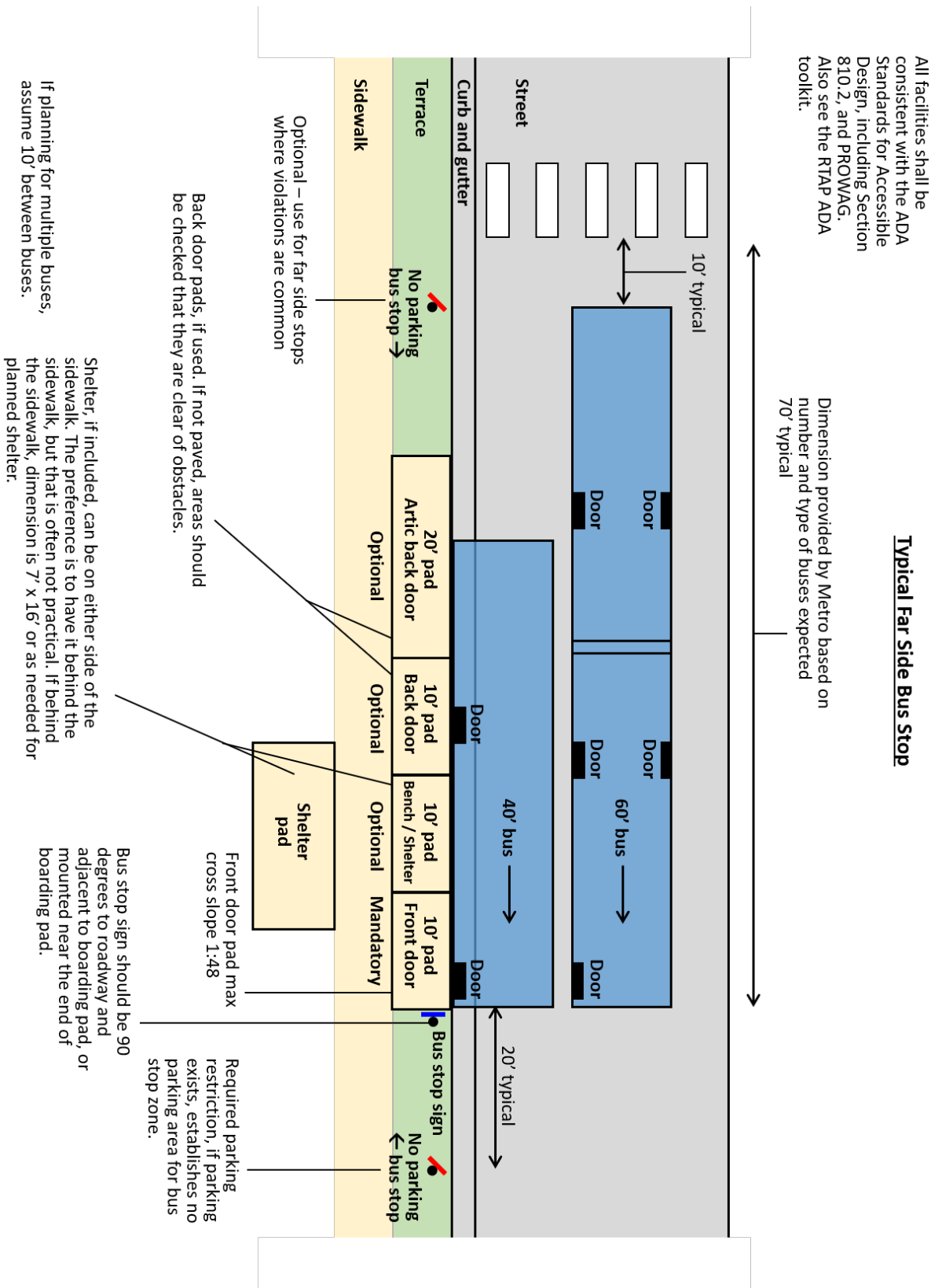
Metro Transit operates or serves several park-and-ride lots around its network. Park and rides allow people who live farther from the service area, who have access to personal vehicles, leave their vehicle at the park and ride and use the bus for the remainder of their journey.

Where new park and rides are being considered, the following considerations should be made.

- Park and rides should be located along high-frequency bus routes with service into central Madison. It is often infeasible to reroute a bus route to serve a new park and ride. Park and rides located along bus routes that do not serve central Madison, or do not have frequent service, are unlikely to see high use.
- Park and rides should have efficient access routes for buses. Access roads should avoid unnecessary loops and delays. Park and rides that are not located at terminals should allow buses to travel through the area, and should not be designed to require the bus to enter and exit the park and ride.
- Buses should be separated from auto traffic that is circulating and parking within the park and ride, to the extent possible.
- Sufficient space should be set aside for passenger amenities such as shelters and benches.

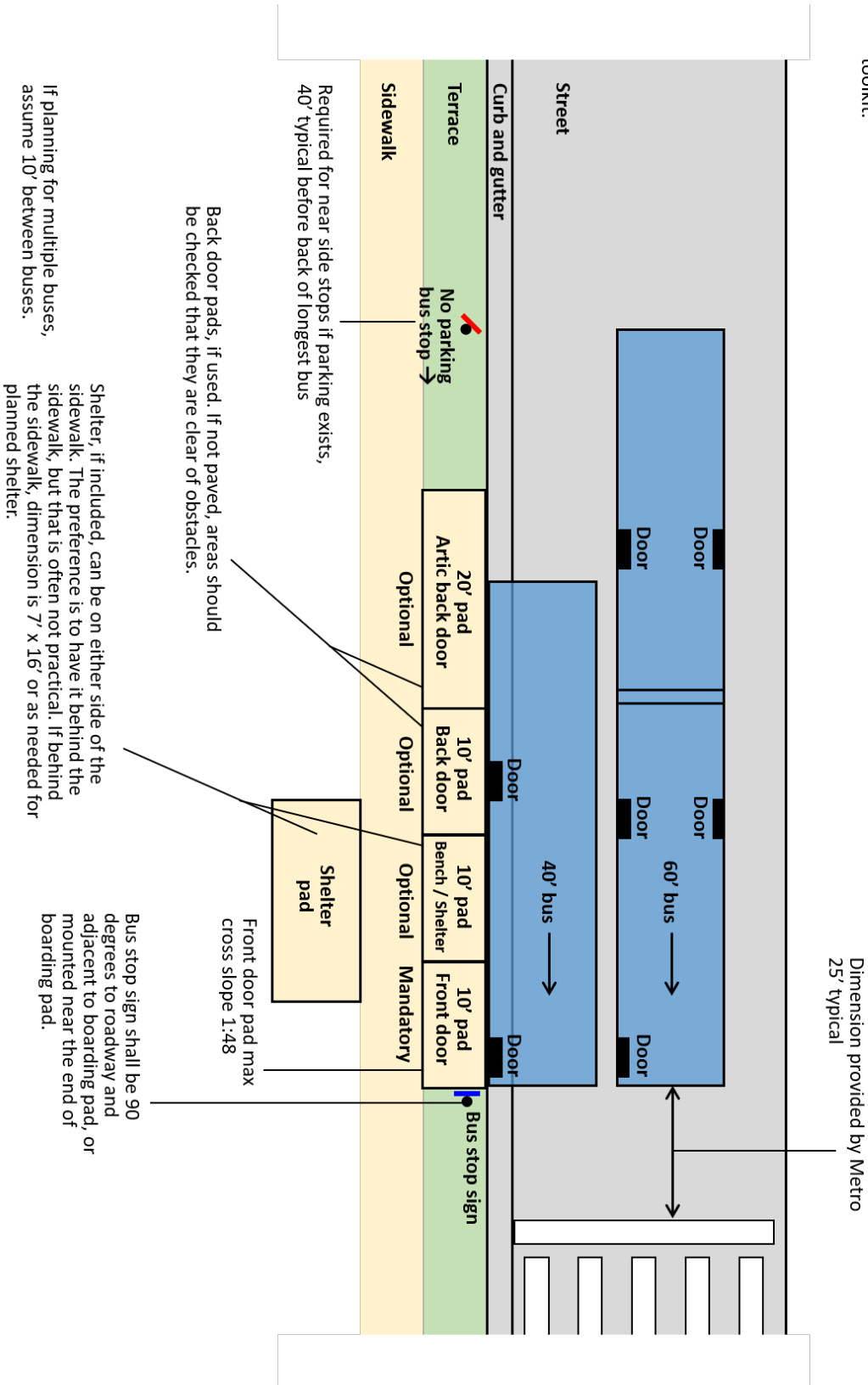
This page left blank.

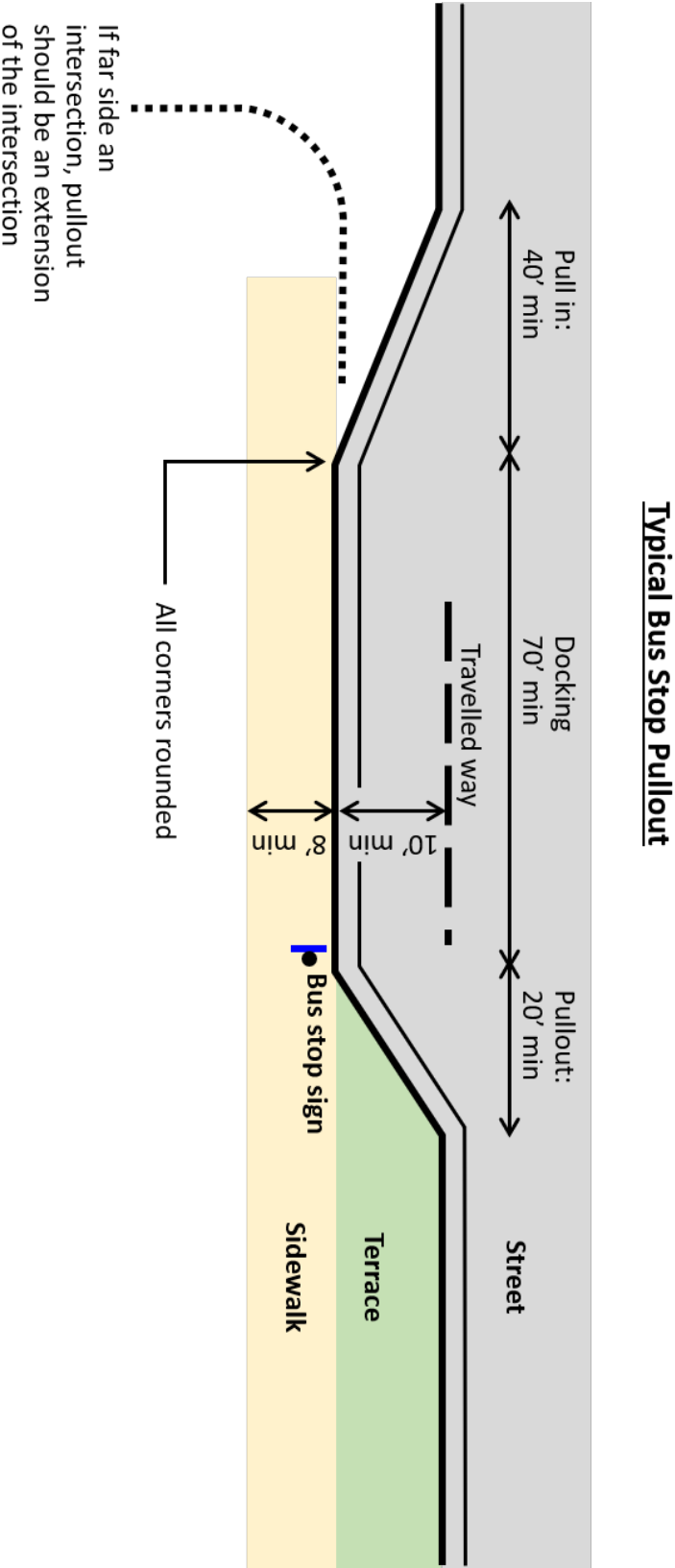
Appendix A
Standard Bus Stop Design Details

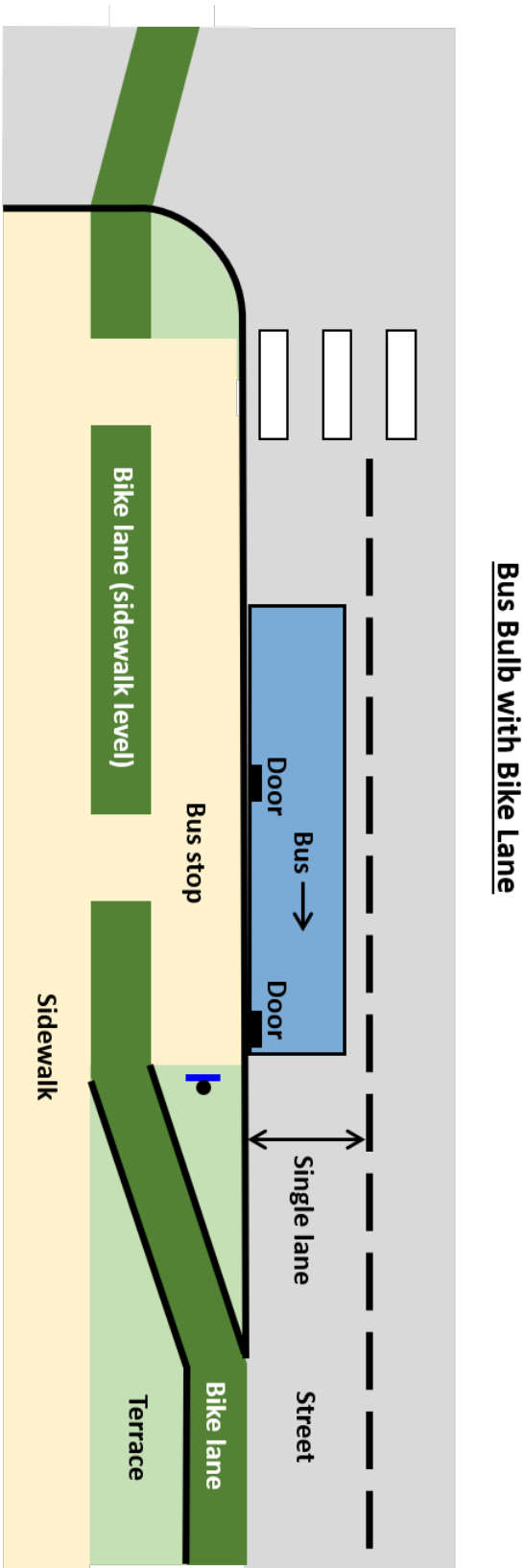


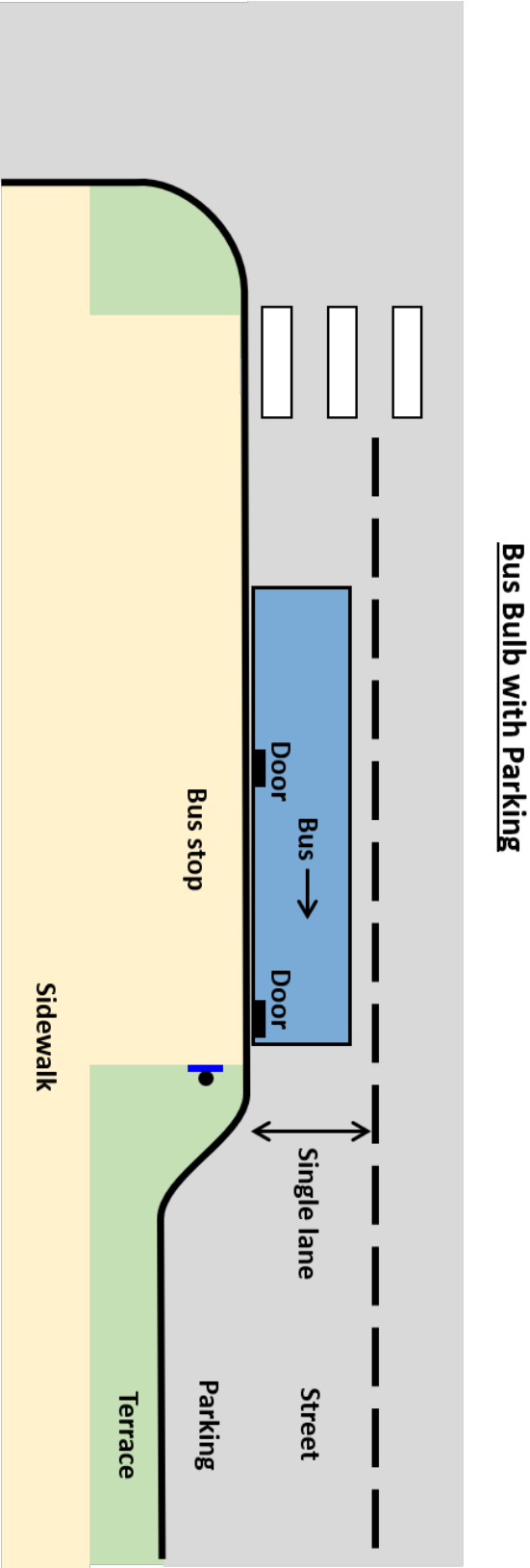
All facilities shall be consistent with the ADA Standards for Accessible Design, including Section 810.2, and PROWAG. Also see the RTAP ADA toolkit.

Typical Near Side Bus Stop









Appendix B**Metro Transit Bus Stop Accessibility Checklist**

Reviewer:

Date:

Bus stop location:

Status (existing, design, or new construction):

Project:

Control	Yes, No, or N/A. Include notes.
Does the transit entity control the bus boarding and alighting facility? (209.2.2 and 810.2 *)	
Connections	
Accessible route between all bus stops within site and accessible entrance (206.2.1 *)	
Accessible route to streets, sidewalks, and pedestrian paths (810.2.3 *)	
Boarding and Alighting Area (810.2.2 *)	
At least 8 feet perpendicular to the roadway, from curb or road edge	
At least 5 feet long parallel to the roadway	
Slope (810.2.4 *)	
Parallel to the roadway, the slope is the same as the roadway to the maximum extent practicable	
Perpendicular to the roadway, the slope is maximum 1:48 (2.1%)	
Bus Route Signs (810.4 *)	
Non-glare finish (703.5.1 *)	
Contrast between characters and background (703.5.1 *)	
Width of uppercase “O” is between 55% and 110% of the height of uppercase “I” (703.5.4 *)	
Character height at least 2 inches, assuming mount height between 70 and 120 inches and viewing distance less than 180 inches (703.5.5 *)	
Characters are upper or lower case (703.5.2 *)	
Characters are “conventional” in form: no italic, oblique, script, or highly decorative text (703.5.2 *)	
Width of uppercase “I” between 10% and 30% of its height (703.5.7 *)	
Closest characters spaced between 10% and 35% of character height (703.5.8 *)	
Bus Shelters (218.4)	
Connected by an accessible route to bus boarding and alighting area (810.3 *)	
Clear floor space of min 30” x 48” entirely within the shelter (305.3 and 810.3 *)	
One side of the clear floor space adjoins the accessible route (305.6 *)	
If the clear floor space is confined on any of three sides, width at least 36” for front approach or length at least 60” for parallel approach (305.7 *)	
Clear floor space surface is stable, firm, and slip resistant; no changes in level (lippage) more than 1/4 inch (305.2 and 302.1 *)	

* Refer to the [ADA Standards for Accessible Design](#).This table is consistent with [FTA C 4710.1](#) Page 3A-4 (Bus Boarding and Alighting Areas).

Photos (if applicable):