

Bus Stop ADA Guidelines

1 Americans with Disabilities Act (ADA) Compliance

This section outlines the minimum ADA requirements, herein referred to as ADA Standards, for the placement of bus stops and amenities. These standards are based on the Americans with Disabilities Act of 1990 and the subsequent ADA Accessibility Guidelines for Buildings and Facilities (ADAAG). These minimums will help determine if a stop can be placed or what modifications must be made to the proposed location to meet the minimum guidelines. The ADA Standards presented are the minimum requirements to comply with the law and are not necessarily best practices for universal design. Universal design goes beyond the minimum requirements to create environments usable by all individuals, including those with disabilities, which provide a higher level of access. For each section below, the best practices for universal design are presented in addition to the ADA Standards.

1.1 Bus Stop Area

A bus stop area is a designated location where the bus will stop to let on and off passengers. It is indicated by a bus stop sign. Flag stop areas/zones are not considered a designated area and thus not subject to the requirements outlined. Stops along roadways are typically near-side, far-side or mid-block. Figure 1 depicts each and the minimum distances needed.

Far-Side Bus Stop – bus stops immediately after passing through an intersection

Near-Side Bus Stop – bus stops immediately prior to an intersection

Mid-Block Bus Stop – bus stops within the block

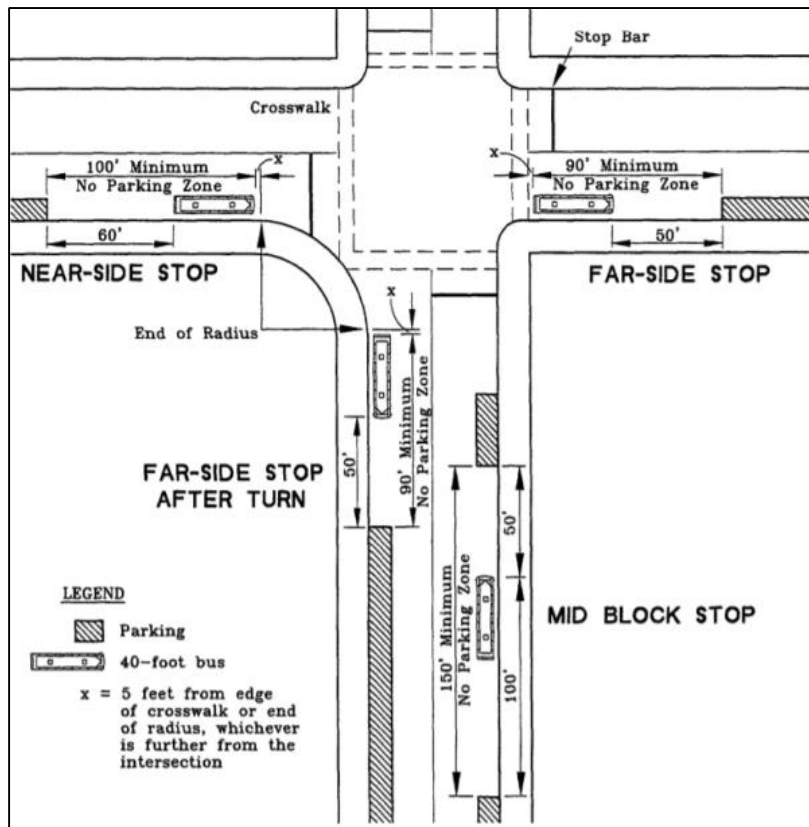


Figure 1. Typical Dimensions for On-Street Bus Stops

Source: TCRP Report 19 Guidelines for the Location and Design of Bus Stops

Which type of bus stop stop to use

varies based on adjacent land use, the intersection geometry, parking, pedestrian access, presence of trees, poles, driveways and other roadside constraints, traffic control signal timing, and the bus route path. The advantages and disadvantages of each are listed in Table 1.

Sullivan County Transportation Short Range Transit Operations Plan

Table 1. Comparison of Bus Stop Locations

| | Advantages | Disadvantages | When it's recommended |
|-----------|--|---|---|
| Far-Side | <ul style="list-style-type: none"> • Minimizes conflicts between right turning vehicles and bus. • Provides additional right turn capacity. • Minimizes sight distance issues on approach to intersection • Shorter deceleration distance needed since the bus can use the intersection to decelerate. • Encourages pedestrians to cross the street behind the bus. • Driver can take advantage in gaps in traffic created at signalized intersections to reenter traffic. | <ul style="list-style-type: none"> • If multiple buses are stopped at one time and there is only adequate room for one bus, the cross street may be blocked. • If the bus stops in the travel lane, it may result in queued traffic behind it blocking the intersection. • Could increase the number of rear-end accidents; drivers don't expect the bus to stop again after a red light. • Can obscure sight distance for crossing vehicles. • Can increase sight distance problems for crossing pedestrians. | <ul style="list-style-type: none"> • Whenever possible as long as it is safe, there is room to put a stop, and the only crosswalk is not on the near-side. |
| Near-Side | <ul style="list-style-type: none"> • The bus boarding door is closer to the crosswalk. • Bus has the intersection to merge into traffic. • Bus driver can see oncoming traffic. • Eliminates double stopping potential associated with a red light. • Allows passengers to board and alight while the bus is stopped at a signal. • Minimizes interference when traffic is heavy on the far-side of the intersection. | <ul style="list-style-type: none"> • Increases conflicts with right turning traffic due to cars cutting in front of the bus. • Could be difficult for bus to reenter traffic. • Can block sight distance for crossing vehicles stopped to the right of the bus. • The stopped bus may block visibility of the stop signs or traffic signals. • Visibility conflicts with pedestrians having to cross in front of a bus. | <ul style="list-style-type: none"> • It's unsafe to place stop on the far-side. • There is inadequate room for a stop. • A major trip generator is located on the near-side of the intersection, which would result in all passengers crossing the intersection. |
| Mid-Block | <ul style="list-style-type: none"> • The stopped bus does not obstruct sight distances at an intersection for other vehicles or pedestrians. • May be closer to major activity centers than the nearest intersection. | <ul style="list-style-type: none"> • Requires most curb clearance of the three options. • Sometimes results in mid-block jaywalking if there is no crosswalk midblock. • Increases walking distances for passengers crossing the street. • Can be difficult for bus to reenter traffic if the stop is not in the travel lane. | <ul style="list-style-type: none"> • The major trip generator is located in the middle of a long block. • There are no intersecting roads. |

Minimum ADA Guidelines

1. A firm stable surface including concrete, asphalt, brick, stone, tile and wood. Loose material such as gravel or stone dust do not meet the requirements unless properly treated with binders, consolidants, compaction or grid forms. Grass is not considered a firm stable surface.
2. ADA landing pad – an area that is clear of obstructions and measures eight feet (perpendicular to the curb) by five feet (parallel to the curb, connected to a pedestrian path or accessible walkway, and a firm stable surface). The landing pad can include part of the sidewalk.
3. A cross slope no greater than 2% (1/50).
4. Accessible connections to a street, sidewalk, path etc. Must be at least 3' wide.

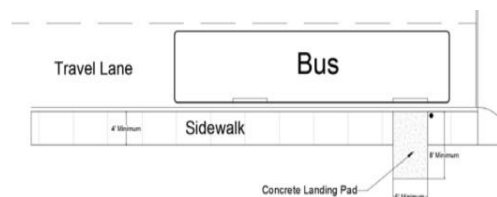


Figure 2. ADA Landing Pad
Source: GO GoldCoast Transit Bus Stop Guidelines 2015

Universal Design Best Practices

1. Clear the bus stop area of all obstacles such as trees, newspaper boxes, trash receptacles, planters, and utility poles.
2. Sidewalk is of sufficient width for two wheelchair passengers to pass each other.
3. The front and rear door areas of the stop are free of obstructions.
4. Tactile surface treatments to help visually impaired riders.
5. Accessible connections to a street, sidewalk, path etc. that is four feet wide or greater.
6. ADA landing pad is elevated above street level.

1.2 Shelters

Shelters provide protection from the elements while waiting for the bus and the decision to install a shelter is typically based upon passenger volumes. The *TRCP Report 19: Guidelines for the Location and Design of Bus Stops* recommends for rural areas that a shelter be placed in locations where there are 10 or more boardings per day. Other criteria used to evaluate the potential for a shelter include the number of routes that serve the stop, high percentage of elderly or disabled individuals in the area, proximity to major activity centers and the availability of space to install a shelter.

Minimum ADA Guidelines

1. Clear path of 3' minimum in front or behind shelter for sidewalk.
2. Entrance must be 2'8" wide at minimum.
3. Minimum clear floor area of 30 inches wide by four feet deep.

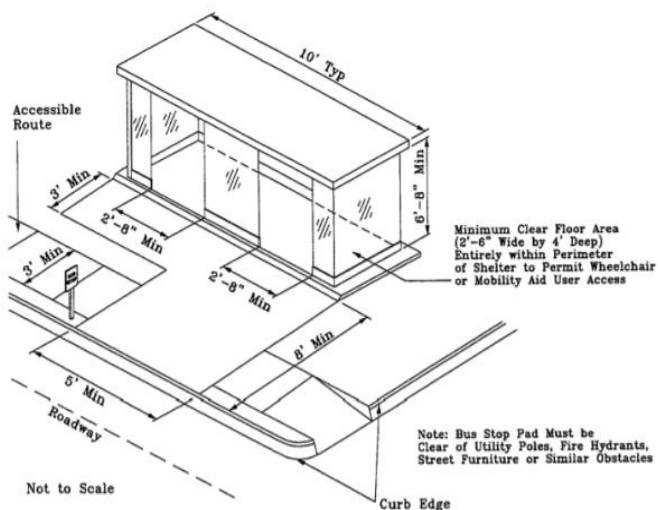


Figure 3. Shelter Design Example to Meet ADA Standards
Source: TRCP Report 19: Guidelines for the location and design of bus stops

4. Not placed on the ADA landing pad.
5. Minimum height of 6'8".
6. If it abuts a building, there must be 12" between the shelter and building at minimum.
7. Connected to route to the landing pad.
8. Accessible connections to a street, sidewalk, path etc.

Universal Design Best Practices

1. Locate at the far end of the bus stop to improve visibility and improve walking distance from the shelter to the bus.
2. Minimum distance of two feet between the back face of the curb and the roof or panels of a shelter.
3. Minimum of 10 feet in length.
4. Transparent sides for visibility and security.
5. Constructed of materials that are resistant to weather; from which graffiti is easily removed.
6. Waterproof with drainage away from the bus stop.
7. Vertical clearance of six inches off the sidewalk to prevent trash and debris from collecting and standing water.
8. Avoid locating a shelter in front of a store window.
9. Orient shelter to minimize exposure to weather elements.
10. Non-flat roof.

1.3 Benches

Minimum ADA Guidelines

1. Seat dimensions: 20 inches minimum to 24 inches maximum in depth and 42 inches (1,065 millimeters) minimum in length.
2. Seat height: 17 inches minimum to 19 inches maximum above the floor or ground.
3. Back support: 42 inches minimum in length and that extends from a point 2 inches maximum above the seat to a point 18 inches minimum above the seat.
4. Structure supporting vertical or horizontal forces of 250 pounds applied at any point on the seat, fastener, mounting device, or supporting structure.
5. Exposed benches: slip resistant and designed to shed water.
6. If installed inside the shelter it must be installed in such as manner to allow a wheelchair passenger to still use the shelter (30").
7. Do not install bench on ADA landing pad.

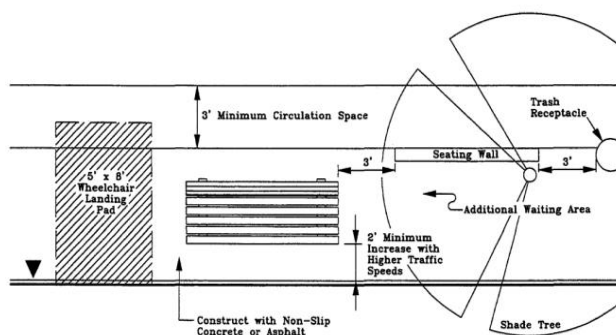


Figure 4. Conceptual Bench and Waiting Pad Design
Source: TRCP Report 19: Guidelines for the location and design of bus stops

8. Minimum of 2' between the bench and back face of curb.
9. Minimum of 3' circulation space on either side of the bench for access.

Universal Design Best Practices

1. Install bench where there is shade and lighting or inside the shelter.
2. Avoid locating benches on undeveloped right-of-ways and anchor to prevent unauthorized movement of the bench.
3. Place benches to the back of a sidewalk, to allow for pedestrian circulation.
4. Construct using materials that are resistant to weather; from which graffiti is easily removed.
5. Locate benches away from driveways.
6. Maintain a separation of 4' between the bench and the back face of the curb.

1.4 Signage

Bus stops marked with signs indicate to passengers where the bus will stop and publicize the availability of transit service to the general public.

Minimum ADA Guidelines

1. Letters and numbers to be a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10.
2. Characters and numbers should be sized according to the viewing distance from which they are to be read. The minimum height is measured using an upper case X.
3. Accompany pictograms with the equivalent verbal description placed directly below, with a border dimension of 6 inches (152 millimeters) minimum in height.
4. Characters and background of signs in a non-glare finish, with characters and symbols contrasting from their background.
5. If it is mounted on a wall or telephone pole and between 27'' and 80'' off the ground, it cannot protrude into the pathway by more than 4''. Below 27'' can protrude any amount.
6. If it is mounted on its own pole between 27'' and 80'' from the ground, it can overhang by up to 12''.
7. If the bottom of the sign is mounted less than 80'' from the ground, a barrier must be provided to warn the visually impaired.

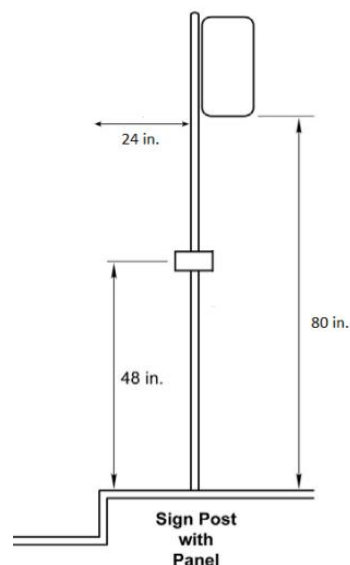


Figure 5. Sign and Post Dimensions

Universal Design Best Practices

1. Bottom of the sign should be placed at least 84'' (7') above the ground.
2. Sign should be located nearest to the location of the buses' front doors when stopped.
3. Sign edge should be at least two feet from the curb edge to prevent it from being hit by mirrors.

4. Signs should be Manual on Uniform Traffic Control Devices (MUTCD) compliant¹ and meet New Hampshire Department of Transportation Standard Specifications².
5. Include no parking verbiage or symbol on sign.
6. Include route numbers that serve that stop on the sign. Route numbers should be text at least 3" high, with 1" gap between lines. If multiple routes serve the stop, list them consecutively.
7. Include tactile route plaque and/or information holder.
8. Double sided sign for visibility from both directions.

1.5 Other Amenities

Amenities listed in this section are not required under the ADA Standards but provide an enhanced experience to passengers

1.5.1 Lighting

Lighting enhances a passenger's sense of safety and security at a bus stop and allows the bus operator to see waiting individuals. Lighting should illuminate the bus stop waiting area and eliminate shadow areas.

Universal Design Best Practices

1. Explore solar powered lighting if hardwiring is unavailable.
2. Install lighting that provides between two and five foot-candles.
3. Fixtures should be vandal-proof but easily maintainable.
4. Locate stops near existing street lights.

1.5.2 Trash Bins

Trash bins can improve the appearance of a bus stop and prevent littering, especially in locations close to convenience stores and fast food restaurants.

Universal Design Best Practices

1. Constructed of materials that are resistant to weather; from which graffiti is easy removed.
2. Anchor bin to prevent unauthorized movement.
3. Locate away from the ADA landing pad.
4. Provide at least three feet of separation

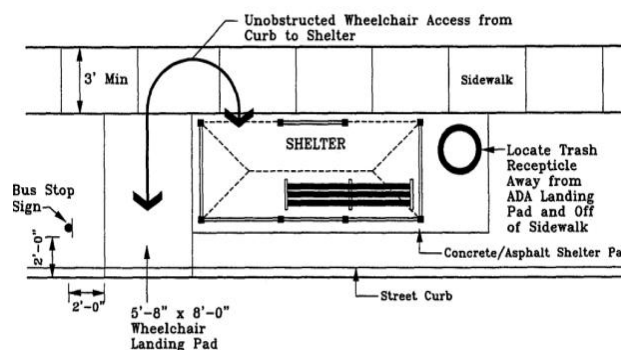


Figure 6. Trash Bin Placement

Source: TRCP Report 19: Guidelines for the location and design of bus stops

¹ US Department of Transportation Federal Highway Administration. *Manual on Uniform Traffic Control Devices for Streets and Highways*. <https://mutcd.fhwa.dot.gov/>

² New Hampshire Department of Transportation. *Standard Specifications for Road and Bridge Construction*. <https://www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/documents/2016NHDOTSpecBookWeb.pdf>

from other street furniture to allow pedestrian movement.

5. Minimum capacity of 30 gallons.
6. When adjacent to a roadway, make sure it does not visually obstruct driveways.
7. Create a maintenance plan to ensure trash is being emptied.
8. Do not locate the bin in direct sunlight.

1.5.3 Security

Bus stops at which passengers feel secure are likely to be used more often and improve the perception of the service. Items like landscaping, walls, and other solid structures can restrict sight lines and decrease the perceived security.

Universal Design Best Practices

1. Construct shelters of clear material.
2. Locate stops at highly visible sites.
3. Avoid planting evergreens; they act as a barrier. Instead use low-growing shrubs, ground cover and deciduous shade trees for landscaping.
4. Ensure there is adequate lighting.
5. Site next to businesses and stores when possible to increase surveillance of the site.
6. Maintain the cleanliness of bus stops.

1.5.4 Bicycle Racks

Bicycle racks give passengers the option to park their bike if the bus bike rack is full or if they do not want to take it with them on the bus. They also discourage individuals from locking the bikes to sign poles and other structures.



Figure 7. One Rack Bicycle Rack Examples
Source: RPTA/Valley Metro: Bus Stop Program and Standards

Universal Design Best Practices

1. Provide paved access from the bike racks to the bus stop.
2. Coordinate location with existing lighting.
3. Ensure parked bikes are visible at all times and not restricted by landscaping, walls, or shelters.
4. Provide at least 30" spacing between bicycle racks, 72" perpendicular to the rack, and at least 48" around the bike rack for access and circulation.

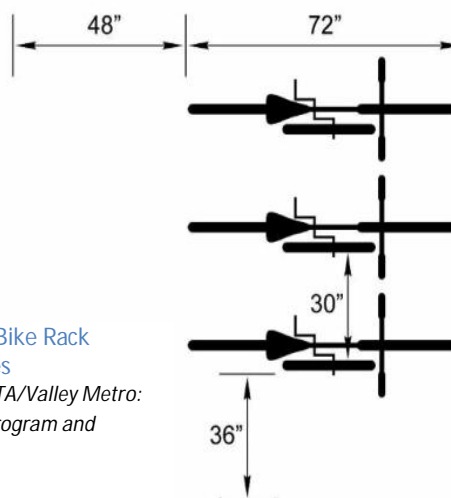


Figure 8. Bike Rack Clearances
Source: RPTA/Valley Metro: Bus Stop Program and Standards

1.5.5 Passenger Information Panels

There are several ways to display route and passenger information such as schedule holders

and display panels. Schedule holders are mounted to the sign post following ADA guidelines for heights. Display panels on the interior of shelters can hold larger amounts of information such as a system map or schedules for multiple routes.

Universal Design Best Practices

1. Provide updated information when changes are made to the route or schedules.
2. Make the information display permanent; do not just tape it up.
3. Make sure the information is secure (in a case) and can withstand weather elements.
4. Avoid using side panels to display information that might obstruct a driver's view of waiting passengers.
5. Panels mounted directly on the bus stop pole should face the same direction as the bus stop sign.
6. The top of a panel on a pole should be no more than 60 inches from the ground.