



BUS STOP MASTER PLAN

2024





Bus Stop Master Plan



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Contents

Executive Summary.....	3
Introduction.....	4
Bus Stop Master Plan Goals.....	4
Existing Conditions.....	5
ADA Compliance.....	5
Obstructions.....	5
Existing Bus Stop Amenities.....	6
Existing Bus Stop Inventory.....	6
Bus Stop Spacing and Placement.....	8
Bus Stop Elimination and Consolidation.....	10
Bus Stop Amenities & Design Principles.....	10
Seating and Trash Receptacles.....	10
Shelters.....	10
Signage.....	11
Art Installations.....	11
Bus Stop Design - CEPTD Principles.....	11
Stop Assessment Methodology.....	13
Funding.....	14
New Bus Routes and Route Modifications.....	15
Bus Stop Administration.....	15
Annual Bus Stop Planning Reports.....	15
Appendix A - Guidelines for the Location and Design of Bus Stops.....	17
Appendix B - Bus Stop Construction Standards & Design Specifications.....	21
Landing Zone and Accessible Route Requirement.....	21
Hardware.....	23
Mounting Hardware Type.....	24
Bus Stop Amenity Specifications (Typical).....	26
Typical Slimline Series Shelter.....	28
Typical Eclipse Cantilever Series Shelter.....	29
Bus Pad Configurations (Typical).....	30
Shelters with Retaining Walls.....	31
Carlisle Bus Pad Types (Typical).....	32
Bus Stop Designs by Level.....	35
Simme Seat Placement Guidance.....	51
Bus Stop Signage (Typical).....	52
Technology.....	53
Appendix C -Capital, O&M and Total Lifecycle Costs by Stop Level Type.....	55
Amenities Costs.....	55
Capital Construction Costs.....	56
Facilities Shelter Installation and Maintenance Costs.....	57
Appendix D - Processes.....	58
Bus Stop Administration Process.....	58
Appendix E - Current Bus Stop Prioritization Lists.....	59
2026 (100 Stops).....	59



2027 (100 Stops) 61
Appendix F - Policies & Standard Operating Procedures.....63

Executive Summary

Because of the expansive inventory of more than 5,108 bus stops, these stops are most often public's first impression of UTA and its presence in the community. This is true whether or not people ride transit. Bus stops are ubiquitous from suburban neighborhoods to downtown cores. UTA's objective is to make bus stops a positive contribution to the community, both for riders and people who host them in their neighborhood. Bus stops should contribute to the streetscape and be a place where all riders can obtain transit related information. Stops should be a community asset as well and provide easy, intuitive access to transit service for people of all ages and abilities.

It is important that bus stops, to the maximum extent possible, are easily identifiable, clean, safe, accessible, and a comfortable place to wait for the bus. Although, there may be underdeveloped bus stops that do not currently achieve all of the standards outlined in the following pages, this master plan and associated guidelines provide a framework for retrofitting, maintaining and building new bus stops in order to make the entire system as accessible and user friendly as possible.

In addition to providing an inventory of existing conditions, this document is intended to provide a common set of goals, design principles, design guidelines and policies to promote consistency in the design and provision of bus stops and their associated amenities. The aim is to ensure that stops are suited to their location, operationally functional and attractive to current and potential riders.

The Bus Stop Master Plan outlines and encourages partnerships with local governments and property owners. UTA is continually working with communities to improve access to bus stops, including sidewalks, street crossings, curb ramps and bicycle lanes. UTA continually affirms that the quality of the streetscape is critical to the success of the bus stop improvement program.

The primary objectives of this document are to identify and outline each of the elements of UTA bus stops, set design guidelines for the bus stops including placement and amenities and to describe the process for developing and managing a comprehensive bus stop inventory at UTA.

This document will also act as the basis for annual Capital Improvement budgets that will be used in combination with a prioritized program of bus stop projects that support the stated goals of the plan.

This document contains four major sections. They are (1) a brief introduction to the purpose and need as well as the goals for the master plan, (2) a description of the existing conditions, (3) the design criteria and guidelines (4) a prioritization methodology for managing the bus stop capital improvement program.

Introduction

The need for this plan is rooted in a bus stop management process that has focused on improvements upon request and has resulted in an inconsistent inventory of stops that ranges from exceptional to less than ideal. During 2016-2017 there was a proactive effort in the UTA Planning Department to inventory, document, and catalog every bus stop in the system. This inventory was the first-ever comprehensive collection of organized and accurate data on the bus stops. To date, there has not been a cohesive strategy for organizing, tracking and prioritizing any proposed changes to bus stops.

Work on bus stops has traditionally been done on an *ad hoc* basis through an internal work order system, via email, or oral request. These improvements were most often based on customer or stakeholder comments or feedback, as a result of a specific grant project or based on staff priorities. While this approach has improved a large number of stops, it has often led to an inefficient and ineffective use of capital. Specifically reviewing individual stops for improvement rather than looking at the network of stops as a system has led to inconsistencies and potential misallocation of improvement funds.

Perhaps more important than a process for addressing complaints and route changes is the fact that UTA lacks any current standard for bus stop design. Bus stops are the public's primary interface with the UTA system. In some cases stop conditions are more than adequate however there are also a large number of noncompliant or under improved stops. The need for a set of minimum standards, guidelines and policies for UTA's bus stop system will be addressed in this plan.

The purpose of this Bus Stop Master Plan is to create a guiding document for UTA that can be used for strategically identifying, analyzing and prioritizing improvements to all bus stop amenities throughout the UTA system. The overarching intent of the Bus Stop Master Plan is *to put its customers first by providing an easy, enjoyable and accessible transit experience where customers feel engaged, safe and cared about.*

The plan will provide a prioritized and phased schedule, design criteria and cost estimates for bus stop improvements. The schedule and prioritization will be based on different criteria including but not limited to average daily total stop activity (TSA), compliance with the Americans with Disabilities Act and safety. The Bus Stop Master Plan will transform the network of stops into an asset that enhances the experience for existing customers, operators and the public and draws potential new riders to the UTA system.

Bus Stop Master Plan Goals

UTA has established a basic set of universal requirements that are addressed as every bus stop is considered. Each stop should, at a minimum:

- Meet minimum federal ADA and safety requirements which consists of a reasonably sloped, paved surface with access to a safe pedestrian pathway to and from the stop, where applicable
- Be designed to meet *Crime Prevention through Environmental Design* (CPTED) recommendations
- Have visible, consistent and easily identifiable signage
- Be unobscured and clearly visible by approaching bus where possible
- Be safely and conveniently accessed by a typical UTA fixed-route or FLEX route vehicle
- Allow for the most effective and efficient system operation
- Provide accurate, up-to-date information for riders about services at the stop
- Provide placement and improvements which are sensitive to the community setting
- Where applicable, meets local codes and ordinances

Existing Conditions

UTA serves more than 2 million people along the Wasatch Front, with about 44% of that population living within ¼ mile of a bus stop. For many communities, the bus stop is the first and primary interaction they have with UTA. As of October 2024 the UTA System has 5,108 total active bus stop locations.

ADA Compliance

Existing bus stops that are currently not fully ADA compliant make it difficult for those persons with disabilities, or using mobility devices to enter and exit the bus safely (See Figure 1). Even passengers not faced with ability challenges must still give attention to potential obstacles (i.e. snow, mud, guy wires etc.) and terrain faced when boarding and alighting the bus.



FIGURE 1 - NON-COMPLIANT UTA BUS STOP

In addition, bus operators are also faced with challenges when servicing a bus stop that is not ADA compliant.

They are left to use their best judgment to find a suitable location to unload or pick up passengers in mobility devices or those with other disabilities. The Federal Transit Administration (FTA) provides guidance for ADA compliance for both new and existing stops. The guidance states that, to the maximum extent practicable:

- *New, altered, or relocated bus stops must have a firm, stable surface and must provide a clear length of 96 inches (8 feet), measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches (5 feet), measured parallel to the vehicle roadway.*
- *Bus stops must also connect via an accessible route to streets, sidewalks or pedestrian paths.*
- *The slope of the bus boarding and alighting area in the direction parallel to the roadway must be the same as that of the roadway to the maximum extent practicable. Perpendicular to the roadway, the slope must not exceed 1:48, that is, not more than 1 inch of rise over a horizontal distance of 48 inches¹ (2%).*

For existing stops, there is no explicit language in the guidance that exempts transit agencies from providing accessible bus stops, but rather the guidance states:

- *An individual with a disability who could otherwise ride an accessible bus but cannot reach the bus stop due to the lack of an accessible route would be eligible for complementary paratransit, at least on a conditional basis.*
- *FTA encourages transit agencies to inventory the location of their bus stops in relation to accessible pedestrian routes, and coordinate with owners of public rights-of-way (e.g., local municipalities) to help ensure connections to stops are as accessible as possible².*

For UTA specifications on minimum standard bus stop design requirements, see Appendix B – *Bus Stop Construction Standards & Design Specifications*

Obstructions

Stop locations in proximity to obstacles or obstructions such as power/telephone poles, guy wires, hydrants, and utility boxes also pose additional barriers and not just to those persons with disabilities. These obstructions represent the potential of interruption in service and damage to property if vehicle contact is made with any of these obstacles. For example, when the curbside mirror of the bus makes contact with an obstruction, this is a minimum Class 1 accident of with a replacement cost of \$1,500. In

¹ Americans with Disabilities Act of 1990 (ADA), Section 810.2

² Americans with Disabilities Act of 1990 (ADA), Section 209.2.3

In addition to the financial cost of the incident, the operator must stop to file a report causing an interruption of service. If the damage is severe enough to where the bus is inoperable, the bus must remain at the location until a replacement bus is called out. This pulls mechanics away from his or her duties leading to more time lost and costs continue to cascade. This can all be mitigated if the bus stop is properly assessed and can be redesigned or relocated to a more ideal location free of obstructions.

Existing Bus Stop Amenities

While ADA compliance and safety are the primary criteria to be used when evaluating stops, many stops are “underserved” in terms of the level of additional amenities. Amenities refer to those attributes of a bus stop beyond UTA and ADA minimum compliance standards (i.e. benches, trashcans, shelters, informational signage, etc.). In addition to a firm stable landing surface for ADA compliance, a sign pole and a route sign there are a range of amenities present at some but not all bus stops throughout the system. These amenities include:

- Shelters
- Benches
- Trash Cans
- Lighting
- Bike Racks
- Simme-Seats
- Electronic Signs

Prior to this plan, the determination of which stops in the system received additional amenities were determined on an *ad hoc* basis using a simple metric of bus stop activity as the primary indicator of performance. Decisions on which stops to improve have also often been based on things such as complaints, rider requests, elected official comments, special grants received to improve routes or corridors or staff recommendations. In recent years UTA has addressed many individual bus stop related problems and the agency intends to continue this forward progress. This plan will just provide a more structured and measurable approach to stop improvements.

The Bus Stop Master Plan provides a clear, consistent, quantitative methodology for assessing the current conditions of a bus stop, determining the appropriate level of amenities and prioritizing the budgeting, construction and placement of stops and amenities.

Existing Bus Stop Inventory

In 2016 UTA conducted a comprehensive inventory of the status of all of the bus stops within the UTA system. This inventory included all of the amenities present at each stop as well as other information related to the general condition of the stop, including accessibility. As part of that inventory process, many variables associated with each stop were identified as being present or not present at any given stop location.

This process is continued today through annual audits of bus stops. The Customer Experience team with the cooperation of the System Monitor staff, visit each stop in the system every other year. These audits check to see that the correct amenities are present at the site (using data from the Bus Stop Manager system). The Monitors also observe the general condition of the bus stop, looking for things such as faded signs, graffiti, corroded amenities etc. and each are logged and reported. Work orders are then submitted to the Facilities team by the Bus Stop Service Planners to repair or replace amenities.

The continual cataloging of every bus stop is ongoing and is critical in meeting the goal to implement system-wide consistency along with upgrades and improvements. Table 1 shows the amenity categories that are currently documented and maintained.

Inventory Category		
• ADA Access	• Obstruction - Guy Wire	• Sidewalk
• Bench	• Park Strip	• Park and Ride
• Shelter	• Pole and sign type	• Trash Cans
• Lighting (Indirect/solar)	• Bike Lane - Buffered	• Real time signage
• Schedule Holder	• Bike Rack	• Call box
• Route Information	• Operator Restroom	• Schedule holder (timetable case)
• Artwork	• Park and Ride location	• Park strip
• Restroom present	• Sidewalk	• Trash can

TABLE 1 - EXISTING AMENITY CATEGORIES

Planned Bus Stop Amenity Levels

As part of the planning for bus stop improvements, certain ‘Levels’ of amenities have been developed. These levels have been determined by assessing the average daily total boardings at each stop. The use of boardings as the determining factor in the level of amenities allows the Service Planning staff along with the Customer Experience team to ensure that stops with more activity have suitable amenities to meet the needs of the customers using the stop. Table 2 provides descriptions of the level of amenities warranted by average daily boardings and frequency.

Stop Level	Headway	Avg. Daily Boarding's	Amenities			
Level I - A	15 Min or Less	0 to 9	• Pole • Sign	• ADA Pad		
Level I - B	Greater than 15 Min	0 to 4	• Pole • Sign	• ADA Pad		
Level II - A	15 Min or Less	10 to 39	• Pole • Sign	• ADA Pad • Bench	• Trash Can	
Level II - B	Greater than 15 Min	5 to 9	• Pole • Sign	• ADA Pad • Bench		
Level III - A	15 Min or Less	40 to 59	• Pole • Sign	• ADA Pad • Bench	• Trash Can • 4'x8'	
Level III - B	Greater than 15 Min	10 to 19	• Pole • Sign	• ADA Pad • Bench	• Trash Can • 4' x 8' Shelter	
Level IV - A	15 Min or Less	60 to 79	• Pole • Sign	• ADA Pad • Bench	• Trash Can • 6' x 12' Shelter	
Level IV - B	Greater than 15 Min	20 - 29	• Pole • Sign	• ADA Pad • Bench	• Trash Can • 6' x 12' Shelter	
Level V - A	15 Min or Less	80 to 99	• Pole • Sign	• ADA Pad • Trash Can	• Two (2) Benches • 6' x 12' Shelter	
Level VI - A	15 Min or Less	100 to 149	• Pole • Sign	• ADA Pad • Trash Can	• 6' x 16' Shelter • Two (2) Benches	• Light Fixture
Level VII - A	15 Min or Less	150 +	• Pole • Sign	• ADA Pad • Trash Can	• Two (2) Benches • Custom Shelter	• Light Fixture • Digital Sign

TABLE 2 – BUS STOP LEVELS BY BOARDINGS

NOTE: The amenity levels shown are based upon UTA being the sole provider of the amenity and performing the upgrades at the bus stop location. Actual amenity levels may vary upon local partnerships or third party financial

participation. On-site topographic conditions and availability of property may also limit recommended upgrades. See also the section on Funding in this document.

Bus Stop Spacing and Placement

Bus stop spacing and location has a major impact on transit performance. In general, stops located on the far-side of intersections are preferable; however, other types of stops may be unavoidable or justified in certain situations. Bus stop placement and spacing is undertaken with the following goals in mind:

- Provide the safest, most pleasant waiting and boarding experience possible for riders
- Provide optimal access to destinations and neighborhoods along the route
- Optimize travel time on the route by preventing excessive stopping and dwell

Because these goals often come into conflict with the preferred location, the exact placement of bus stops along a route is dependent in large measure on the considered opinion and professional judgment of the service planners, with input from UTA Operations, local jurisdictions, and property owners.

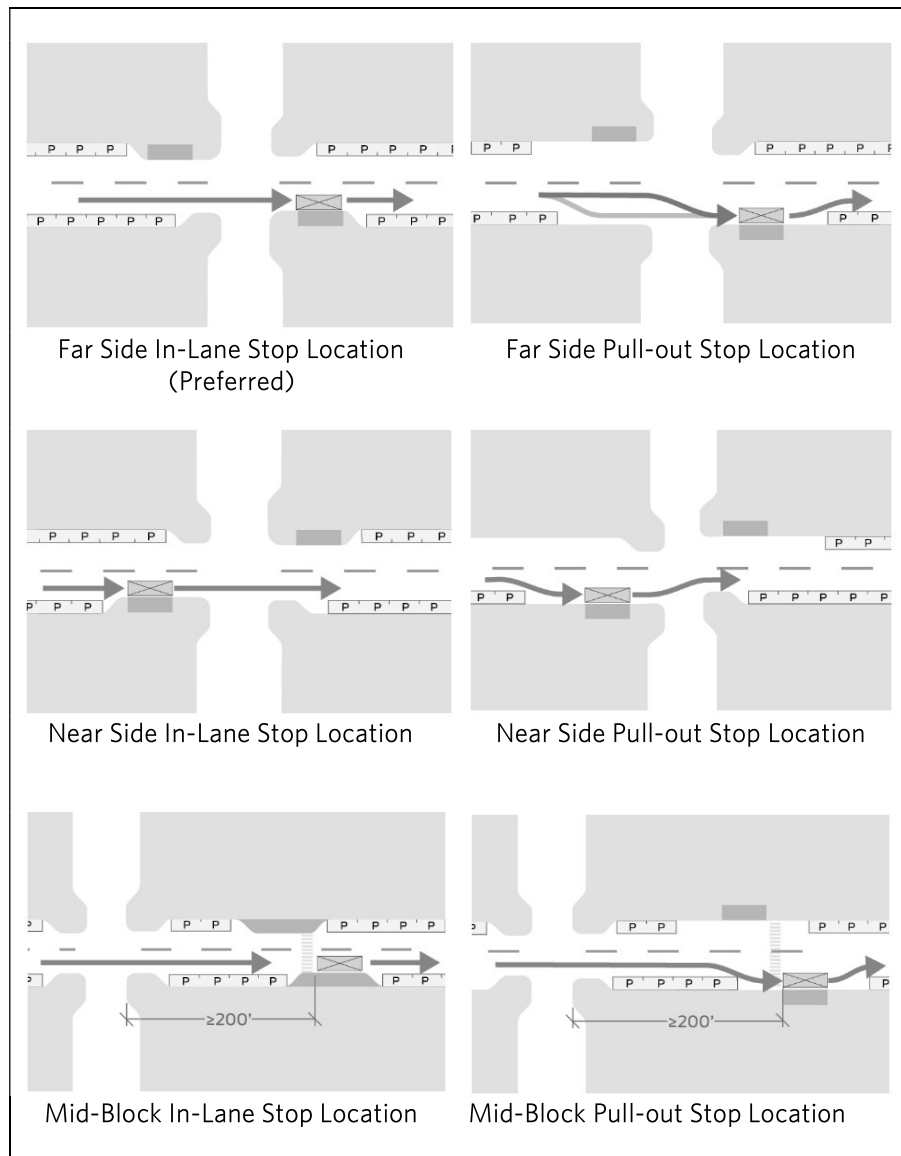


FIGURE 2 - STOP LOCATION RECOMMENDATIONS

There are advantages and disadvantages to each location. There are also opportunities to work with local municipalities and UDOT to take advantage of queue jump technology and Traffic Signal Prioritization (TSP) in order to optimize bus stop locations and minimize impacts to local automobile traffic. Extensive discussion and guidance for determining proper bus stop locations, including traffic signals and operations, are provided in the Transit Street Design Guide published by NACTO³. Assuming that all stop location variables are equal, Figure 2 shows the recommended stop locations for basic, fixed route and ADA accessible service.

Stop spacing affects both access time and line-haul time, and therefore affects the demand for transit service. In general, there is a tradeoff between: (a) closely spaced, frequent stops and shorter walking distance, but more time on the vehicle and (b) stops spaced further apart and longer walking distance, but less time on the vehicle.

Industry practices on spacing vary, as different agencies opt for different bus stop spacing standards. Often, bus stops are added on an as-requested basis along existing bus routes. The addition of bus stops should be evaluated carefully prior to implementation to ensure that operational efficiencies in bus services are not degraded, and they do not negatively impact service reliability. Additionally, a periodic reexamination of stop spacing is recommended.

The general guidance that UTA employs is that in areas with safe crossings, good points of access, and transit supportive land uses, bus stops will generally be no closer than 1/8-mile (660 feet) and no further apart than 1/3-mile (1760 feet) where operationally feasible. Targeted services (Tier 4) will generally stop only at points necessary to provide the service, independent of these guidelines.

Safe crossings include the following:

- Signalized, marked, and/or grade-separated crossings (such as traffic lights, crosswalks, and pedestrian bridges)
- For locations without a signalized, marked, and/or grade-separated crossing:
 - Roads with a cross-section of three lanes (one travel lane in each direction and a center turn lane) or fewer and a speed limit 35 mph or less
 - Appropriate traffic volumes for pedestrians to safely cross, in agreement with applicable jurisdictions

NOTE: Roads with a cross section of four lanes or more and/or a speed limit of 40 mph or greater should only have stops at signalized, marked, and/or grade-separated crossings. UTA will work with cities and other local jurisdictions to establish safe crossings at good points of access along transit corridors as warranted.

Good points of access include the following:

- Sidewalk access from trip origin to bus stop
- Pedestrian-oriented, connected street network
- Permeable pedestrian access to neighborhoods or apartment complexes

Transit-supportive land uses include the following:

- Schools and universities
- Hospitals and clinics
- Human service providers
- Higher-density, mixed-use, walkable development

³ Transit Street Design Guide, National Association of City Transportation Officials, 2016 <https://nacto.org/publication/transit-street-design-guide/>



NOTE: Having safe crossings, good points of access, or transit supportive land uses does not guarantee that a bus route or stop will be located adjacent to a given facility, only that such locations are where bus stops could be located if needed.

UTA may also preserve existing stops that do not meet these guidelines in order to preserve service to existing markets, but will not improve these stops until the conditions in this guideline are met.

Design drawings and more specific planning and design guidance for recommended siting, location and designs are included in Appendix A - *Guidelines for the Location and Design of Bus Stops*.

Bus Stop Elimination and Consolidation

While there are far more opportunities for improvements to existing bus stops or even adding new stops to the system, there is also a need to monitor, analyze and assess whether a stop is necessary any longer. There may be an opportunity to eliminate or consolidate one or more stops. This decision is not a trivial one and should be based on a series of steps before any stops are eliminated or moved. These steps include using the same evaluation methodology as outlined in this document but elimination and consolidations requires much more community and rider engagement than would be needed for new stop installations or improvements. For more guidance on stop elimination and consolidation see "*Best Practices in Bus Stop Consolidation and Optimization*"⁴

Bus Stop Amenities & Design Principles

The basis for providing amenities and particular bus stops takes into account multiple factors. As mentioned above, one key factor is the average daily total boardings. Other factors include wayfinding, safety, comfort and curb appeal in order to make UTA stops attractive as assets to a community. As cities, communities and neighborhoods become more concerned about the surrounding environment and impacts to such. In addition to the physical location of a bus stop, the design and amenities should be considered in terms of having a minimal visual and physical impact to the surrounding environment, especially in residential areas. Each of the available amenities for certain stops are described below, including the UTA design standards for each amenity.

Seating and Trash Receptacles

Benches are a simple yet easy and cost-effective way to provide comfort and security for waiting passengers and help in wayfinding. UTA currently uses four styles of seating at bus stops: Park benches, custom pedestal benches and Simme seats. Limiting the number of styles of benches in the system helps to keep maintenance costs low and allows for purchasing contracts that include multi-year options. This design criteria also provides uniformity in appearance at the bus stops across the system. This, in turn, helps passengers and operators quickly identify bus stops especially those unfamiliar with a route. As far as trash receptacles, a galvanized mesh steel can is used so that facilities maintenance crews can see from their vehicles if a trashcan needs to be emptied. The lids (dome tops) are a tight fitting, wide rim door specification for durability. Lids are cable tied to the cans to reduce vandalism and theft. For UTA specifications for standard trash receptacles and bus benches, see Appendix B - *Trash Can Specifications*

Shelters

While shelters require increased capital costs associated with the construction and maintenance of a bus stop, they provide greater security, protection and wayfinding for passengers and operators alike. Typically bus stops with higher boardings will receive shelters and depending on the number of boardings, the sizes of those shelters will vary to accommodate the volume of waiting passengers.

⁴ "*Best Practices in Bus Stop Consolidation and Optimization*" <https://issuu.com/uclapubaffairs/docs/2/>

A recent study⁵ shows that providing shelters at bus stops will not only increase ridership but more importantly help retain ridership, especially during inclement weather. This is especially true when transfers are required as most riders can control the initial point of origin when taking public transit (i.e. leaving home, workplace, etc.). A 2015 UTA rider survey found that a single rider transfers an average of 1.39 times. When offering shelters at high boarding stops and focusing on transfer points it influences choices people make in relation to using transit on days when the weather is a factor (i.e. heat, cold, rain, snow). For UTA specifications for standard bus shelters, see [Appendix B – Bus Stop Amenity Specifications \(Typical\)](#)

Signage

The Bus Stop Master Plan will always refer to the signage standards as presented in the current UTA *Brand, Style and Customer Information Standards* (Section – 12) and *UTA Wayfinding Signage Guidance* (Buses Section) documents.

The signage standards and wayfinding strategy have been structured to support the needs of each affected group within the UTA system. In addition, the sign standards are organized into families of sign types, bus stops signs are represented independently in the. Within the bus stop sign family, there are design specifications for specific sign types, each with physical characteristics tailored to fit specific information and site-specific needs. For instance in remote locations on rural routes there is no need for sophisticated multi-route information signs. In this situation a simple post and bus stop sign serves perfectly to mark a bus stop. However, as population and route density increase approaching population centers, more and more sophisticated signs are required to handle the greater information density. The standards include details regarding the information display requirements, a set of detailed construction drawings, specifications, and typical installation.

Finally, the mechanism for planning, procurement, management and maintenance of the sign program is essential to the success of the sign and information design. An internal administration process, including procurement, installation and removal is included in Appendix D - *Policies & Standard Operating Procedures*.

Art Installations

Art installations are not permitted on the UTA pad. Art installations may be adjacent to a bus stop pad but must not impede the FTA-required pathway. Art installations shall not interfere with patron safety and must comply with federal and local regulations, including those related to accessibility. All art installations are subject to UTA approval. If an art installation has been commissioned and paid for by a third party that party will be solely responsible for the cost of maintenance and repair, removal, or replacement of the artwork. UTA agrees to clean the Artwork during its routine cleaning of the bus stop pad. UTA will provide occasional inspections of the condition of the artwork as they conduct routine maintenance, including trash collection and cleaning of amenities. If at any point UTA determines that the condition of the Artwork has deteriorated to such a degree that a safety hazard is presented or the Artwork has been damaged, UTA will notify the artist or third party that the Artwork must be repaired or removed.

If the third-party elects to remove the artwork at any time and replace it with another, they will do so at their own cost and to the standards set forth herein, including protection of the UTA amenities located on the bus stop pad from damage.

Bus Stop Design – CEPTD Principles

One of the key components to a successful bus stop location is the design and how safe a customer feels while waiting for their bus to arrive. While there are service planning principles that are used to determine the optimal locations for efficient bus operations, there are also safety and security principles that can help keep bus stop locations free from crime, loitering and vandalism. *Crime Prevention Through Environmental*

⁵ *Impacts of Bus Stop Improvements*, University of Utah Department of City and Metropolitan Planning, 2018, K. Bartholomew et. al.

Design (CPTED) theory contends that consideration and implementation of a few fundamental principles can create a climate of safety in a community. CPTED’s goal is to prevent crime by designing a physical environment that positively influences human behavior. The theory is based on three principles:

- Natural access control
- Natural surveillance
- Territorial Reinforcement

In the case of bus stops, these principles should be applied in the following ways.

Natural Access Control

This is the physical guidance of people coming and going from a space by the judicious placement of entrances, fences, landscaping, and lighting. This principle helps deter access to a crime target or victim and creates a perception of risk to a perpetrator.

For the design of a typical bus stop, natural access controls should include:

- Clear, identifiable wayfinding and signage to direct/lead customers safely to poles, shelters and other amenities
- Clearly marked transitional zones (i.e. making it clear where the bus stop limits are vs. public space such as sidewalks)
- Unobstructed walkways in safe, visible locations for pedestrians, with unobstructed views

Natural Surveillance

This principle limits the opportunity for crime by taking steps to increase the perception that people can be seen. Natural surveillance occurs by designing the placement of physical features, activities and people in such a way as to maximize visibility and foster positive social interaction. Potential offenders feel increased scrutiny and perceive few escape routes.

For the design of a typical bus stop, natural surveillance controls should include:

- Illumination. This can be direct or indirect lighting but must be sufficient to allow customers to clearly see and observe others and also be seen by others.
- In the case of shelters, clear windows on all sides of the shelter allowing for full, unobstructed visibility of the area surrounding the bus stop
- If there is landscaping or vegetation, low growing varieties

Territorial Reinforcement

This principle uses the physical design to create or extend a sphere of influence. It provides customers with a sense of territorial control, while potential offenders perceive this control and are discouraged from their criminal intentions. Territorial reinforcement is promoted by features that define property lines and distinguish private spaces from public spaces, such as low growing plantings, pavement design, and fences.

For the design of a typical bus stop, territorial reinforcement controls should include:

- Clear, identifiable signage that identifies the bus stop as a unique public space
- Sense of ownership of the stop and amenities by the surrounding community
- Care and upkeep of the stop and amenities to indicate that someone is frequently coming by
- Security awareness programs (See something, say something)
- Prompt response/reaction to criminal incidents
- Enforce zero tolerance policy to graffiti & vandalism

Stop Assessment Methodology

This section outlines the methodology that is being used by UTA to evaluate the existing conditions of the stops in the system. While the level of stop amenities is determined by the average daily boardings at the stop, these recommended amenities come with a significant capital and operating cost. This methodology is used to determine *which* stops will receive improvements and thus appropriate the limited amenity resources equitably.

Before determining what amenity level will be assigned to a stop, there are several key factors, or minimum standards, that must be met. These factors are driven by federal ADA standards, UTA safety standards and bus stop operations serviceability standards. These standards provide the first level of screening for each of the stops within the system.

Over the lifetime of a bus stop, the largest cost is operation and maintenance (i.e. cost to maintain trash receptacle, shelter, and lighting etc.) of the amenities located at any particular bus stop. Because of this ongoing cost, the initial installation and purchase of the amenities to be installed is evaluated and carefully considered before approving amenities to be installed at a stop. This is done to ensure that stops with the most daily activity receive priority of UTA’s limited resources. In order to determine what bus stops are improved on a prioritized basis, UTA has developed a Bus Stop Scoring Matrix where each stop is assigned “points” (see Table 4).

The matrix below has been approved by the FTA to comply with Civil Rights, ADA and Title VI regulations. By evaluating each stop location and scoring the various categories at each stop, the highest-scoring stops are prioritized and addressed first. While the Bus Stop Master Plan is designed to address all the bus stops system-wide, this process helps UTA prioritize a limited annual budget for bus stop improvements. The underlying assumption associated with the Bus Stop Scoring Matrix is that it is used to address only those stops in the UTA system that are currently non-ADA compliant. The reasoning is that if UTA has funds to improve stops in the system, the first stops to be improved should be those that do not meet federal ADA compliance standards.

NOTE: For the sake of efficiency in the construction of these stops, groups of stops targeted for improvements may be organized by routes. This process allows for a construction contractor to plan for work in the same general area, rather than having to mobilize construction crews multiple times to construct individual stops and various locations across the county or the region.

Category	1 Point	2 Points	3 Points	4 Points	5 Points
Non-ADA Compliant*	-	-	-	-	Yes
Total Stop Activity (TSA) - Average Daily Weekday**	1 to 19	20 to 39	40 to 59	60 to 79	80 +
Total Annual Bus Ramp Deployments	1 to 49	50 to 99	100 - 149	150 - 199	200+
Transfer Point***					
Equal to or Greater than 30 min. freq.	1 Route	2 Routes	3 Routes	4 Routes	5+ Routes
Less than 29 the min. freq.	1 Route	2 Routes	3 Routes	4 Routes	5+ Routes
Serves Title VI Community					
					Title VI Route/Area
Safety					
Intersection	1 of 5 Elements	2 of 5 Elements	3 of 5 Elements	4 of 5 Elements	5 of 5 Elements
Parking Allowed					
Obstacle(s) Present					
No lighting Present					
Sidewalk Not Level					
Social					
Education Adjacent					Yes
Library Adjacent					Yes

Table 3 - Bus Stop Scoring Matrix

* Non-ADA compliant bus stop locations automatically receive five (5) points

** TSA is calculated using the average weekday boardings and alighting's taken from the last eight change day periods

***One (1) additional point is assessed each route at a transfer point with 30 minute or less frequency

The results of this methodology are compiled annually into the Bus Stop Planning Reports. These reports represent the top tier of bus stops that UTA has prioritized as needing to be addressed for one or more of the screening criteria listed above.

Funding

One purpose of this Master Plan is to develop a 5 year capital development strategy and budget for bus stop improvements. The development and administration of this strategy involves the Service Planning Department, working with the Customer Experience and Capital Development to prepare an annual budget associated with a prioritized schedule of bus stop improvements or new construction. This budget should include capital costs as well as operating and maintenance costs for the life of the stop.

It should also be noted there are opportunities for cities and counties to participate in contributing additional funding for local stops in their communities. The form of these contributions can take several forms other than cash. Partners can offer to provide the right-of-way or offer to perform some of the construction of the stops such as the concrete pads or sidewalks. UTA also recognizes that outside funding

contributions may not always completely align with the schedule or prioritization that UTA has prepared for stop improvements. In these cases, the Service Planning and Capital Development teams will work directly with city or county staff in preparing a work scope, budget and schedule for these situations. The responsibility for the maintenance and upkeep of the stops, shelters and amenities paid for by others become will be explicitly outlined in a Memorandum of Understanding or Memorandum of Agreement between UTA and the contributing agency. This agreement may also call for UTA to maintain the facility as part of its routine operations and maintenance and be reimbursed by the contributing agency. For more guidance on this process, see Appendix F - *Policies & Standard Operating Procedures*.

New Bus Routes and Route Modifications

In the case of new routes or new service being introduced, the Service Planner(s), regardless of the levels or type of stops that may be required, will collaborate and together evaluate and select the optimal locations of bus stops and plan the stop locations according to the guidelines established in this document. Stop amenities at the new stops will be based on estimated ridership using UTA's travel demand modeling tools (TBEST or REMIX). At a minimum, every new stop will require all of the Level I stop amenities in order to be ADA compliant. Sufficient time for both planning, ordering and installing new stop amenities needs to be provided. In no case should a new route start operation without proper, accessible, safe bus stops in the designated locations.

Routes are often modified to improve operational efficiency and provide access to a new customer base. All new bus stops on modified routing must be made ADA compliant to the maximum extent practicable. This is true where the change originated with UTA. Where the change was forced by an outside factor, stop locations may receive "Temporary Stop" signage until the location can be improved.

Bus Stop Administration

The UTA Customer Experience Manager oversees the Bus Stop Improvement Program and is responsible for coordinating with other UTA departments on any and all of the work that is done with regard to the planning, feasibility, design, installation and maintenance of any UTA bus stop. This does not necessarily mean that he or she is responsible for the actual tasks associated with the design, installation and maintenance, rather ensuring their proper execution according to the Bus Stop Master Plan. UTA has established processes and procedures that are used for everything from planning and installation of bus stops to the procurement of shelters and amenities to the removal or replacement of existing amenities. UTA also has an adopted *Bus Stop Improvements Standard Operating Procedure* (No. AGCY.06.07) that outlines the entire bus stop administration process, including explicit steps and persons responsible for each step. This SOP can be found in *Appendix D - Standard Operating Procedures*.

Annual Bus Stop Planning Reports

Bus Stop Planning reports are generated and reviewed annually in order to track progress on the improvements⁶ made to bus stops throughout the system. These reports are generated prior to the UTA budget period so that capital budget requests can be made by the Bus Stop Service Planning Team for the following year. These requests represent the total estimated cost of the cumulative work identified in the prioritization matrix. The costs are based on the unit construction and amenity costs as outlined in this document. [See Appendix C - Capital, O&M and Total Lifecycle Costs by Stop Level Type](#). These reports are subject to review, and change, by executive leadership in order to make sure the program of bus stop improvements is in line with the annual goals as established by the Board of Trustees and the Executive Director. These reports are generated on a county-by-county basis and represent the total capital that is

⁶ It should be noted that these reports also contain recommendations for stops that should be consolidated or completely eliminated.

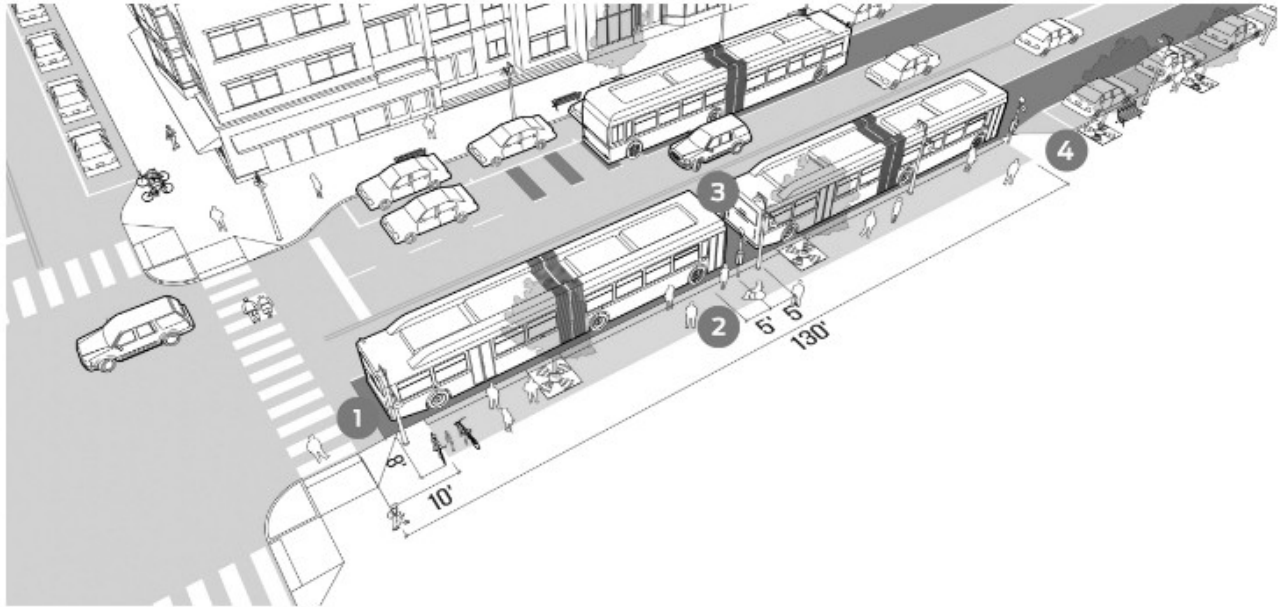


anticipated to be spent bus stops and amenities in any particular county. This allows for UTA to also report to local municipal and county leaders how their tax dollars are being spent in their respective jurisdictions.

Appendix A – Guidelines for the Location and Design of Bus Stops

A no parking zone is required at all bus stops. The length of the no parking zone is dependent on the length of the bus operating on the stop’s route. The next section describes the required length of the no parking zones in front of bus stops depending on whether the bus stop is an ‘in lane’ stop or a ‘pull out’ stop.

Stop/Platform Lengths⁷



In-Lane Stops

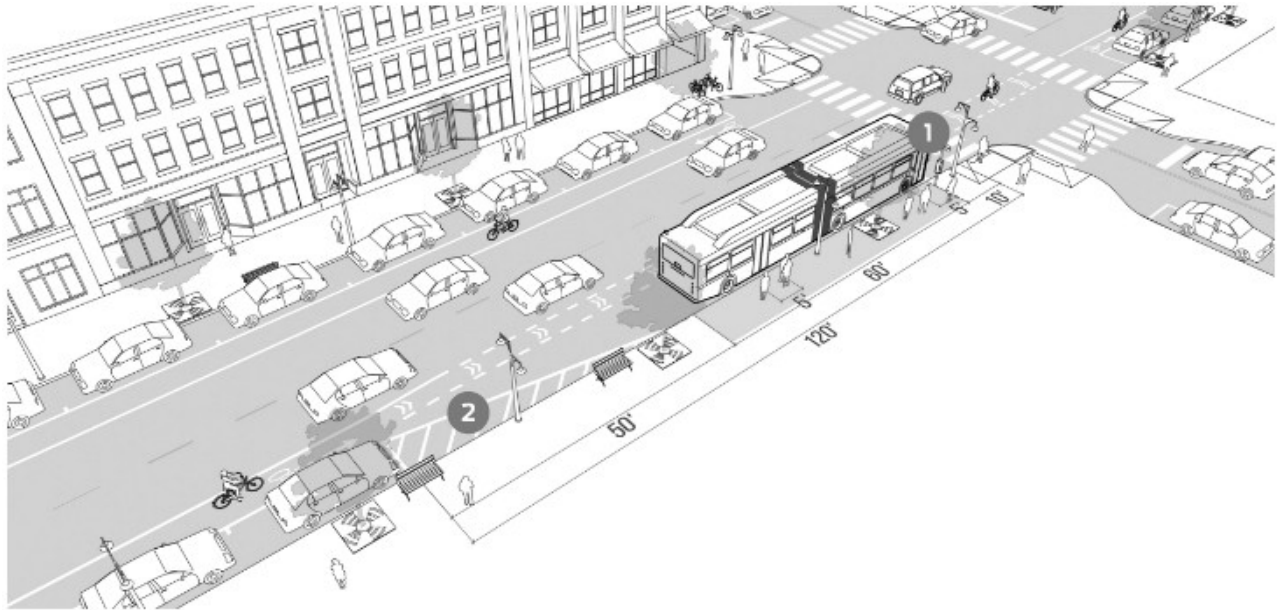
Stop Location	Desired Minimum Stop/Platform Length by Vehicle Type (feet)*			
	40' Bus	60' Bus	2 x 40' Bus	2x 60' Bus
Near-side	35	55	80	115
Far-side	45	65	90	130
Mid-block	35	55	80	115

*Bus stop/platform lengths also represent the distances where ‘No Parking’ restrictions should be enforced in the street.

NOTES:

- 1 Locate stop zone with at least 10 feet of clear distance from crosswalk or curb return. Measure to transit stop pole at near-side, or rear of transit vehicle at far-side.
- 2 5 feet is the minimum curb length for a receiving facility at each boarding door (ADA Std. §810.2.2), design platforms to be continuous through all doors, and consider additional elements to improve passenger comfort
- 3 Provide 5–10 feet of distance between each additional transit vehicle expected to be dwelling at the platform consistently throughout the day.
- 4 Design boarding bulbs and islands to accommodate proper drainage and sweeping; tight radii may require maintenance agreements to ensure bulbs are properly cleaned and maintained.

⁷ NACTO Transit Street Design Guide April 2016' <https://nacto.org/publication/transit-street-design-guide/stations-stops/>



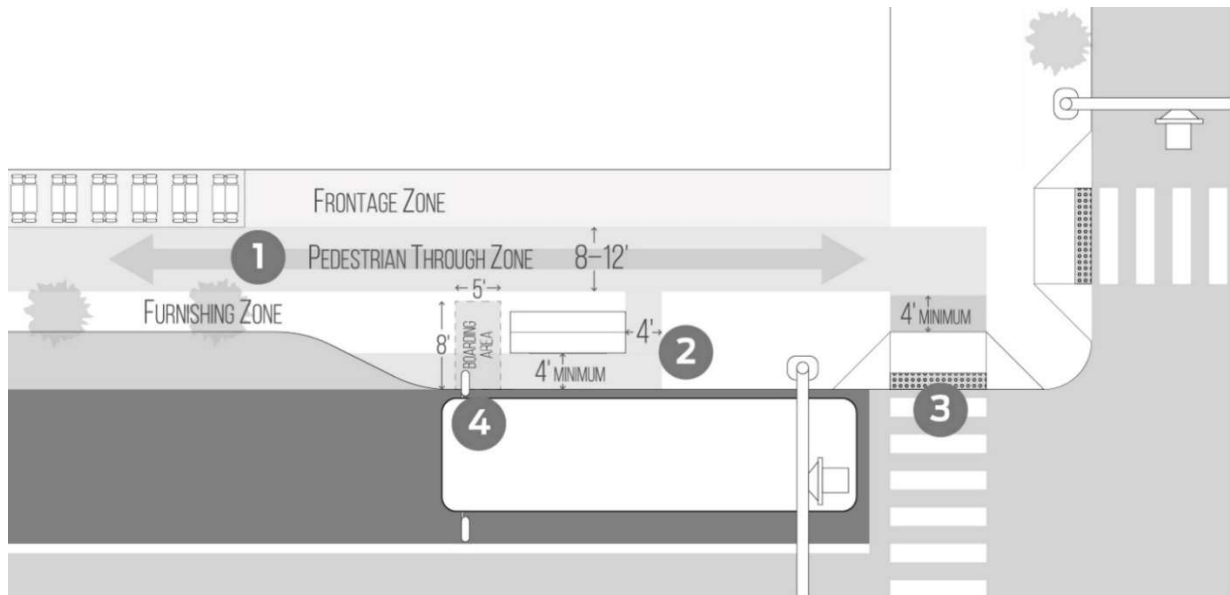
Pull-out Stops

Desired Minimum Stop/Platform Length by Vehicle Type (feet)*				
Stop Location	40' Bus	60' Bus	2 x 40' Bus	2x 60' Bus
Near-side	100	120	145	185
Far-side	80	100	125	165
Far-side (right turn)	140	160	140	230
Mid-block	120	145	185	210

*Bus stop/platform lengths also represent the distances where 'No Parking' restrictions should be enforced in the street.

NOTES:

- 1 Locate stop zone with at least 10 feet of clear distance from crosswalk or curb return. Measure to transit stop pole at near-side, or rear of transit vehicle at far-side.
- 2 White diagonal hatch line markings may be striped to delineate the entry and exit tapers and discourage blocking. Provide 5-10 feet of distance between each additional transit vehicle expected to be dwelling at the platform consistently throughout the day.



Accessible Paths and Slopes

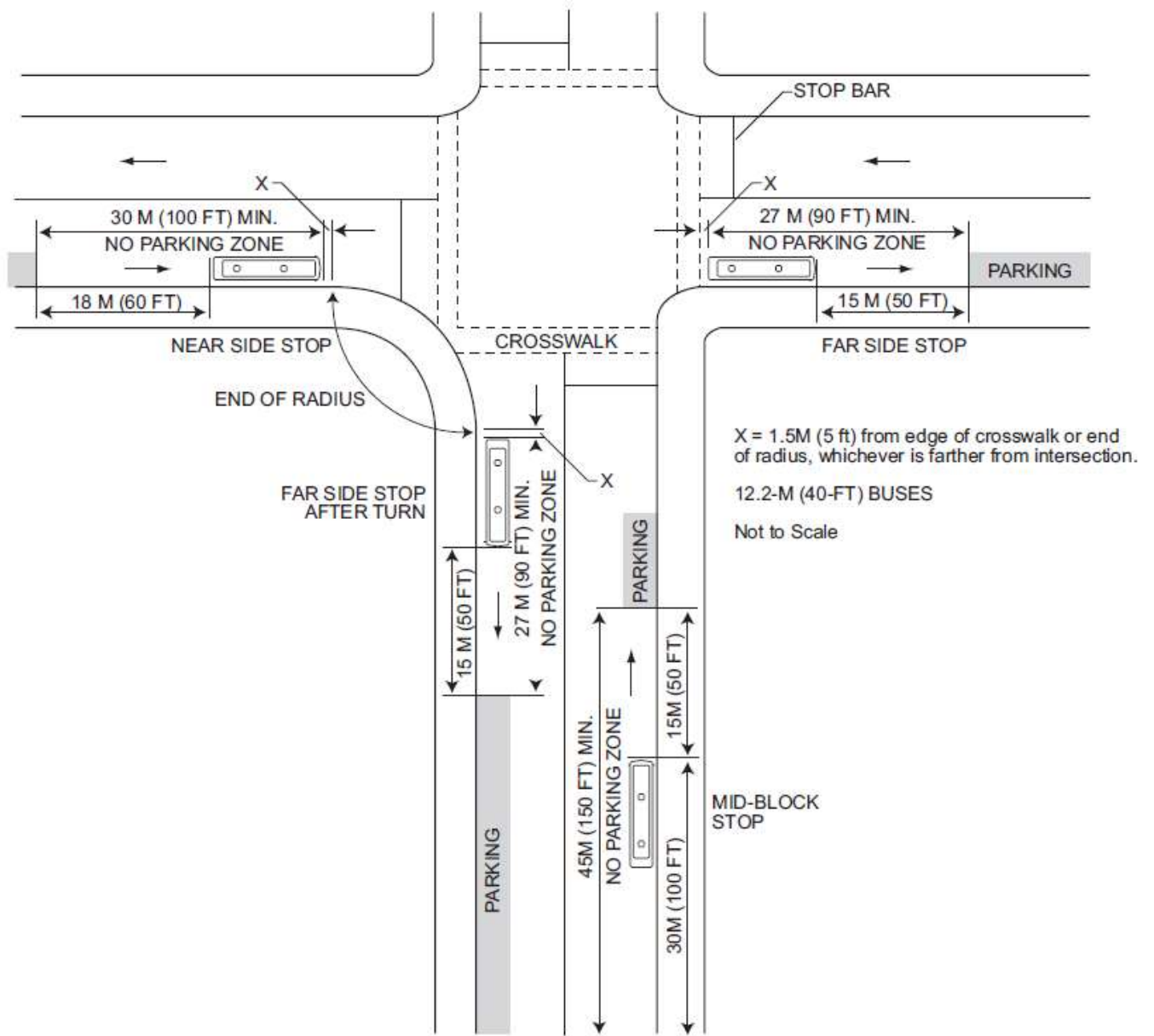
Desired Minimum Stop/Platform Length by Vehicle Type (feet)*				
Stop Location	40' Bus	60' Bus	2 x 40' Bus	2x 60' Bus
Near-side	35	55	80	115
Far-side	45	65	90	130
Mid-block	35	55	80	115

*Bus stop/platform lengths also represent the distances where 'No Parking' restrictions should be enforced in the street.

NOTES:

- 1 For pedestrian travel paths, a clear width of 8-12 feet is preferred where transit is present, and may be wider based on pedestrian and transit rider capacity. Pinch-points less than 6 feet wide create capacity and comfort issues and should be avoided. A 4-foot clear width is acceptable around some design elements like shelters and seating and may be used especially where access is helpful but not essential, such as between a curb and the back of a building-facing shelter. Shelters and seating should be positioned so that all riders can comfortably wait, board, and alight without obstruction.
- 2 5 feet is the minimum curb length for a receiving facility at each boarding door (ADA Std. §810.2.2), design platforms to be continuous through all doors, and consider additional elements to improve passenger comfort
- 3 Provide 5-10 feet of distance between each additional transit vehicle expected to be dwelling at the platform consistently throughout the day.
- 4 Design boarding bulbs and islands to accommodate proper drainage and sweeping; tight radii may require maintenance agreements to ensure bulbs are properly cleaned and maintained.

Stop Placement at Intersections⁸



⁸ [TCRP Report 19: Guidelines for the Location and Design of Bus Stops](#)

Appendix B – Bus Stop Construction Standards & Design Specifications

As of 2018 UTA will consider the 2015 circular from the FTA the primary authority yet the 2015 circular does not void the guidelines in place in the 2010 DOJ and the 2006 FTA ADA guidelines. These guidelines will be supplemental and referenced within this document.

https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Final_FTA_ADA_Circular_C_4710.1.pdf

ADA requirements state the landing zone must be 5' x 8' (See Figure 1) and less than 2% sloping toward the road. UTA standards have increased the size of the required landing zone to 6' x 8' to accommodate a stop flag. The stop flag will be installed on the far side of the landing zone 1.5 feet away from the curb. See Figure 9. Slope of all concrete flatwork shall not exceed 2%. Concrete flatwork should drain toward the roadway where possible.

Landing Zone and Accessible Route Requirement

UTA standards require an accessible route complying with Chapter 4 of the 2010 ADA guidelines connecting the bus shelter, the landing zone and the sidewalk (See Figure 3). If a sidewalk is not present, a sidewalk should be constructed. If sidewalk construction will exceed 20% of the cost of the bus stop, alternative construction options will be considered. A possible alternative could include a curb ramp into the roadway but the location's specific needs must be analyzed by UTA's Capital Development and Civil Rights Departments.

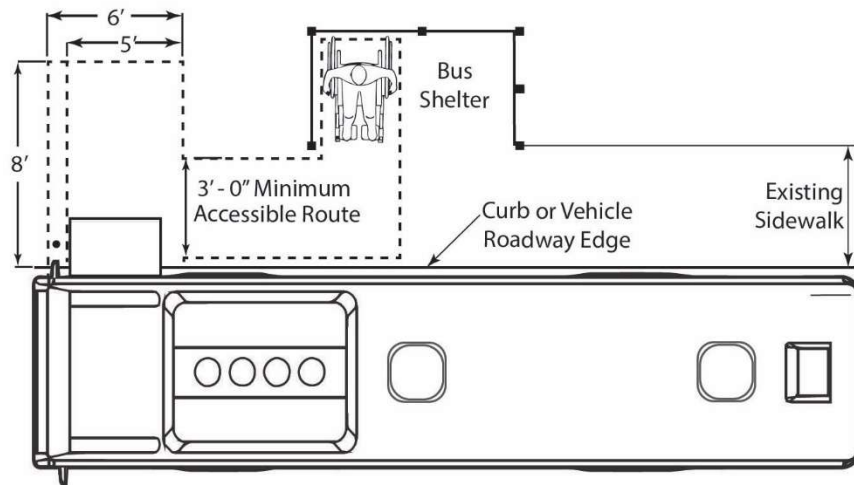
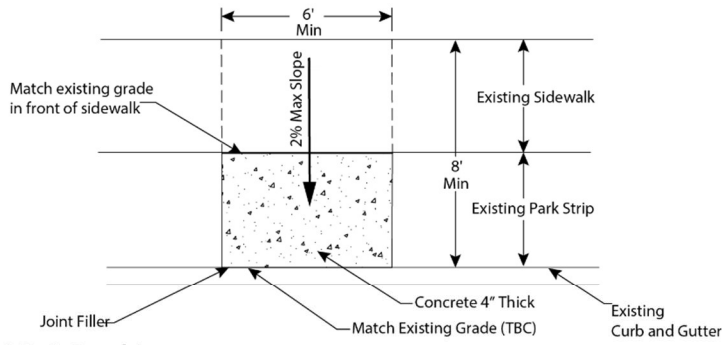
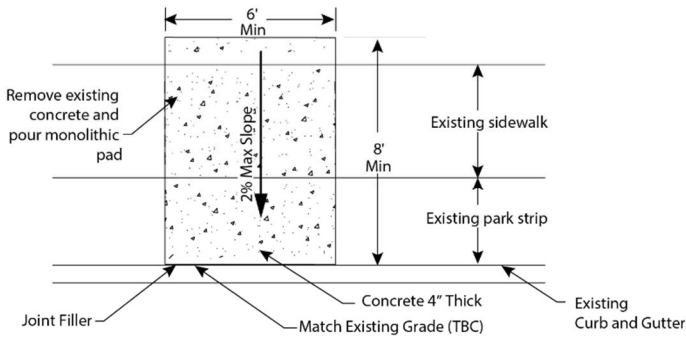


FIGURE 3 - ACCESSIBLE ROUTE DIAGRAM

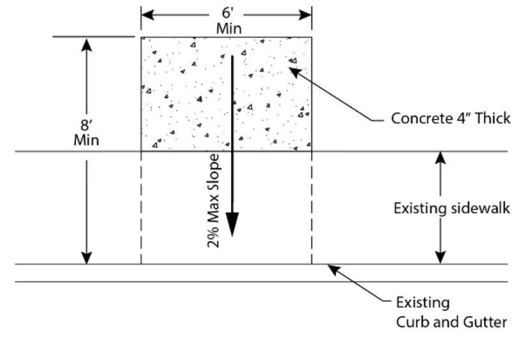
1. Bus stops require a Landing Zone complying with 810 of the 2010 ADA guidelines. The landing zone must be 6' x 8' as indicated in Figure 2 and less than 2% sloping toward the road. See Figure 4 below.
2. This Landing Zone must be connected to the sidewalk and shelter with an accessible route complying with 402 of the 2010 ADA guidelines.
 - a. The accessible route must be at least 3 feet wide and have a slope less than 2% in any direction.
 - i. If 2% cannot be achieved, an ADA ramp may be employed to connect the landing zone and the sidewalk. The ramp must comply with Fig. 5 below. The ramp may have a maximum slope of 5% unless handrails are included increasing the maximum slope to 8.3% (or 1:12).



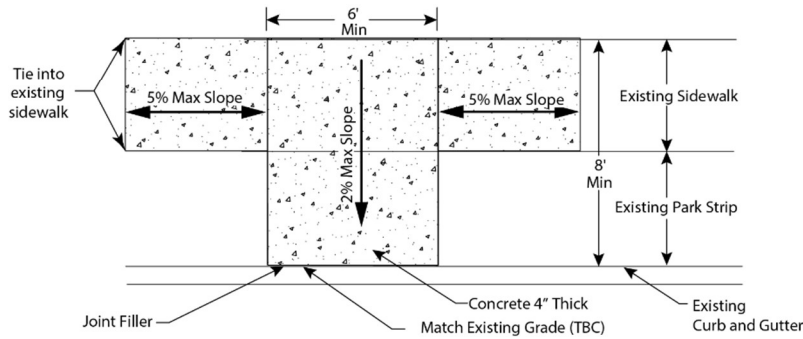
ADA Pad Layout 1



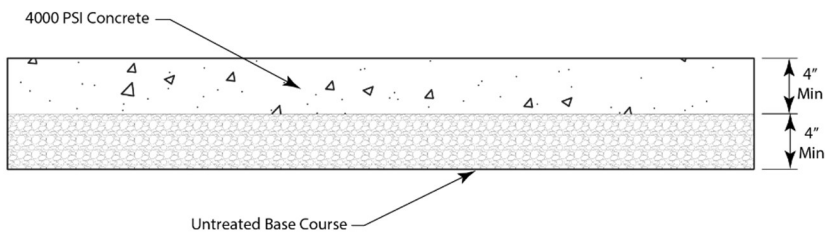
ADA Pad Layout 2



ADA Pad Layout 3



ADA Pad Layout 4



Typical Cross Section

FIGURE 4 - ADA PAD CONFIGURATIONS

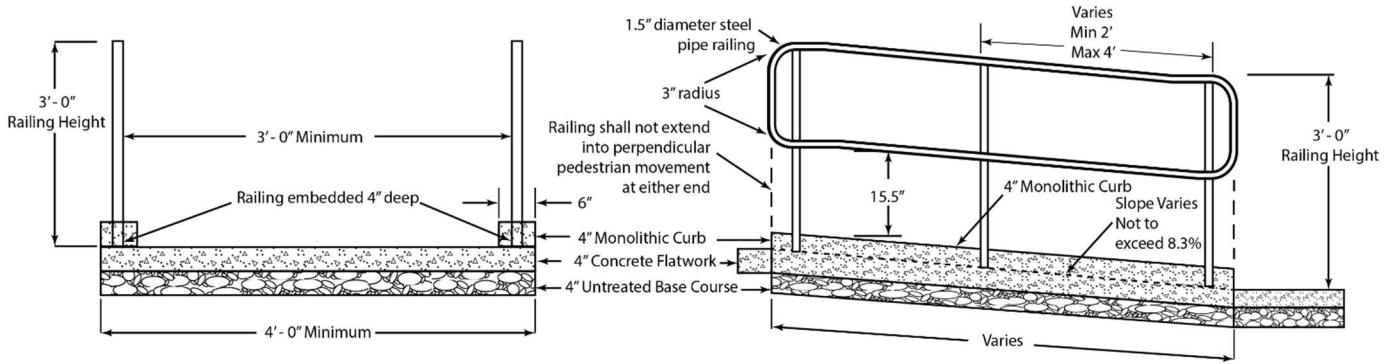


FIGURE 5 - ADA RAMP DESIGN

- ii. If the length of the ramp exceeds 10 feet, stairs must be installed concurrent with the ramp in accordance with the detail in Figure 6.
 - iii. If the length of the ramp reaches 30 feet a 5 foot landing must be installed where the slope is reduced to below 2% in the direction of the ramp.
(Reconsideration of the ramp route or stop location may be appropriate.)
3. Amenities shall be installed with 1/2" clearance between appurtenances.

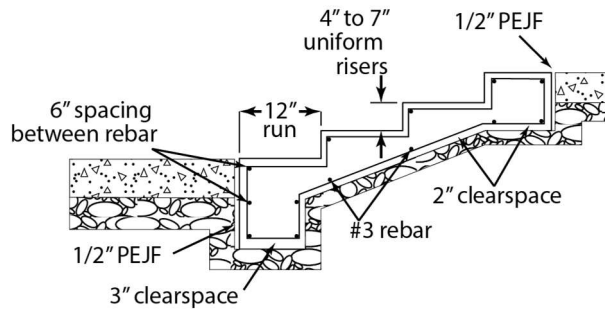


FIGURE 6 - STAIR DETAIL

Hardware

1. Bus Stop Pole Specifications
 - a. Poles are NEX® 2.0" x 2.0", Octagonal (see Figure 6)
 - b. 12' length
 - c. Galvanized Steel
 - d. Powder Coat Color BL01



FIGURE 7- NEX® OCTAGONAL POLE

2. Bus Stop Pole Mount Installations*

- a. Pole mounts are a NEX® flange plate welded to a 2 ¼" X 6" 12 ga. non-perforated square tube. (See Fig. 8)
- b. Powder coat BLO1 (BLUE)
- c. The mount must remain in the "mount alley"
- d. The mount alley consists of the 2 foot corridor perpendicular to the roadway on the farside of the landing zone. (See Fig. 9)
- e. Mount the bus stop pole 2'-0" feet from the Top Back of Curb. The edge of the mount should be 6 inches from the far edge of the concrete in the "mount alley". (See Fig. 9)
- f. Place the pole inside the pole mount using manufacturer recommended tools and instructions (See Figure 8)

* Performed by UTA Facilities Road Crew

Mounting Hardware Type	Application
<ul style="list-style-type: none"> Simpson Strong-Tie STB2-503344SS - 1/2" x 3-3/4" 304SS Strong-Bolt2 Anchor 	New installations of shelters and poles
<ul style="list-style-type: none"> Simpson Strong-Tie THD37300H6SS - Titen HD Concrete Screw Anchor 316SS 3/8" x 3" 	Benches
<ul style="list-style-type: none"> Simpson Strong-Tie THD50300H4SS - Titen HD Concrete Screw Anchor 304SS 1/2" x 3" 	Benches and trash cans

TABLE 4 - MOUNTING HARDWARE SPECIFICATIONS

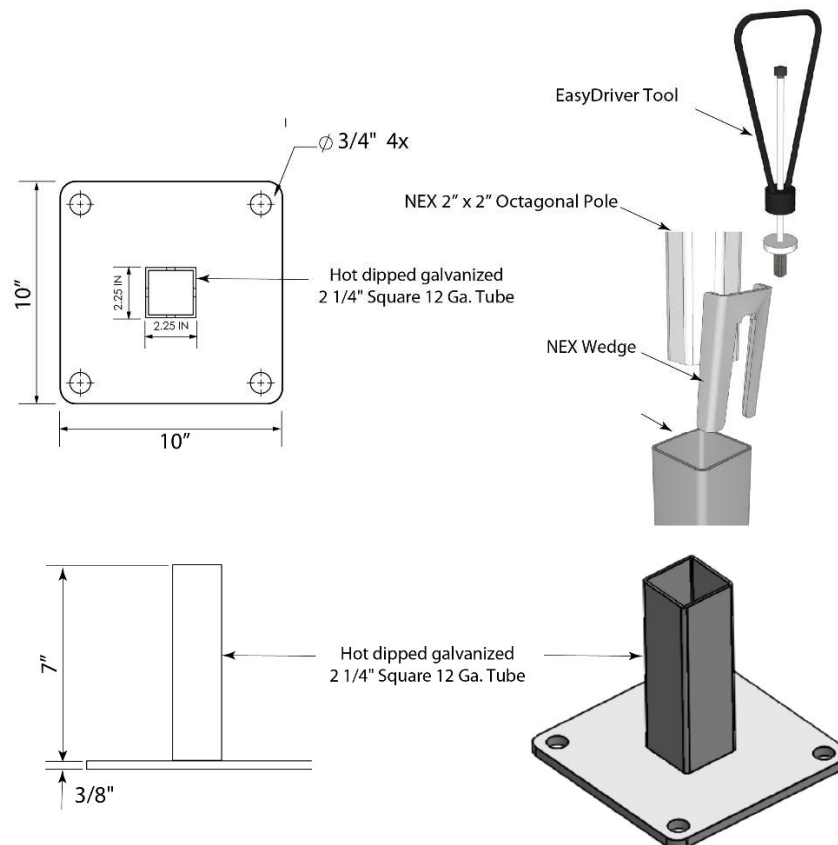


FIGURE 8- BASE FLANGE FLAG MOUNT (TYPICAL)

General Notes

- All measurements of existing conditions shall be verified in the field by the contractor.
- Locations of existing utilities shall be located by the contractor using Blue Stakes prior to beginning of construction.
- Slopes shall not exceed 2% in any direction for flatwork and ADA landing pad unless otherwise indicated.
- Bus shelter and all other amenities shall be installed by UTA
- Any vegetation, landscaping or irrigation that is disturbed during construction shall be replaced in kind by the contractor.
- Any proposed flatwork shall match the existing top back of curb (TBC) and if the finish grade is more than ¼ inch above TBC a 4" yellow stripe shall be painted across the front edge of flatwork.
- Contractor shall provide full depth ½" type F1 joint filler per APWA Section 32 13 73 at the joint between the shelter pad and ADA landing pad.
- All work shall follow APWA 2018 Standard Plans and Specifications.
- The contractor is responsible to acquire the applicable city building and encroachment permits. All other permits necessary to perform the work shall be the responsibility of the contractor.
- Final locations of pad and amenities must be coordinated with UTA.
- Any damage to sidewalk, curb and gutter or pedestrian ramps due to permit work shall be replaced by the contractor at no cost.

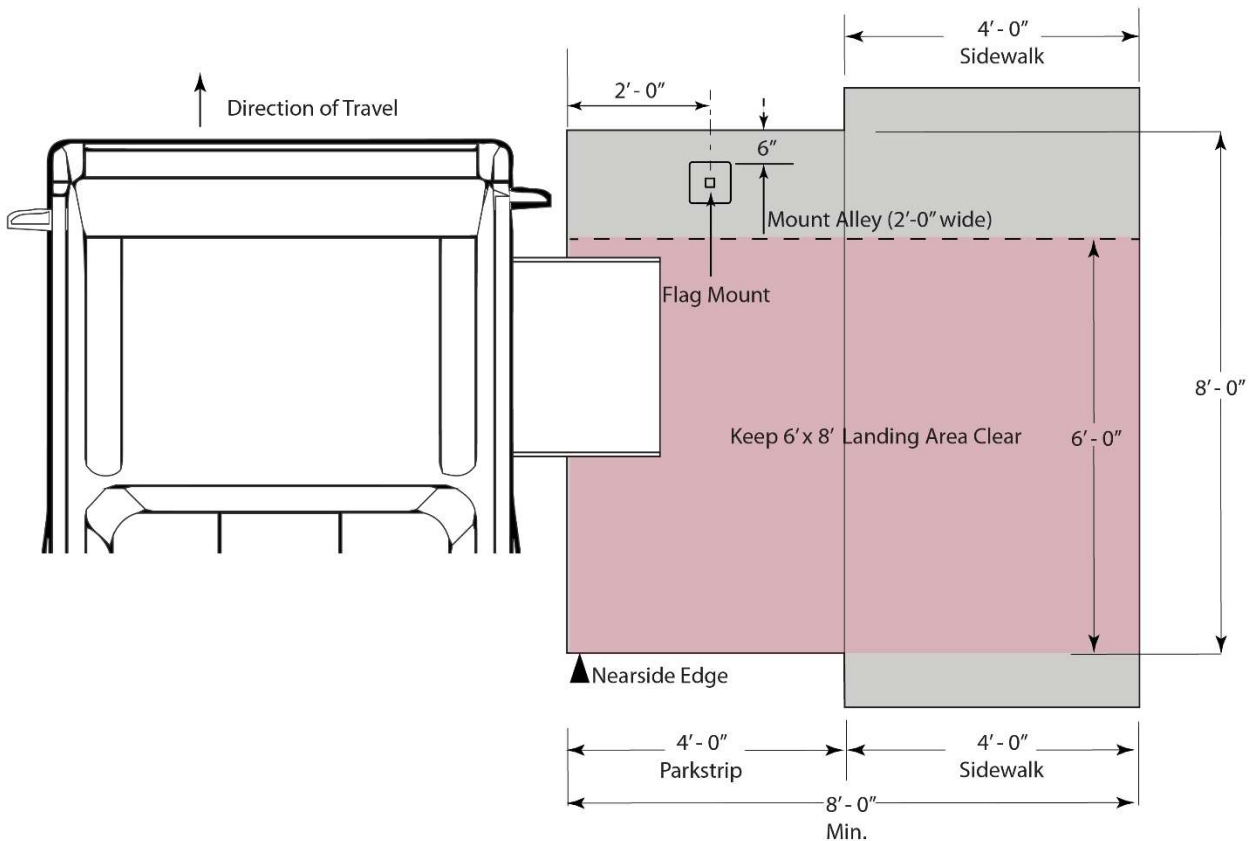


FIGURE 9 - ADA LANDING PAD DESIGN

Bus Stop Amenity Specifications (Typical)

Materials (UTA Minimum Standard - Traditional Brasco Slimline Series Shelters - See Figure 12)

- Brasco Slimline Series with standing seam hip roof with fascia and gutter system
- Dark bronze anodized aluminum structure and canopy
- 1/4" clear tempered safety glass
- Partial length aluminum bench with backrest

Post Anchors (Traditional Aluminum Shelters)

See Figure 9.

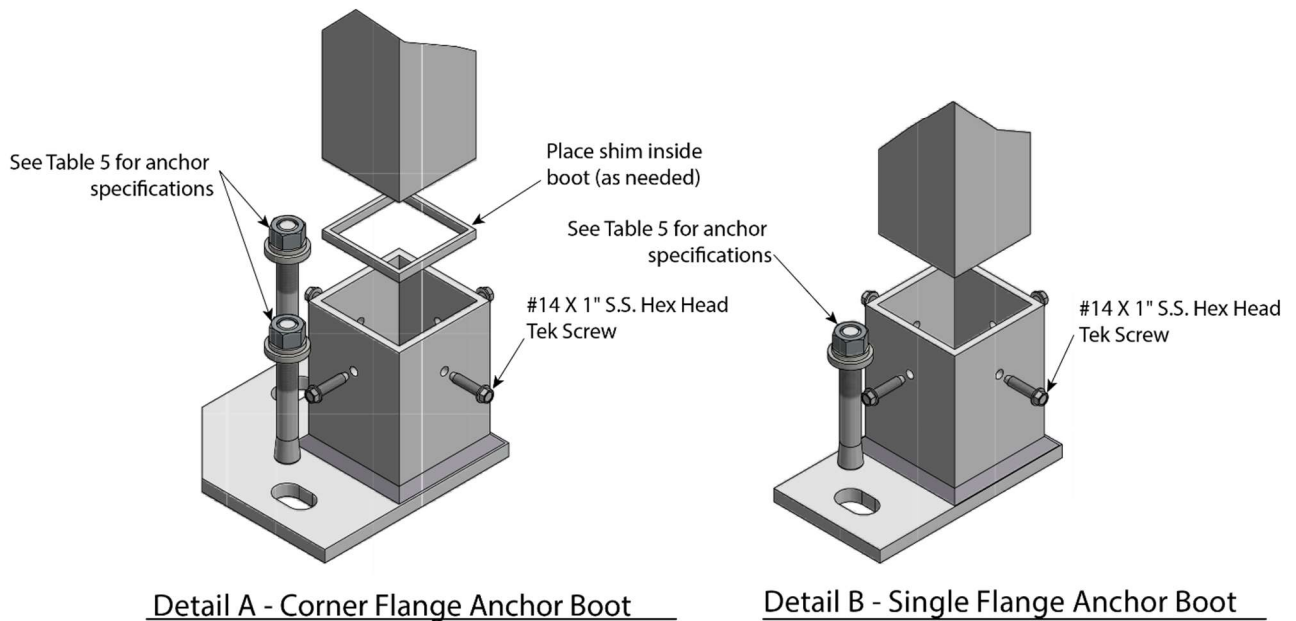
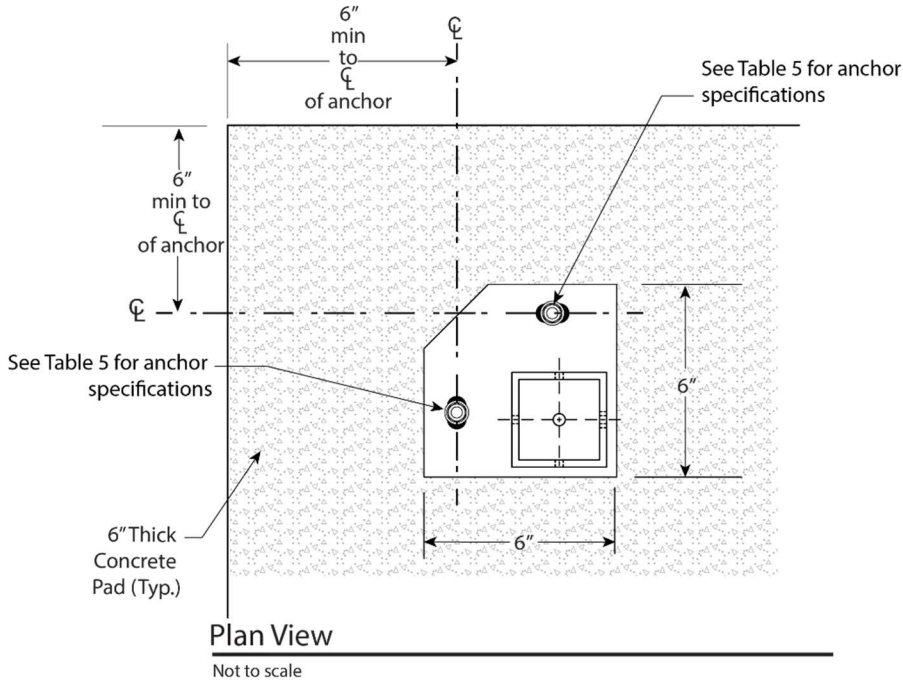


FIGURE 10 - TRADITIONAL SHELTER POST ANCHORS

Custom Shelters (Betterment for all Core Route designated stops – Brasco Eclipse Series Shelter – See Figure 13)

- White Aluminum Powder Coat Painted Finish - RAL 9006
- 3/8" Clear Laminated Safety Glass with Stainless Steel
- 1/8" aluminum flat Roof with

Post Anchors (Custom Shelters)

See Figure 11.

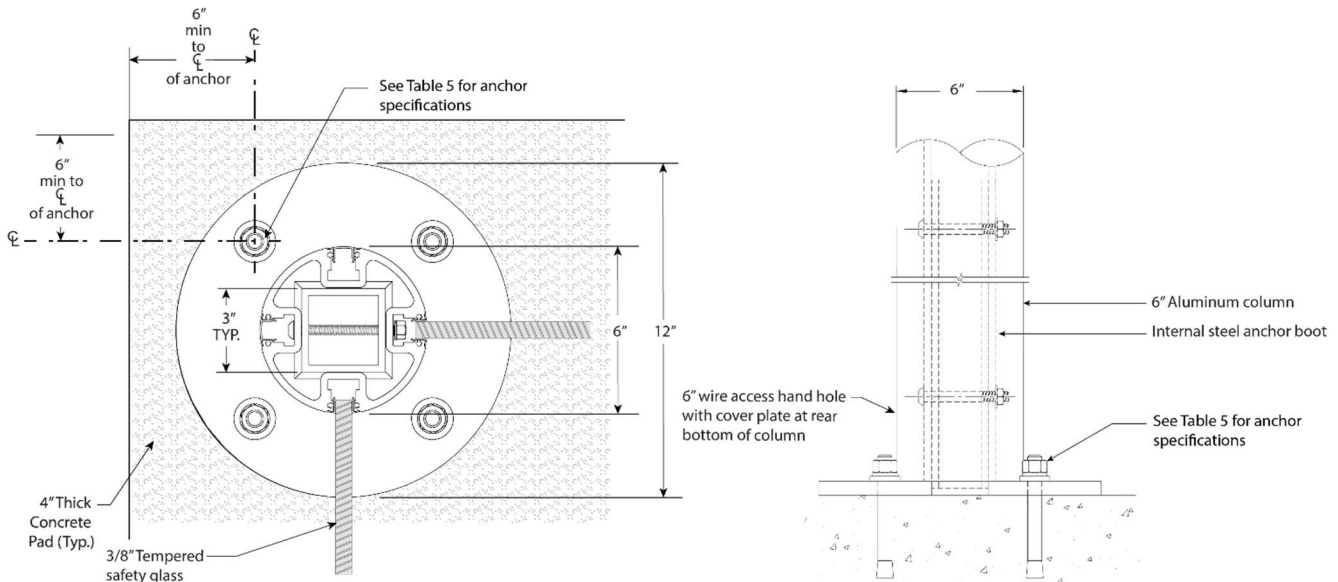


FIGURE 11 - CUSTOM SHELTER POST ANCHORS

Lighting (Betterment for Level V Stop Amenities and above)

- UTA prefers to install internally lit shelters at all new or refurbished Level V, Level VI and Level VII bus stops
- Standard, commercial, outdoor lighting fixtures should be used at bus stops because they are easier and less costly to maintain than uniquely designed or custom fixtures

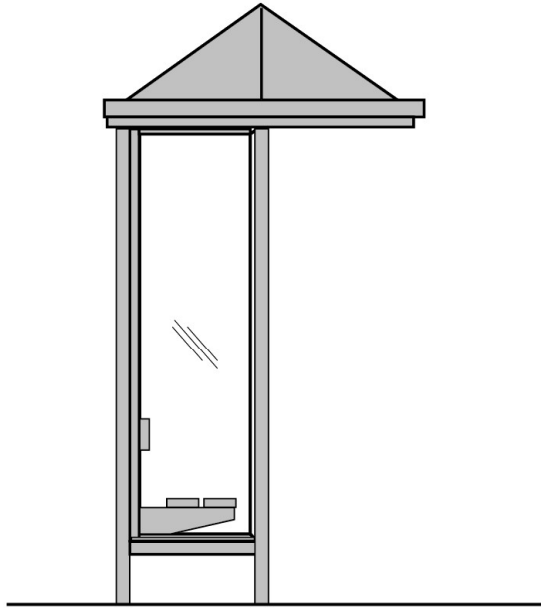
Artwork (For all Stop Levels)

- Artwork at any UTA bus stop will be managed through the Art in Transit program which is administered by the Community Engagement Department.

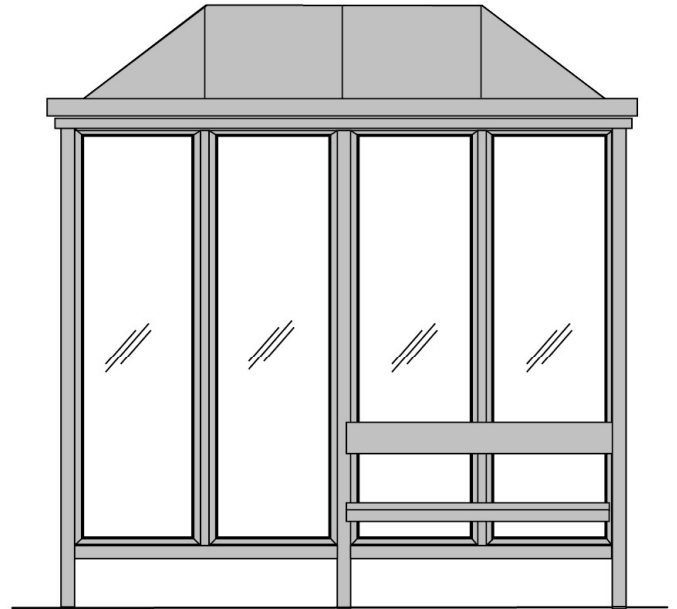
Benches (Betterment for Level II Stop Amenities and above)

- Benches should be provided in all shelters
- A single park bench is provided at all Level II bus stops.
- Additional benches are placed outside Level III through Level VII shelters
- Benches may be installed at stops where a shelter is warranted but will not fit due to limited right-of-way

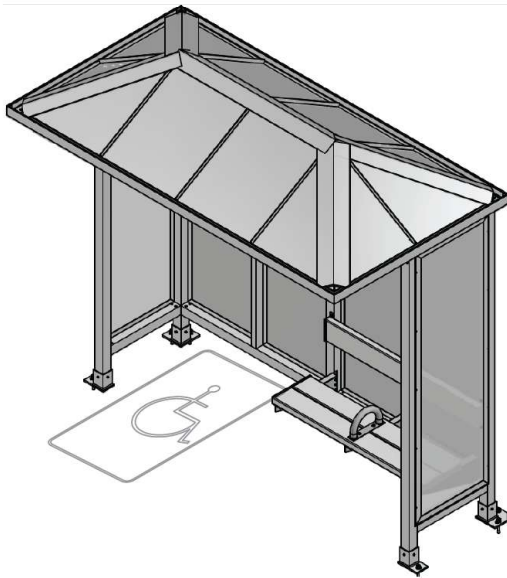
Typical Slimline Cantilever Series Shelter



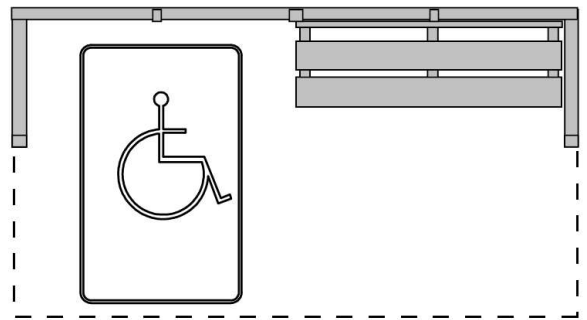
Side Elevation
Not to Scale



Front Elevation
Not to Scale



Typical Slimline Cantilever Series Shelter



Plan View
Not to Scale

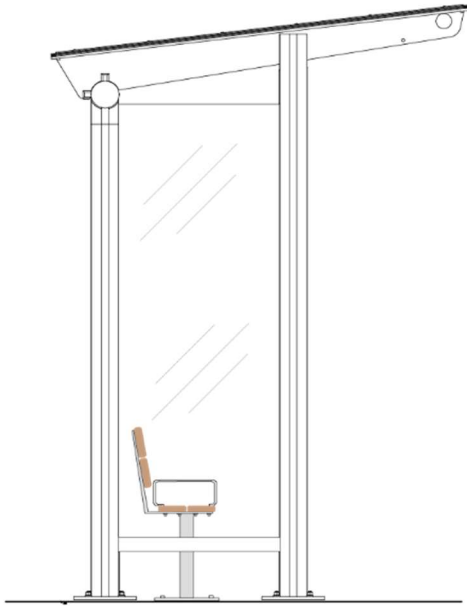


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1-800-893-3665 www.brasco.com

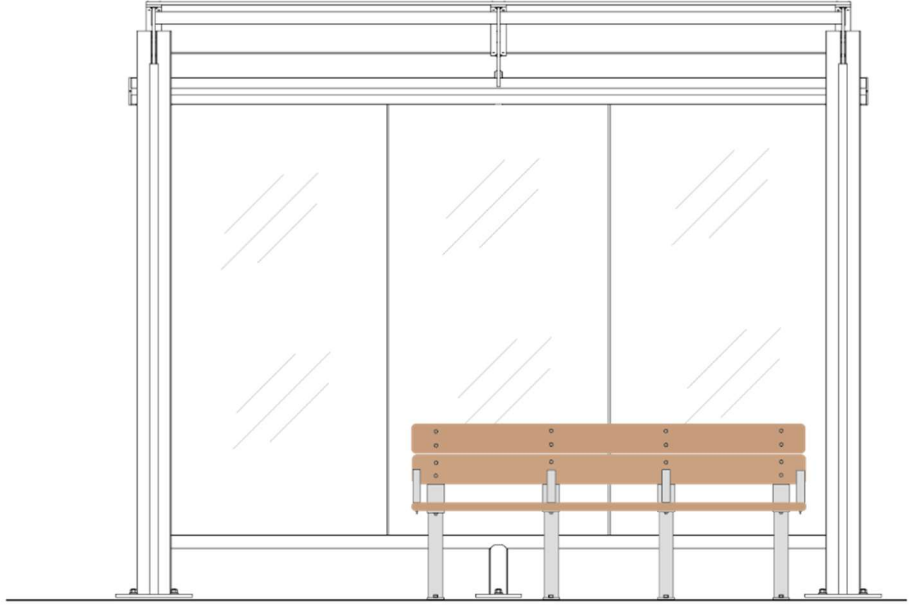
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FIGURE 12 - TYPICAL SLIMLINE SERIES SHELTER

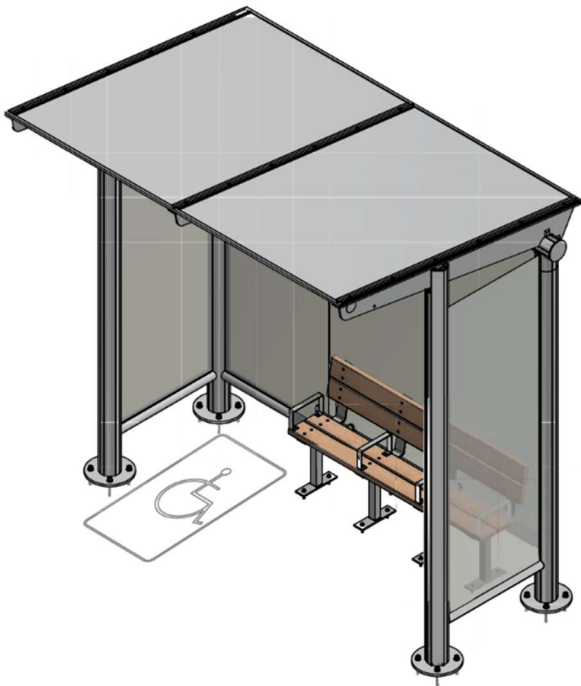
Typical Eclipse Cantilever Series Shelter



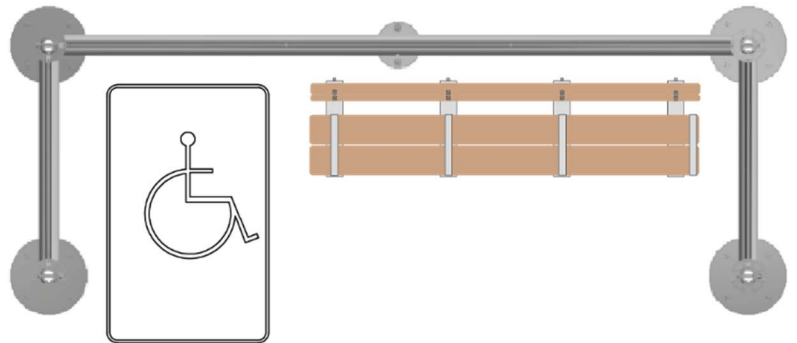
Side Elevation



Front Elevation



Typical Eclipse Cantilever Series Shelter



Plan View

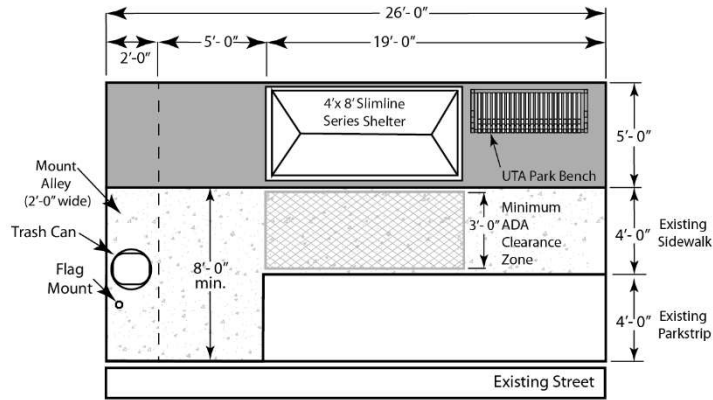


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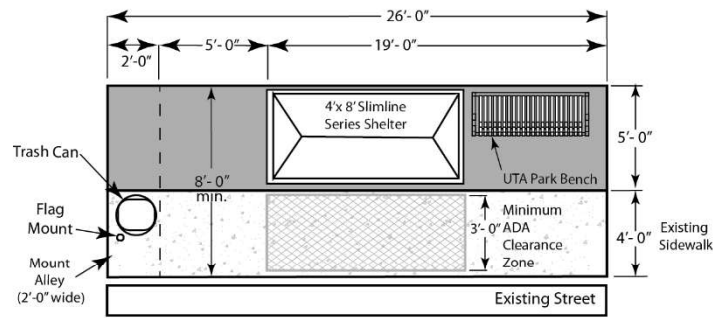
FIGURE 13 - TYPICAL BRASCO ECLIPSE CANTILEVER SHELTER

Bus Pad Configurations (Typical)



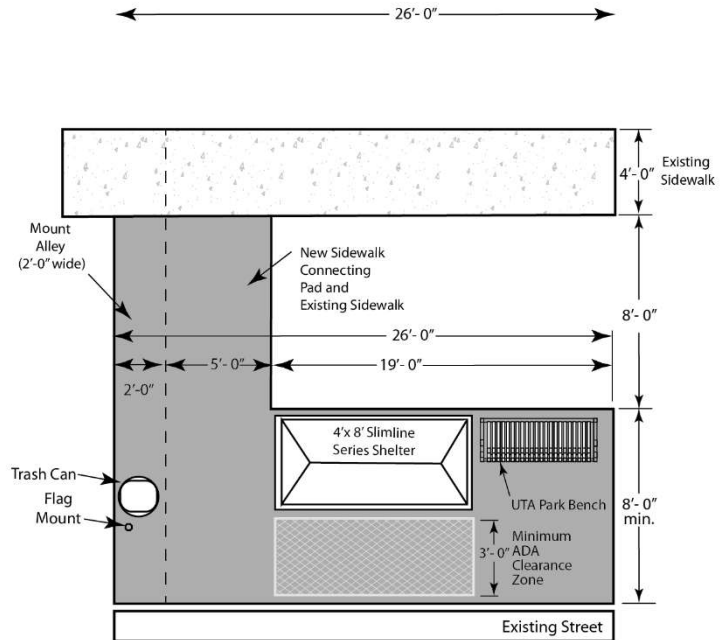
Existing 4'-0" Parkstrip Adjacent to Curb and Street

Not to Scale



Existing 4'-0" Sidewalk Adjacent to Curb and Street

Not to Scale

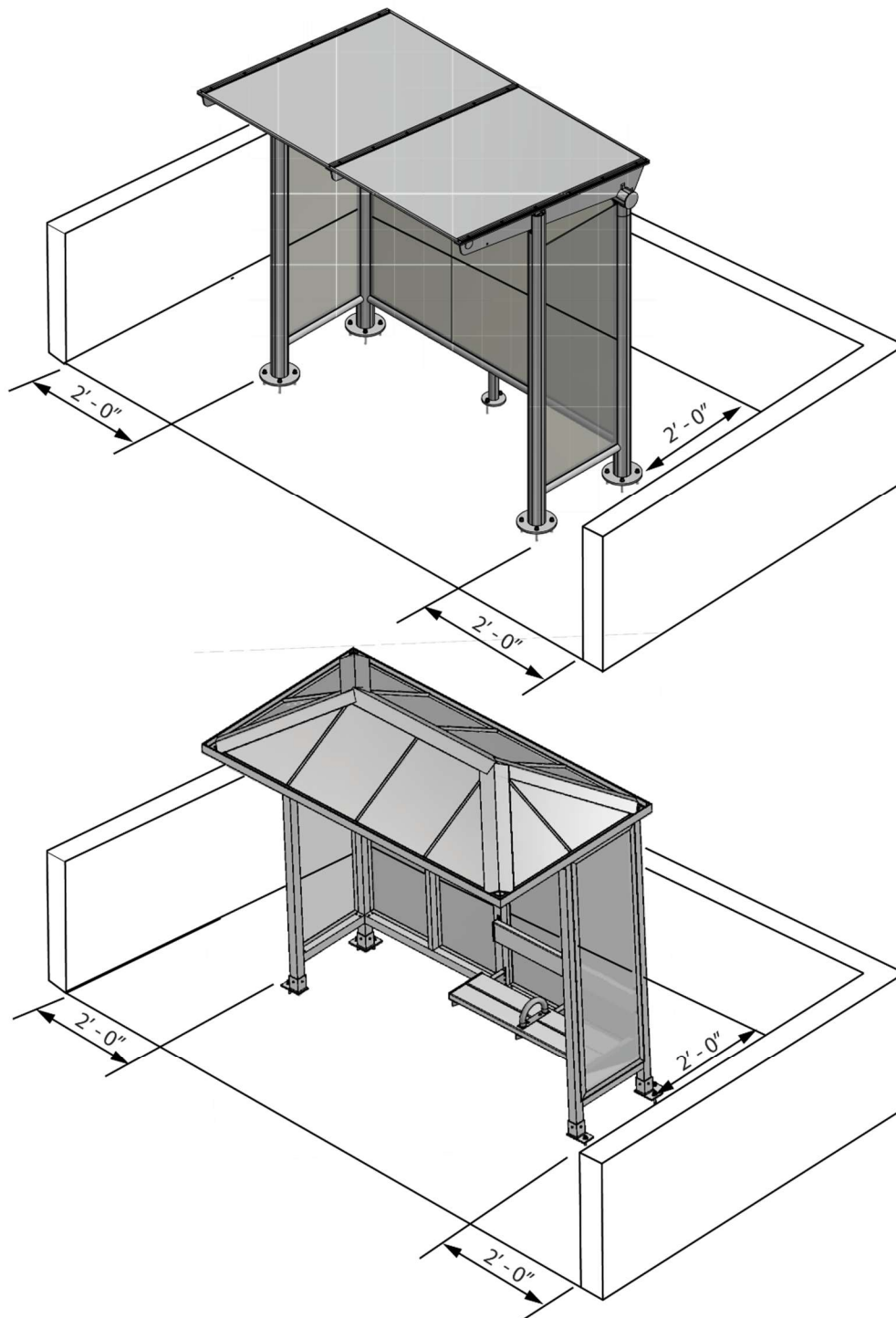


Existing 16'-0" Parkstrip Adjacent to Curb and Street

Not to Scale

Shelters with Retaining Walls

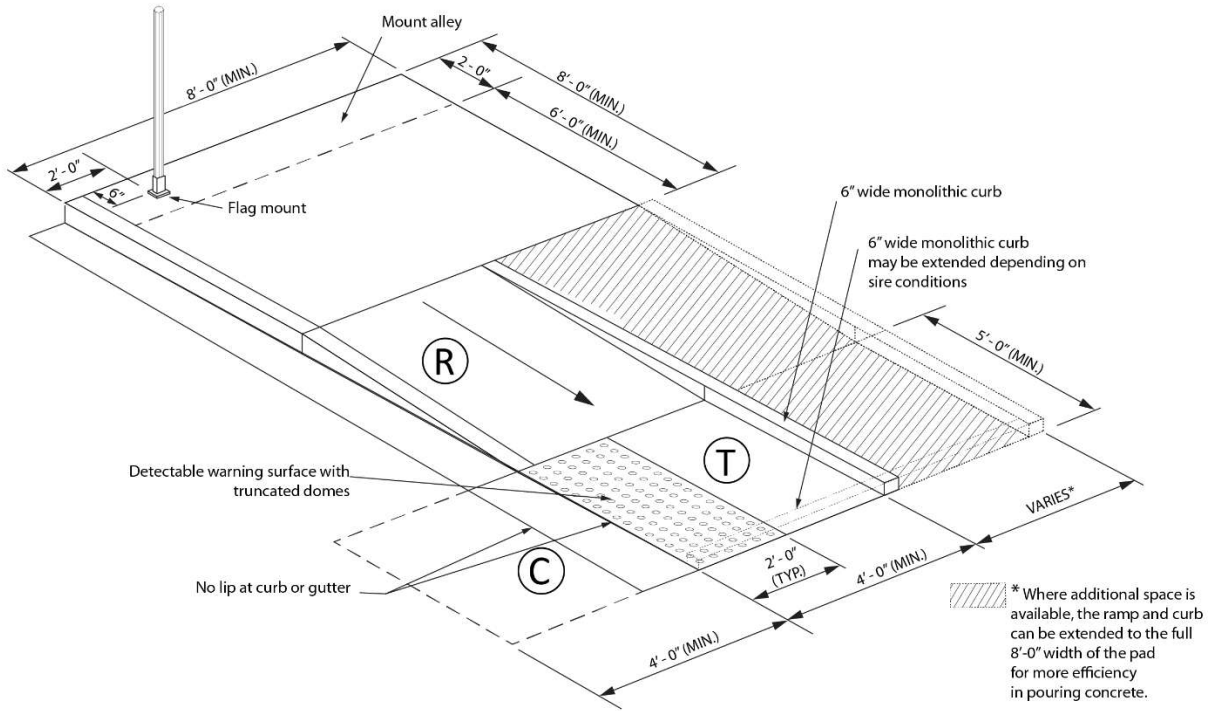
When a shelter is placed on a pad with a retaining wall, there should be a minimum of 2'-0" from the outside edge of the anchor flange of the shelter to the edge of the retaining wall. This is to allow for access for cleaning and repairs.



Carlisle Bus Pad Types (Typical)

When there is no physical connection to an adjacent sidewalk, a bus stop pad may be installed and connected directly to the adjacent street. While this is not an ideal situation, it does give UTA options for installing a bus stop where one may be warranted but no sidewalk network exists. These stops may be designed with and without amenities.

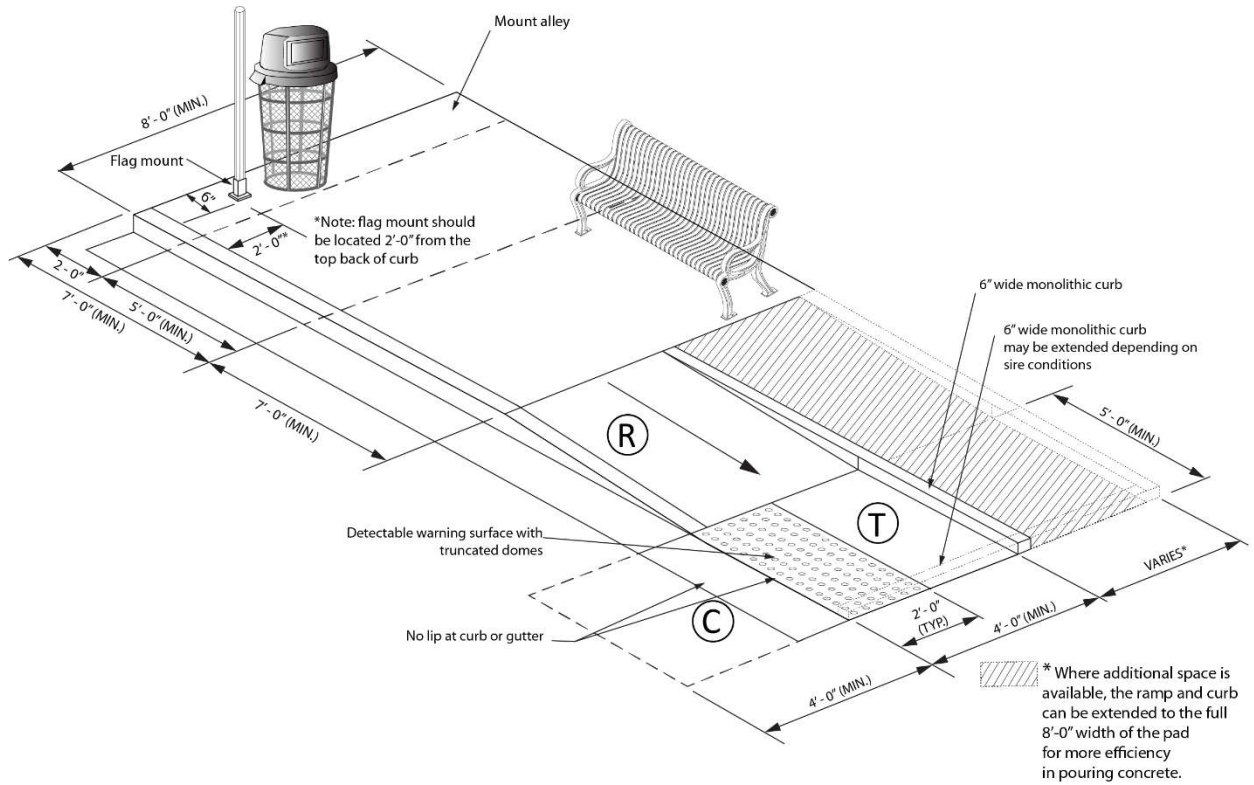
Carlisle Bus Stop - without Amenities



SLOPE TABLE (UDOT 2020 STANDARDS)

		MAX. RUNNING SLOPE	MAX. CROSS SLOPE	MIN. DIMENSIONS
(S)	SIDEWALK	ROAD GRADE (IN ROW) 5.0% OUT OF ROW	2%	4' WIDE
(T)	TURNING SPACE	2%	2%	4' x 5' WIDE
(R)	RAMP	8.30%	2%	4' WIDE
(C)	CLEAR SPACE	5%	2%	4' x 4' WIDE

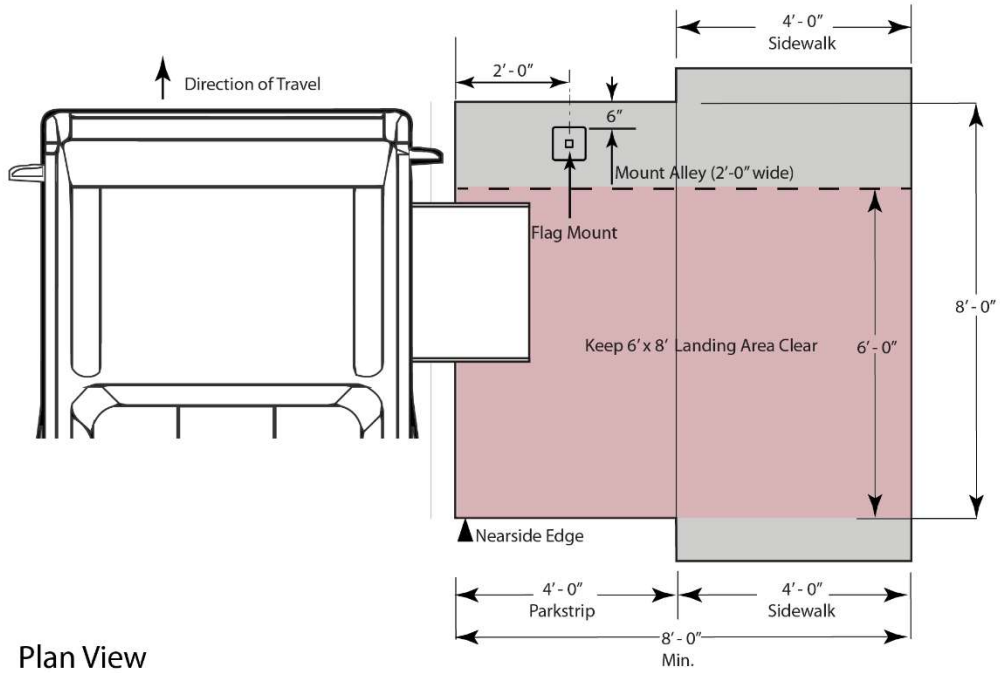
Carlisle Bus Stop - with Amenities



SLOPE TABLE (UDOT 2020 STANDARDS)

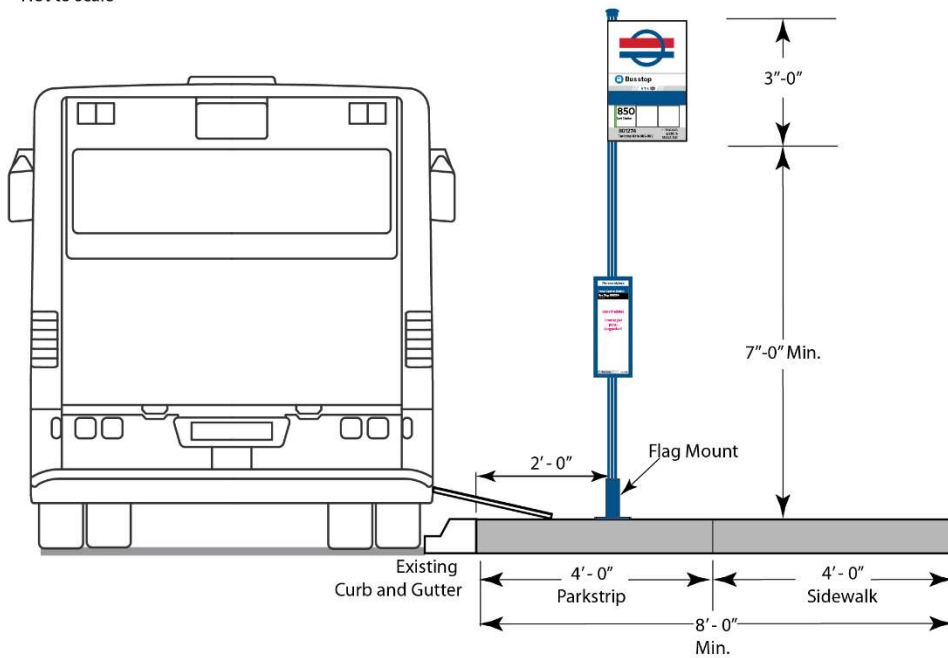
		MAX. RUNNING SLOPE	MAX. CROSS SLOPE	MIN. DIMENSIONS
(S)	SIDEWALK	ROAD GRADE (IN ROW) 5.0% OUT OF ROW	2%	4' WIDE
(T)	TURNING SPACE	2%	2%	4' x 5' WIDE
(R)	RAMP	8.30%	2%	4' WIDE
(C)	CLEAR SPACE	5%	2%	4' x 4' WIDE

Level I Standard Bus Stop (Typical)



Plan View

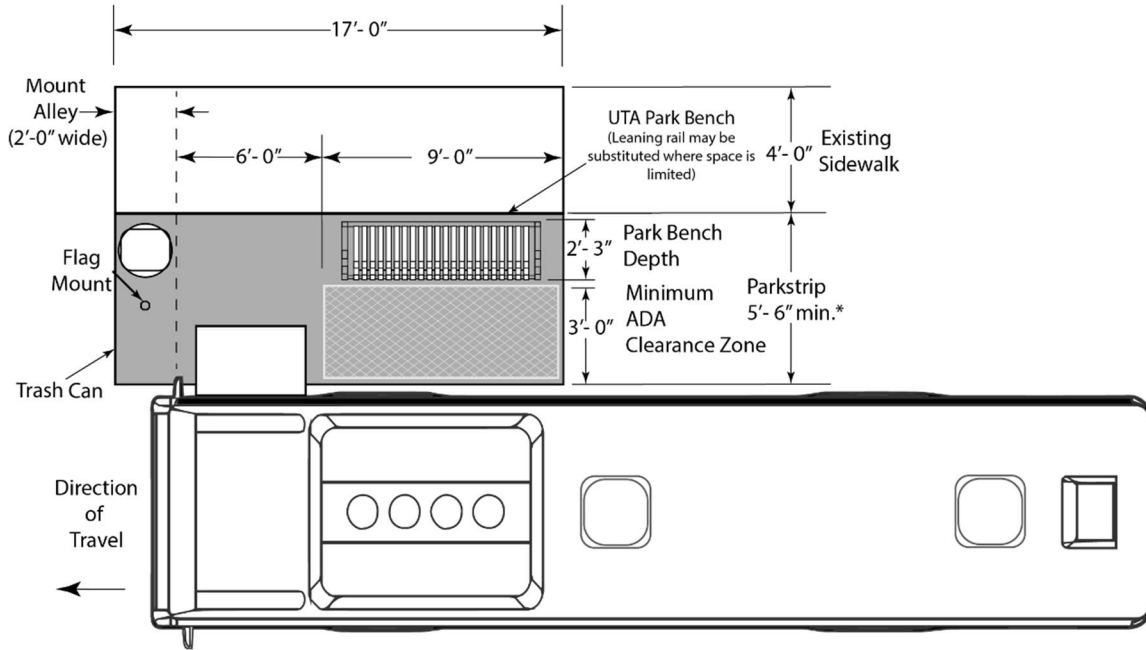
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Side Elevation View

Not to scale

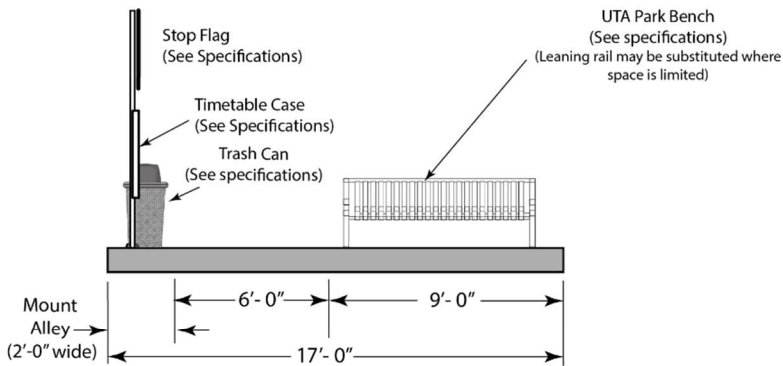
Level II Standard Bus Stop (Typical)*



Plan View

Not to scale

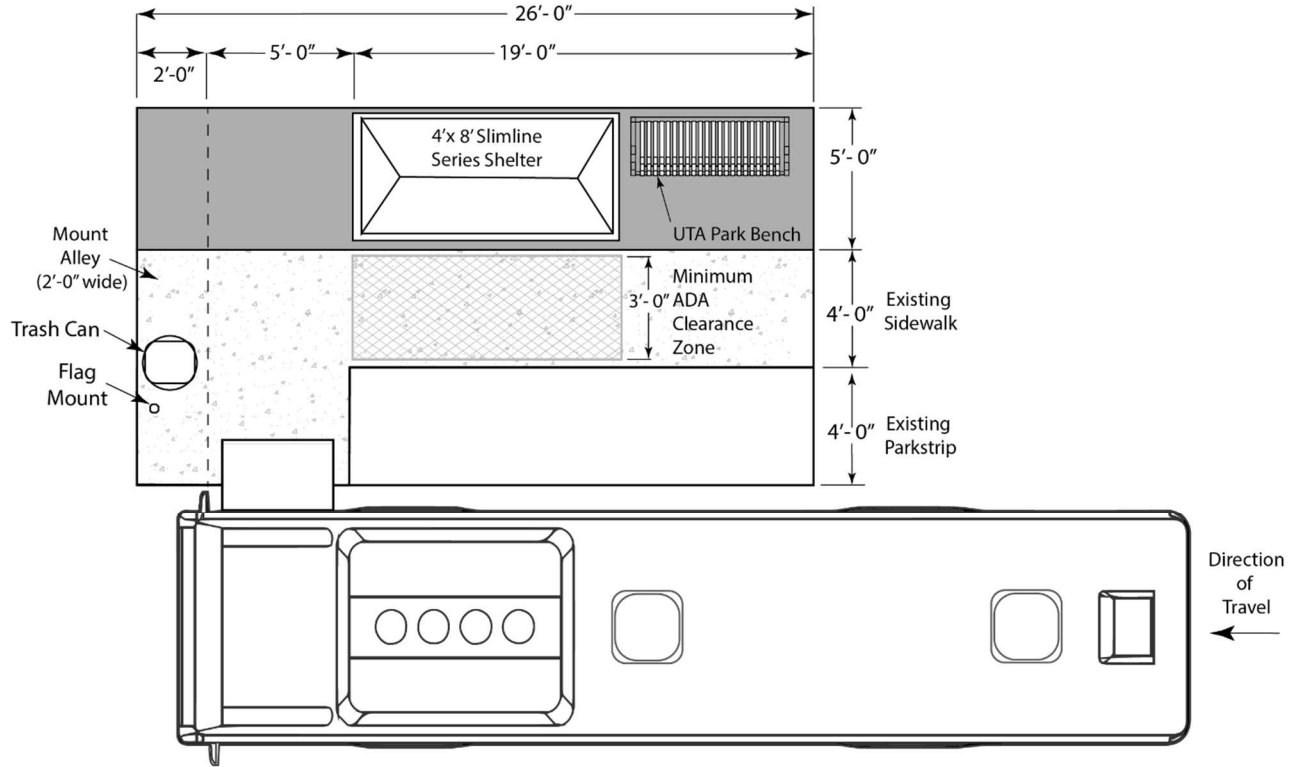
*This design is for roads with a 30 MPH speed limit and below. For roads with higher speeds, the park strip must be a minimum of 6'-0" deep with a minimum 4'-0" of clearance from the face of curb to the front edge of the bench or leaning rail.



Front Elevation View

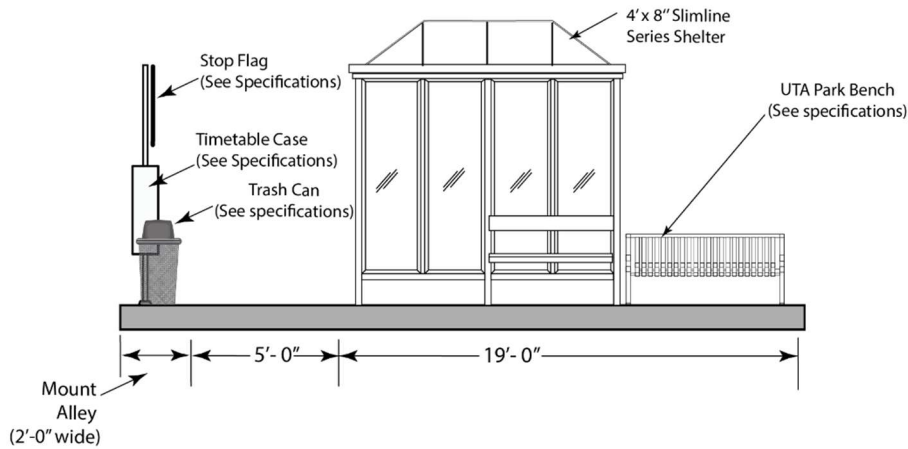
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Level III Standard Bus Stop (Typical)



Plan View

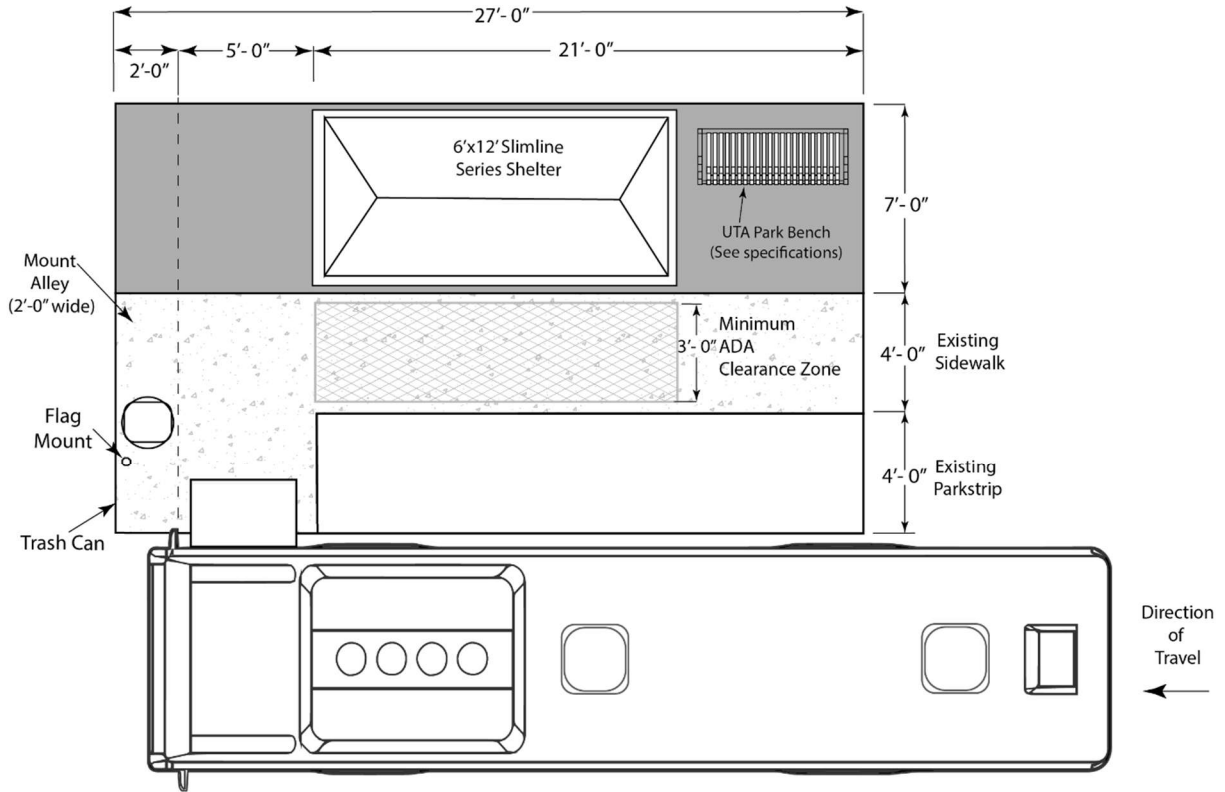
Not to scale



Front Elevation View

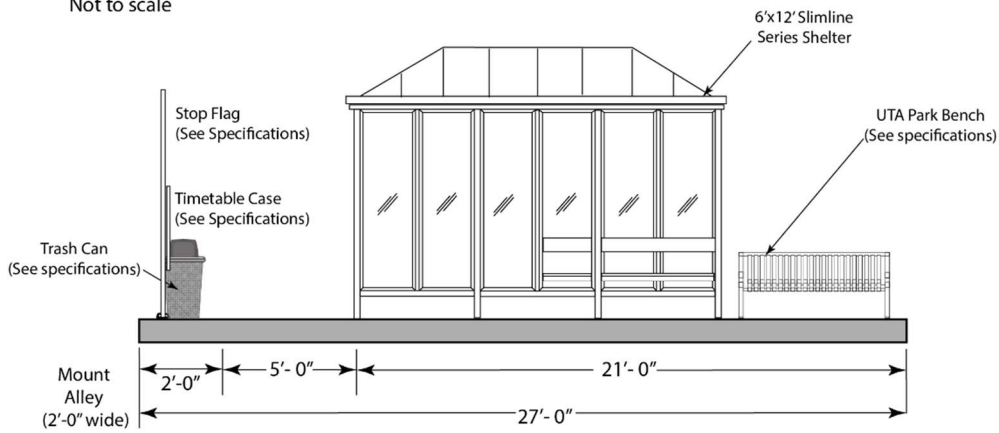
Not to scale

Level IV Standard Bus Stop (Typical)



Plan View

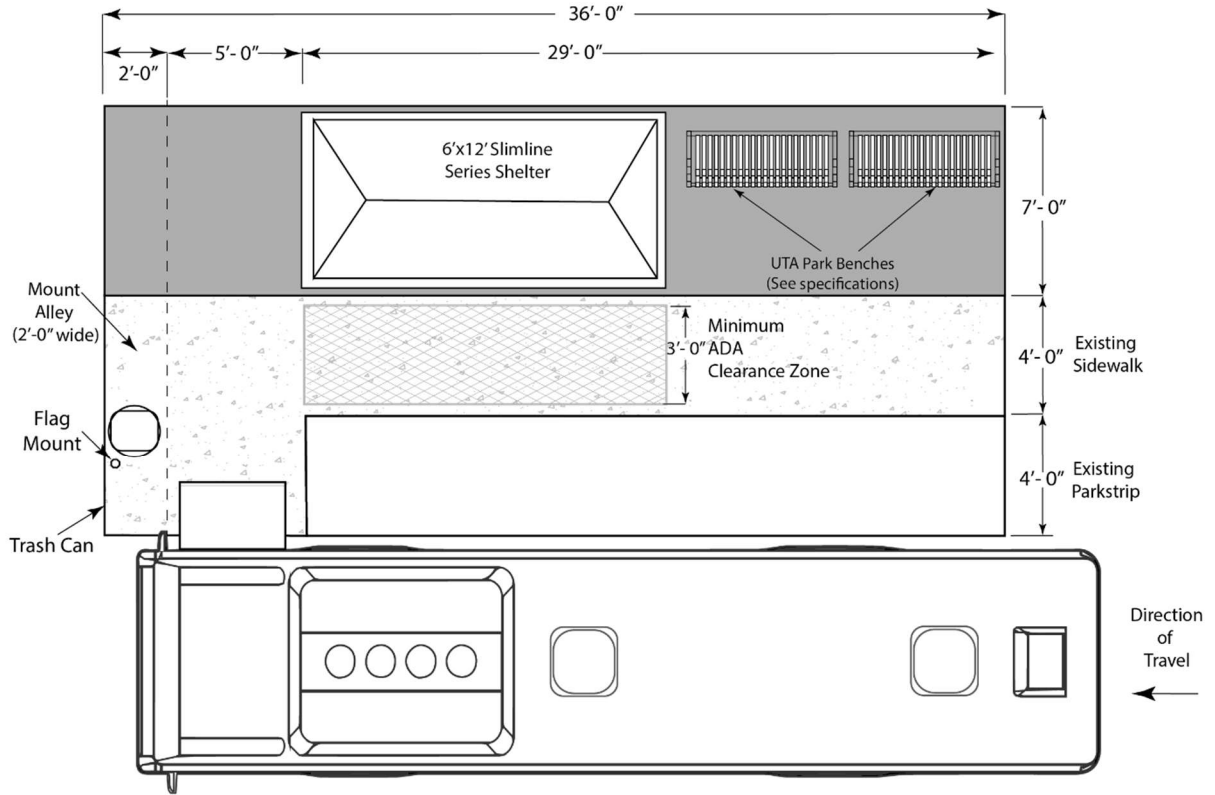
Not to scale



Front Elevation View

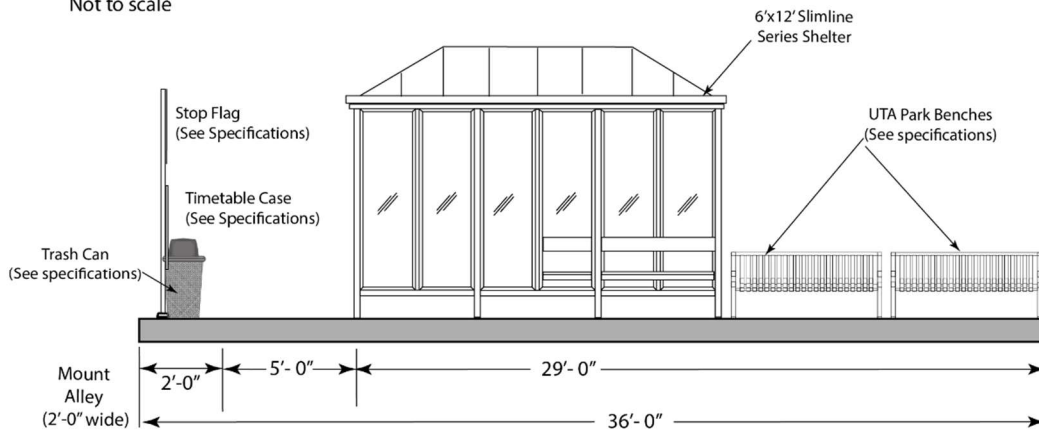
Not to scale

Level V Standard Bus Stop (Typical)



Plan View

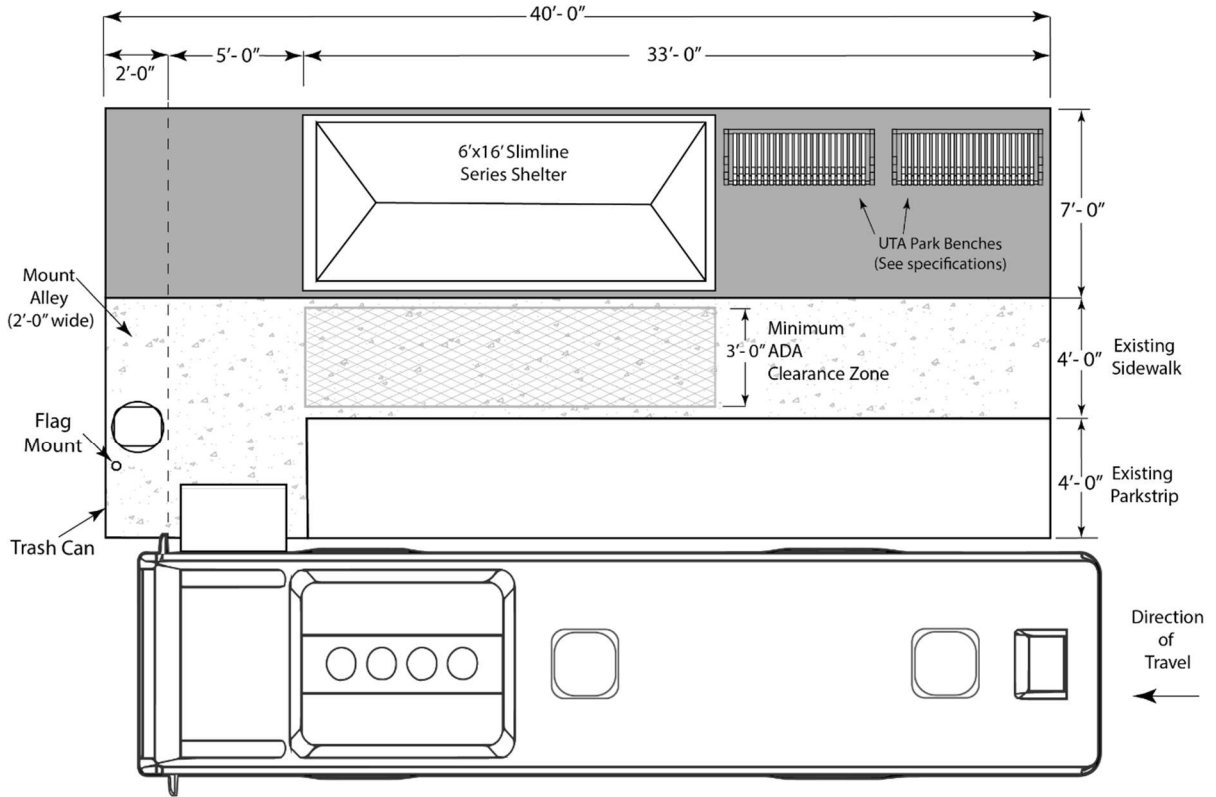
Not to scale



Front Elevation View

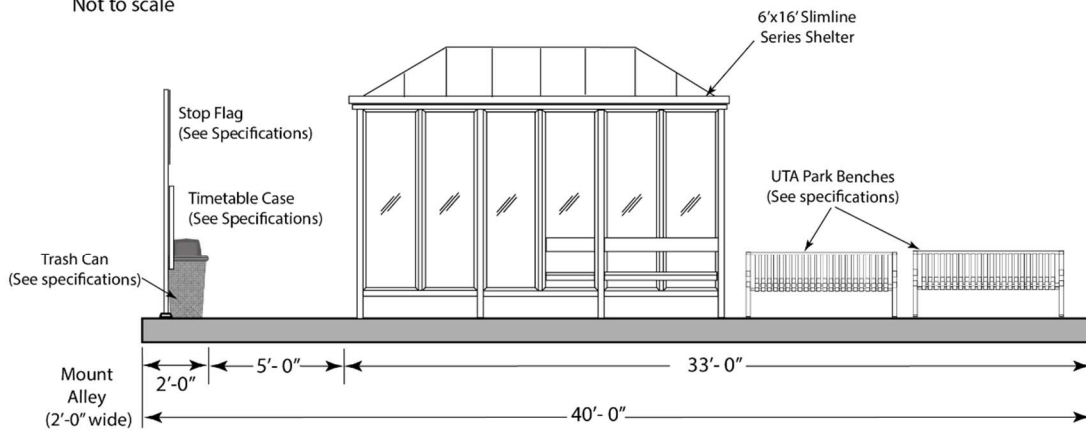
Not to scale

Level VI Standard Bus Stop (Typical)



Plan View

Not to scale



Front Elevation View

Not to scale

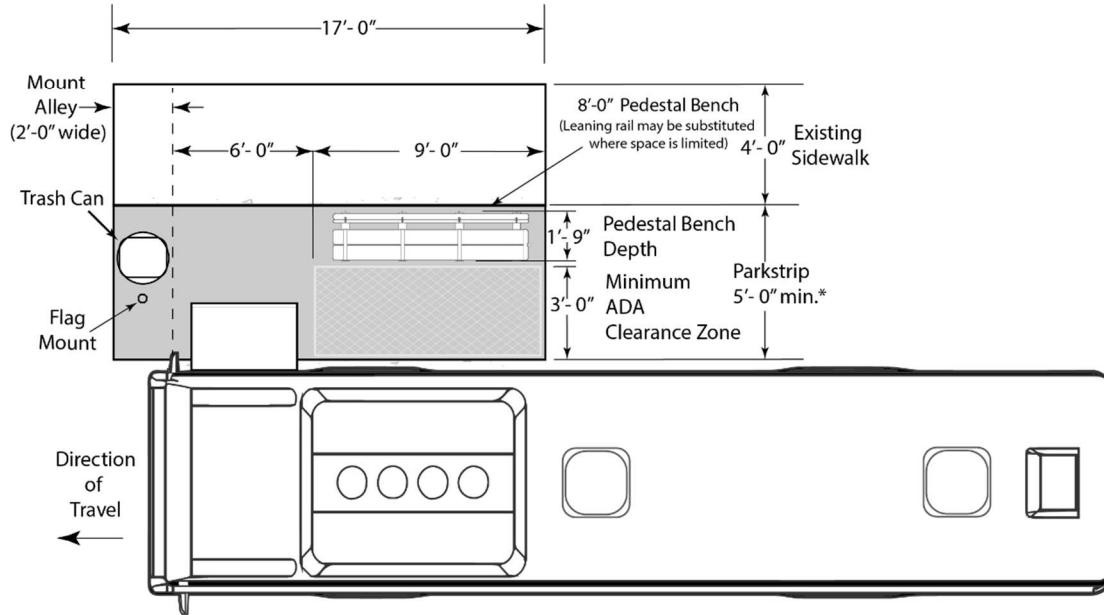


Eclipse Style Series Bus Stops

NOTES

- UTA has chosen the Brasco Eclipse Style series for custom shelter applications
- Shelters are available in typical depths of 5' and 7' and typical widths of 8', 10', 12', 14', 16', 20'
- Shelters may be customized with features such as interior lighting, branded glass panels and digital real-time signage

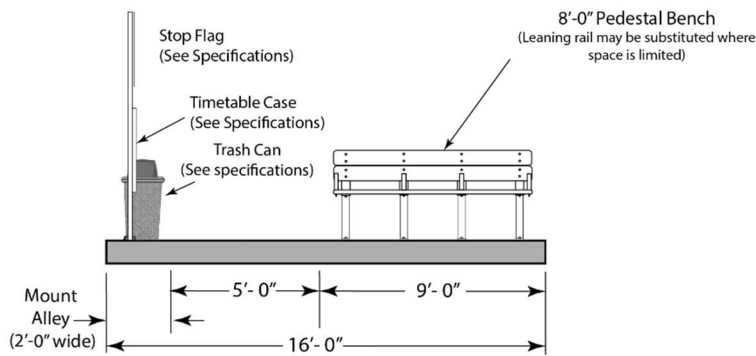
Level II Eclipse Style Bus Stop (Typical)*



Plan View

Not to scale

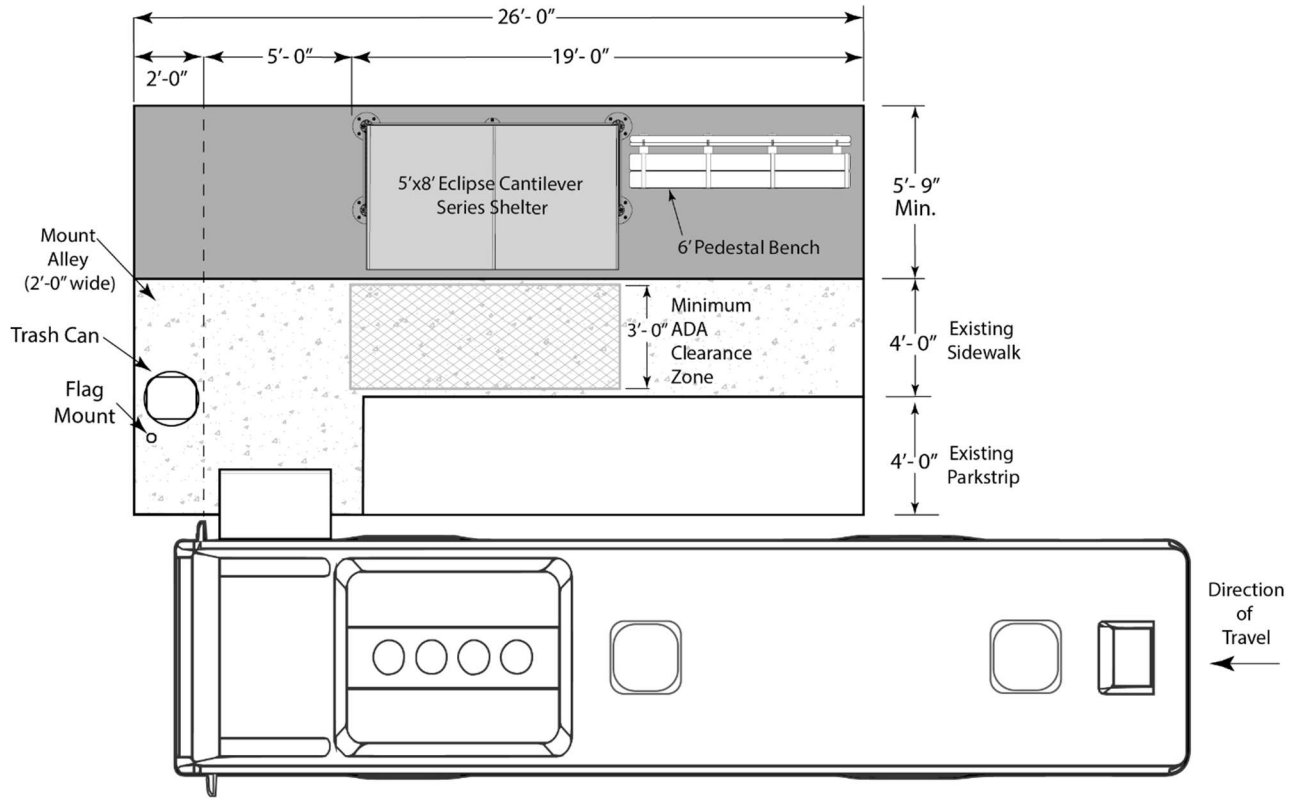
*This design is for roads with a 30 MPH speed limit and below. For roads with higher speeds, the park strip must be a minimum of 6'-0" deep with a minimum 4'-0" of clearance from the face of curb to the front edge of the bench or leaning rail.



Front Elevation View

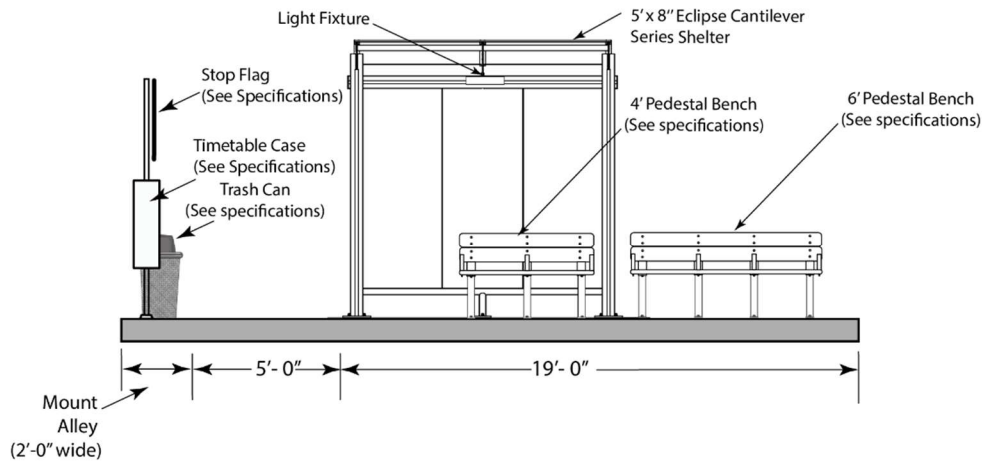
Not to scale

Level III Eclipse Bus Stop (Typical)



Plan View

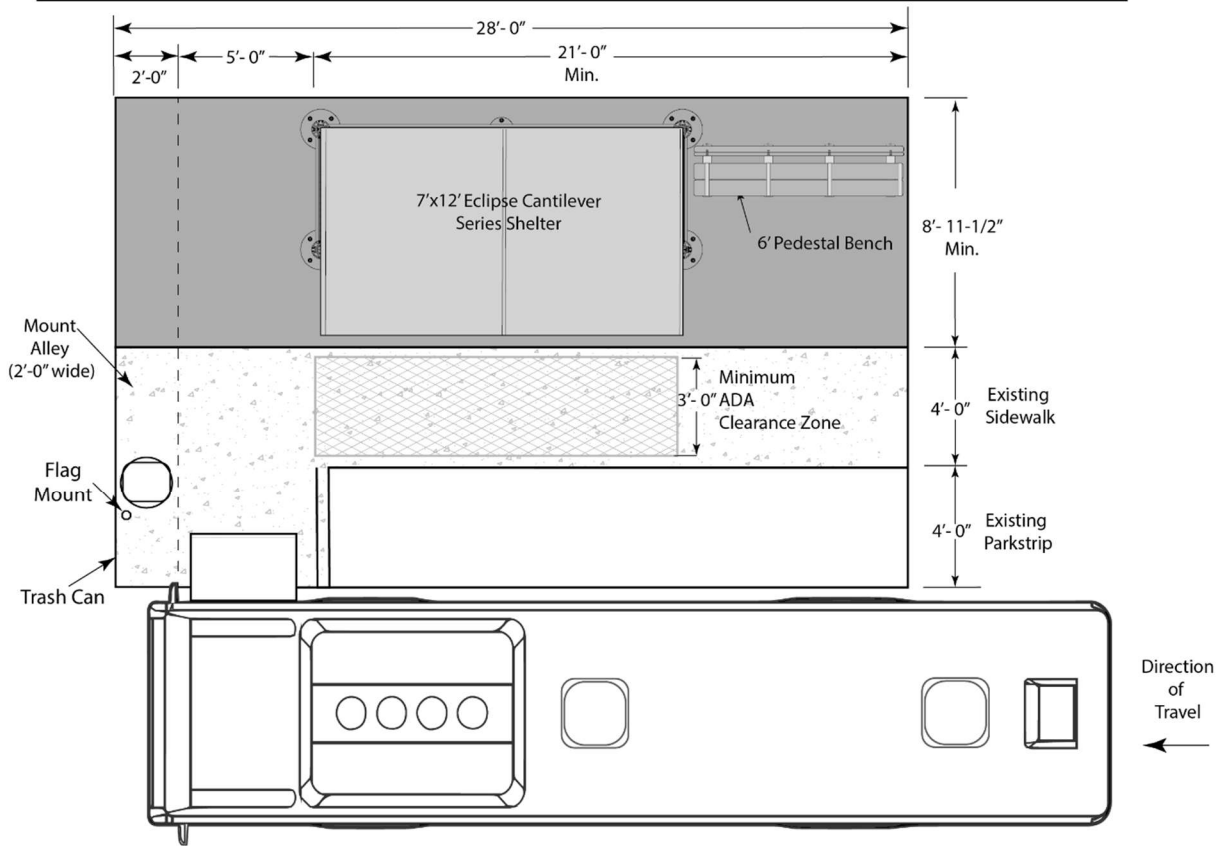
Not to scale



Front Elevation View

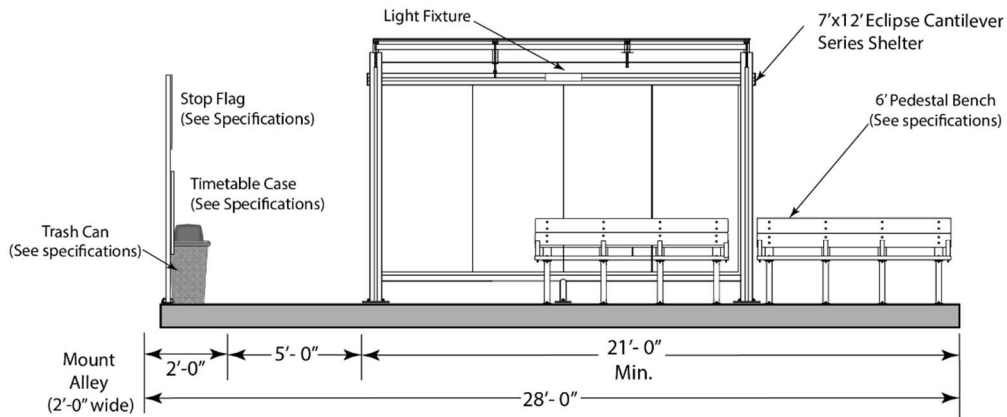
Not to scale

Level IV Eclipse Cantilever Style Bus Stop - 7x12 (Typical)



Plan View

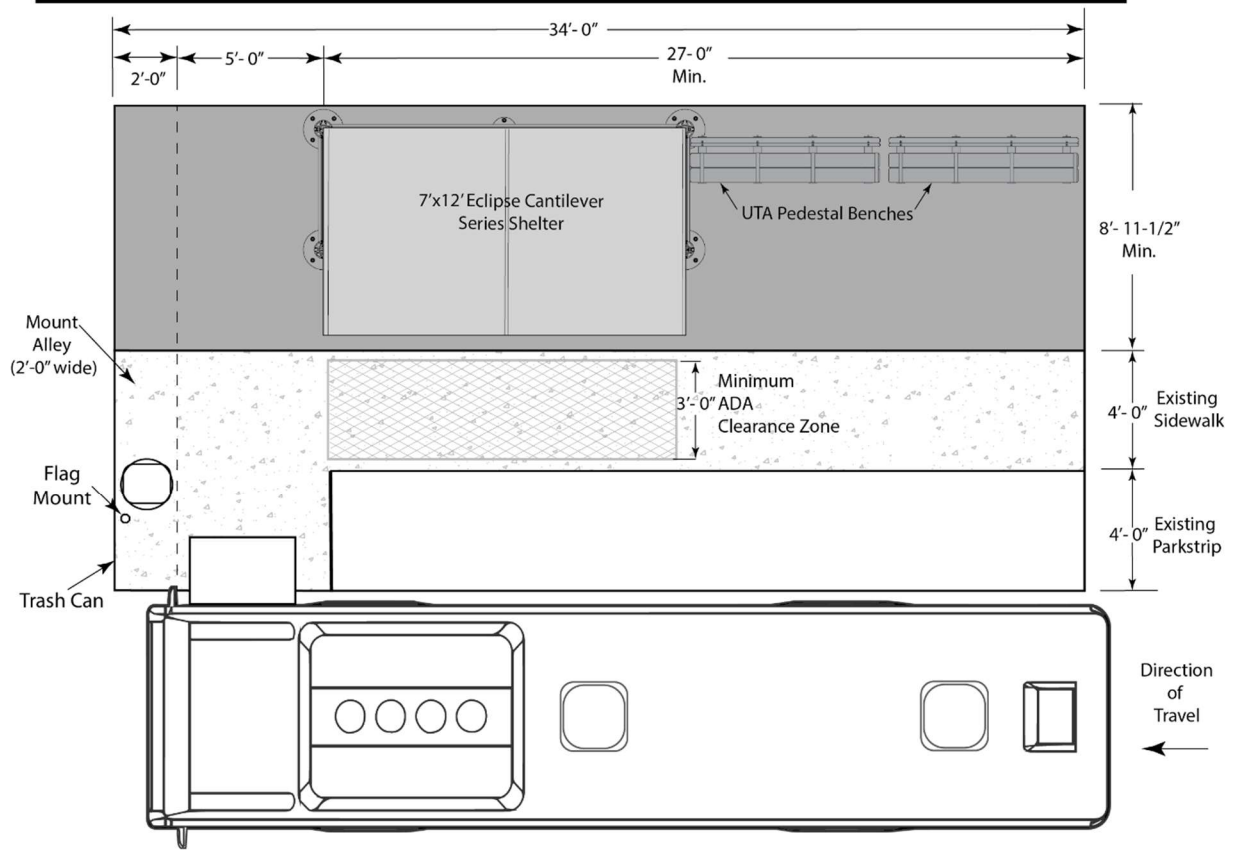
Not to scale



Front Elevation View

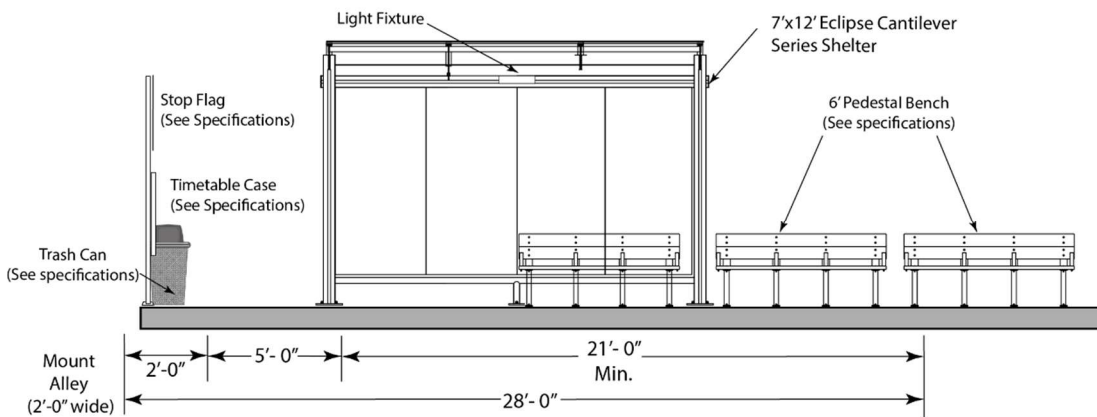
Not to scale

Level V Eclipse Cantilever Style Bus Stop - 7x12 (Typical)



Plan View

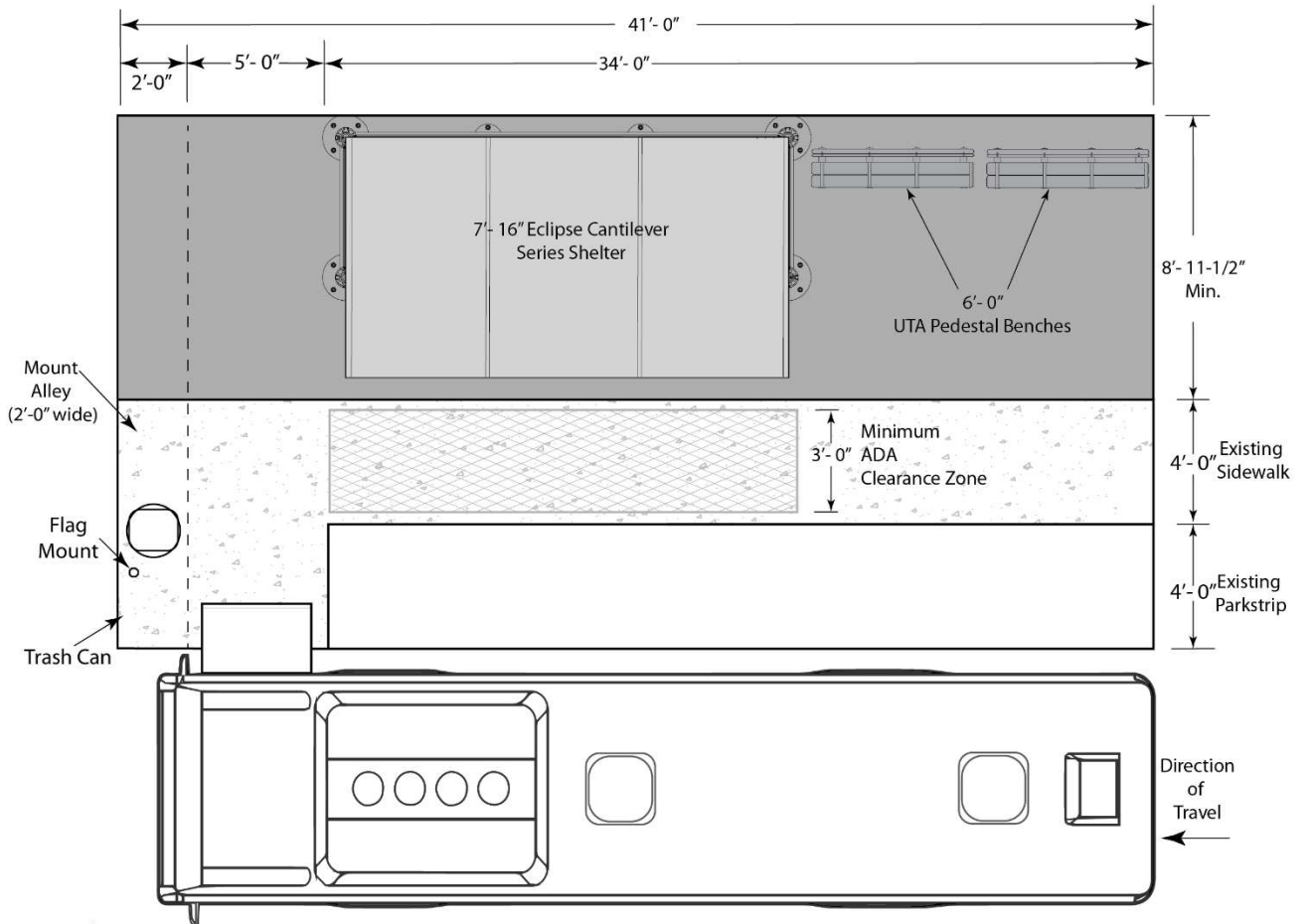
Not to scale



Front Elevation View

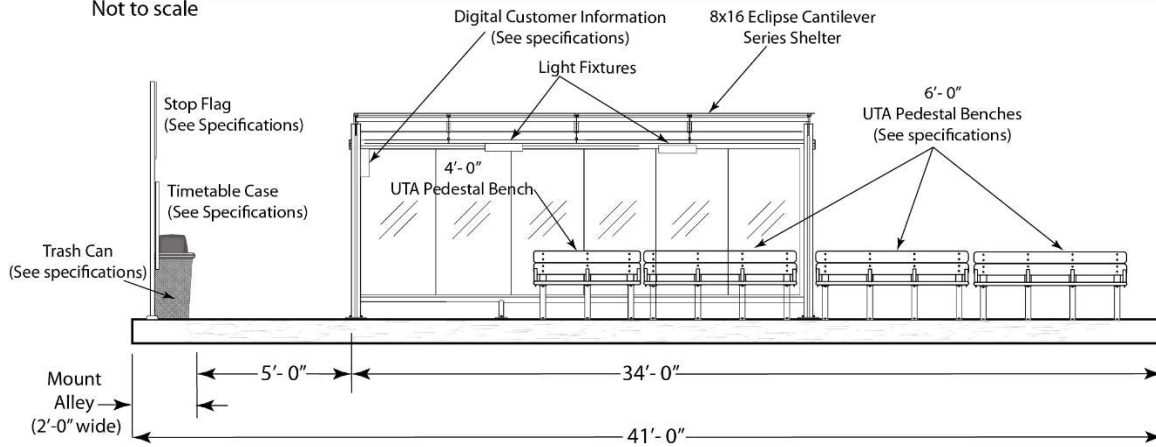
Not to scale

Level VI & VII Eclipse Style Bus Stop (Typical)



Plan View

Not to scale



Front Elevation View

Not to scale

Trash Can Specifications (Typical) Not to scale

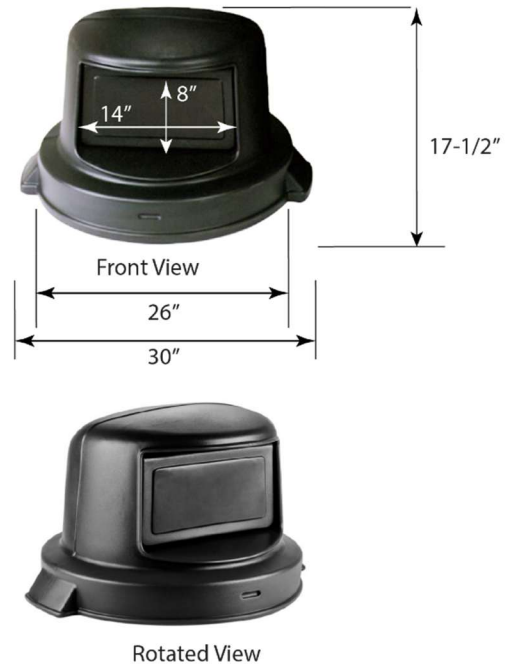


Trash Container

- Dimensions: 33" high x 24" Top Dia. and 19" Bottom diameter
- Weight: 33 lbs.
- Finish: Hot dipped galvanized
- Capacity 45 gal.
- UPS: Can ship UPS. Ships at UPS 70 LB. rate
- Sides are constructed of 16 gauge steel, with vertical and horizontal ribs for reinforcement
- Base is constructed of 18 gauge steel - perforated
- Color: Galvanized Steel

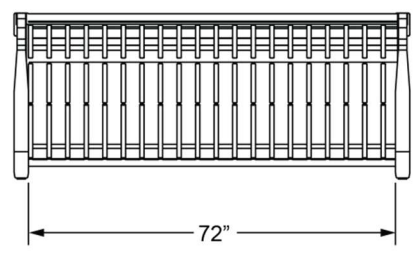
Trash Container Dome Top

- Black
- 26" x 17-1/2"
- Wide rim with grab handles and tight-fitting door
- Rain deflector
- Fits the Huskee container model #4442, 4443 & 4444

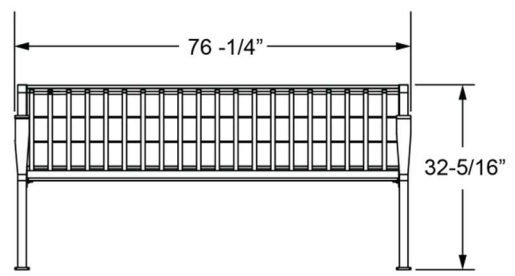
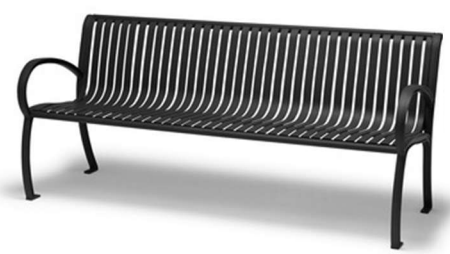


Park Bench Specifications (Typical)

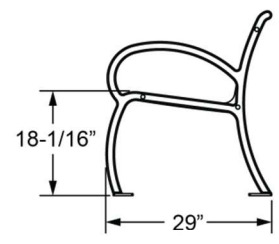
- Winchester - 6' Bench w/back, w/arms - slat
- Powder Coated Black



Plan View

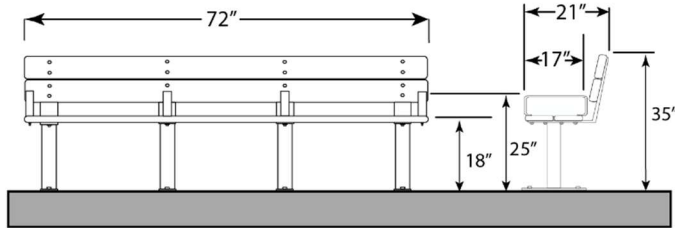


Front Elevation



Side Elevation

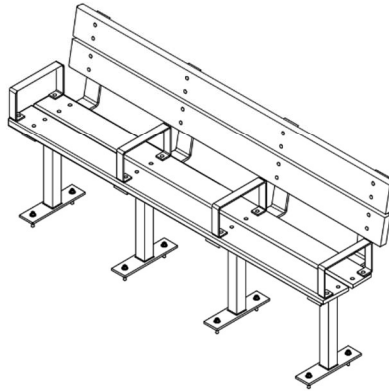
Pedestal and Simme Seat Specifications (Typical)



Not to scale

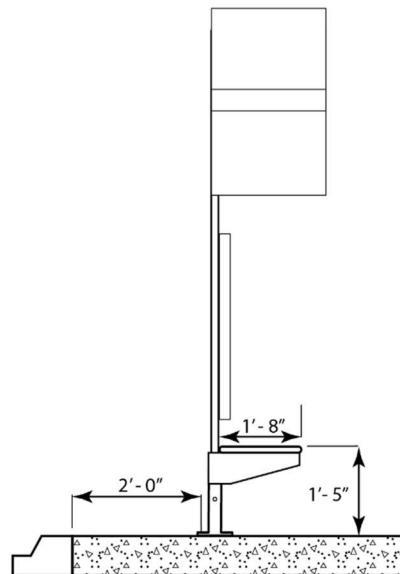
Pedestal Bench

- Overall Length: 76"
- Overall Height: 33"
- Overall Depth: 25"
- Seat Height: 18"
- Seat Slats: 2" wide (3/16" gauge) mild steel slats with 1" space
- Legs and brace: 1/4" gauge mild steel legs and cross braces
- Center Brace: 1/2" steel rod
- Tube Rails: 1" (14 gauge)
- Finish: Electrostatically applied polyester power coated over shot blasted and zinc primer coated substrate
- Hardware: Benches should be knock-down condition in the largest modular sections possible. Benches will be assembled upon delivery by UTA personnel
- Mounting: Surface mount is required with mounting hardware
- Warranty: Benches should be fully warranted from defects for 1 year from date of delivery



Simme Seat

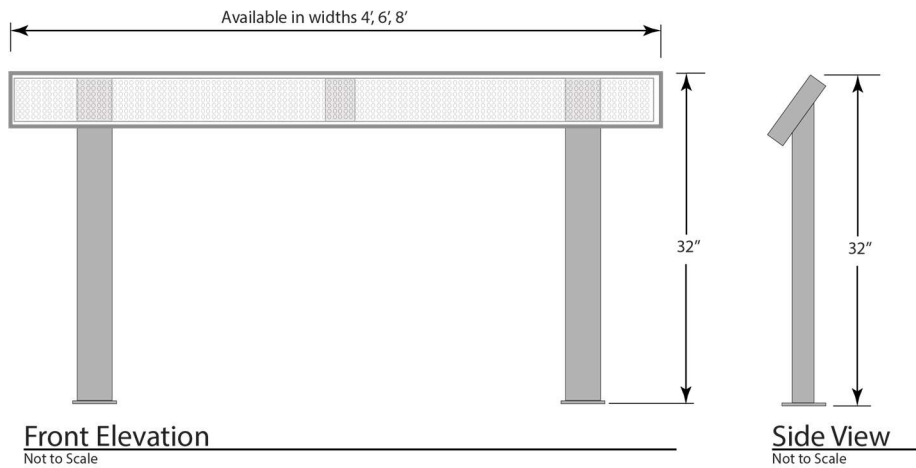
- Simme bus stop seat shall include a tube dimensioned to encompass a 2" x 2" sign post.
- The Simme-Seat mounts to a 2" x 2" square steel bus stop sign pole or a seat divider.
- The seat may consist of a single or pair of rigid seats connected to the tube on opposite sides of the tube.
- Seats are 17 inches in height above grade and provide seating for one or two people.
- Seat shall be powdered coated steel and designed for external use.
- Seat shall be rated to hold 500 pounds on per seat
- Seat divider is 1" bent tubing fabricated in a 1 1/2" half round and mounted on square tubing that can be secured in the receiver in the Simme Seat
- Seat shall meet American with Disability Act (ADA) requirements.
- Seat shall include an anchoring metal plate attached to the lower end of the center tube.



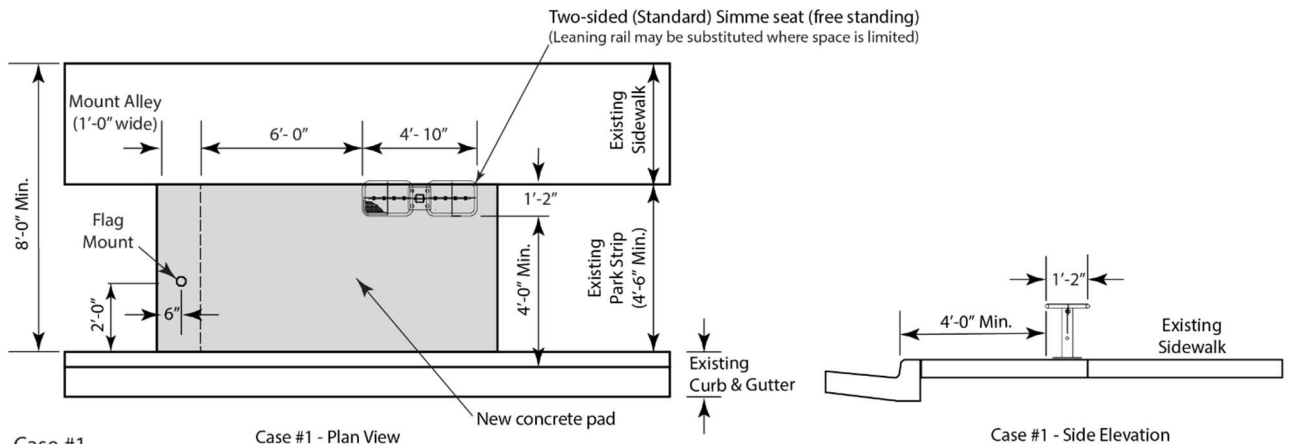
Leaning Rail Specifications (Typical)

Leaning Rail

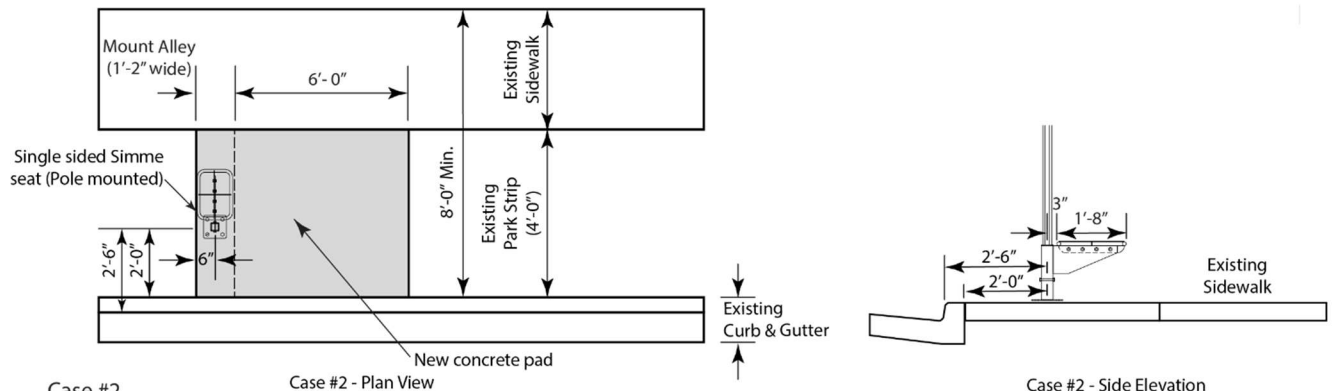
- Leaning rails can be either surface-mounted or affixed to shelter or wall.
- Solid aluminum frame construction with either HDPE slats or perforated aluminum infill.
- Available in 4', 6' and 8' lengths and a 32" height, but custom lengths and heights are possible upon request.
- Frame is powder BL01 (Blue)



Simme Seat Placement Guidance



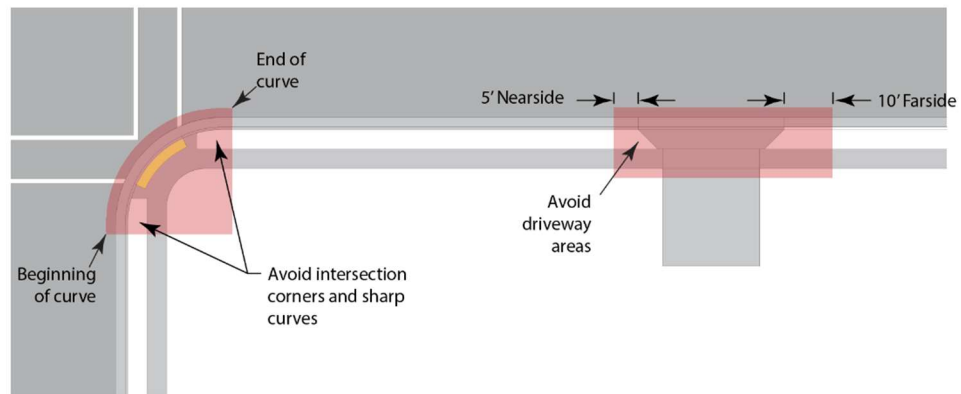
Case #1
Greater than 4'-0" from front face of curb to the street side edge of the bench (No restrictions)



Case #2
Less than 4'-0" but greater than 2'-6" from the front face of curb to the street side edge of the street
On roads with speed limits of 30 MPH or less, install a single sided Simme seat oriented away from the street

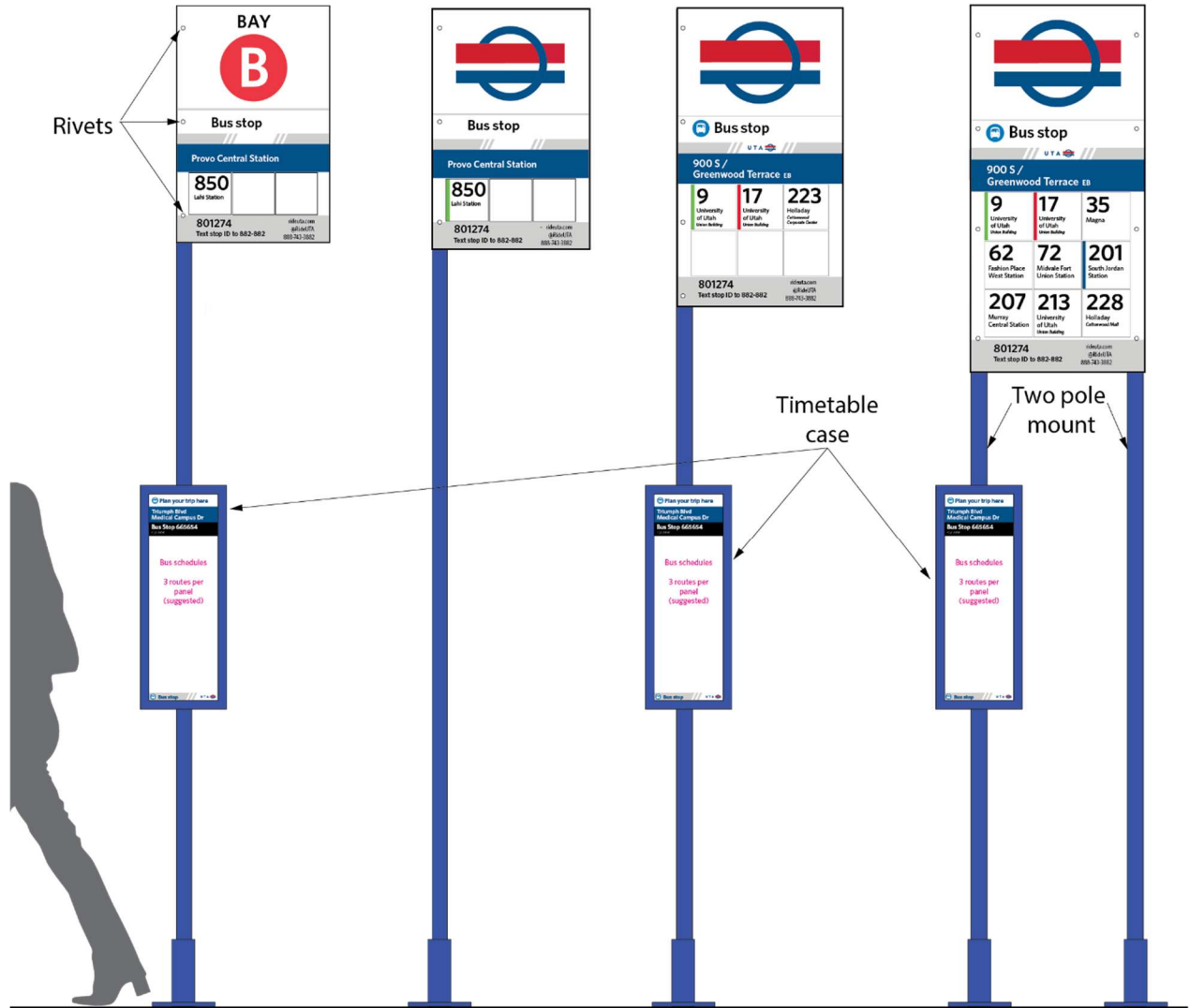
Case #3
Less than 2'-6" from the front face of curb to the street side edge of the street (DO NOT INSTALL SEAT)

Notes:
Avoid placing bus stop seating at high risk locations
See bus stop seating placement restrictions diagram below



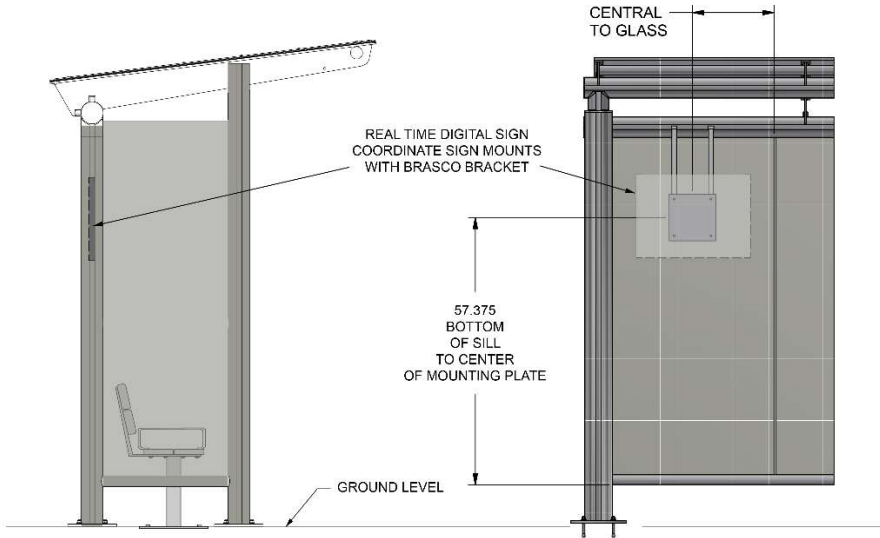
Bus Stop Seating Placement Restrictions

Bus Stop Signage (Typical)



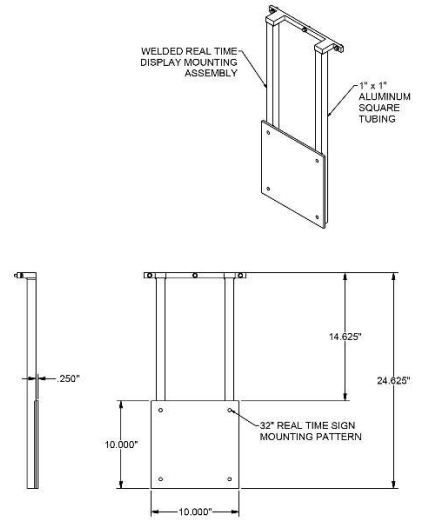
Technology

UTA has continued to improve the customer experience through access to technology that is provided to the customers. For instance in 2019 UTA entered into a partnership with the Transit app developers. This is the preferred mobile trip planning endorsed by UTA. This app gives customer access to real time information about a customer's journey. In 2021 UTA utilized funds from a federal grant to provide digital real time departure signage at a few key bus hub locations. While there have always been digital real time departure signage at all of the FrontRunner and TRAX rail platforms, there has not been similar signage at any bus stop locations. UTA selected a digital sign vendor and has begun the deployment of a pilot program to test the new technology. This page contains graphic representations of the signs and the two potential applications (pole mounted and shelter mounted) where the signs will be installed. See details on p. 56

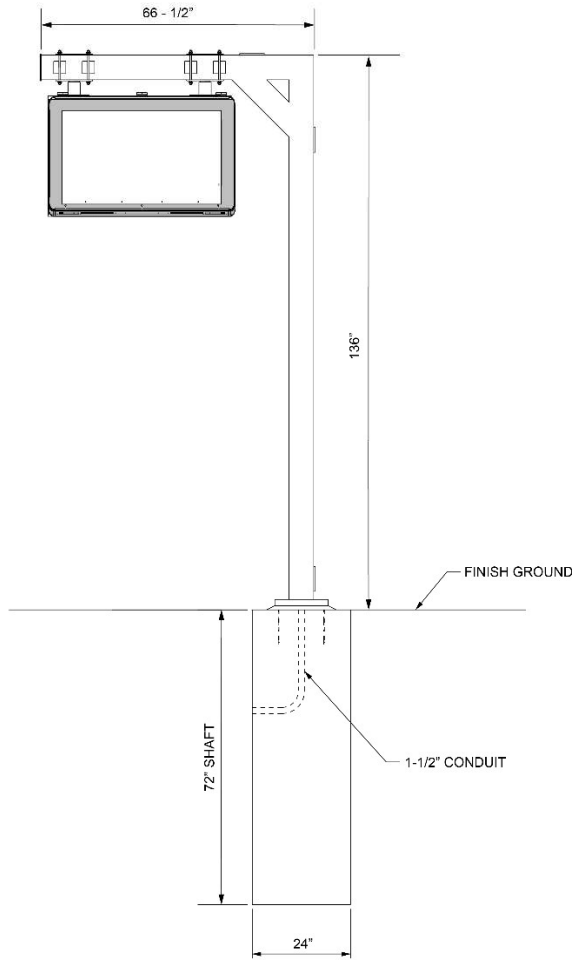


SIDE ELEVATION

FRONT ELEVATION



REAL TIME SIGNAGE BRACKET



POLE SIGN FRONT ELEVATION

Appendix C -Capital, O&M and Total Lifecycle Costs by Stop Level Type

Amenities Costs

Description	Cost Estimates
Contractor Mobilization*	\$6,000
Trash Receptacle	\$574
Blue Bench	\$648
Park Bench	\$1,388
Two Park Benches	\$2,776
Park Bench (Anti-sleeper - add \$150)	\$1,665
6' Pedestal Bench - Eclipse	\$1,452
4' Pedestal Bench - Eclipse	\$2,904
Bike Rack (Incldes 4x6 pad)	\$1,452
NEX 12 'Bus Stop Pole (incl. hardware)	\$221
Bus Stop Sign (TYP.) - incl install	\$150
Pole Mounted Timetable Case	\$237
Simme-seat (Double)	\$1,018
Simme-seat (Single)	\$833
Lighting (Solar)	\$1,480
Digital Sign Daktronics AF-6711-32x160-6-RGB-DF (Small)	\$20,350
4x8 Cantilever - Slimline	\$7,750
4x12 Cantilever - Slimline	\$8,946
4x16 Cantilever - Slimline	\$11,183
6x12 Cantilever - Slimline	\$9,659
6x16 Cantilever - Slimline	\$13,974
5x8 Cantilever - Eclipse	\$10,975
5x12 Cantilever - Eclipse	\$12,325
5x16 Cantilever - Eclipse	\$19,775
7x12 Cantilever - Eclipse	\$17,350
7x16 Cantilever - Eclipse	\$20,975
7x20 Cantilever - Eclipse	\$32,222
7x40 Cantilever - Eclipse	\$50,775
Custom Ski Shelter	\$30,688

***Contractor Mobilization Soft Costs Include:**

- Traffic Control
- Permits
- Field Engineering
- Safety Admin
- Concrete cutting/removal
- Curb walls & gutters
- Landscape Restoration



Capital Construction Costs

	Description	Sq Ft	Cubic Yard	SF 4"/6" Concrete	CY Base Course	CY Excavation	Total
	Parkstrip Pour(4'x20')	80	0.99	\$960	\$346	\$262	\$1,567
	Parkstrip Pour (4'x30')	120	1.48	\$1,440	\$519	\$393	\$2,351
LEVEL I - STANDARD	ADA Landing Zone (6'x8')	48	0.59	\$576	\$207	\$157	\$940
LEVEL I - STANDARD	ADA Landing Zone W/Seat (8x8)	64	0.79	\$768	\$277	\$209	\$1,254
LEVEL II - STANDARD	17' x 6' Concrete Pad	102	1.26	\$1,224	\$441	\$334	\$1,998
LEVEL III - STANDARD	17' x 5' Concrete Pad	85	1.05	\$1,020	\$367	\$278	\$1,665
LEVEL IV - STANDARD	27' x 7' Concrete Pad	203	2.51	\$2,436	\$877	\$664	\$3,977
LEVEL V - STANDARD	36' x 7' Concrete Pad	252	3.11	\$3,024	\$1,089	\$824	\$4,937
LEVEL VI/VII - STANDARD	40' x 7' Concrete Pad	280	3.46	\$3,360	\$1,210	\$916	\$5,486
CARLISLE_wo_AMENITIES	Street Access - Pad Only			See Carlisle Ramp Cost Estimating Tables			\$18,106
CARLISLE_w_AMENITIES	Street Access - Amenity Pad						\$22,482
LEVEL III - ECLIPSE	17' x 7' Concrete Pad	119	1.47	\$1,428	\$514	\$389	\$2,332
LEVEL IV - ECLIPSE	29' x 9' Concrete Pad	261	3.22	\$3,132	\$1,128	\$854	\$5,114
LEVEL V - ECLIPSE	34' x 9' Concrete Pad	306	3.78	\$3,672	\$1,322	\$1,001	\$5,995
LEVEL VI - ECLIPSE	41' x 9' Concrete Pad	369	4.56	\$4,428	\$1,594	\$1,207	\$7,230

Carlisle Street Ramp & Bus Stop				
Estimated Construction Cost				
Item	Unit	Quantity	Unit Cost	Item Cost
Contractor Mobilization	EA	1	\$ 1,250	\$ 1,250
Install Sign	EA	1	\$ 313	\$ 313
Concrete Flatwork and Sidewalk 4"	SF	84	\$ 15	\$ 1,260
Concrete Flatwork and Sidewalk 6"	SF	24	\$ 23	\$ 540
1/2 PEJF Joint Filler	LF	18.5	\$ 6	\$ 116
Untreated Base Course	CY	2.1	\$ 625	\$ 1,302
Landscape Restoration	EA	1	\$ 1,250	\$ 1,250
Excavation	CY	4.2	\$ 625	\$ 2,604
6" Wide Curb	LF	10.5	\$ 100	\$ 1,050
Curb and Gutter	LF	18.5	\$ 188	\$ 3,469
Detectable Warning Surface	EA	1	\$ 750	\$ 750
Sub-Total Estimated Construction Cost				\$13,903
Capital/Project Costs				
Contingency			10.0%	\$1,390
Field Engineering & Project Controls			\$938	\$938
Traffic Control	EA	1	\$1,250	\$1,250
Permit	EA	1	\$625	\$625
Total Cost				\$18,106

Carlisle Ramp, Bus Stop & Amenities Pad				
Estimated Construction Cost				
Item	Unit	Quantity	Unit Cost	Item Cost
Contractor Mobilization	EA	1	\$ 1,250	\$ 1,250
Install Sign	EA	1	\$ 313	\$ 313
Concrete Flatwork and Sidewalk 4"	SF	140	\$ 15	\$ 2,100
Concrete Flatwork and Sidewalk 6"	SF	24	\$ 23	\$ 540
1/2 PEJF Joint Filler	LF	25.5	\$ 6	\$ 159
Untreated Base Course	CY	3.0	\$ 625	\$ 1,896
Landscape Restoration	EA	1	\$ 1,250	\$ 1,250
Excavation	CY	6.1	\$ 625	\$ 3,792
6" Wide Curb	LF	10.5	\$ 100	\$ 1,050
Curb and Gutter	LF	25.5	\$ 188	\$ 4,781
Detectable Warning Surface	EA	1	\$ 750	\$ 750
Sub-Total Estimated Construction Cost				\$17,882
Capital/Project Costs				
Contingency			10.0%	\$1,788
Field Engineering & Project Controls			\$938	\$938
Traffic Control	EA	1	\$1,250	\$1,250
Permit	EA	1	\$625	\$625
Total Cost				\$22,482

Facilities Shelter Installation and Maintenance Costs

Road Crew Amenity Installation Labor Costs	Assumption	Hours	Labor (Per hr.)	Installation Cost
Pole, Mount and Sign Installation	2 person/1.5 hours	3	\$70	\$211
Simme Seat Assembly & Installation	1 person/2 hours	2	\$70	\$140
Park Bench Assembly & Installation	2 person/2 hours	4	\$70	\$281
Blue Bench Assembly & Installation	2 person/2 hours	4	\$70	\$281
Trash Can Installation	1 person/1 hours	1	\$70	\$70
6' Pedestal Bench Assembly & Installation	2 person/1.5 hours	2.5	\$70	\$176
4x8 Shelter - Standard - Assembly & Installation	2 person/4 hours	8	\$70	\$562
6x12 Shelter - Standard - Assembly & Installation	4 person/6 hours	24	\$70	\$1,685
6x16 Shelter - Standard - Assembly & Installation	4 person/7 hours	28	\$70	\$1,966
5x8 Shelter - Eclipse - Assembly & Installation	2 person/5 hours	10	\$70	\$702
7x12 Shelter - Eclipse - Assembly & Installation	4 person/6 hours	24	\$70	\$1,685
7x16 Shelter - Eclipse - Assembly & Installation	4 person/6 hours	24	\$70	\$1,685
7x20 Shelter - Eclipse - Assembly & Installation	4 person/8 hours	32	\$70	\$2,246
Bike Rack Assembly & Installation	1 person/2 hours	2	\$70	\$140
Light Fixture Installation	2 person/2 hours	4	\$70	\$281

Bus Stop O&M Costs (Road Crew) Cost Per Month

Power Washing	\$280
Window Cleaning	\$980
Trash Pick-up	\$525
Graffiti Removal	\$1,545
Biohazard Cleanup	\$560
Restroom Maintenance	\$980
Lawn Care	\$280
Removal & Demolition	\$4,875
Total Estimated Annual O&M	\$61,802
Total Estimated Lifecycle O&M**	\$200,503

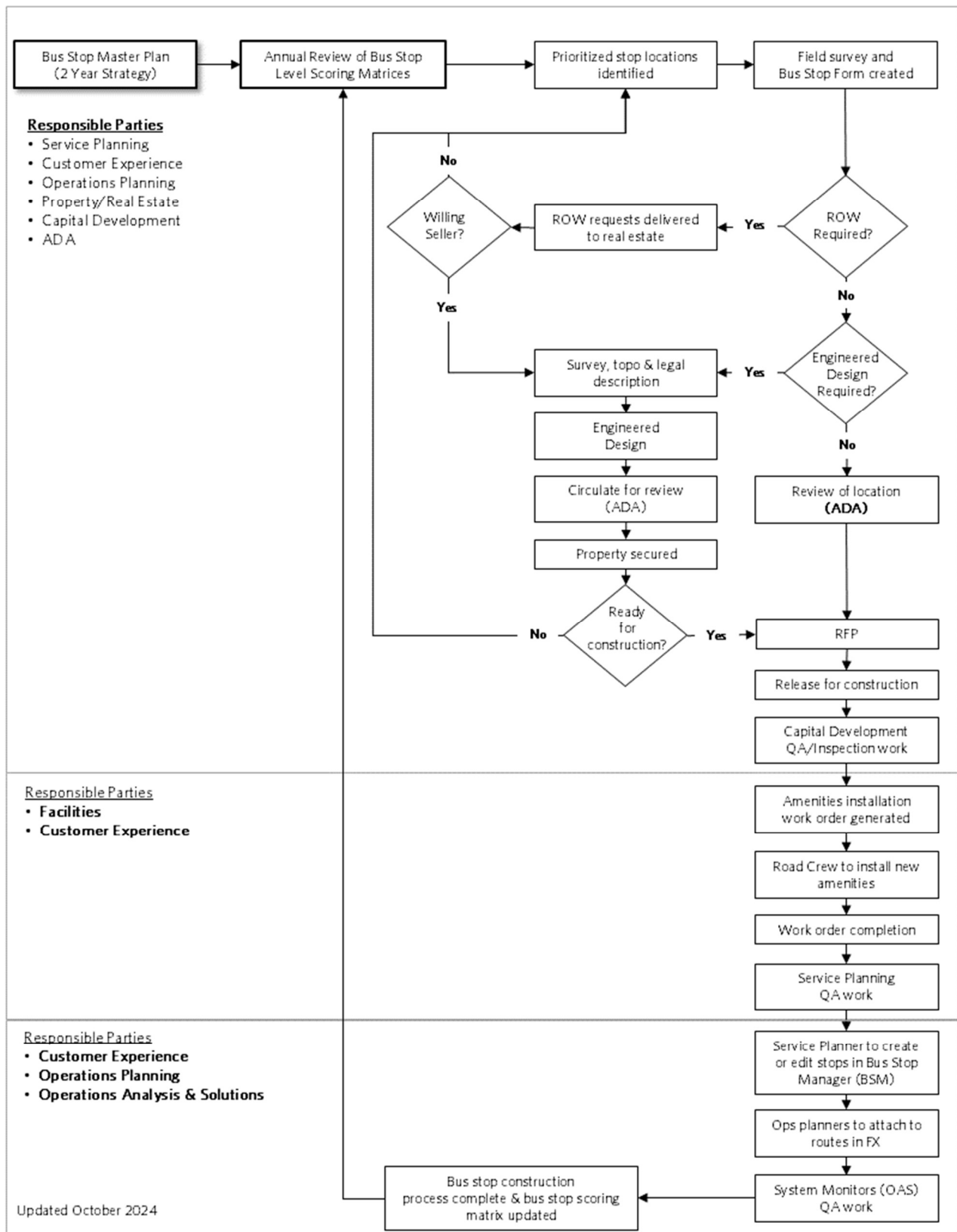
Road Crew Assumptions

- Fully Loaded Hourly Rate \$70 = \$44.00/hr * 1.6 (Benefits)
- Power Washing 4 hours/month @ \$70 an hour = \$280/month
- Window Cleaning 14 hours/month @ \$70 an hour = \$980/month
- Trash Pick-up 15 minutes daily, seven-day service. 7.5 hour/month @ \$70 an hour = \$525/month
- Biohazard Cleanup 2 hours weekly. 8 hours / month @ \$70 an hour = \$560/month
- Restroom Maintenance .5 hour/restroom, seven day service = 3.5 hours/week = 14 hours/month @ \$70/hour = \$980/month
- Lawn Care 1 hour/week = 4 hours/month @ \$70/hour = \$280/month
- Removal & Demolition 25% of average capital cost of shelter (\$19,500)
- Amenities Lifecycle 20

* Removal and demolition costs are only included in the estimated lifecycle costs

Appendix D - Processes

Bus Stop Administration Process



Appendix E - Current Bus Stop Prioritization Lists

2026 (100 Stops)

Stop ID	Address	County	Daily Ridership	Amenity Level	Score
137445	State St @ 3620 S	Salt Lake	31	2a	28
126482	State St @ 1495 S	Salt Lake	36	2a	28
198356	1460 W / North Temple (SB)	Salt Lake	25	4b	27
198056	North Temple St @ 1758 W	Salt Lake	28	4b	27
135119	3650 S / 3100 W (EB)	Salt Lake	4	4b	27
126468	State St @ 1730 S	Salt Lake	75	4a	27
198663	Redwood Road @ 4602 S	Salt Lake	23	4b	25
127018	Chipeta Way / Colorow Way (NB)	Salt Lake	36	4b	25
825112	Center St @ 139 E	Utah	2	1b	24
137322	3900 S @ 718 E	Salt Lake	6	2b	24
135066	3650 S / Granger Dr (WB)	Salt Lake	9	2b	24
127027	Komas Dr @ 542 S	Salt Lake	38	4b	24
117026	Redwood Rd / 900 N (SB)	Salt Lake	16	2a	24
820080	University Ave / 900 S (NB)	Utah	77	4a	23
801031	State St / 1600 N (SB)	Utah	44	3a	23
198459	400 W / 200 N (NB)	Salt Lake	1	1a	23
154071	900 E / 5600 S (SB)	Salt Lake	25	2a	23
137446	State St @ 3750 S	Salt Lake	7	1a	23
137360	4500 S @ 930 E	Salt Lake	25	2a	23
137352	4500 S / State St (EB)	Salt Lake	54	3a	23
127130	Mario Capecchi / South Campus (NB)	Salt Lake	23	4b	23
126452	2100 S / State St (WB)	Salt Lake	27	2a	23
125254	California Ave / Emery St (EB)	Salt Lake	39	4b	23
101560	2700 S @ 5520 W	Salt Lake	1	1b	23
101386	Redwood Rd @ 3538 S	Salt Lake	151	7a	23
101367	Redwood Rd @ 2470 S	Salt Lake	63	4a	23
101359	900 E / 4500 S (NB)	Salt Lake	60	4a	23
101187	5600 W @ 3606 S	Salt Lake	0	1b	23
820090	University Ave / 300 S (SB)	Utah	8	2b	22
817264	State St @ 1851 S	Utah	11	2a	22
623004	22nd St @ 418 E	Weber	1	1b	22
154369	State St @ 5270 S	Salt Lake	11	3b	22
154354	South Union Ave @ 1092 E	Salt Lake	9	2b	22
153114	Redwood Rd @ 7020 S	Salt Lake	28	2a	22
137517	900 E / 4400 S (SB)	Salt Lake	13	2a	22
137452	State St @ 4540 S	Salt Lake	14	2a	22
137440	State St @ 3094 S	Salt Lake	28	2a	22
137349	3900 S @ 301 E	Salt Lake	76	4a	22
137318	3900 S @ 298 E	Salt Lake	22	2a	22
137312	3300 S @ 225 E	Salt Lake	31	2a	22
137301	3300 S @ 1253 E	Salt Lake	27	2a	22
137037	900 E / 4500 S (SB)	Salt Lake	22	2a	22
137028	900 E / Springview Dr (SB)	Salt Lake	6	1a	22
136017	Atherton Dr @ 4440 S	Salt Lake	18	3b	22
135120	3650 S / Granger Dr (EB)	Salt Lake	1	1b	22
134132	4800 W @ 4053 S	Salt Lake	2	1b	22
134131	4800 W @ 4115 S	Salt Lake	1	1b	22
132014	3100 S / 9100 W (EB)	Salt Lake	21	2a	22
125105	Redwood Rd / 500 S (NB)	Salt Lake	6	2b	22

Stop ID	Address	County	Daily Ridership	Amenity Level	Score
825005	Main St @ 195 S	Utah	4	1b	21
825004	Main St @ 295 S	Utah	12	3b	21
806029	Center St / 100 W (EB)	Utah	8	1a	21
806011	State St @ North County Blvd. (WB)	Utah	14	2a	21
806007	Center St @ 50 W (WB)	Utah	6	1a	21
800018	Center St / Orem Blvd (EB)	Utah	11	3b	21
636020	Main St @ 20 N	Davis	1	1b	21
628069	1900 W / 4000 S (NB)	Weber	1	1b	21
603012	Main St @ 605 N	Box Elder	4	1b	21
601060	4000 S / 2225 W (WB)	Weber	0	1b	21
153191	Vine St / Commerce Dr (EB)	Salt Lake	9	2b	21
153170	Cottonwood St / Woodrow St (NB)	Salt Lake	285	7a	21
153108	Redwood Rd @ 6220 S	Salt Lake	15	2a	21
137046	500 E / 2700 S (SB)	Salt Lake	4	1a	21
136261	Redwood Rd @ 3430 S	Salt Lake	6	1a	21
136223	Redwood Rd @ 3980 S	Salt Lake	40	3a	21
136147	Meadowbrook Expwy @ 1151 W	Salt Lake	22	4b	21
136146	Meadowbrook Expwy @ 1285 W	Salt Lake	33	4b	21
136042	Atherton Dr @ 4435 S	Salt Lake	15	3b	21
136040	Atherton Dr @ 833 W	Salt Lake	17	3b	21
135216	3600 W / 3100 S (NB)	Salt Lake	11	3b	21
134017	4800 W @ 4114 S	Salt Lake	1	1b	21
126461	State St @ 820 S	Salt Lake	66	4a	21
117027	Redwood Rd / 800 N (SB)	Salt Lake	10	2a	21
117017	Redwood Rd / 900 N (NB)	Salt Lake	4	1a	21
102155	400 S / Redwood Rd (WB) Near-side	Salt Lake	0	1b	21
101702	Murray Blvd / Vine St (SB)	Salt Lake	5	2b	21
101277	State St @ 5131 S	Salt Lake	33	4b	21
101023	Gordon Ave @ 222 W	Davis	3	1b	21
101019	Gordon Ave @ 365 W	Davis	0	1b	21
829031	100 N @ 30 W	Utah	3	1b	20
825053	Main St @ 210 S	Utah	1	1b	20
820184	100 N @ 500 W (EB)	Utah	16	2a	20
820145	100 N @ 280 W	Utah	24	2a	20
817371	State St @ Grandview Ln. (NB)	Utah	35	2a	20
817307	University Ave / 700 N (NB)	Utah	8	2b	20
806028	Center St / 200 W (EB)	Utah	6	1a	20
806024	State St / North County Blvd (EB)	Utah	28	2a	20
801246	Freedom Blvd / 100 N (SB)	Utah	3	1b	20
801244	Freedom Blvd / 500 N (SB)	Utah	4	1b	20
801013	100 W @ 170 S	Utah	1	1b	20
623009	Washington Blvd / 17th St (NB)	Weber	10	3b	20
603017	700 N @ 5 W	Box Elder	0	1b	20
603011	700 N @ 75 E (Brigham City)	Box Elder	22	4b	20
198401	Murray Blvd @ 5039 S	Salt Lake	4	1b	20
198400	Murray Blvd @ 5026 S	Salt Lake	3	1b	20
198304	Murray Holladay Rd @ 2248 E	Salt Lake	1	1b	20
198024	Redwood Rd @ 3575 S	Salt Lake	12	2a	20
173142	State St @ 8110 S	Salt Lake	0	1b	20
172135	Monroe St @ 8130 S	Salt Lake	0	1b	20

2027 (100 Stops)

Stop ID	Address	County	Daily Ridership	Amenity Level	Score
154355	Union Park Ave @ 7175 S	Salt Lake	13	3b	20
153175	Vine St / Commerce Dr (WB)	Salt Lake	9	2b	20
153119	Redwood Rd @ 7636 S	Salt Lake	4	1a	20
138131	2300 E @ 3375 S	Salt Lake	0	1b	20
138130	2300 E @ 3431 S	Salt Lake	2	1b	20
137521	900 E / 4125 S (NB)	Salt Lake	7	1a	20
137323	3900 S @ 810 E	Salt Lake	1	1a	20
137012	900 E / 3385 S (NB)	Salt Lake	7	1a	20
137004	900 E / 4650 S (NB)	Salt Lake	42	3a	20
136125	Meadowbrook Expwy @ 1150 W	Salt Lake	8	2b	20
136072	3900 S @ 54 W	Salt Lake	7	2b	20
126480	State St @ 1791 S	Salt Lake	19	2a	20
126451	2100 S / 200 E (WB)	Salt Lake	13	2a	20
126322	2100 S / 200 E (EB)	Salt Lake	38	2a	20
126099	500 E / Warnock Ave (SB)	Salt Lake	0	1b	20
125099	2100 S / Main St (EB)	Salt Lake	21	2a	20
124058	1700 S / Industrial Rd (WB)	Salt Lake	7	2b	20
102033	Main St @ 290 N	Davis	2	1b	20
101746	Murray Holladay Rd @ 2102 E	Salt Lake	0	1b	20
101505	5600 W @ 3122 S	Salt Lake	0	1b	20
101165	3600 W / 3500 S (SB)	Salt Lake	3	1b	20
101164	3600 W / 3100 S (SB)	Salt Lake	19	3b	20
101141	Redwood Rd @ 3171 S	Salt Lake	24	2a	20
830179	Center St @ 548 W	Utah	6	2b	19
830063	Freedom Blvd / 300 N (NB)	Utah	8	2b	19
821003	State St @ 1970 S	Utah	6	2b	19
817262	State St @ 1850 N (NB)	Utah	23	2a	19
817256	500 W @ 852 N	Utah	24	2a	19
801245	Freedom Blvd / 500 N (NB)	Utah	10	3b	19
636258	2nd St @ 925 W	Weber	0	1b	19
636152	33Rd St @ 240 W	Weber	0	1b	19
636099	5600 S @ 3566 W	Weber	2	1b	19
636010	Us Hwy 89 @ 98 N (Willard)	Box Elder	0	1b	19
633125	Main St @ 2065 N (Layton)	Davis	22	4b	19
633090	State St @ 1299 S	Davis	7	2b	19
633087	Main St @ 2030 N (Layton)	Davis	13	3b	19
629208	36Th St @ 370 E	Weber	14	3b	19
627059	3500 W / 4800 S (SB)	Weber	4	1b	19
627018	3650 W @ 5550 S	Weber	3	1b	19
624021	Darling St @ 1480 E	Weber	4	1b	19
623340	36Th St @ 425 E	Weber	9	2b	19
623203	Wall Ave @ 1710 S	Weber	4	1b	19
616002	Washington Blvd / Cross St (NB)	Weber	11	3b	19
605022	Main St @ 1080 S	Box Elder	1	1b	19
198679	Jordan Landing Blvd @ 3700 W	Salt Lake	5	2b	19
173141	State St @ 8028 S	Salt Lake	1	1b	19
172209	Jordan Gateway / Ultradent Dr (SB)	Salt Lake	0	1b	19
172160	Midvale Main St / Heather St (SB)	Salt Lake	0	1b	19
154203	State St @ 5435 S	Salt Lake	2	1b	19
154095	900 E / 5800 S (NB)	Salt Lake	4	1a	19

Stop ID	Address	County	Daily Ridership	Amenity Level	Score
154355	Union Park Ave @ 7175 S	Salt Lake	13	3b	20
154006	State St @ 5200 S	Salt Lake	14	3b	19
153115	Redwood Rd @ 7230 S	Salt Lake	12	2a	19
152087	5400 S / 4015 W (WB)	Salt Lake	18	3b	19
151004	Clernates Dr @ 6598 S	Salt Lake	8	2b	19
146021	Stansbury Parkway @ 6675 N	Salt Lake	0	1b	19
138280	Highland Dr @ 4805 S	Salt Lake	6	2b	19
137321	3900 S @ 630 E	Salt Lake	2	1b	19
137315	3900 S @ 30 E	Salt Lake	16	3b	19
137253	1300 E @ 3315 S	Salt Lake	21	4b	19
137070	500 E / 4500 S (NB)	Salt Lake	28	4b	19
137059	State St @ 2547 S	Salt Lake	15	2a	19
136136	Redwood Rd @ 4720 S	Salt Lake	2	1a	19
136086	Gregson Ave @ 111 W	Salt Lake	11	2a	19
135240	3500 S / 3900 W (WB)	Salt Lake	13	2a	19
135215	4700 S @ 3980 W	Salt Lake		1b	19
134133	4800 W @ 3991 S	Salt Lake	1	1b	19
134130	4800 W @ 4177 S	Salt Lake	0	1b	19
134123	5600 W @ 4677 S	Salt Lake	9	2b	19
134018	4800 W @ 4180 S	Salt Lake	0	1b	19
101784	2700 W @ 4854 S	Salt Lake	0	1b	19
101195	7000 S @ 4846 W	Salt Lake	2	1b	19
S601236	12Th Street @ 425 E (Ogden)	Weber	#N/A	1a	18
825072	800 E @ 680 N	Utah	10	3b	18
821006	State St @ 2051 S	Utah	15	3b	18
820241	900 E / Center St (SB)	Utah	1	1b	18
817085	2230 N / Freedom Blvd (WB)	Utah	5	2b	18
817036	2230 N / 350 W (EB)	Utah	33	4b	18
816078	UVU Gunther Building (NB)	Utah	34	4b	18
806025	State St / 1300 W (EB)	Utah	18	2a	18
806008	Center St @ 200 W (WB)	Utah	6	1a	18
636179	20Th St @ 120 W	Weber	0	1b	18
629172	Harrison Blvd @ 4605 S (Ogden)	Weber	4	1b	18
629161	Harrison Blvd @ 4390 S	Weber	3	1b	18
623339	36Th St @ 325 E	Weber	8	2b	18
623097	30Th St @ 1245 E	Weber	6	2b	18
623096	30Th St @ 1210 E	Weber	5	2b	18
616125	2Nd St @ 850 E	Weber	1	1b	18
616124	2Nd St @ 861 E	Weber	3	1b	18
605014	1100 S @ 305 W	Weber	6	2b	18
603004	Main St @ 410 N	Box Elder	1	1b	18
501033	Main St @ 989 N	Utah	0	1b	18
301099	1450 S @ 1182 E	Davis	20	4b	18
301096	1450 S @ 1157 E	Davis	3	1b	18
198359	Murray Blvd @ 4948 S	Salt Lake	15	3b	18
198162	Fort Union Blvd @ 26 W	Salt Lake	4	1b	18
173166	State St @ 8385 S	Salt Lake	14	3b	18
172173	Midvale Main St / Heather St (NB)	Salt Lake	0	1b	18
153005	Redwood Rd @ 5230 S	Salt Lake	5	1a	18
146028	Stansbury Parkway @ 470 W	Salt Lake	1	1b	18
146023	Stansbury Parkway @ 465 W	Salt Lake	0	1b	18



Appendix F - Policies & Standard Operating Procedures

UTAH TRANSIT AUTHORITY AGENCY SOP

No. AGCY.06.07

BUS STOP IMPROVEMENTS

1) Purpose.

The purpose of this Standard Operating Procedure (SOP) is to assist the Utah Transit Authority (UTA) in providing bus stops that are designed to make transit more convenient, accessible, and aesthetically appealing to transit users. The proper design of bus stop pads and adjacent curbs will increase transit access and convenience by eliminating barriers, especially for those individuals with mobility limitations. The appeal of public transportation will be increased further by the installation of amenities that: (a) enhance the attractiveness of public transportation, (b) increase passengers' comfort levels and feelings of security, and (c) provide bus stop locations that are designed with pads, shelters, benches, windbreaks, etc. that are compliant with the Americans with Disabilities Act (ADA). This standard operating procedure applies to any employee or group performing similar work regardless of department, including outside contractors working on bus stop improvements.

2) Definitions.

"ADA-Compliant" refers to the design and construction of waiting pads, shelters, benches, windbreaks, structures, or other amenities that adhere to the accessibility requirements set forth in the Americans with Disabilities Act (ADA).

"Amenities" means features or improvements installed at bus stops to enhance the customer experience and provide accommodations for riders with varying mobility limitations. Amenities includes, but are not limited to: shelters, benches, waiting pads, windbreaks, lighting, trash receptacles, signage, and ADA features.

"Bus Stop Improvements" mean enhancements and modifications made to official UTA bus stops to increase accessibility, safety, and passenger comfort which are included in compliance with UTA design standards and ADA requirements.

"Bus Stop Improvement Program" means the initiative within UTA that manages and funds enhancements to official UTA bus stops. This includes the installation of amenities. The program prioritizes improvements based on ridership, accessibility, and operational needs.

"Bus Stop Master Plan" means UTA's comprehensive strategy outlining the design, development, and maintenance standards for UTA bus stops. This plan ensures consistency across the system and ensures compliance with organization goals and ADA regulations.

"Bus Stop Prioritization List" is a ranked roster of candidate bus stops, guiding resources allocation for improvement based on ridership, accessibility, and operational needs.

"Maximum Extent Practicable" means taking all reasonable measures to ensure that newly constructed and substantially altered fixed route bus stops comply with the DOT ADA Standards, considering space, proportionality, and other design constraints.

“*Stop Relocation*” means bus stops or service points that differ from the standard fixed route due to specific operational requirements, considering factors such as passenger transfer locations and travel patterns. Depending on the extent of the relocation, there may be accessibility implications related to equity and accessibility, which are considered when prioritizing Bus Stop Improvements.

“*Section 504 of the Rehabilitation Act of 1973*” is a federal law that prohibits discrimination on the basis of disability.

“*Service Design Standards*” mean criteria and rules for the provisioning of routes, amenities, and bus stop designs.

3) Standard Operating Procedures.

The Service Planners determine the location of bus stops in support of the approved service plan, Service Design Standards, and in accordance with the Bus Stop Master Plan. Bus shelters, bus benches or other amenities will only be installed at an official bus stop upon approval from the Service Planners. This includes, but isn’t limited to, vehicle and pedestrian traffic flow as well as ADA considerations. These actions will be taken in coordination of the local municipality, county, or state government.

A. Identify Candidate Bus Stop Location to Receive Bus Stop Amenities

High usage stops by ridership will be identified by the Service Planners. Specific recommendation for improvement and prioritization for bus stop amenities will be developed with consideration of the five-year service plan, present or future construction projects, internal and external recommendations, as well as utilizing the items listed in the bus stop scoring matrix as it appears in the Bus Stop Master Plan. The criteria points will then be tallied to create a Bus Stop Prioritization List of candidate stops to be improved or removed. Service Planners will give consideration to the bus stop or service point needs (e.g. transfer locations, travel patterns) of clients that utilize Paratransit Services. The same consideration will also be given to Stop Relocation or removal. The Service Planning team will develop and maintain the Bus Stop Prioritization List. Planning in coordination with Capital Services will prepare annual plans for the bus stop construction improvements, including amenities at the bus stops on the Bus Stop Prioritization list.

B. Annual Funding

Annual funding for the Bus Stop Improvement Program will be provided through the Five Year Capital Services Plan.

C. ADA Compliance

The Service Planners will work with Capital Services to ensure that the installation of any amenities, (e.g. pole, sign, bench, shelter, trash cans) at an official UTA bus stop follows the UTA design standards/criteria (as outlined in the Bus Stop Master Plan) for bus stops and meets the ADA as they pertain to bus stops and public transit. Bus Stop installations must adhere to the specified standards or meet the requirements of the Maximum Extent Practicable SOP to be approved.

D. Bus Stop Improvement Funding

The Capital Services Project Manager and Service Planners collaborate on all bus stop improvements, regardless of funding source. They review engineering drawings, conduct onsite visits to ensure ADA and operational safety compliance, and approve appropriate amenities.

For projects partially funded by external parties, the Capital Services Project Manager prepares and secures necessary agreements.

In all cases, the Capital Services Project Manager obtains approvals from all stakeholders, handles requisitions, bidding, contracting, permitting, and oversees development. UTA Facilities is responsible for maintenance and upkeep, unless otherwise specified. This process applies to both UTA-funded and partially funded improvements, ensuring consistency and compliance across all bus stop enhancement projects.

E. Maintenance of Bus Stops

UTA will seek funding that is sufficient for the Facilities department to retain on staff one service employee for every twenty (20) shelters that UTA is required to maintain.

F. State of Good Repair

1. Service Planners:

Service Planners are responsible for the administrative oversight of Bus Stops' state of good repair within UTA's service area.

2. Facilities Department:

The Facilities Department is responsible for the physical maintenance and repair of Bus Stops and associated amenities.

G. Bus Stop Manager (BSM) Software

All activities related to the installation of new bus stop amenities, construction of new bus stops, or upgrades to existing bus stops are initiated by Service Planners, and coordinated and managed through the BSM program. BSM is the asset management tool for all amenities not tracked in the Capital Service asset control system.

H. Shelter Inventory


Shelter inventory will be maintained by the Manager of Capital Asset Controls in the Capital Services Asset Management team.


All other amenities are tracked by the Service Planners.

4) Cross-References.

- UTA.01.02 Americans with Disabilities Act Compliance
- UTA.01.04 Disadvantaged Business Enterprise
- UTA.01.06 Title VI Compliance
- UTA.06.01 Transit Asset Management & State of Good Repair
- UTA.06.03 Capital Assets
- Bus Stop Master Plan
- Five Year Capital Services Plan

This UTA SOP was reviewed by UTA’s Chief Officers on 05/01/2024, and approved by the Executive Director on 11/25/2024. This SOP takes effect on the latter date.

DocuSigned by:

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 Nichol Bourdeaux, Chief Planning and Engagement Officer
 Accountable Executive

Signed by:

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 Jay Fox
 Executive Director
 Approved as to form and content:

DocuSigned by:

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 Counsel for the Authority

History

Date	Action	Owner
11/09/2008	Adopted - OPO 1.2 Bus Stop Amenities Installation	
08/15/2016	Revised, Renumbered, and Renamed - BU 7.0 Transit Improvements	
11/15/2016	Updated - BU 7.0 Transit Improvements	
11/25/2024	Rescinded – BU 7.0 Transit Improvement Projects	
11/25/2024	Rescinded – BO 1.17 Bus Stop Relocation Program	
11/25/2024	Rescinded – OPO.1.2 Bus Stop Amenities Installation	
11/25/2024	Adopted – AGCY.06.07 Bus Stop Improvements	Chief Planning and Engagement Officer