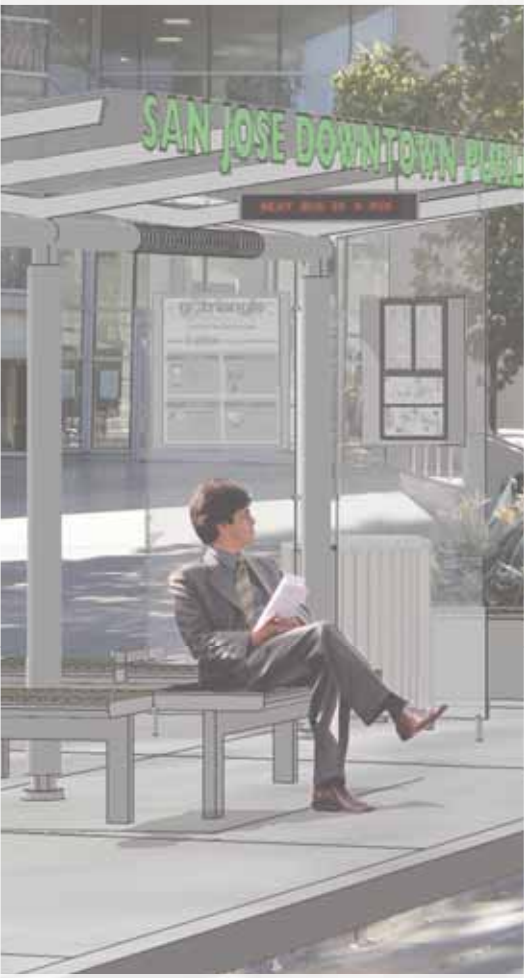
Transit Passenger Environment Plan



Final Report

May 2016

TRANSIT PASSENGER ENVIRONMENT PLAN

The Transit Passenger Environment Plan explains the Valley Transportation Authority's approach to designing and improving bus stops. It establishes guidelines for bus stop elements, prioritizes amenity improvements to high-ridership bus stops and identifies a new, modern bus stop design for Santa Clara County. It incorporates rider input in its recommendations and identifies ways that VTA can partner with the community. Lastly, it is intended to provide guidance to the public, developers and city officials about how to work with VTA regarding bus stop design and placement.

More information at www.vta.org/TPEP

table of contents

chapter 1 | INTRODUCTION

The Transit Passenger Environment

The Transit Passenger Environment is the area where passengers wait for, board and alight the bus. It includes the space immediately adjacent to the bus stop—the pole and sign, seating and shelters—as well as the space around these elements where riders often congregate. Since every bus trip begins with some time spent waiting for the bus to arrive, the quality of the passenger environment becomes an important component of the overall transit experience. A well-designed, inviting passenger environment can make a transit trip more pleasant and signify to potential transit users that the on-board experience is pleasant as well. On the other hand, a poorly-designed or inadequate passenger environment can deter transit usage and can convey a lack of overall system quality.

A successful transit passenger environment must provide a sense of safety and comfort for users while offering the functionality required of a bus stop. It must be clearly branded and recognizable to the public, but not overdesigned or in contrast with its surroundings. This document identifies a series of comprehensive, but flexible guidelines for achieving this at VTA's bus stops.

Guiding Principles

To guide our thinking about providing a better transit passenger environment experience, VTA developed eight overarching guiding principles for bus stop design. Ideally, every built bus stop will be able to comply with these principles.

Experience – Waiting for the bus should be a comfortable and convenient part of the overall transit experience.

Safety – Bus stops should be safe places to wait, board buses, and pass through.

Accessibility – Bus stops should be convenient to those accessing them on foot, bicycle, other transit, and by vehicle where appropriate. Bus stops should be accessible by disabled persons and those with mobility devices.

Information – Where possible, stops should feature information relevant to the transit trip and surrounding area.

Comfort – The waiting environment should be composed of human-scale elements that create comfortable places. Where possible, riders should be protected from weather and be able to rest.

Operation – Bus stops should facilitate safe and efficient transit vehicle circulation and operation and passenger boardings and alightings. Bus stops should also be designed for ease of maintenance and durability.

Branding – Bus stops should be easily identified by passengers, bus operators, and the public in general. Bus stops should represent a commitment to a high-quality transit experience.

Community – The waiting environment should be compatible with surrounding land uses, and neighborhoods, as well as adjacent pedestrian and other circulation areas.

chapter 2 | IMPROVING OUR THINKING ABOUT BUS STOP AMENITIES

Existing Conditions

VTA serves nearly 4,000 bus stops in Santa Clara County. The level of amenities provided at these stops ranges considerably. About half of VTA's bus stops include a bench for seating and one-fifth feature bench seating and a shelter. About 20 percent include a VTA trash receptacle. 98 percent feature some source of lighting with 80 percent receiving light from street lights, 13 percent featuring in-shelter lights and one percent with solar lights. About one-third of VTA's bus stops are not considered accessible according to the Americans with Disabilities Act. The lack of compliance with accessibility requirements is typically based on the lack of 5-foot by 8-foot wheelchair boarding space and a lack of accessible pedestrian paths to the stop and loading space.

State of VTA Bus Stop Shelters

Following the creation of VTA in the early 1990s, a desire to establish VTA's identity as the county transit provider guided the design of VTA's first bus stop shelters. Blue shelters were installed throughout the county and while effective, those shelters have resulted in some functional problems. The dark and perforated metal panels limit visibility from inside and outside the shelter, making it difficult for bus drivers to see if passengers are waiting inside the shelter—especially at night—as well as block the view of businesses and sidewalks from the street. The four-post one-piece design requires that the shelter occupies considerable pedestrian space. Damaged or defaced shelter elements cannot be easily removed and replaced.

These shelters are nearing the end of their 20-year lifespans and that presents an opportunity for VTA to replace these shelters with a more modern, more functional and more attractive shelter design as well as aesthetically complementary bus stop furniture. This document presents a design concept for the new generation of VTA bus shelters that features a transparent, scalable and adjustable design that avoids the limitations of the current shelters.

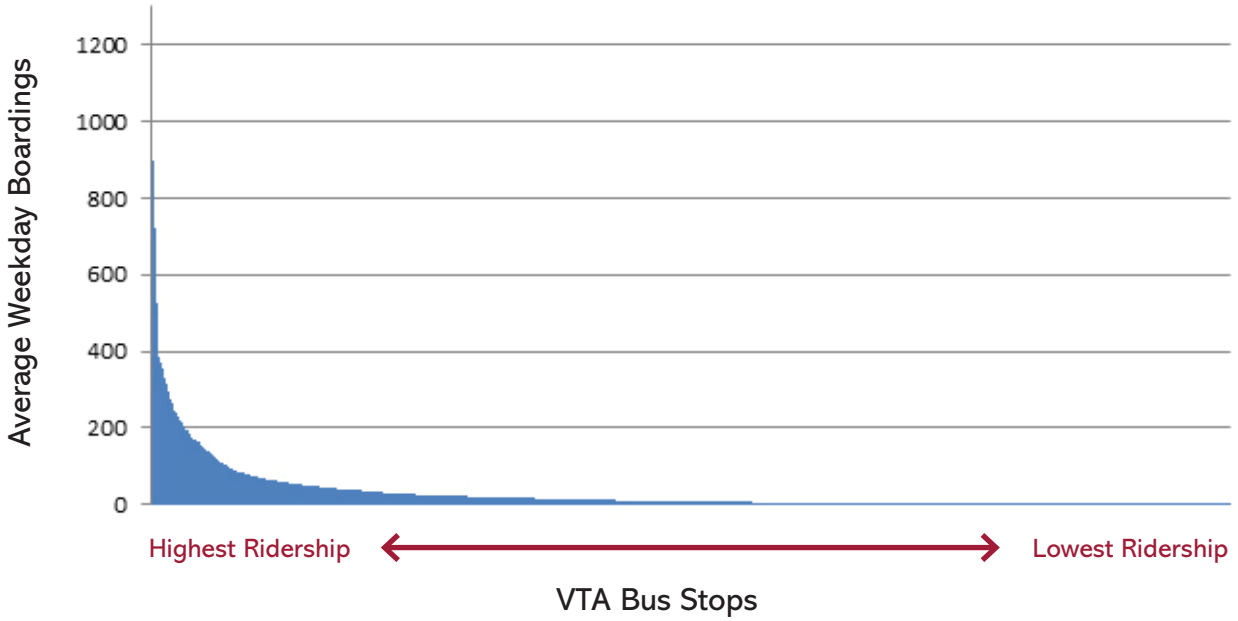
Improvement Decisions and Investment Strategy

Over the years, the decisions about which bus stops deserve amenities and which amenities should be added was based on a basic analysis of ridership, customer feedback, volume of service, and frequency of service, without the set criteria for bus stop amenities determined by a policy or scientifically collected rider input. Advertising opportunity has also been a consideration in the location of bus stop shelters. In high-volume corridors, the visibility of bus shelters makes selling advertising a viable way to fund the cost, installation and maintenance of the shelter—an amenity that VTA could otherwise not afford to provide. Often, VTA responded to public requests for amenity improvements at bus stops, but whether those requests represented the most needed improvements is unknown. With a new policy basis, VTA will be able to ensure funds spent on amenities are used wisely and maximize the rider benefit.

To determine the optimal level of amenities for bus stops and to develop a policy for how to prioritize amenity improvements, VTA conducted an analysis of transit usage to determine which factor(s)—ridership, average wait time, number of bus routes served—should inform this decision. The analysis found that a large percentage of VTA's overall bus transit ridership was occurring in a small percentage of bus stops.

The remarkable concentration of users toward a small number of stops indicated that ridership—or more specifically, average weekday boardings—should be the metric that determined the appropriate level of amenities and prioritization of improvements. By investing first where bus riders are, the passenger-benefit per dollar spent can be maximized.

VTA Bus Stops Ranked from Highest to Lowest Ridership



Rider Survey

To inform VTA's decision about which amenities to provide at bus stops, VTA conducted an intercept survey of bus stop riders. Five bus stops—representing different levels of bus stop amenities, geographical areas, incomes and communities of Santa Clara County—were selected as survey locations. Multilingual surveyors asked riders waiting at those bus stops questions about their opinion of VTA bus stops and which bus stop amenities they value most. 424 surveys were completed.

Most of the individuals surveyed were frequent VTA transit users with more than 90 percent using VTA at least once a week and nearly two thirds using VTA for daily travel.

Respondents were asked to rate VTA bus stops from 5 (Excellent) to 1 (Poor) on a number of qualitative aspects. Generally, respondents gave VTA bus stops good marks, but the distribution of responses showing roughly 20-35 percent rating VTA average to poor shows that there is room for improvement—particularly in comfort, maintenance and perception of personal safety.

Riders were also presented with a list of bus stop amenities and were asked which amenities they valued the most. Respondents were welcome to suggest amenities not on the list. The five most common responses related to transit information and shelter. This suggests that future bus stop improvements should focus on these areas.

"How often do you use this or other VTA bus stops?"

5 or more days a week	63%
3 or 4 days a week	22%
1-2 days a week	9%
Less than once a week	3%
Multiple responses	2%

"Please rate VTA bus stops (in general) on each of the following:"

	Excellent ⟷ Poor					
	5	4	3	2	1	Blank
Personal safety at bus stop	41%	28%	22%	4%	2%	3%
Comfort (seating, enough space, etc.)	39%	22%	27%	7%	3%	2%
Well marked/easily identified	50%	26%	17%	4%	1%	3%
Accessible to wheelchairs	54%	18%	12%	2%	1%	12%
Well maintained	38%	26%	24%	5%	3%	4%
Available VTA information/maps	47%	23%	16%	6%	4%	4%
Overall Rating	38%	34%	18%	2%	<1%	7%

"In general, which of the following stop amenities are most important to you?"
(multiple responses were accepted)

Posted VTA route schedule	62%
Shelter from weather	47%
Map of VTA route/system	46%
Seating (bench, low wall, etc.)	46%
Electronic real-time bus arrival display	45%
Good lighting	35%
Map of surrounding area	30%
Shade trees	28%
Security cameras	27%
Trash/recycling can	24%
Bicycle racks/lockers	12%
Wheelchair accessible	10%
Rail to lean against	10%
Public art	5%
Other Landscaping	5%
Other	2%

Working with the Community, Developers and Cities

This document is intended to be a one-stop source for information about designing VTA bus stops and fits within a family of design guidelines produced by VTA including the Passenger Facilities Standards, Community Design and Transportation Manual, Pedestrian Technical Guidelines and Bicycle Technical Guidelines. The Transit Passenger Environment Plan is designed to:

- Be a simple resource for working with VTA bus stop designs
- Identify opportunities for partnering with the community
- Provide design guidance for cities or developers to design bus stop upgrades
- Open the door for non-standard or customized designs

A New Shelter Design

VTA is pursuing a new shelter design that offers a superior operational and aesthetic experience compared to the current shelters. Rather than anchoring the shelter at four-points, as VTA's current blue shelters do, the new design could be anchored at two points along the rear wall of the shelter. Having two posts enables shelters to minimize their footprint on the sidewalk to accommodate a constrained built environment. This provides flexibility in design and allows shelters to better fit into constrained spaces while providing necessary pathways for accessibility. The shelter will also be designed as a kit of parts that allows for scalability, customization and easy replacement of damaged components. Shelter walls will be made of a transparent material that allows for better visibility of passengers and of approaching buses as well as of uses behind the shelter. The renderings throughout this document do not represent a specific product, but rather demonstrate functional components desired for VTA's next generation of shelters.

Example of a Basic Stop

Example of a Core Stop

Example of a Major Stop

Example of a Community Destination Stop

chapter 3 | DESIGNING BUS STOPS

Bus Stop Classifications

Due to funding constraints, it is not possible to outfit all of VTA's nearly 4,000 bus stops with a full set of amenities nor would it be cost-effective to do so at stops with low usage rates. In accordance with the strategy to prioritize amenity investment in order to maximize the cost-benefit of bus stop amenities, VTA has developed four stop classifications featuring different levels of amenities. Three of the classifications—*Basic, Core and Major*—are determined based on ridership. The fourth classification, *Community Destination*, is determined by adjacent land uses—such as civic buildings, hospitals or schools—that may impart a special need or character upon the stop.

By developing these classifications, VTA can determine if a stop has an adequate level of amenities as well as where improvements should be made. VTA can also evaluate if it is maximizing the rider-value per dollar spent as well as determine precisely which improvements are needed to bring bus stops up to VTA standards.

Basic Stops are those with fewer than 40 weekday boardings. Since approximately 83 percent of all stops fall into this category – serving approximately 20 percent of all weekday boardings – they constitute the baseline stop type for VTA's transit passenger environment.

Core Stops serve 40 to 199 weekday boardings. Core stops comprise approximately 14 percent of all stops and serve approximately 40 percent of weekday boardings,

Major Stops serve 200 weekday boardings or more and are VTA's flagship bus stops. Major stops comprise approximately 3 percent of stops and serve approximately 40 percent of weekday boardings.

Community Destination Stops are Major Stops whose classification status is based on their special location within the community context. These stops may be associated with civic buildings or sites such as museums, libraries, and parks or schools, hospitals or other public places.

Bus Stop Amenities Overview

Based on the bus stop classifications above, VTA has developed the following recommended ranges of bus stop amenities for each of the classifications.

While this plan does not identify specific products for use at VTA bus stops it identifies their desired qualities in concept. Regardless of which specific amenities are chosen, they will form a "family" of amenities that is coordinated in color and style.

Standard Bus Stop Sign

A bus stop sign serves both as the operator's guidepost for where to stop the bus and to orient passengers to basic information such as the location of the bus stop, routes served, and phone numbers to call for information. The bus stop sign may include a small display case with route schedule information. At some stops, the bus stop sign may be the only stop improvement present, making it the most basic stop design and VTA bus service branding element.

Enhanced Bus Stop Sign

Recommended for use at Major and Community Destination Stops, this is a modified, smaller version of the totem-type sign currently used at VTA's light rail stations. This sign provides a stronger physical and branding presence and therefore lends itself to use at Major Stops and Community Destination Stops, where the sign can be customized through the use of custom colors and icons relating to a civic use or district.

Route and Map Displays

Small and large size display cases can accommodate route and vicinity information in map and schedule format. Small display cases can be attached the bus stop sign and large size display cases can be integrated into the shelter.

Real Time Information

Each bus stop has a Real Time Information (RTI) decal on the bus stop sign or bus shelter that provides a unique stop number and call-in information. This unique identifier enables passengers to get real time bus arrival information from 511.org and also provides an easy way to identify bus stops to VTA Customer Service. At some stops, real-time transit arrival information is provided by a flexible message sign, located in the shelter.

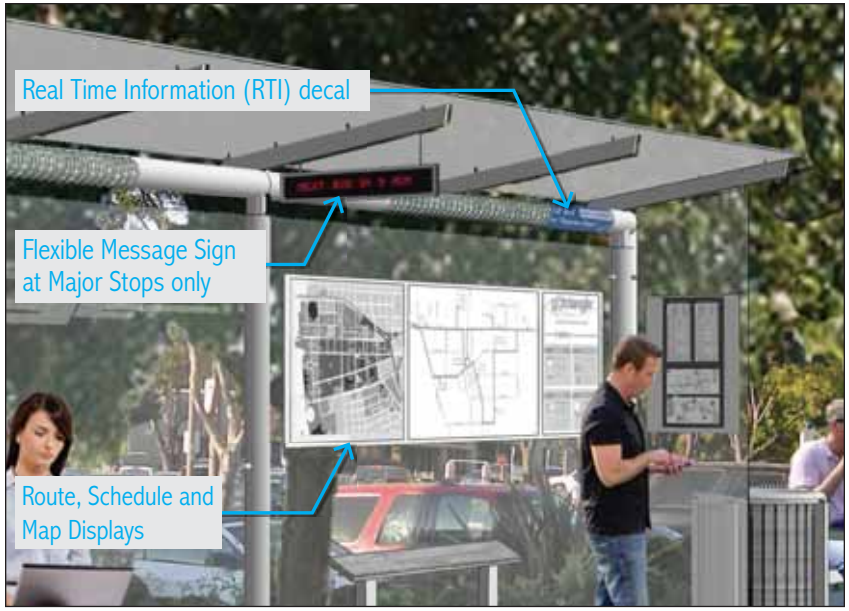
Shelter System

The shelter provides several critical functions at the bus stop, including protection from sun, rain and wind, lighting, security and branding. In addition, it accommodates several other amenities, including seating, lighting, and display cases with transit information.

VTA new shelter system[1] will be modular and allow for basic shelter units to be combined to form larger shelters, and include panels that can be customized and removed depending on local circulation needs and conditions. This allows some economy of scale as well as the ability to customize shelters to fit stop type categories and local environments.

This document illustrates two primary shelter configurations within this modular framework:

The *urban* shelter configuration in which an open back panel allows direct circulation from within the shelter to the sidewalk behind; and the *suburban* shelter configuration, which has a closed back panel to create a screen between the shelter space and the pedestrian area behind it.



VTA's Current Shelter Program

[1] VTA currently has 553 shelters provided under a contract with Clear Channel Outdoor (CCO). CCO is responsible for installing, maintaining, cleaning, and repairing bus shelters in exchange for the right to sell and post advertising on 75% of the shelters. The vendor shares ad revenue with VTA and member cities of the Transit Shelter Advertising Program (TSAP). The TSAP shelter locations were decided by a mix of ridership, advertising viability, and distribution between member jurisdictions.

The agreement with CCO was initiated on October 31, 1995 and is on its final two-year extension, which expires October, 31 2017. VTA's main motivation for the agreement was to reduce expenses by passing the shelter maintenance and capital construction activities to the contractor. VTA also desired new shelters, expanded sites, and lit shelters, which it previously did not have. The shelters from the TSAP are at the end of their 20-year life cycle. When the agreement ends in 2017, VTA will take ownership of the CCO shelters and take over maintenance of the current CCO shelters.

Seating

Benches provide passengers with the opportunity to wait for the bus in a comfortable seating position. A backless bench provides passengers at stops in the Urban configuration with the option to sit either facing the sidewalk or the street or at the short ends of the bench. Metal benches deter graffiti and vandalism reducing maintenance costs over time. Placing intermittent armrests on a bus stop bench can discourage vagrancy and loitering.

Existing Amenities: Use to your advantage

If there are streetscape amenities or building elements that exist in the stop location and can serve the same purpose as the amenities discussed above, i.e. existing benches, trash receptacles or shade and shelter from adjacent awnings or trees, the design can incorporate these elements in addition to, or in lieu of, the corresponding element from the applicable amenity set. This can be determined by conducting a field review of existing amenities at the stop location and an assessment of their suitability to serve the intended purpose.

Leaning Bar

Leaning bars are being increasingly used by transit agencies as a way to provide some measure of comfort at bus stops where spatial constraints, frequent loitering or the need to accommodate mobility devices make the use of benches undesirable.

Trash Receptacle

The trash receptacle is provided to allow immediate waste disposal at the stop and is typically provided alongside a shelter.

Bicycle Rack

Bicycle racks encourage the bicycle to transit connection and establish a safe and secure way to store bikes. The placement of bicycle racks can be considered if the space is adequate and does not impede the pedestrian pathway.

Lighting

Supplemental pedestrian-scale light fixtures provide lighting at bus stops where illumination levels from existing light sources are found to be insufficient. Solar-powered lighting is an option in areas that do not have access to a power source. Solar panels are mounted on the poles or the shelters. Currently, there are 21 bus stops equipped with solar lighting.

Bus Stop Classifications and Amenity Levels

	Basic	Core	Major	Community Destination
Approximate number of stops	3,309	501	104	N/A
Average weekday boardings	6.6	87.2	342.5	N/A
Standard bus stop sign	Yes	Yes	Yes	Yes
Enhanced bus stop sign	No	No	Maybe	Maybe
Real-Time Information (RTI)	Yes, RTI decal on standard bus stop sign	Yes, RTI decal on standard bus stop sign	Yes, RTI decals or flexible message sign, if possible	Yes, RTI decals or flexible message sign, if possible
Schedule display on standard bus stop sign	Maybe	No	No	No
Route and schedule display	No	Scheduled stop display, system map if shelter provided	Scheduled stop display, system map in shelter	Scheduled stop display, system map in shelter
Wayfinding map	No	No	Maybe	Maybe
Shelter system	No	Maybe	Yes	Yes
Seating	Maybe	Yes	Yes	Yes
Leaning bar	Maybe, if spatial constraints limits installation of a bench	Maybe, if spatial constraints limits installation of a bench	Maybe, if spatial constraints limits installation of a bench	Maybe, if spatial constraints limits installation of a bench
Trash receptacle	No	Maybe, based on need and customer requests. Consider surrounding land uses	Maybe, based on need and customer requests. Consider surrounding land uses	Maybe, based on need and customer requests. Consider surrounding land uses
Bicycle rack	One U-rack if along bicycle facility, more if demand warrants	One U-rack if along bicycle facility, more if demand warrants	One U-rack, more if demand warrants	One U-rack, more if demand warrants
Lighting	Relies on street lighting; consider solar-powered fixture where necessary	In-shelter, solar or pedestrian-activated lighting, if possible	In-shelter, solar or pedestrian-activated lighting, if possible	In-shelter, solar or pedestrian-activated lighting, if possible

Layout of Bus Stop Elements and Amenities

While the classification of a stops as *Basic, Core, Major*, or *Community Destination* assigns a typical set of amenities to each stop type, the configuration and placement of these amenities is informed by several key characteristics of the local environment at a given stop location. These characteristics include sidewalks width, the speed and proximity of moving traffic adjacent to the bus stop area, the context of buildings and uses as well as existing streetscapes.

It is in this context that the layout of a bus stop and its amenities must create a passenger environment that not only is comfortable, safe, and functional but also supports pedestrian circulation throughout and past the stop area and complies with applicable requirements included in the Americans with Disabilities Act for Transit Facilities (ADA) and Chapter 11b of the California Building Code (see Chapter 5 for details).

As such, there are two primary alternatives for configuring bus stop shelters, benches and other amenities:

- Along the curb-side of the sidewalk, in which case pedestrians pass behind the shelter (*Urban* Layout)
- Along the rear of the sidewalk to allow pedestrians to pass in front of the seating or shelter (*Suburban* Layout)

The decision about placement may be affected by issues of clearance for mobility devices or restrictions caused by the built environment, but primarily it is determined by whether the pedestrian environment has a more urban or suburban context.

In practice, many bus stop locations will present themselves as a combination of Urban and Suburban contexts. In such cases, key characteristics like sidewalk width, the volume of pedestrians passing through or along the bus stop area, vehicular travel speeds and the proximity of moving traffic to waiting passengers as well as the presence of "pedestrian-unfriendly" features, such as parking lots, gas stations or other auto-oriented uses, blank building walls or walls around adjacent developments should all be taken into account in order to determine if the Urban or Suburban layout configuration is right for the location in question.

In absence of a clear sense of which of the two configurations to select, the criterion *adjacent land use frontage* can be used to make a rule-of-thumb determination as follows:

- Along retail and commercial frontages with frequent building entries and windows: Use *Urban* Layout.
- Along frontages with (deep) landscape setbacks, infrequent access points to uses set back from the sidewalk: Use *Suburban* Layout.
- Along frontages with narrow sidewalks and blank walls adjacent to the sidewalk: Use *Suburban* Layout.

Urban Stops

A stop's design elements and amenities should be configured in the *Urban* layout if the bus stop is located in a pedestrian-oriented context that includes wider sidewalks, higher pedestrian activity, slower vehicle travel speeds, on-street parking and adjacent buildings with frequent doorways and pedestrian access needs. As such, in these areas VTA recommends that bus stop amenities be placed near the curb-side of the sidewalk.

Basic stops

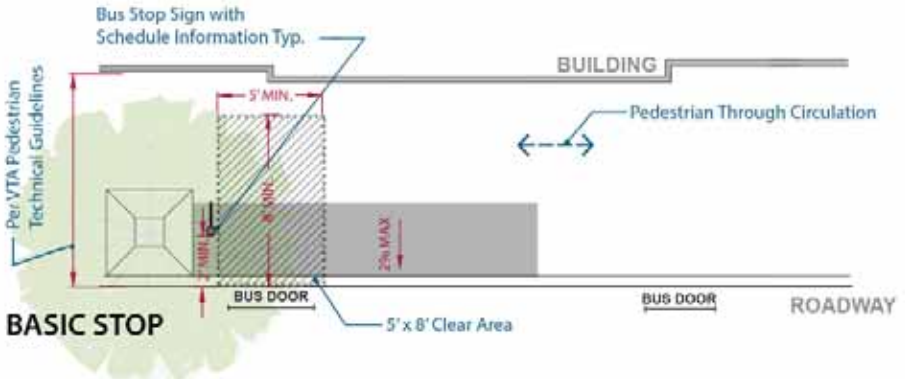
Basic stops average less than 40 boardings per weekday. About 85 percent of VTA's bus stops fall into this category, counting for 25 percent of the weekday bus ridership. Due to the low number of average weekday boardings at these stops, VTA recommends a minimal to modest level of amenities, typically ranging from only a bus stop sign to bench seating. Basic stops typically do not have shelters.

Core stops

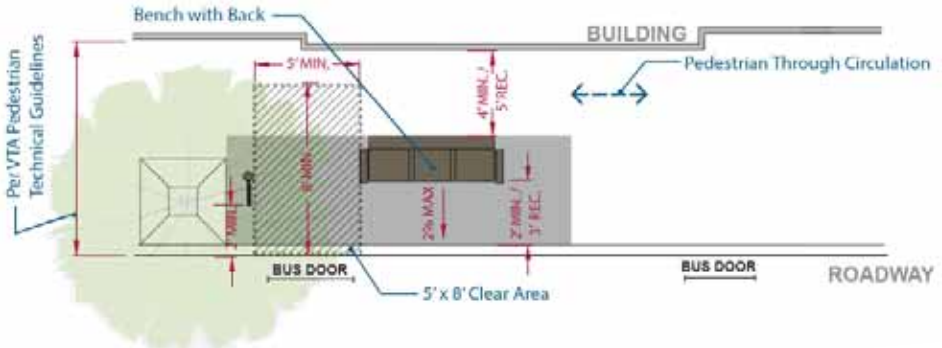
Core stops average between 40 and 200 boardings per weekday. While only about 13 percent of VTA's bus stops fall into this category, they account for 40 percent of the overall bus ridership. Due to the moderate to high level of ridership at these stops; VTA recommends a modest to high level of amenities at core stops, these may include seating and, at stops with higher ridership, single-unit shelters. Additional seating, trash receptacles and bicycle parking may be warranted.

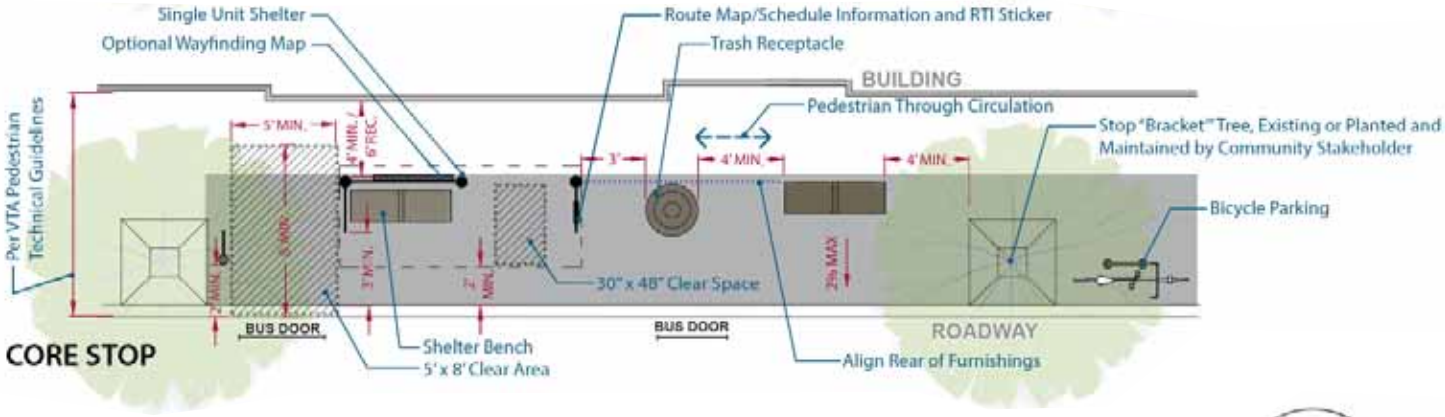
Major stops

Major stops average over 200 boardings per weekday. While only about 3 percent of VTA's bus stops fall in to this category, they account for about 34 percent of the overall bus ridership. Due to the high level of ridership at these stops, VTA recommends a full set of amenities at major stops. These may include seating, shelters, transit information, and, where applicable, additional seating, trash receptacles, and bicycle racks.

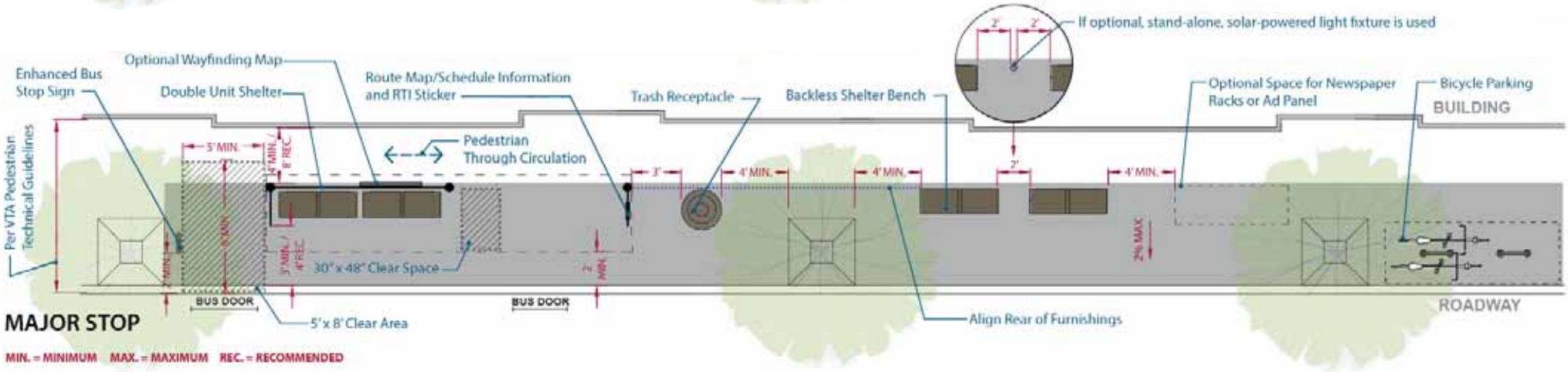


BASIC STOP





CORE STOP



MAJOR STOP

MIN. = MINIMUM MAX. = MAXIMUM REC. = RECOMMENDED

TYPICAL URBAN STOP TYPE LAYOUTS

Suburban Stops

A stop's design elements and amenities should be configured in the *Suburban* layout if the bus stop is located in a vehicle-oriented context that includes narrow sidewalks, lower pedestrian activity, faster vehicle travel speeds. Placing the bus stop seating or shelter on the curb-side of the sidewalk may be unpleasant for waiting transit passengers and may also result in blockage of the sidewalk and failure to achieve ADA clearance compliance. In these instances, VTA recommends that bus stop amenities be placed at the rear-side of the sidewalk. At locations where sidewalk width is constrained, this may require an easement onto adjacent private land.

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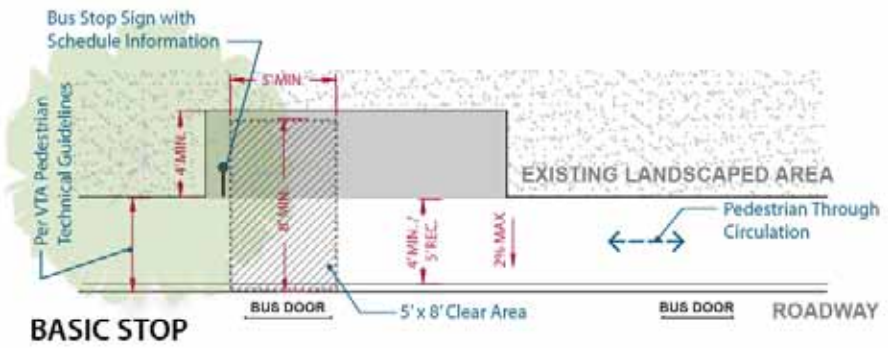
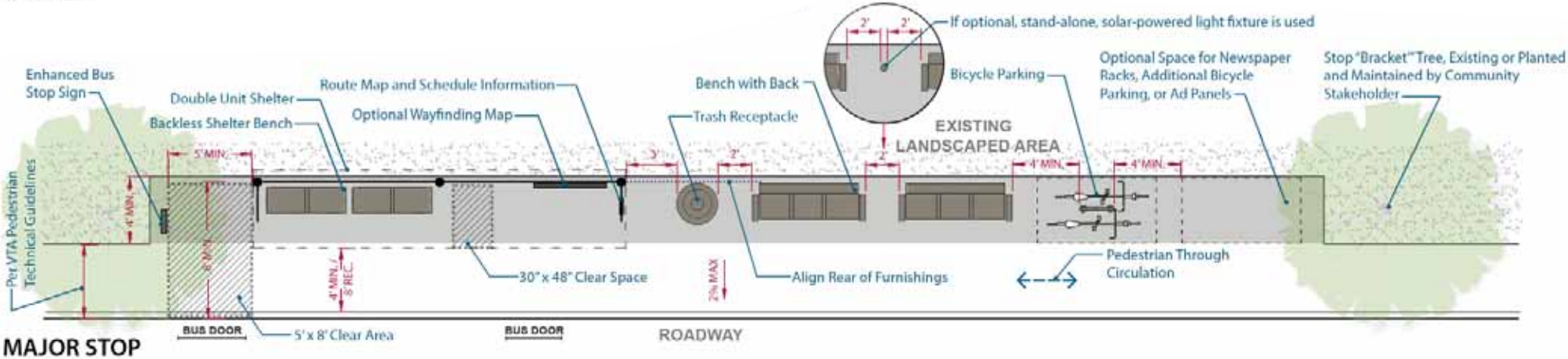


BASIC STOP

CORE STOP



MAJOR STOP

MIN. = MINIMUM MAX. = MAXIMUM REC. = RECOMMENDED

SUBURBAN STOP TYPE DIAGRAMS

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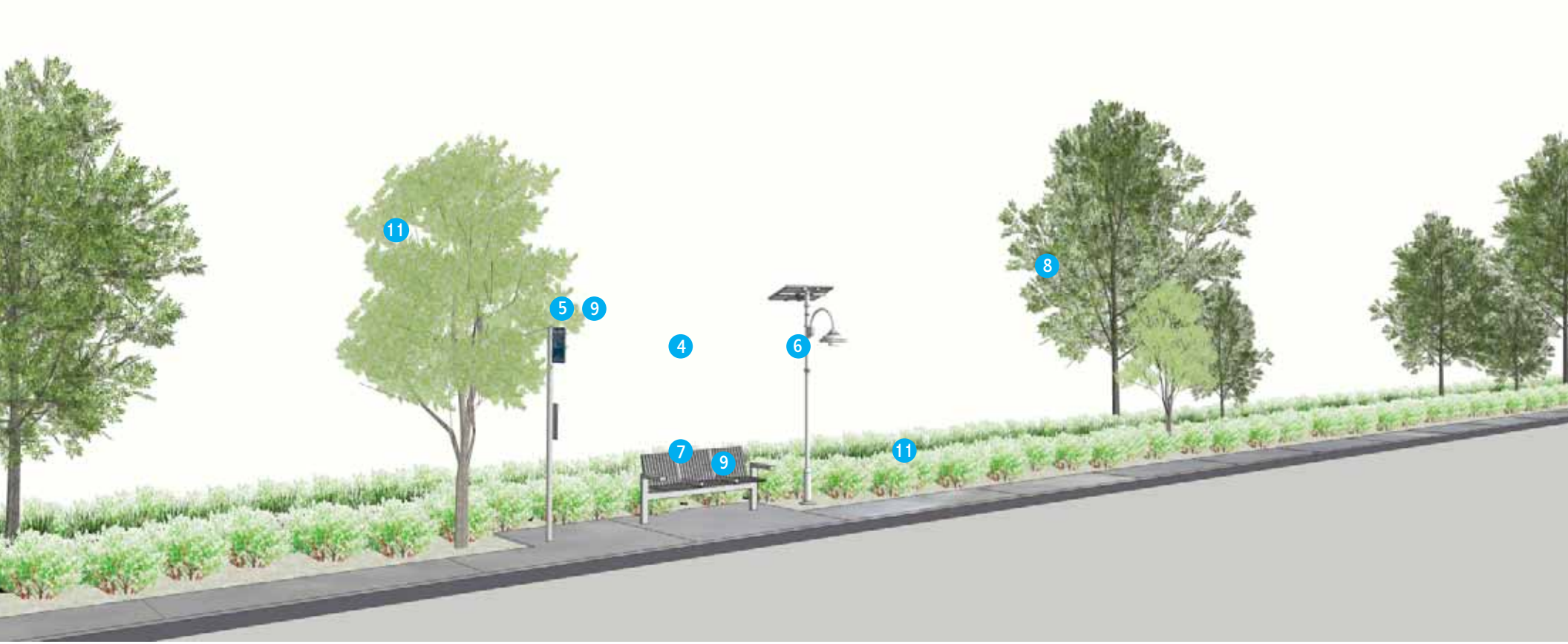
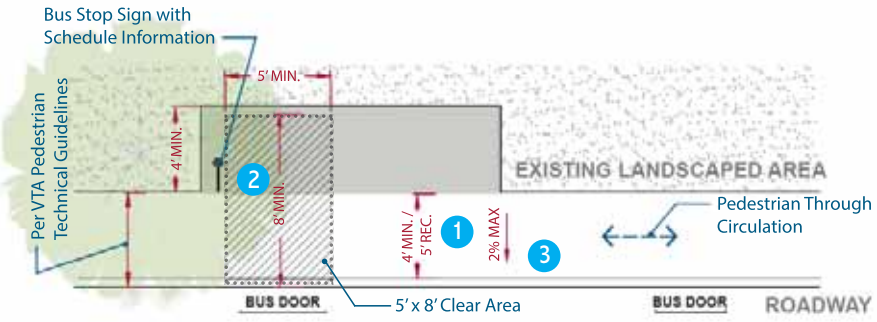
chapter 4 | STOP TYPE DESIGN GUIDELINES

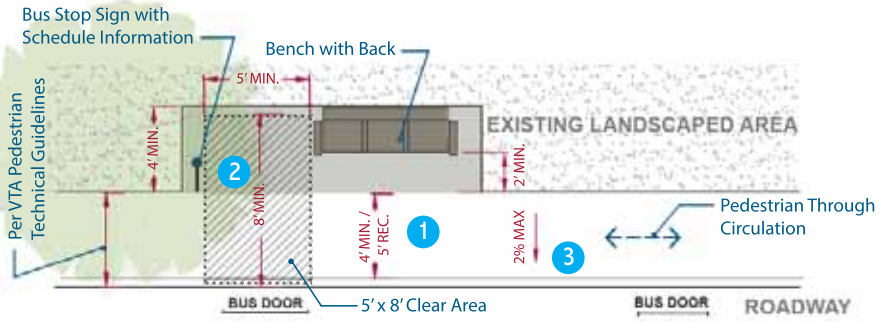
BASIC STOPS | *SUBURBAN*





MIN. = Minimum MAX. = Maximum REC. = Recommended

Basic Stop Layout without Bench



Basic Stop Layout with Backed Bench

Design characteristics for basic suburban stops:

1 Waiting space/Passenger pad

- Length: 14-16 feet; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: 8 feet (minimum); additional depth depends on sidewalk width
- Bus stop sign set back to maintain clear path on sidewalk; sign marks stopping location for front of bus

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible amenities and signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path throughout stop area
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Sidewalk and stop share circulation space
- Accessible sidewalk runs in front of the stop area

4 Security

- Visibility from surrounding area ("eyes on the street")
- Up-to-date transit information

5 Transit information

- Bus stop sign with route and agency information
- Stop sign includes a real time information (RTI) decal with unique stop number and call-in information
- Schedule mounted to bus stop sign (wherever feasible)

6 Lighting

- Existing lighting in bus stop vicinity
- Standalone solar-powered light fixture (optional)

7 Seating

- Existing benches
- Informal seating

8 Shade and shelter

- Provided from existing elements in stop vicinity; including trees, building entries or awnings

9 Branding

- Bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)

10 Waste management

- Relies on community litter prevention and pick-up

11 Greening

- Trees: Include in layout based on spacing of existing street trees or include one new tree next to stop if no other trees are present (and community stakeholders will maintain)
- Trees must be located consistent with required clearances

See Chapter 5 for further details.

BASIC STOPS | *SUBURBAN*

EXAMPLE

WOLFE and HOMESTEAD

Cupertino

Type | Basic- fewer than 40 average weekday boardings

Suburban Context | High vehicle travel speeds, low pedestrian activity

Design | Stop is located at rear of sidewalk to maximize distance from vehicle traffic

How TPEP design guidelines are accomplished at this basic suburban stop:

1 Waiting space/Passenger pad

To create enough room for bus stop elements and comply with applicable accessibility requirements, an easement onto adjacent property may be needed. The passenger pad surface matches the sidewalk that accesses it. The length of the waiting space/passenger pad is 14 to 16 feet with a minimum depth of 8 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area and required access paths. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are placed at the back edge of the stop area to allow sufficient room for low to moderate volumes of pedestrians to walk along the sidewalk, in front of the stop amenities.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street".

5 Transit information

Basic stops have a standard bus stop sign with route information and an RTI decal, as well as a schedule (wherever feasible).

6 Lighting

Basic stops rely on existing roadway lighting and/or lights associated with adjacent uses. Consider solar lighting in areas where lighting from existing sources are insufficient or a power source is unavailable.

7 Seating

Basic stops may include a bench depending on ridership levels or unique stop needs.

8 Shade and shelter

Shelters are not a standard element of basic stops, but trees on adjacent private property can provide shade and some shelter.

9 Branding

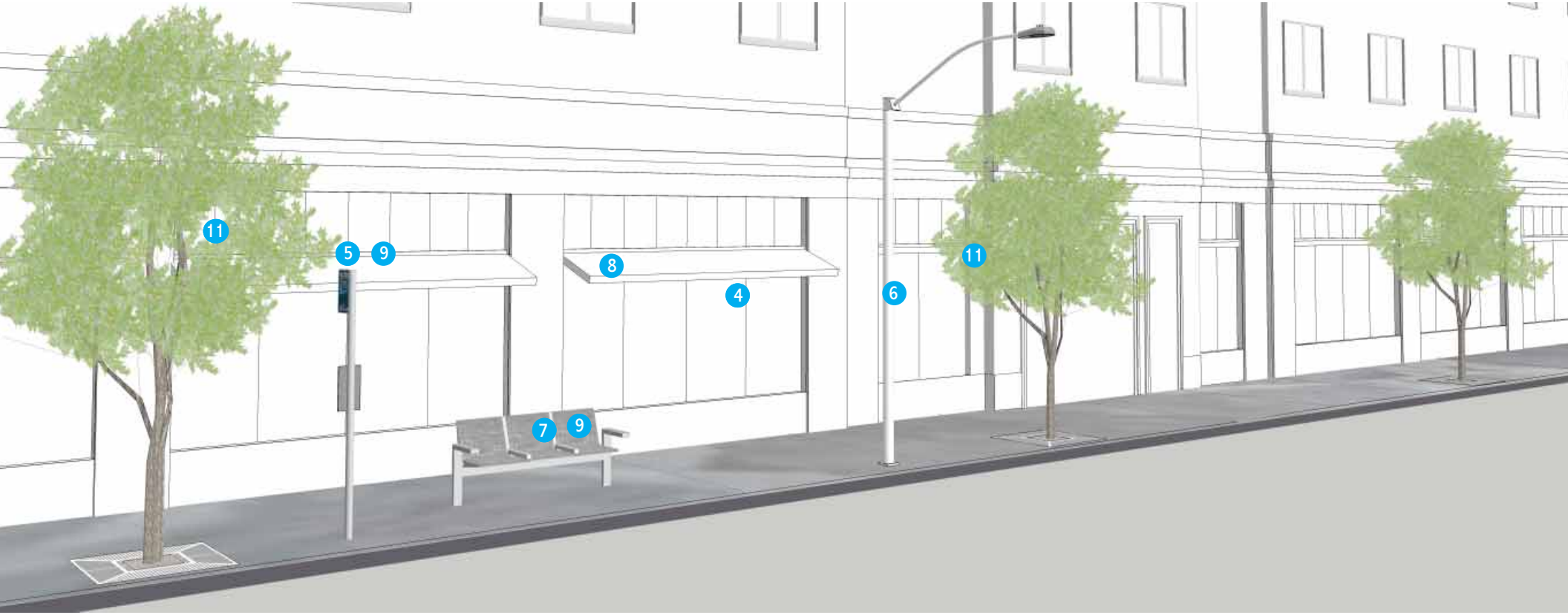
VTA's brand is expressed through its bus stop sign logo and the use of standard stop amenities.

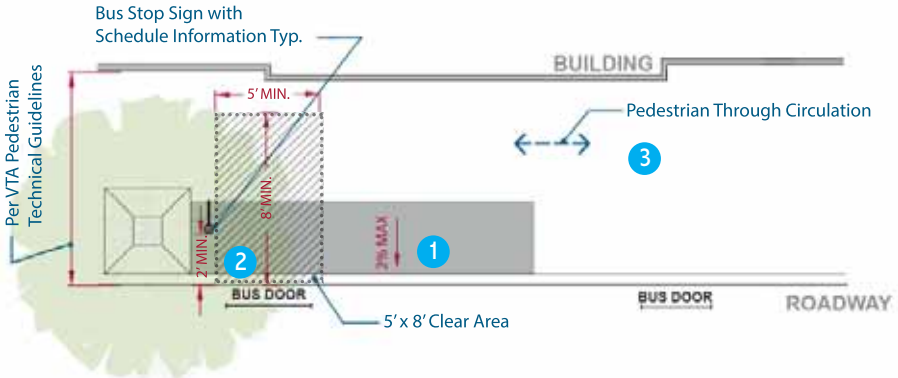
Waste management

Basic stops do not include trash receptacles and rely on community litter prevention and pick-up.

See Chapter 5 for further details.

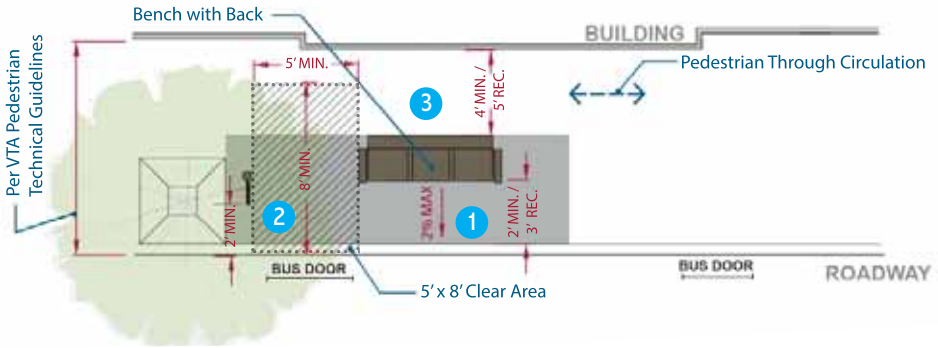
BASIC STOPS | *URBAN*





MIN. = Minimum MAX. = Maximum REC. = Recommended

Basic Stop Layout without Bench



Basic Stop Layout with Backed Bench

Design characteristics for basic urban stops:

1 Waiting space/Passenger pad

- Length: 14-16 feet; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: 8 feet (minimum); additional depth depends on sidewalk width
- Bus stop sign set back 2 feet from curb; sign marks stopping location for front of bus

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path on sidewalk behind stop
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Passengers circulate into the stop area from its back and ends
- Accessible sidewalk runs behind the stop area

4 Security

- Visibility from surrounding area ("eyes on the street")
- Up-to-date transit information

5 Transit information

- Bus stop sign with route and agency information
- Stop sign includes a real time information (RTI) decal with unique stop number and call-in information
- Schedule mounted to bus stop sign (wherever feasible)

6 Lighting

- Existing lighting in bus stop vicinity
- Standalone solar-powered light fixture where needed

7 Seating

- Existing benches
- Informal seating

8 Shade and shelter

- Provided from existing elements in stop vicinity; including trees, building entries or awnings

9 Branding

- Bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)

10 Waste management

- Relies on community litter prevention and pick-up

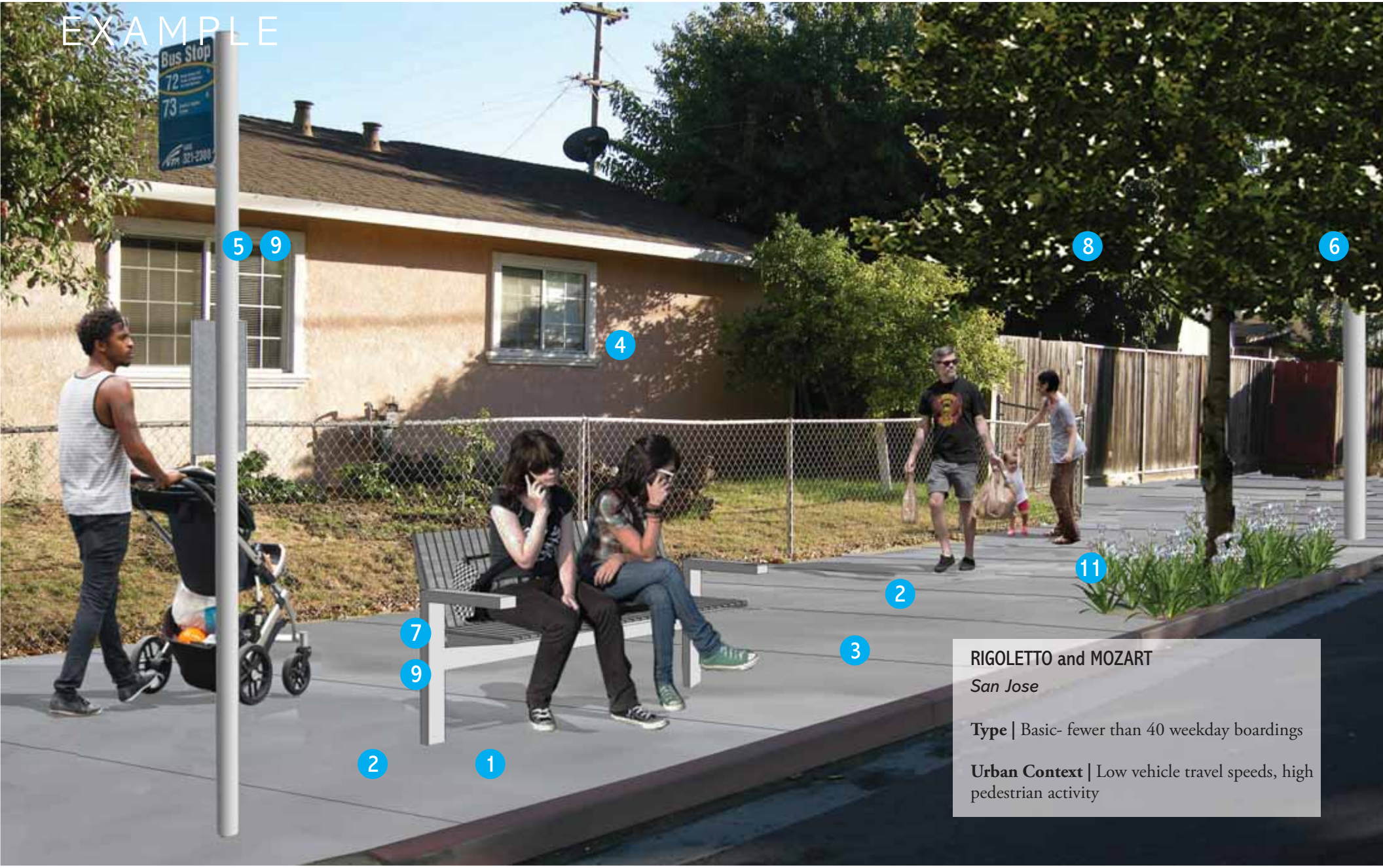
11 Greening

- Trees: Include in layout based on spacing of existing street trees or include one new tree next to stop if no other trees are present (and community stakeholders will maintain)
- Trees must be located consistent with required clearances

See Chapter 5 for further details.

BASIC STOPS | *URBAN*

EXAMPLE



RIGOLETTO and MOZART
San Jose

Type | Basic- fewer than 40 weekday boardings

Urban Context | Low vehicle travel speeds, high pedestrian activity

How TPEP design guidelines are accomplished at this basic urban stop:

1 Waiting space/Passenger pad

Due to its ample width, the bus stop may be placed in the existing sidewalk. The passenger pad surface matches the sidewalk that accesses it. The length of the waiting space/passenger pad is 14 to 16 feet with a minimum depth of 8 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area and required access paths. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Due to the urban context, stop elements are placed at the front of the stop area to allow sufficient room for pedestrians to walk on the sidewalk between buildings and stop amenities.

4 Security

The stop is located in a visible space, where safety can be enforced by eyes on the street.

5 Transit information

Basic stops have a standard bus stop sign with route information and an RTI decal, as well as a schedule (wherever feasible).

6 Lighting

Basic stops rely on existing roadway lighting and/or lights associated with adjacent uses. Consider solar lighting in areas where lighting from existing sources are insufficient or a power source is unavailable.

7 Seating

Basic stops are eligible for benches depending on ridership levels or unique stop needs.

8 Shade and shelter

Shelters are not a standard element of basic stops, but stop-adjacent street trees can provide shade and some shelter.

9 Branding

VTA's brand is expressed through its bus stop sign logo and the use of standard stop amenities.

11 Greening

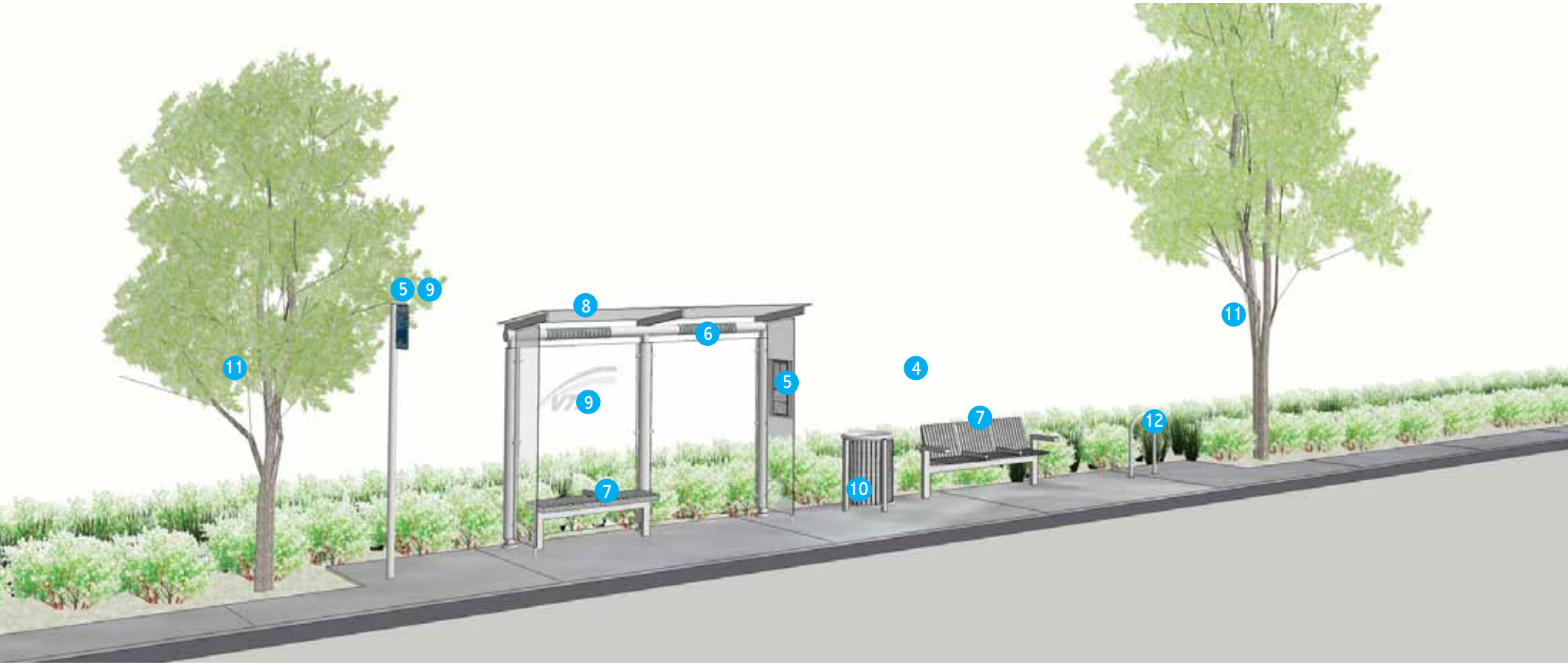
Trees may be planted and maintained by a community stakeholder such as a neighborhood group. Greening should not impede bus boarding or alighting, pedestrian circulation or ADA clearance requirements.

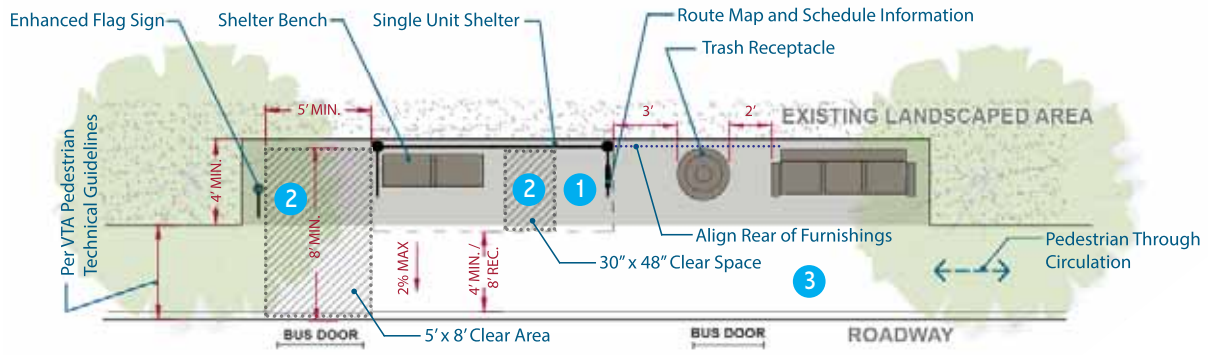
Waste management

Basic stops do not include trash receptacles and rely on community litter prevention and pick-up.

See Chapter 5 for further details.

CORE STOPS | *SUBURBAN*





MIN. = Minimum MAX. = Maximum REC. = Recommended

Design characteristics for core suburban stops:

1 Waiting space/Passenger pad

- Length: 30-33 feet; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: 8 feet (minimum); additional depth depends on sidewalk width
- Bus stop sign set back to maintain clear path on sidewalk; sign marks stopping location for front of bus

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible amenities and signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path throughout stop area
- 30 inches by 48 inches clear wheelchair space in shelter
- Wheelchair space and boarding area connected by accessible pedestrian path
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Sidewalk and stop share pedestrian circulation; windscreens close off shelter back (option: remove single windscreen to connect stop to adjacent land use, i.e. a park)
- Accessible sidewalk runs in front of the stop amenities

4 Security

- Visibility from surrounding area ("eyes on the street")
- Transparent shelter panels (windscreens)
- Up-to-date transit information

5 Transit information

- Stop sign and shelter includes a real time information (RTI) decal with unique stop number and call-in information
- Schedule combined with route or system map in display case-mounted to shelter

6 Lighting

- Existing lighting in bus stop vicinity
- Standalone solar-powered light fixture (optional)
- Integrated into shelter

7 Seating

- Shelter seating (backless bench)
- One backed bench (can be backless if desire to connect stop to adjacent land use, i.e. a park)
- Consider leaning bar option in constrained environment
- Explore opportunities for informal seating

8 Shade and shelter

- Single-unit shelter with windscreen panels closing off the back of the shelter (option: remove single windscreen to connect stop to adjacent land use, i.e. a park)
- Consider shade and shelter from existing elements in stop vicinity, including trees, building entries or awnings

9 Branding

- Bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)
- Potential for VTA logo on shelter panel

10 Waste management

- One trash receptacle, emptied by local jurisdiction or other community stakeholder

11 Greening

- Trees: Include in layout based on spacing of existing street trees or include new tree(s) next to stop if no other trees are present (and community stakeholders will maintain)
- Trees must be located consistent with required clearances

12 Bicycle parking

- One rack if stop is located on bike facility or near destination generating bike trips, space permitting

See Chapter 5 for further details.

CORE STOPS | *SUBURBAN*

EXAMPLE

EL CAMINO REAL and CLARK
Mountain View

Type | Core- 40 to 200 average weekday boardings

Suburban Context | High vehicle travel speeds, low pedestrian activity

Design | Stop is located at rear of sidewalk to maximize distance from vehicle traffic

How TPEP design guidelines are accomplished at this core suburban stop:

1 Waiting space/Passenger pad

To create enough room for bus stop elements and comply with applicable accessibility requirements, an easement onto adjacent property may be needed. The passenger pad surface matches the sidewalk that accesses it. The length of the waiting space/passenger pad is 30 to 33 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. A 30-inch by 48-inch clear space is provided in the shelter for passengers with mobility devices. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned along the back edge of the passenger pad to allow sufficient room for pedestrians to pass along the sidewalk in front of the passenger pad.

4 Security

The stop is located in a space with visibility from adjacent commercial uses, where safety can be enforced by "eyes on the street".

5 Transit information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

In-shelter and standalone benches are provided, as appropriate, to serve the volume of boardings at this location. The bench is placed in line with other station elements at the rear of the bus stop.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter as well as adjacent, mature trees.

9 Branding

At core stops, VTA's brand is expressed through its bus stop sign logo, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Core stops are eligible for trash receptacles and pick-up/maintenance that may be provided by a community or jurisdictional stakeholder.

11 Greening

Existing trees planted on private property provide a pleasant character and human-scale to the stop environment.

See Chapter 5
for further details.

CORE STOPS | *SUBURBAN*

EXAMPLE

FRUITDALE and BASCOM
San Jose

Type | 40 to 200 average weekday boardings

Suburban Context | High vehicle travel speeds, low pedestrian activity

Design | Stop is located at rear of sidewalk to maximize distance from vehicle traffic

How TPEP design guidelines are accomplished at this core suburban stop:

1 Waiting space/Passenger pad

The passenger pad is located at the rear of the sidewalk, which is sufficient in depth to accommodate the stop amenities. The passenger pad surface matches the sidewalk that accesses it. The length of the waiting space/passenger pad is 30 to 33 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. A 30-inch by 48-inch clear space is provided in the shelter for passengers with mobility devices. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned along the back edge of the passenger pad to allow sufficient room for pedestrians to pass along the sidewalk in front of the passenger pad.

4 Security

The stop is located in a space with some visibility from adjacent areas and the street.

5 Transit Information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

This example displays techniques to discourage vagrancy while still providing comfort. Rather than in-shelter bench seating, a leaning bar is provided. The standalone bench features a raised bar between seating spaces to discourage lying down.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter as well as adjacent, mature trees.

9 Branding

At core stops, VTA's brand is expressed through its bus stop sign logo, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Core stops are eligible for trash receptacles and pick-up/maintenance that may be provided by a community or jurisdictional stakeholder.

11 Greening

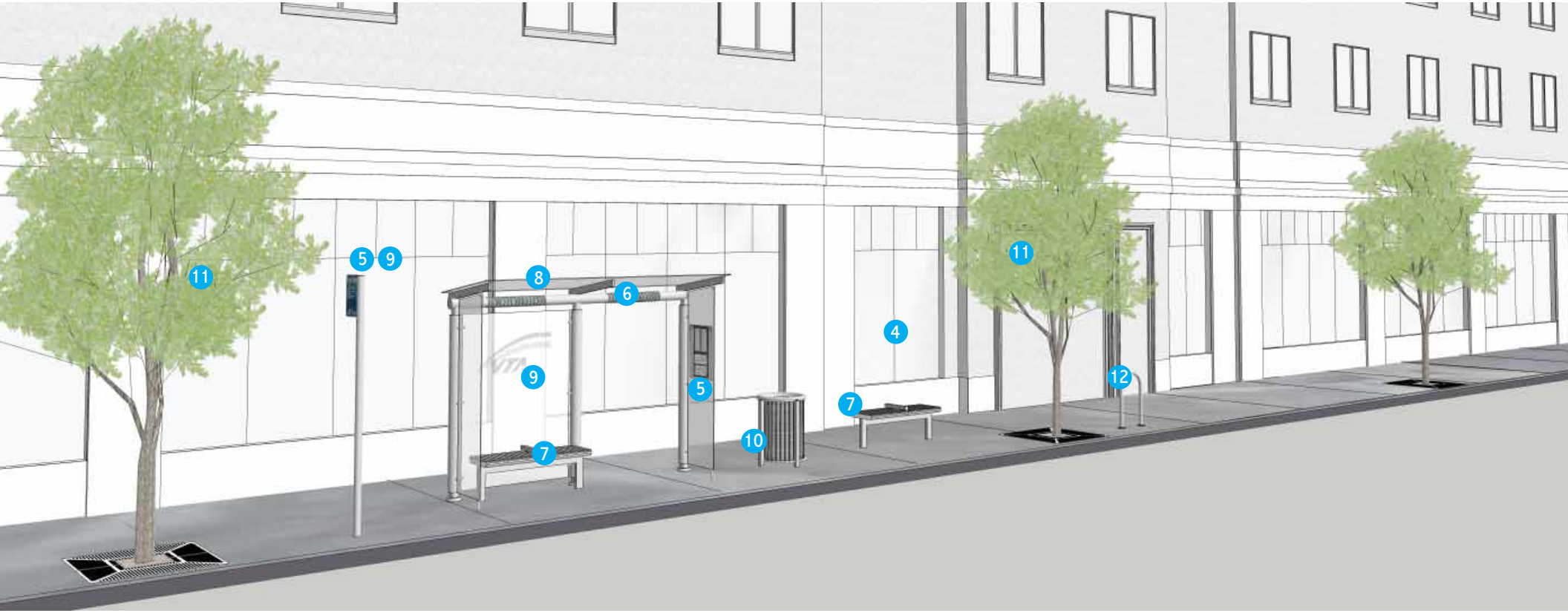
The presence of street trees provides a pleasant character and human-scale to the stop environment.

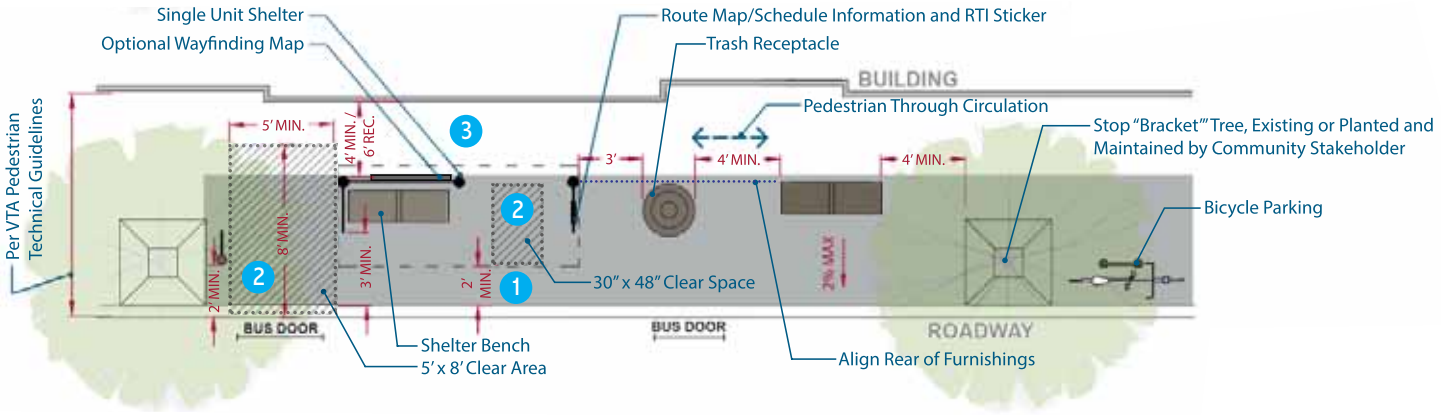
14 Newspaper racks

Any potential newspaper racks should be located outside of the core stop area and placed in alignment with other stop elements.

See Chapter 5
for further details.

CORE STOPS | *URBAN*





MIN. = Minimum MAX. = Maximum REC. = Recommended

Design characteristics for core urban stops:

1 Waiting space/Passenger pad

- Length: 30-33 feet; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: 8 feet (minimum); additional depth depends on sidewalk width
- Bus stop sign set back 2 feet from curb; sign marks stopping location for front of bus

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible amenities and signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path throughout stop area
- 30 inches by 48 inches clear wheelchair space in shelter
- Wheelchair space and boarding area connected by accessible pedestrian path
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Sidewalk and stop have separate pedestrian circulation; one windscreen panel of shelter is removed to facilitate pedestrian circulation between them (unless it is desired to separate stop and adjacent land use, i.e. a residence)
- Accessible sidewalk runs behind the stop amenities

4 Security

- Visibility from surrounding area ("eyes on the street")
- Transparent shelter panels (windscreens)
- Up-to-date transit information

5 Transit Information

- Stop sign and shelter includes a real time information (RTI) decal with unique stop number and call-in information
- Schedule combined with route or system map in display case-mounted to shelter

6 Lighting

- Existing lighting in bus stop vicinity
- Standalone solar-powered light fixture (optional)
- Integrated into shelter

7 Seating

- Shelter seating (backless bench)
- One backed bench (can be backless if it is desired to separate stop from adjacent land use, i.e. a residence)
- Consider leaning bar option in constrained environment
- Explore opportunities for informal seating

8 Shade and shelter

- Single-unit shelter with one of the windscreen panels removed (unless it is desired to separate stop from adjacent land use, i.e. a residence)
- Consider shade and shelter from existing elements in stop vicinity, including trees, building entries or awnings

9 Branding

- Bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)
- Potential for VTA logo on shelter panel

10 Waste management

- One trash receptacle

11 Greening

- Trees: Include in layout based on spacing of existing street trees or include new tree(s) next to stop if no other trees are present (and community stakeholders will maintain)
- Trees must be located consistent with required clearances

12 Bicycle parking

- One rack if stop is located on bike facility or near destination generating bike trips, space permitting
- Additional racks if demand warrants or if requested by community stakeholders

See Chapter 5 for further details.

CORE STOPS | *URBAN*

EXAMPLE

STORY and KING
San Jose

Type | 40 to 200 average weekday boardings

Urban Context | Low vehicle travel speeds, high pedestrian activity

How TPEP design guidelines are accomplished at this core urban stop:

1 Waiting space/Passenger pad

Due to the active nature of the adjacent urban environment, the waiting space is located at the front of the sidewalk. The passenger pad surface matches the sidewalk that accesses it. The desired length for the waiting space/passenger pad is 30 to 33 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. One of the shelter panels is removed to allow improved access between the bus stop area and sidewalk. A 30-inch by 48-inch clear space is provided in the shelter for passengers with mobility devices. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned with one another to define the boundary between the bus stop area and the adjacent pedestrian circulation spaces. Sufficient room is given to pedestrians and passengers with disabilities to pass along the sidewalk behind the passenger pad, as well as into the bus stop area.

4 Security

The stop is located in a visible and actively used space, where safety can be enforced by "eyes on the street".

5 Transit information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

In-shelter and standalone benches are provided, as appropriate, to serve the volume of boardings at this location. Due to the open plaza behind the transit stop, a backless bench is used, which allows users to face multiple directions and may accommodate more passengers than a backed bench.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter and by nearby trees.

9 Branding

At core stops, VTA's brand is expressed through its bus stop sign logo, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

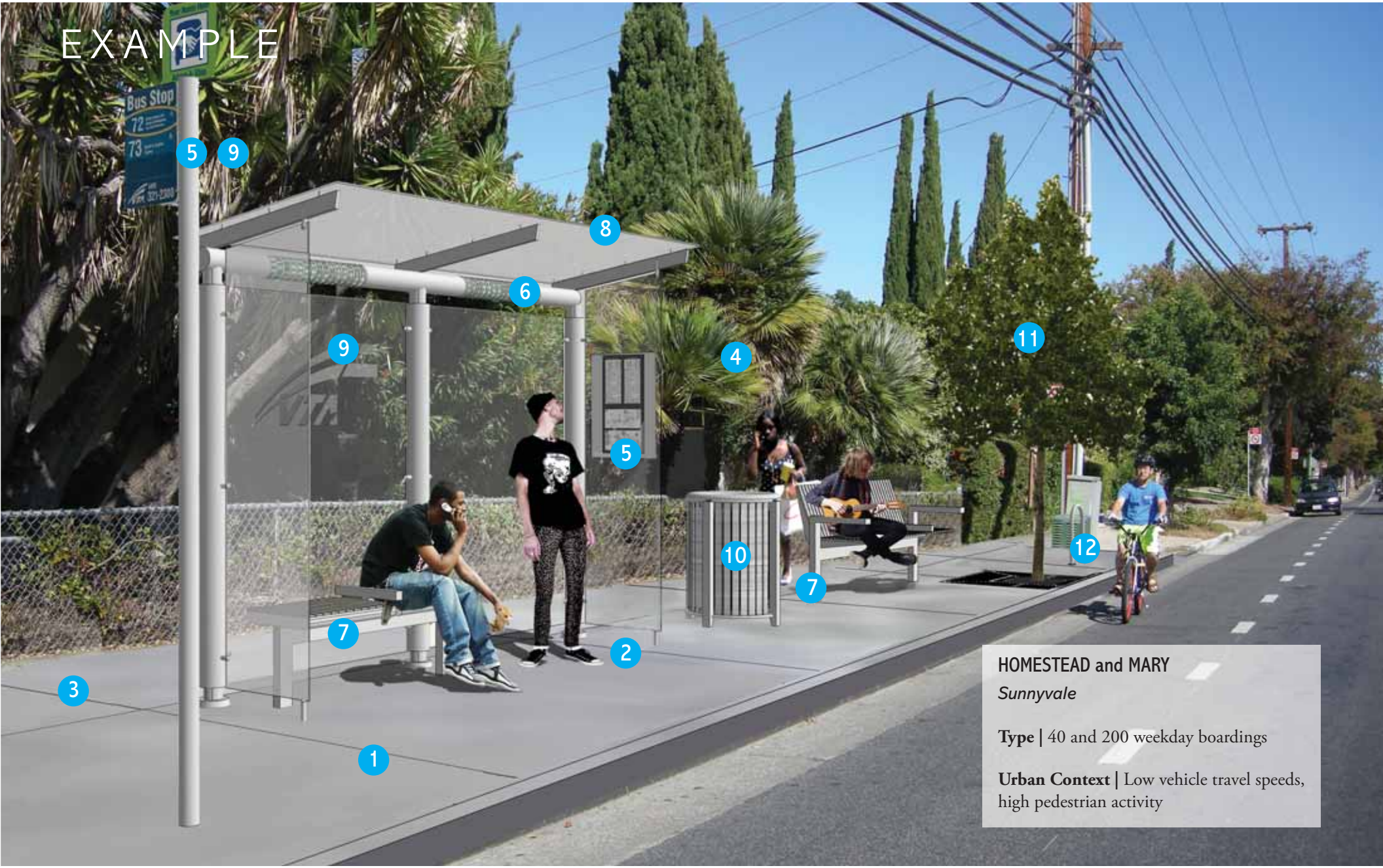
Core stops are eligible for trash receptacles and pick-up/maintenance may be provided by a community or jurisdictional stakeholder.

11 Greening

Existing street trees provide a pleasant character and human-scale to the stop environment.

See Chapter 5 for further details.

CORE STOPS | *URBAN*



HOMESTEAD and MARY

Sunnyvale

Type | 40 and 200 weekday boardings

Urban Context | Low vehicle travel speeds, high pedestrian activity

How TPEP design guidelines are accomplished at this core urban stop:

1 Waiting space/Passenger pad

Due to the overall urban nature of the transit stop area and vicinity to Homestead High School, the passenger pad is located at the front of the sidewalk. The passenger pad surface matches the sidewalk that accesses it. The length for the waiting space/passenger pad is 30 to 33 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. A 30-inch by 48-inch clear space is provided in the shelter for passengers with mobility devices. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned with one another to define the boundary between the bus stop area and the adjacent pedestrian circulation spaces. Sufficient room is given to pedestrians and passengers with disabilities to pass along the sidewalk behind the passenger pad, as well as into the bus stop area.

4 Security

In-shelter lighting provides a higher level of night-time security in this location without immediately adjacent building uses.

5 Transit information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

In-shelter and standalone benches are provided, as appropriate, to serve the volume of boardings at this location. The decision over whether to provide a back on the standalone bench is based on the frequency of transit service and the level of stop usage. In this case, lower frequency service suggests longer average waits which creates a need for greater comfort and a backed bench is provided.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter as well as adjacent, mature trees.

9 Branding

At core stops, VTA's brand is expressed through its bus stop sign logo, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Core stops are eligible for trash receptacles and maintenance may be supplied by a community stakeholder. This bus stop has been adopted by a community member through VTA's Adopt-a-Stop Program as is indicated by the green sign atop the flag pole. Stop adopters regularly evaluate the condition of the stop and alert VTA of maintenance needs.

11 Greening

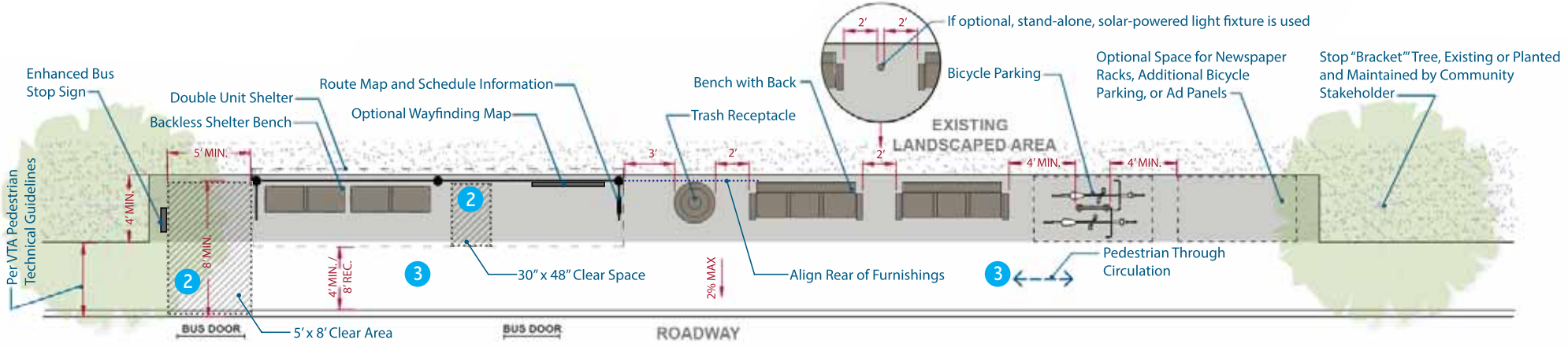
A new tree planted at the edge of the passenger pad adds a pleasant character and human-scale to the stop environment.

12 Bicycle parking

Since the stop is located along a Class II bike facility (bicycle lane) inverted U-shaped bicycle racks are provided at the edge of the passenger pad. The U-racks are aligned so that bicycles are placed parallel to the street, thus avoiding impeding the required four foot wide pedestrian pathway past the bus stop. Additional bicycle parking may be added if demand warrants.

See Chapter 5
for further details.

MAJOR STOPS | *SUBURBAN*



MIN. = Minimum MAX. = Maximum REC. = Recommended

Design characteristics for major suburban stops:

1 Waiting space/Passenger pad

- Length: 70 feet; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: 8-10 feet (minimum); additional depth depends on sidewalk width
- Bus stop sign set back to maintain clear path on sidewalk; sign marks stopping location for front of bus

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible amenities and signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path throughout stop area
- 30 inches by 48 inches clear wheelchair space in shelter
- Wheelchair space and boarding area connected by accessible pedestrian path
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Sidewalk and stop share pedestrian circulation; windscreens close off shelter back (option: remove single windscreen to connect stop to adjacent land use, i.e. a park)
- Accessible sidewalk runs in front of the stop amenities

4 Security

- Visibility from surrounding area ("eyes on the street")
- Transparent shelter panels (windscreen)
- Up-to-date transit information
- Consider cameras/ intercoms (not possible at all major stops due to electrical limitations)

5 Transit information

- Enhanced bus stop sign with same information as on standard bus stop sign
- Stop sign and shelter includes a real time information (RTI) decal with unique stop number and call-in information
- Schedule combined with route or system map in display case-mounted to shelter

6 Lighting

- Existing lighting in bus stop vicinity
- Integrated into shelter
- Standalone solar-powered light fixture (optional)

7 Seating

- Shelter seating (backless benches)
- Two backed benches
- Explore opportunities for informal seating

8 Shade and shelter

- Double-unit shelter with windscreen panels (unless desire to connect stop to adjacent land use, i.e. a park)
- Consider shade and shelter from existing elements in stop vicinity, including trees, building entries or awnings

9 Branding

- Enhanced bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)
- Potential for VTA logo on shelter panel

10 Waste management

- One trash receptacle, emptied by local jurisdiction or other community stakeholder

11 Greening

- Trees: Include in layout based on spacing of existing street trees or include new tree(s) next to stop if no other trees are present (and community stakeholders will maintain)
- Trees must be consistent with required clearances

12 Bicycle parking

- One rack if stop is located on bike facility or near destination generating bike trips, space permitting
- Additional racks if demand warrants or if requested by community stakeholders

13 Advertising

- Integrate in shelter
- Where a panel conflicts with sightlines between bus driver and waiting passengers or constrains pedestrian circulation, locate panel at end of the line of amenities

14 Newspaper racks

- Space for one potential rack if stop is located on bike facility or near destination generating bike trips
- Space for additional racks as warranted

See Chapter 5 for further details.

MAJOR STOPS | *SUBURBAN*

EXAMPLE

CAPITOL and SILVER CREEK

San Jose

Type | Over 200 Average Weekday Boardings

Suburban Context | High vehicle travel speeds, low pedestrian activity

Design | Stop is located at rear of sidewalk to maximize distance from vehicle traffic

How TPEP design guidelines are accomplished at this major suburban stop:

1 Waiting space/Passenger pad

Due to the urban nature of the transit waiting area, the passenger pad is located at the front of the sidewalk. The passenger pad surface matches the sidewalk that accesses it. The desired length for the waiting space/ passenger pad is 70 to 82 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned along a common line at the back edge of the passenger pad to maximize the room for pedestrians to pass along the sidewalk in front of the passenger pad.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street".

5 Transit information

This stop features an enhanced bus stop sign that calls out the routes that serve the stop. Display cases mounted to the shelter include scheduled arrival information, route map and optional map of the surrounding neighborhood. Real-time transit arrival information is provided by a changeable message sign located in the shelter.

6 Lighting

Due to the distance to the nearest roadway light fixture, this stop location includes a supplemental, solar-powered fixture. Light in the bus stop area, together with the in-shelter lighting, illuminate the passenger waiting area at night.

7 Seating

Seating is provided in the shelter both in the form of a bench and a leaning bar. Standalone benches provide additional seating outside of the shelter. Due to the placement of the standalone benches along the rear of the passenger pad, backed benches are used.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter and trees planted on adjacent property.

9 Branding

At core stops, VTA's brand is expressed through its bus stop sign logo, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Core stops are eligible for trash receptacles and maintenance may be supplied by a community stakeholder. This bus stop has been adopted by a community member through VTA's Adopt-a-Stop Program as is indicated by the green sign atop the flag pole. Stop adopters regularly evaluate the condition of the stop and alert VTA of maintenance needs.

11 Greening

A new tree planted at the edge of the passenger pad adds a pleasant character and human-scale to the stop environment.

12 Bicycle parking

Since the stop is located along a Class II bike facility (bicycle lane) inverted U-shaped bicycle racks are provided at the edge of the passenger pad. The U-racks are aligned so that bicycles are placed parallel to the street, thus avoiding impeding the required four foot wide pedestrian pathway past the bus stop. Additional bicycle parking may be added if demand warrants.

13 Advertising

Advertising is located at the edge of the bus stop area, placed in alignment with the bus stop elements. By locating the advertising separately from the shelter, the visibility between bus drivers and waiting passengers is improved—especially at night. Advertising generates revenue that pays for stop maintenance and cleaning.

See Chapter 5 for further details.

MAJOR STOPS | *SUBURBAN*

EXAMPLE

EL CAMINO REAL and WOLFE

Sunnyvale

Type | Over 200 average weekday boardings

Suburban Context | High vehicle travel speeds, low pedestrian activity

Design | Stop is located at rear of sidewalk to maximize distance from vehicle traffic

How TPEP design guidelines are accomplished at this major suburban stop:

1 Waiting space/Passenger pad

Due to the urban nature of the transit waiting area, the passenger pad is located at the front of the sidewalk. The passenger pad surface matches the sidewalk that accesses it. The desired length for the waiting space/ passenger pad is 70 to 82 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area and required accessible paths. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned along a common line of the back edge of the passenger pad to maximize room for pedestrians to pass along the sidewalk in front of the passenger pad.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street".

5 Transit information

This stop features an enhanced bus stop sign that calls out the routes that serve the stop. Display cases mounted to the shelter include scheduled arrival information, route map and optional map of the surrounding neighborhood. Real-time transit arrival information is provided by a changeable message sign located in the shelter.

6 Lighting

The shelter location takes advantage of pedestrian scale lighting installed at the station areas as well as in-shelter lighting (provided by nearby electrical power or solar panels) that illuminates the passenger waiting area at night.

7 Seating

Seating is provided in the shelter both in the form of a bench and a leaning bar. Standalone benches provide additional seating outside of the shelter. Due to the placement of the standalone benches along the rear of the passenger pad, backed benches are used.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter and trees planted on adjacent property.

9 Branding

At core stops, VTA's brand is expressed through its bus stop sign logo, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Major stops are eligible for trash receptacles and maintenance may be supplied by a community stakeholder.

11 Greening

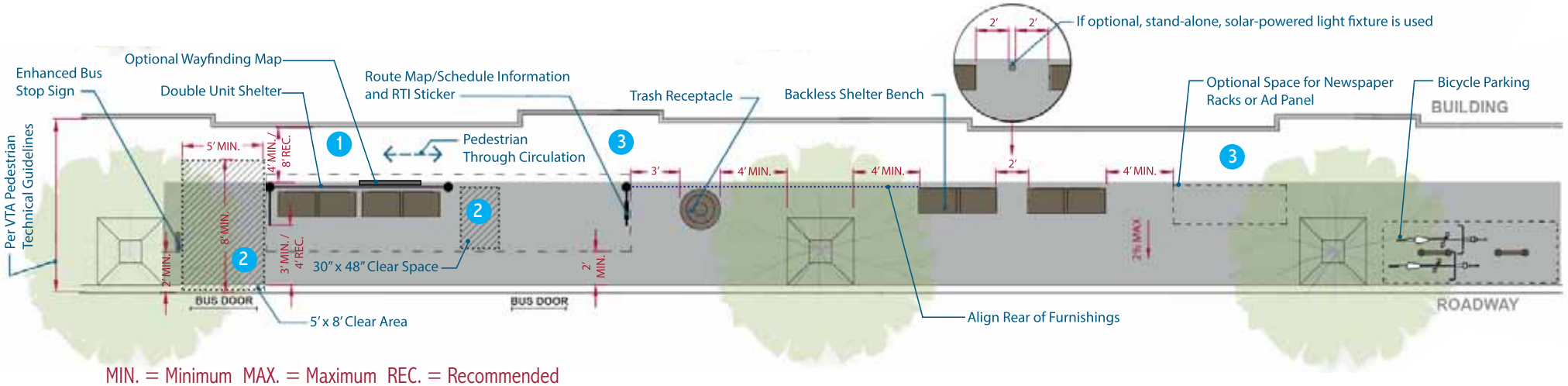
A new tree planted at the edge of the passenger pad adds a pleasant character and human-scale to the stop environment.

12 Bicycle parking

Since the stop is located along a Class II bike facility (bicycle lane) inverted U-shaped bicycle racks are provided at the edge of the passenger pad. The U-racks are aligned so that bicycles are placed parallel to the street, thus avoiding impeding the required four foot wide pedestrian pathway past the bus stop. Additional bicycle parking may be added if demand warrants.

See Chapter 5 for further details.

MAJOR STOPS | *URBAN*



MIN. = Minimum MAX. = Maximum REC. = Recommended

Design characteristics for major urban stops:

1 Waiting space/Passenger pad

- Length: 70 to 82 feet; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: 10 feet (minimum); additional depth depends on sidewalk width
- Bus stop sign set back to maintain clear path on sidewalk; sign marks stopping location for front of bus

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible amenities and signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path throughout stop area
- 30 inches by 48 inches clear wheelchair space in shelter
- Wheelchair space and boarding area connected by accessible pedestrian path
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Sidewalk and stop have separate pedestrian circulation; one windscreen panel of shelter is removed to facilitate pedestrian circulation between them
- Accessible sidewalk runs behind the stop amenities

4 Security

- Visibility from surrounding area ("eyes on the street")
- Transparent shelter panels (windscreen)
- Up-to-date transit information
- Consider cameras/ intercoms (not possible at all major stops due to electrical limitations)

5 Transit information

- Enhanced bus stop sign with same information as on standard bus stop sign
- Stop sign and shelter includes a real time information (RTI) decal with unique stop number and call-in information
- Schedule combined with route or system map in display case-mounted to shelter

6 Lighting

- Existing lighting in bus stop vicinity
- Integrated into shelter
- Standalone solar-powered light fixture (optional)

7 Seating

- Shelter seating
- 2 backless benches (benches can be backed if stop should be separated from use such as residence)
- Consider leaning bar option in constrained environments
- Explore opportunities for informal seating

8 Shade and shelter

- Double-unit shelter with one of the windscreen panels removed (unless it is desired to separate stop from adjacent land use, i.e. a residence)
- Consider shade and shelter from existing elements in stop vicinity, including trees, building entries or awnings

9 Branding

- Enhanced bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)
- Potential for VTA logo on shelter panel

10 Waste management

- One trash receptacle, emptied by local jurisdiction or other community stakeholder

11 Greening

- Trees: Include in layout based on spacing of existing street trees or include new tree(s) next to stop if no other trees are present (and community stakeholders will maintain)
- Trees must be consistent with required clearances

12 Bicycle parking

- One rack if stop is located on bike facility or near destination generating bike trips, space permitting
- Additional racks if demand warrants or if requested by community stakeholders

13 Advertising

- Integral to shelter if present

14 Newspaper racks

- Space for one potential rack if stop is located on bike facility or near destination generating bike trips
- Space for additional racks as warranted

See Chapter 5 for further details.

MAJOR STOPS | *URBAN*

EXAMPLE

SANTA CLARA and 4th
San Jose

Type | Over 200 weekday boardings

Urban Context | Low vehicle travel speeds, high pedestrian activity

How TPEP design guidelines are accomplished at this major urban stop:

1 Waiting space/Passenger pad

Due to the urban nature of the environment and the ample depth of the existing sidewalk, the passenger pad is located at the front of the sidewalk. This prevents the bus stop blocking visibility of adjacent businesses or access routes into buildings. The passenger pad surface matches the sidewalk that accesses it. The length for the waiting space/passenger pad is 70 to 82 feet with a minimum depth of 8 to 10 feet.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area and required access paths. Due to the presence of existing streetscape elements, like trees and light fixtures, the 5-foot by 8-foot clear space is created by removing a back panel of the shelter, allowing those using wheelchairs or other mobility devices to board or alight directly through the shelter. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned with one another to define the boundary between the bus stop area and the adjacent pedestrian circulation spaces. Sufficient room is given to pedestrians and passengers with disabilities to pass along the sidewalk behind the passenger pad, as well as into the bus stop area.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street". Transparent shelter materials discourage unlawful activity behind the shelter and create additional visibility between the stop and business owners, staff, and patrons.

5 Transit information

This stop includes an enhanced bus stop sign that provides information about the routes that serve the stop. Displays attached to the shelter panels display scheduled arrival times and a route map. Real-time transit arrival information is provided by a changeable message sign, located in the shelter.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night. Additional lighting from businesses and street lights offer additional illumination.

7 Seating

In-shelter and standalone benches are provided, as appropriate, to serve the volume of boardings at this location. Due to the sidewalk lines with businesses behind the transit stop, backless benches are used, which allows users to face multiple directions and may accommodate more passengers than a backed bench.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter, existing street trees, and by adjacent buildings. Instead of the double-unit shelter typical for major stops, this stop utilizes two single-unit shelters in order to maintain the pre-existing sequence of street trees and light fixtures.

9 Branding

At this stop, VTA's brand is expressed through its logo on the enhanced bus stop sign, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Major stops are eligible for trash receptacles and pick-up/maintenance that may be provided by a community or jurisdictional stakeholder. This bus stop has been adopted by a community member through VTA's Adopt-a-Stop Program, as is indicated by the green sign atop the flag pole. Stop adopters regularly evaluate the condition of the stop and alert VTA of maintenance needs.

11 Greening

The existing street trees provide a pleasant character and human-scale to the stop environment.

12 Bicycle parking

Since the stop is located along a Class II bike facility (bicycle lane) inverted U-shaped bicycle racks are provided at the edge of the passenger pad. The U-racks are aligned so that bicycles are placed parallel to the street, thus avoiding impeding the required four foot wide pedestrian pathway past the bus stop. Additional bicycle parking may be added if demand warrants.

14 Newspaper racks

Any potential newspaper racks should be located outside of the core stop area and placed in alignment with other stop elements.

See Chapter 5 for further details.

MAJOR STOPS | *URBAN*

EXAMPLE

KEYES and 12TH
San Jose

Type | Major: over 200 weekday boardings

Urban Context | Low vehicle travel speeds, high pedestrian activity

How TPEP design guidelines are accomplished at this major urban stop:

1 Waiting space/Passenger pad

Due to the urban nature of the environment and the wider space available at this street corner, the passenger pad is located at the front of the sidewalk. The passenger pad surface matches the sidewalk that accesses it. The desired length for the waiting space/ passenger pad is 70 to 82 feet with a minimum depth of 8 to 10 feet. This passenger pad is shorter than ideal and as a result includes a lesser level of amenities than typical for a major stop.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area and required access paths. Due to the presence of existing streetscape elements, like trees and light fixtures, the 5-foot by 8-foot clear space is created by removing a back panel of the shelter, allowing those using wheelchairs or other mobility devices to board or alight directly through the shelter. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned with one another to define the boundary between the bus stop area and the adjacent pedestrian circulation spaces. Sufficient room is given to pedestrians and passengers with disabilities to pass along the sidewalk behind the passenger pad, as well as into the bus stop area.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street". Transparent shelter materials discourage unlawful activity behind the shelter and create additional visibility between the stop and business owners, staff, and patrons.

5 Transit information

This stop includes an enhanced bus stop sign that provides information about the routes that serve the stop. Displays attached to the shelter panels display scheduled arrival times and a route map. Real-time transit arrival information is provided by a changeable message sign, located in the shelter.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

Seating is provided in the shelter in the form of a leaning bar and supplemented by standalone benches located outside of the shelter. In this case, the limited space for the standard alignment of seating elements is overcome by placing two backed benches back-to-back in the larger space available at the street corner, which also allows users to face multiple directions.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter, and existing and new trees planted within the sidewalk.

9 Branding

At this stop, VTA's brand is expressed through its logo on the enhanced bus stop sign, a logo on the shelter panel and a selection of standard amenities.

10 Waste management

Core stops are eligible for trash receptacles and pick-up/maintenance that may be provided by a community or jurisdictional stakeholder.

11 Greening

A new tree planted at the edge of the passenger pad adds a pleasant character and human-scale to the stop environment.

12 Bicycle parking

Two bicycle racks are recommended for major stops. Due to the constrained space, inverted U-shaped racks are installed near the corner, outside of spaces used for pedestrian circulation. The U-racks are aligned so that bicycles are placed parallel to the street, thus avoiding impeding the required four foot wide pedestrian pathway past the bus stop. Additional bicycle parking may be added if demand warrants.

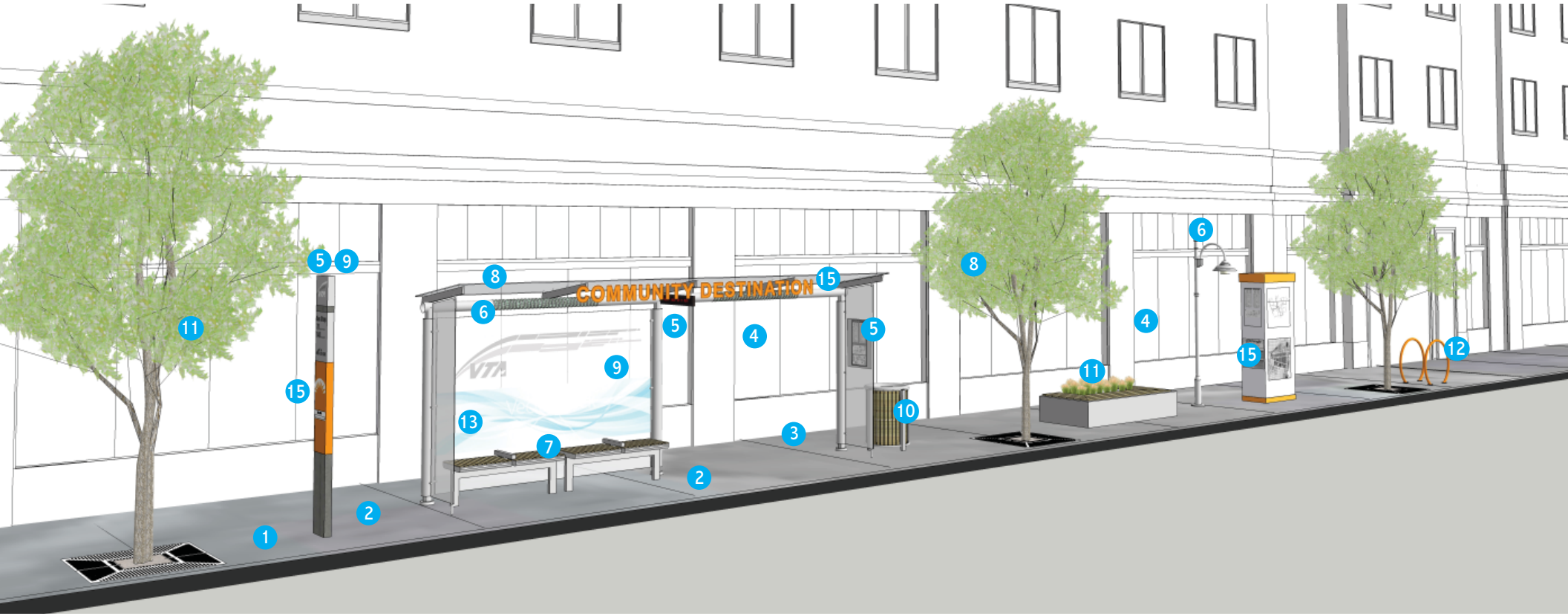
13 Advertising

Advertising is integrated into the side panel of the shelter. By locating the panel at the far end of the shelter, visibility between bus drivers and waiting passengers is maintained as the bus approaches.

See Chapter 5
for further details.

COMMUNITY DESTINATION STOPS

Some bus stops—such as those serving schools, hospitals and civic locations—may warrant special consideration and an amenity level greater than would be indicated by average weekday ridership. These are designated as Community Destination stops. In many cases, these stops are self-evident, in other instances, VTA invites the community to alert VTA to when a stop should be given special consideration.



Design characteristics for community destination stops:

1 Waiting space/Passenger pad

- Length: depends on ridership, adjacent use and layout; context and transit demands can affect length (i.e. use by multiple buses at the same time)
- Depth: depends on layout; width of sidewalk at least 8 feet

2 Universal design

- 5-foot by 8-foot boarding area for bus ramp; align with front door of bus
- Accessible amenities and signage
- Accessible pedestrian path to stop
- 4-foot minimum (5-foot recommended) accessible pedestrian path throughout stop area
- 30 inches by 48 inches clear wheelchair space in shelter
- Wheelchair space and boarding area connected by accessible pedestrian path
- Braille band on bus stop sign where multiple bus stops are located in the same area (as per current VTA practice)

3 Pedestrian circulation

- Focus on integration with the circulation to and from the destination land use
- Use the Urban shelter with open back to facilitate pedestrian circulation where appropriate

4 Security

- Locate stop to maximize visibility from surrounding area ("eyes on the street")
- Transparency of shelter panels
- Up-to-date transit information
- Consider cameras/intercoms (not possible at all major stops due to electrical limitations)

5 Transit information

- Enhanced bus stop sign with same information as on standard bus stop sign
- Schedule combined with route or system map in display case-mounted to shelter
- Electronic real-time display in shelter (optional)

6 Lighting

- Existing lighting in bus stop vicinity
- Integrated into shelter
- Standalone solar-powered light fixture (optional)

7 Seating

- Shelter seating
- Two backless benches (benches can be backed if stop should be separated from use such as residence)
- Consider leaning bar option in constrained environments
- Explore opportunities for informal seating

8 Shade and shelter

- Double-unit shelter with one of the windscreen panels removed (unless it is desired to separate stop from adjacent land use, i.e. a residence)
- Consider shade and shelter from existing elements in stop vicinity, including trees, building entries or awnings

9 Branding

- Enhanced bus stop sign with VTA logo
- "Family" of amenities (see Bus Stop Amenities in Chapter 3)
- Potential for VTA logo on shelter panel

10 Waste management

- One trash receptacle, emptied by local jurisdiction or other community stakeholder

11 Greening

- Trees: Include in layout based on spacing of existing street trees or include new tree(s) next to stop if no other trees are present (and community stakeholders will maintain)
- Planters (if community stakeholders will maintain)
- Trees must be consistent with required clearances

12 Bicycle parking

- Two racks, if space is available
- Additional racks if demand warrants or if requested by community stakeholders
- Consider community-initiated custom bike storage

13 Advertising

- Integral to shelter if included

15 Community information & identity elements

- Destination name on front of shelter in custom color
- Enhanced bus stop sign has "band" of custom color and icon relating to surrounding community
- Wayfinding map or community info kiosk
- Potential for the integration of community art

See Chapter 5 for further details.

COMMUNITY DESTINATION STOPS

EXAMPLE

HANK LOPEZ COMMUNITY CENTER

ADRIAN and OCALA

San Jose

Custom Design | Special consideration given to stop due to adjacent community-oriented use

How TPEP design guidelines are accomplished at this community destination stop:

1 Waiting space/Passenger pad

The community destination stop classification encourages the integration of a bus stop into the surrounding area, which requires creative solutions that meet functional and access requirements. In this case, some bus stop elements like a standalone bench and bicycle racks are located in the adjacent park area. The suburban nature of the stop encourages locating the passenger pad along the rear of a sidewalk that is sufficiently deep (8 to 10 feet) to receive the bus stop amenities. The length of the passenger pad depends on expected ridership.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. A 30-inch by 48-inch clear space is provided in the shelter for passengers with mobility devices. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

Stop elements are aligned along the back edge of the passenger pad to allow sufficient room for pedestrians to pass along the sidewalk in front of the passenger pad.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street".

5 Transit information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information. An option display can be attached to the shelter to provide a wayfinding map of the adjacent community use.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

Seating should be provided based on ridership. In this case, an in-shelter bench and a standalone bench are provided. The standalone bench does not have a back so as to allow the user to sit facing the park or facing arriving buses.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter.

9 Branding

VTA's branding is expressed in the form of a VTA logo on the enhanced bus stop sign and VTA-branded selection of bus stop elements. Additional branding that reflects the neighborhood is provided in the form of a shelter panel with community-based artwork, which can be laminated to the glass. The bus stop name is spelled out atop the shelter canopy and a unique color and logo are used on the enhanced bus stop sign. Provided that the functionality of the bus stop is maintained and accessibility requirements are met, other elements of the stop—custom seating, art, matching architecture—may be applied, ideally in coordination with the local community or local jurisdiction.

11 Greening

The adjacent park provides a pleasant character and human-scale to the stop environment..

12 Bicycle parking

Bicycle parking at community destination stops is based on assessed need. In this case, bike racks can be of use to transit riders as well as park users and could be provided by VTA or the adjacent community use.

Waste management

This community destination does not include trash receptacles and relies on community litter prevention and pick-up.

See Chapter 5
for further details.

COMMUNITY DESTINATION STOPS

EXAMPLE

DOWNTOWN SAN JOSE LIBRARY

SAN FERNANDO and 5TH

San Jose

Design | Special consideration given to stop due to adjacent civic institution

How TPEP design guidelines are accomplished at this community destination stop:

1 Waiting space/Passenger pad

The community destination stop classification encourages integrating the bus stop into the surrounding area and creative solutions that meet functional and access requirements. In this case, a non-standard pedestrian pad is created with a back-to-back shelter concept. Given the adjacent plaza that allows ample space for pedestrian circulation, this custom design integrates the transit stop area with the adjacent civic space.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area by removing the vertical panels from the shelter, allowing passengers to pass through the shelter as well as required access paths. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

The adjacent plaza provides the necessary space for pedestrians to access the bus stop area and for pedestrian circulation past the stop.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street". Transparent shelter materials discourage unlawful activity behind the shelter and create additional visibility from business owners and patrons.

5 Transit information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information. An option display can be attached to the shelter to provide a wayfinding map of the adjacent community use.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night.

7 Seating

In-shelter benches and custom planters provide multiple seating options and pleasant places to wait for the bus.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter and existing or new trees planted within the sidewalk.

9 Branding

VTA's branding is expressed in the form of a VTA logo on the enhanced bus stop sign and VTA-branded selection of bus stop elements. Additional branding is provided in the form of the bus stop name spelled out atop the shelter canopy and unique color and logo are used on the enhanced bus stop sign. Provided that the functionality of the bus stop is maintained and accessibility requirements are met, other elements of the stop—custom seating, art, matching architecture—may be applied in coordination with the local community or local jurisdiction.

10 Waste management

Community destination stops are eligible for trash receptacles and pick-up/maintenance, in this case may be provided by the library or local jurisdiction.

11 Greening

Greening is provided in the form of planters maintained by a jurisdictional stakeholder and existing or new street trees.

12 Bicycle parking

In this case, bicycle parking is provided by the adjacent library, though additional bicycle parking closer to the bus stop may be added if demand warrants.

See Chapter 5 for further details.

COMMUNITY DESTINATION STOPS

SARATOGA CIVIC CENTER

FRUITVALE and ALLENDALE

Saratoga

Custom Design | Special consideration given to stop due to adjacent need

How TPEP design guidelines are accomplished at this community destination stop:

1 Waiting space/Passenger pad

The community destination stop classification encourages integrating the bus stop into the surrounding area and creative solutions that meet functional and access requirements. In this case, a compact new passenger pad also serves to connect the stop area to a sidewalk that is separated from the curb by a planted area.

2 Universal design

The passenger pad provides the 5-foot by 8-foot boarding area and required access paths. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

As stop elements are located outside of the sidewalk, the pedestrian pathway past the bus stop is unimpeded. The custom bus stop layout provides easy access to each bus stop element.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street".

5 Transit information

Core stops have standard bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information. An option display can be attached to the shelter to provide a wayfinding map of the adjacent community use.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night. Additional illumination comes from existing nearby street lights.

7 Seating

Seating should be provided based on ridership. In this case an in-shelter bench and standalone bench are provided. The standalone bench does not have a back so as to allow the user to sit facing the bus stop or facing arriving buses.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter and existing trees in the adjacent planting area.

9 Branding

VTA's branding is expressed in the form of a VTA logo on the enhanced bus stop sign and VTA-branded selection of bus stop elements. Additional branding is provided in the form of the bus stop name spelled out atop the shelter canopy and unique color and logo are used on the enhanced bus stop sign. Provided that the functionality of the bus stop is maintained and accessibility requirements are met, other elements of the stop—custom seating, art, matching architecture—may be applied in coordination with the local community or local jurisdiction.

10 Waste management

Community destination stops are eligible for trash receptacles and pick-up/maintenance, in this case may be provided by the local jurisdiction.

11 Greening

Greening is provided by the adjacent landscaping.

12 Bicycle parking

Bicycle parking is provided in the form of inverted U-shaped racks. In custom passenger pad configurations, racks should be located so that parked bicycles do not impede pedestrian paths of travel.

See Chapter 5
for further details.

COMMUNITY DESTINATION STOPS

How TPEP design guidelines are accomplished at this community destination stop:

1 Waiting space/Passenger pad

The community destination stop classification encourages integrating the bus stop into the surrounding area and creative solutions that meet functional and access requirements. In this case, an entryway into a tech campus serves as the passenger pad area.

2 Universal design

This stop provides the 5-foot by 8-foot boarding area, wheelchair space and required accessible paths. A 30-inch by 48-inch clear space is provided in the shelter for passengers with mobility devices. A square curb defines the edge of the pedestrian space. If multiple stops are located in the same area, a placard featuring Braille and raised letters spelling "BUS STOP" and the routes that serve the stop is attached to the bus stop sign.

3 Pedestrian circulation

As stop elements are located outside of the sidewalk, the pedestrian pathway past the bus stop is unimpeded. The custom bus stop design provides easy access to each bus stop element.

4 Security

The stop is located in a visible space, where safety can be enforced by "eyes on the street".

5 Transit information

This stop features an enhanced bus stop signs indicating the routes served. A display attached to the shelter provides scheduled arrivals unique to the stop and may also provide system maps or other relevant transit information.

6 Lighting

In-shelter lighting (powered by a connection to the electrical grid or solar panels) illuminates the passenger waiting area at night. Additional lighting is provided by a standalone pedestrian-scale light fixture.

7 Seating

Seating should be provided based on ridership. In this case an in-shelter bench and a custom seating wall are provided.

8 Shade and shelter

Shade and shelter are provided by the bus stop shelter and existing trees planted in the surrounding area.

9 Branding

VTA's branding is expressed in the form of a VTA logo on the enhanced bus stop sign and VTA-branded selection of bus stop elements. Additional branding is provided in the form the tech company name spelled out atop the shelter canopy, unique branding on the enhanced bus stop sign and a bicycle rack that reflects the company's logo. Provided that the functionality of the bus stop is maintained and accessibility requirements are met, other elements of the stop—custom seating, art, matching architecture—may be applied in coordination with the local community or local jurisdiction.

10 Waste management

Community destination stops are eligible for trash receptacles and pick-up/maintenance that may be provided by a community or jurisdictional stakeholder.

11 Greening

Greening is provided by the adjacent landscaping.

12 Bicycle parking

Allow the installation of custom bicycle racks that enhance the unique design character of the community destination stop, in this case a custom shape that suggests the company's logo. Racks should be located so that parked bicycles do not impede pedestrian paths of travel.

See Chapter 5 for further details.

HOW TO ADDRESS COMMON DESIGN CONSTRAINTS AND CHALLENGES

Critical for the design of bus stops is the recognition that stops are situated in a broad range of local conditions: sidewalks vary in their width, street trees in their presence and spacing, roadways in their configuration, and driveways, signage, light poles and utilities in their presence and/or placement.

The following paragraphs provide advice on how to address some of the common constraints and challenges that may be encountered in applying the typical bus stop designs presented in this document.

In general it is important to approach potential challenges to the application of the bus stop guidelines by following their basic intent. For example, even if utilities stand in the way of using the standard layout for a bus stop, the stop design still needs to meet ADA-required spaces and clearances, the recommended spacing and overall alignment of amenities. The techniques provided here point to different ways in which the key design characteristics can be maintained under challenging conditions.

Challenge #1: Lack of Length for Stop

Many stops locations will lack the necessary length for accommodating the recommended amenities. Use the following techniques to address this challenge.

Condense layout

Reduce the spacing between amenities while still meeting applicable accessibility requirements.

- Reduce the spacing between seating, trash receptacles, and trees/tree grates to as little as one foot while maintaining the critical accessible pedestrian paths between sidewalk and shelter and shelter and boarding area.
- Locate the 5-foot by 8-foot boarding area in the shelter. At Urban stops this approach may require the removal of one of the rear windscreen panels.

Reduce amenities

Reduce the quantity and variety of provided amenities, starting with the least prioritized. Use the following recommended order of reduction:

- Subtract bike rack(s)
- Subtract standalone bench(es)
- If Major Stop, downgrade shelter from a double- to a single-unit shelter

Move stop

If the above approaches fail, review alternate, nearby locations for the stop. Placement of VTA bus stops is guided by the *Bus Stop Placement Policy* in Appendix A of the *Community Design & Transportation (CDT) Manual and the Service Design Guidelines of the Transit Sustainability Policy* (TSP).

Challenge #2: Lack of Depth for Stop

A stop location may lack the necessary depth for accommodating the recommended amenities in the *Urban* or *Suburban* layout. Use the following techniques to address this challenge.

Acquire easement

If warranted and feasible, VTA will secure an easement on adjacent private property to accommodate an extension of the sidewalk and accommodation of the desired bus stop amenities.

Reverse shelter for urban layout

In situations, where an *Urban layout* (stop at the front of the sidewalk) is used, but the needed 10-foot sidewalk depth does not exist, the shelter can be turned around and select panels be removed so that its back is set along the front edge of the sidewalk (2 feet back from the face of curb).

Reduce footprint of amenities

Reduce the footprint of provided amenities. For instance, replace benches with leaning bars or side-by-side U-racks with bicycle parking arranged longitudinally along the edge of the sidewalk.

Build a bus bulbout

If the criteria outlined in VTA's Service Design Guidelines (Section 7.1) are met, consider constructing a bulb-out into the parking lane to add depth to the stop.

Move stop

If the above approaches fail, review alternate, nearby locations for the stop. Placement of VTA bus stops is guided by the *Bus Stop Placement Policy* in Appendix A of the *Community Design & Transportation (CDT) Manual and the Service Design Guidelines of the Transit Sustainability Policy* (TSP).

Challenge #3: Driveways

Preferred stop locations may include existing driveways along their length, which reduces the space available for the recommended amenities. Use the following techniques to address this challenge.

Condense layout

Reduce the spacing between amenities as discussed under Challenge #1 – Condense Layout in order to reduce the space between stop elements.

Split layout

Locate a subset of amenities on one side of the driveway and others on the other side. In general, the bus stop sign, 5-foot by 8-foot space, the shelter and trash receptacle should be kept together, with the rest of the amenities able to be separated. Careful design of the sidewalk and driveway surfaces should be considered in order to communicate to users of the driveway that they are crossing an area frequented by pedestrians and transit riders. Among other potential treatments, this can be achieved through maintaining the pavement color and scoring patterns for both pedestrian-oriented areas through the driveway. The portion of the driveway used by pedestrians needs to be constructed to meet accessibility requirements applicable to width, cross slope, and longitudinal slope.

Challenge #4: Fitting In With Existing Streetscape

Many stop locations will include existing streetscape elements, such as street trees and other plantings, as well as benches, municipal trash receptacles and light fixtures. While these elements may constrain the application of a standard stop layout, they can often be beneficially incorporated into the passenger environment. Use the following techniques to address this challenge.

Splitting amenities

Locate a subset of amenities on one side of a street tree or light post and others on the other side. In general, the bus stop sign, 5-foot by 8-foot space, the shelter and trash receptacle should be kept together, with the rest of the amenities able to be separated.

Setting back amenities

If the sidewalk is wide enough, the line of alignment for stop amenities can be offset from the line of alignment of street trees or light posts so that there is enough room for pedestrians and wheelchair users to maneuver between the amenities and along the row of trees or light posts at the edge of the sidewalk.

Reduce the quantity and variety of provided amenities as discussed under Challenge #1 – Reduce Amenities in order to reduce the length of the stop between existing streetscape improvements.

Challenge #5: Fitting In With Utilities

Some stop locations may include existing above-ground utilities such as traffic control boxes, utility poles, or other elements that present a challenge to applying a standard stop layout. Use the following techniques to address this challenge.

Condense layout

Reduce the spacing between amenities as discussed under Challenge #1 – Condense Layout in order to reduce the length of the stop.

Split layout

Locate a subset of amenities on one side of the above-ground utility as discussed under Challenge #3 – Split Layout.

chapter 5 | BUS STOP GUIDELINES AND BEST PRACTICES

1 WAITING SPACE/PASSENGER PAD

Description

The passenger pad provides a space for people to wait for, board and alight buses.

Relevant Guiding Principles

Experience | Safety | Accessibility | Operation

Best Practices

Embrace flexibility: The stop layouts for each bus stop type show the general configuration of the waiting space, but there are many sizes and configurations in which the waiting space requirements can be met.

Apply appropriate stop layout: The location of the passenger area relative to the sidewalk, either at the front or rear of the sidewalk, is based on a series of factors related to pedestrian activity, the character of the street (i.e. traffic volume and speed or existing improvements, such as light fixtures and street trees) and constraints at the location. When the required minimum depth of eight feet for the 5-foot by 8-foot boarding area cannot be achieved within the existing sidewalk or right of way, work with VTA to seek an easement onto private property in order to meet this and other critical requirements of the American with Disabilities Act (ADA) Standards for Transportation Facilities. See *Stop Placement* in Chapter 3 for more information.

Alignment: Bus stop elements should be aligned along a common line. This helps visually delineate the transit waiting area from adjacent pedestrian circulation areas and clear paths for wheelchairs and mobility devices. For example, the back of the shelter should align with the backs of benches, trash receptacles, and other elements. A notable exception is the location of the bus stop sign. The pole of the bus stop sign must be placed a minimum of two feet from the face of the curb with the bus stop sign placed perpendicular to the street and pointing away from the street so as to minimize conflict with side mirrors of buses.

Design for usage levels: The amount of space needed should be based on ridership levels and take into account the potential need to accommodate multiple transit routes and bus lengths.

Guidelines

Inadequate space: If inadequate space exists to provide bus stop amenities and compliance with pathway related accessibility and pedestrian travel capacity requirements, easements onto adjacent private property that create sufficient space should be pursued. Inaccessible bus stops were installed prior to ADA requirements; however, VTA continually makes capital improvements and requests local jurisdictions to condition developments to bring inaccessible bus stops to ADA standards.

Passenger pad surface: The passenger area surface treatment should be firm and stable and match the design of the sidewalk accessing it. In the case of a Community Destination stop, a hardscape treatment differing from that of the adjacent sidewalk may be desired to distinguish the bus stop area from the rest of the pedestrian realm. Such treatments may include: contrasting concrete scoring patterns, contrasting materials (i.e. concrete paver or colored concrete), patterns created by sandblasting of concrete surfaces.

Recommended Passenger Pad Sizes

Major Stop: Desired length of 70-82 feet depending on layout. Minimum depth of 8-10 feet depending on layout.

Core Stop: Desired length of 30-33 feet depending on layout. Minimum depth of 8-10 feet depending on layout.

Basic Stop: Desired length of 14-16 feet depending on layout. Minimum depth 8 feet. At Basic Stops where only the minimum pad length is provided, boarding and alighting is limited to the front door.

Community Destination Stop: Depends on ridership, adjacent uses and layout. Minimum depth of 8 feet.

2 UNIVERSAL DESIGN

Description

Universal design refers to a design approach that strives to create environments – in this case bus stops – that can be accessed and used to the greatest extent possible by all people regardless of their age, size, ability or disability.

Relevant Guiding Principles

Safety | Accessibility | Information | Comfort | Operation

Best Practices

Go above and beyond established accessibility standards: Universal design means exceeding minimum requirements set by Federal and State accessibility standards. Potential additional features include braille placards or audible announcements with bus arrival information as well as the installation (by a local jurisdiction or Caltrans) of accessible pedestrian signals (APS) at intersections that provide access to the stop.

Consider cost/benefit: While considering that universal design, and features at each stop location, may add to the overall cost, taking this approach can have a significant positive impact on transit accessibility for riders of all ages and abilities.

Guidelines

Federal and state law: Specific aspects of every bus stop must comply with the latest ADA and Chapter 11b of the California Building Code (CBC).

All transit stops must comply with ADA/CBC requirements, including clear floor space for wheelchairs in shelters (where provided), a clear path of travel from the shelter to the 5-foot by 8-foot bus boarding area, clearances between stop elements, such as seating and trash receptacles, where these are part of an accessible pedestrian path, and various aspects of transit related signage.

Ramp and boarding space: A 5-foot (60-inch) wide by 8-foot (96 inch) deep area is required to allow a bus operator to lower a ramp leading from the stop into the front door of the bus. This area includes room for the ramp, but also for the wheelchair user to position themself to ascend the ramp. Buses are required to stop so the front door of the bus lines up with this area on the pad.

The 5-foot by 8-foot area:

- Must be clear from any obstacles
- Is measured from the face of the curb
- Must be firm, stable and slip resistant and be connected to the sidewalk or accessible pedestrian path
- Does not need to be marked in any way

Wheelchair space: If a shelter is included in the bus stop, there must be a clear space inside the shelter that is accessible to a wheelchair user.

The wheelchair space:

- Must be 30 inches wide and 48 inches long
- Must be positioned either forward or parallel approach to an element
- Is connected by an accessible pedestrian path to the 5-foot by 8-foot area
- Must be firm, stable and slip resistant

Stop access: ADA and California law require that bus stops must be connected to the sidewalk or other pedestrian network by an accessible pedestrian path at least 36 inches wide. The specific spaces that must be connected via such an accessible pedestrian path are the 5-foot by 8-foot wheelchair boarding space and the wheelchair space in the shelter, if present.

The stop access route:

- Must be firm, stable and slip resistant
- Can be reduced to 32 inches for short periods
- Must have a running slope no steeper than 1:20 (5%) or equal to adjacent street
- Must have a cross slope no steeper than 1:48
- Must be kept clear from all obstacles at all times

Shelter access: ADA and California law requires that wheelchair spaces in the shelter, if present, must be connected to the 5-foot by 8-foot area and the sidewalk by a route at least 36 inches wide.

This accessible pedestrian path:

- Must be firm, stable and slip resistant
- Can be reduced to 32 inches for short periods
- Must have a running slope no steeper than 1:20 (5%) or equal to adjacent street
- Must have a cross slope no steeper than 1:48 (2%)
- Must be kept clear from all obstacles at all times

Sidewalk: California law requires that sidewalks have a minimum width of 48 inches (the ADA defines accessible pedestrian paths as a minimum of 36 inches wide). This means that all bus stop elements must be placed so that the continuing sidewalk in front or in back of the stop improvements meets this requirement.

The sidewalk path:

- Must be firm, stable and slip resistant
- Can be reduced to 36 inches for short periods
- Must have a running slope no steeper than 1:20 (5%) or equal to adjacent street
- Must have a cross slope no steeper than 1:48 (2%)
- Must be kept clear from all obstacles at all times

Note that ADA compliant tree grates that are installed flush with the surrounding sidewalk surface can count toward the width of an accessible path of travel.

Curb: The stop must be delineated from the roadway serving it by a square curb or, if no curb is present, by a detectable warning strip.

Signs and sign placement: For the standard and enhanced bus stop signs, both ADA and CBC include requirements for the font size, style, and contrast of lettering used to communicate transit related information. Also included are requirements for mounting height and position.

Braille and raised letters: Placards with Braille and raised letters are not required for bus stops, but are currently provided by VTA where bus stops (transfer stops) are located at multiple corners of an intersection. In such locations, Braille signs that are attached to the bus stop sign poles identify each of the route number(s) that serve a given stop.

Where Braille/raised letter placards are provided, they can be mounted to the standard and enhanced bus stop signs and/or in shelters. This signage should be used primarily to convey the most important information such as which buses stop at the particular station. Braille shall be positioned below the corresponding text in raised letters. The latter is provided as not all blind or visually impaired persons have the ability to read Braille. Care must be taken to update any information that is provided in braille along with information provided to sighted passengers. Sizing and spacing of the braille dots and installation height of the placard must comply with the most current ADA standards.

Audible information: Optional audible announcement systems are a more effective alternative to braille/raised letter placards when conveying bus arrival information. Such systems generally have a button, typically incorporated into the shelter architecture, that when pushed gives information about the bus arrival schedule. Due to the high cost of such systems, they should be considered first for implementation at the stops with the highest levels of ridership that also include flexible message signs.

3 PEDESTRIAN CIRCULATION

Description

Transit passenger environments are inherently pedestrian places. Despite their relatively small size, bus stops must accommodate a complex range of pedestrian activity, from passers-by on the sidewalk to bus boarding and alighting to sitting and standing. Like the passenger area itself, accommodating pedestrian circulation is a foundation for good bus stop design.

Relevant Guiding Principles

Safety | Accessibility | Operation | Community

Best Practices

Universal design: Consider ADA/CBC requirements as minimum accessibility standards and use the Universal Design approach as the ultimate accessibility goal.

Pedestrian activity: Assess how much pedestrian activity exists at the stop area. If there is a high volume of pedestrian activity unrelated to the stop, the passenger environment should be separate from the sidewalk's pedestrian "through zone". The through zone portion of the sidewalk is the unobstructed area along which pedestrian travel takes place (consult the *VTA Pedestrian Technical Guidelines* for further information on recommended overall sidewalk and pedestrian through zone widths for a range of street types in VTA's service area).

Pedestrian access: The passenger area should be easily and intuitively accessible from the sidewalk. Sidewalks connecting the passenger waiting area with nearby intersections should be 8 feet wide or wider along streets where pedestrians need to be buffered from high traffic volumes and/or speeds.

Boarding and alighting: The stop design should emphasize a smooth flow of passengers boarding and alighting.

Conflicts with street furniture and utilities: Poles, utilities, newspaper racks and other vertical elements in and around the bus stops affect the way people stand and move in a bus stop and can obscure visibility.

Recommended Amenity Levels

Major and Core Stops: For Urban layouts, sidewalks and stops have separate pedestrian circulation areas. Where the front edge of the shelter cannot be set back from the back of curb to allow an accessible path between curb or to accommodate the 5-foot by 8-foot boarding space within the shelter, one of the shelter's back panels may be removed in order to create an additional circulation option between the two areas. For Suburban layouts, sidewalks and stop areas share space for pedestrian circulation. The front bus door should be aligned with the 5-foot by 8-foot boarding space. In Urban layouts, the back door of the bus should be aligned with a gap in the amenities to create an unconstrained space for alighting and boarding passengers at that door location.

Basic Stop: Due to the limited number of amenities, space for pedestrian circulation is not a major issue for basic stops as long as Universal Design goals are met. The front bus door should be aligned with the 5-foot by 8-foot boarding space.

Community Destination Stop: Due to the nature of the Community Destination designation, space for pedestrian circulation is emphasized and circulation to and through the stop should be highly integrated with circulation patterns associated with the destination land use. The front bus door should be aligned with the 5-foot by 8-foot boarding space. The back door should be aligned with a clear path to the sidewalk and/or destination land use.

4 SECURITY

Description

Security is the perception and reality of personal safety at bus stops, and is a crucial component of the passenger waiting experience.

Relevant Guiding Principles

Experience | Safety

Best Practices

Employ Crime Prevention Through Environmental Design (CPTED) **Strategies:** CPTED involves the design of environments using five key strategies: natural surveillance; natural access control; territorial reinforcement; activity support; and maintenance. For more information, see the Recommended Practice for Crime Prevention Through Environmental Design (CPTED) for Transit Facilities, published by the American Public Transportation Association (APTA).

Emphasize visibility: Clearly visible, well-lit stations have fewer hiding places and opportunities for crime. Visibility can be increased by providing adequate lighting, making sure that surrounding vegetation and site furnishings do not create hiding places, and selecting a shelter that is transparent and open. Visibility also provides operational benefits as it makes it easier for bus drivers to see waiting passengers—especially at night—and makes passing vehicles aware of the presence of waiting passengers. To this extent, avoid site furnishings or landscaping choices that can impede visibility of waiting passengers.

Locate stops in high-visibility areas: Nothing keeps an area secure more than large numbers of "eyes on the street". Whenever possible, transit stops should be located where larger numbers of people provide these "eyes". Yet many stops are located in areas that do not have large numbers of people present, so the use of security cameras and intercoms can connect waiting passengers to other people.

Make stops easy to maintain: The perception of neglect has the potential to attract crime or lessen the sense of security. Easy maintenance allows for more frequent maintenance. Place station elements that require maintenance such as lights or security cameras in places where they are easy to maintain, but out of reach of vandals.

Provide information: The more information people have about their surroundings, the transit system, and scheduled bus arrivals, the more secure they will feel.

Consider lighting: Sufficient lighting throughout the stop area provides visibility of all waiting passengers and passers-by and helps the bus driver see waiting passengers at night. Where possible, extend lighting to bicycle parking area.

Shelter design and materials: The architecture of the shelter can add to the safety of the station. VTA's new shelter has been specified to have clear or highly transparent side and back panels that maximize visibility. Transparent materials and partially open back panels reduce hiding places and loitering inside and outside of shelters. Shelter materials and design should aim to be vandalism resistant. It is important to maintain shelters and attached elements such as lights and display cases regularly and to fix noticeable defects. Vandalized shelters or shelter panels should be repaired immediately.

Encourage community participation: VTA's Adopt-a-Stop program empowers community members to help VTA keep bus stops clean and safe. Participants may help tidy up shelters or inform VTA when maintenance is needed.

Discourage vagrancy: Loitering and vagrancy at bus stops can be discouraged by well maintained, well lit, visible stops with site furnishings that make lying down difficult. Adding bars in the center of benches or variable-height seating can discourage sleeping at stops.

Recommended Amenity Levels

Major and Community Destination Stops: Visibility between bus stop and surrounding area, reliable transit information, transparent shelter panels, shelter lighting, optional standalone (solar-powered) fixtures. Security cameras or an intercom may be appropriate at higher ridership stops, where electrical and communication hookups exist or can be readily established.

Core Stops: Visibility between bus stop and surrounding area, reliable transit information, transparent shelter (if provided) and shelter lighting, optional standalone (solar-powered) fixtures.

Basic Stops: Visibility between bus stop and surrounding area, optional standalone (solar-powered) fixtures.

5 TRANSIT INFORMATION

Description

Transit information communicates which buses stop at the particular stop; when and/or how frequently they arrive; and route information about how the stop fits into the context of the larger transit system. If (optional) wayfinding maps are provided they also provide information how the stop is situated within the surrounding neighborhood.

Relevant Guiding Principles

Experience | Safety | Information | Operation | Branding

Best Practices

Provide transit information whenever possible: A surveys of VTA transit riders found that transit information is the most desired bus stop amenity. As such, stops should include one or more of the following transit information elements: schedule displays of routes served, system maps or electronic real-time displays to the extent that these can be justified by ridership volumes

and feasibility of making connections to the electrical and communications grid. Consider exceeding basic transit information standards in areas that have higher rates of visitors who may not be familiar with the transit system or Santa Clara County.

Consistent locations: Transit information should be located in consistent locations within the stop design across the entire system of stops.

Appropriate scale and location of standard/enhanced bus stop sign: The location of the bus stop sign informs the driver where to stop the vehicle. At stops with high ridership or in areas where frequent sidewalk elements make visually identifying the stop location difficult, consider installing an enhanced bus stop sign. Enhanced bus stop signs are 9-foot tall, rectangular totem signs whose design is based on the signs already used by VTA at its light rail stations. Aside from their more conspicuous design, enhanced bus stop signs provide the same information as the standard bus stop sign.

Guidelines

Transit information: Transit information should be provided at all bus stops to the extent accommodated by the bus stop elements present. In some cases, transit information may be provided in multiple locations, for example in the shelter and on the bus stop sign.

- Whenever feasible, standard and enhanced bus stop signs should include a small display case with a schedule of bus arrival times for all routes serving that stop. Each sign has to include VTA's Real Time Information (RTI) decal sticker, which shows the unique number assigned to the stop and call-in information that allows a passenger to obtain real-time bus arrival information provided by 511.org.
- Shelters should include a display case with a VTA transit route map and schedule of bus arrival times.

All transit information should be placed at eye level and such that it can be accessed by persons in wheelchairs.

Enhanced bus stop signs: The use of enhanced bus stop signs at stops with the highest ridership levels reflects the importance of these stops in VTA's system of bus stops. Placement of enhanced bus stop signs should take sight lines into account and the fact that enhanced bus stop signs, due to their solid design and dimensions take up more space on the ground and can, under certain circumstances, present an obstruction.

Display cases: To the extent feasible, display cases with transit information should be provided in shelters at bus stops that serve as transfer points between routes. Schedules, route maps and other provided information should be presented using a uniform system of graphic standards, sizes and colors. All presented information should be intuitively understandable by transit riders.

Recommended Amenity Levels

Major Stop: Enhanced bus stop sign; display cases with schedule, route and system/vicinity map in shelter; real-time display and (optional) audible announcement system in shelter where warranted by ridership volumes.

Core Stop: Bus stop sign with simple case for schedule; schedule, route and system map display case in shelter (if present)

Basic Stop: Bus stop sign with simple case for schedule whenever feasible

Community Destination Stop: Enhanced bus stop sign; display cases with schedule, route and system/vicinity map in shelter; real-time display and (optional) audible announcement system in shelter where warranted by ridership volumes.

6 LIGHTING

Description

Lighting addresses the nighttime illumination of the bus stop area. It increases the actual and perceived safety of the passenger waiting area and surrounding area and offers operational benefits as it makes it easier for the bus driver to see waiting passengers.

Relevant Guiding Principles

Experience | Safety | Comfort | Operation

Best Practices

Locate stops in well-lit areas: Ideal stop locations will have multiple light sources—ideally provided at pedestrian-level rather than street level—that rely on dedicated sources of electricity. When nighttime lighting fails to meet lighting level standards for bus stop areas (see local lighting standards and *The Lighting Handbook, 10th edition* by the Illuminating Engineering Society of North America (IESNA) for more detailed information on recommended lighting levels), consider providing standalone pedestrian-scale light fixtures or solar-powered light fixtures in locations where existing lighting is insufficient. Maintain street trees to prevent blockage of light from nearby light fixtures.

Discourage vandalism: Integrated shelter lighting and standalone lights should be vandalism-resistant. It is best to avoid exposed bulbs in shelters since those can easily be vandalized. Lighting fixtures should be out of reach of passengers if possible while still allowing for easy lamp replacement and maintenance.

Recommended Amenity Levels

Major Stop: Integrate lighting in the shelter. Consider installing pedestrian-scale light fixtures for the bus stop seating areas located away from the shelter if lighting levels from existing light fixtures are insufficient.

Core Stop: Where shelters are present, integrate lighting in the shelter. At core stops without shelters, consider the use of standalone pedestrian-scale light fixtures or solar-powered light fixtures in locations where existing lighting is insufficient .

Basic Stop: Generally relies on existing lighting in the bus stop vicinity. Consider the use of standalone pedestrian-scale light fixtures or solar-powered light fixtures in locations where existing lighting is insufficient.

Community Destination Stop: Where shelters are present, integrate lighting in the shelter. Consider use of solar-powered or passenger-activated lights in dimly lit areas.

7 SEATING

Description

Seating allows riders to rest while waiting for the bus. Seating can include standalone benches, benches integrated into shelters, leaning bars, and seat walls or other informal seating.

Relevant Guiding Principles

Experience | Comfort | Community

Best Practices

Consider bus stop seating needs: Some types of seating are more appropriate for stops with certain characteristics. Backless benches, which can accommodate multiple users who can sit facing any direction may be more appropriate for stops with urban layouts, frequent service and high ridership. Backed benches provide more comfort but less flexibility in orientation and may be better choices for stops with suburban layouts, lower ridership levels and less frequent service.

Design for flexibility: In shelters, consider installing leaning bars or flip seats where spatial conditions are very constrained or vagrancy is a particular concern.

Consider informal seating: Even where formal seating is provided in the immediate bus stop area, waiting passengers often spread out and sit on objects suitable for seating such as planters or lean against walls around the bus stop area. At high ridership stops, consider that the effective passenger waiting environment may exceed beyond the immediate stop area and account for this in the stop's design. While the presence of informal seating outside the immediate bus stop area is welcome, the stop design needs to discourage unwanted waiting on private property adjacent to the station area.

Integrate stop with surrounding area: Seating is one amenity VTA often provides however, other entities such as cities, developers, and community groups, may also be interested in adding formal or informal seating in and around bus stops. At community destination stops, choose seating styles that integrate with the surrounding area, when possible.

Discourage vagrancy: Seating within the passenger waiting environment should facilitate comfortable waits, but discourage loitering or sleeping. Provide intermittent armrests on bus stop benches to discourage vagrancy.

Recommended Amenity Levels

Major Stop: Shelter seating plus two benches (backed or backless depending on layout or adjacent land use); consider leaning bar option in constrained environment; explore opportunities for informal seating.

Core Stop: Shelter seating plus one bench (backed or backless depending on layout or adjacent land use); consider leaning bar option in constrained environments; explore opportunities for informal seating.

Basic Stop: Leaning bar or bench. Note that 49% of existing basic stops currently have benches; explore opportunities for informal seating.

Community Destination Stop: Shelter seating plus one or more benches (backed or backless depending on layout or adjacent land use); consider leaning bar option in constrained environment; explore opportunities for informal seating, including planter seat option.

8 SHADE AND SHELTER

Description

Shade and shelter protect waiting passengers from the weather. In Santa Clara County, this primarily means protection from sun, wind, and rain. The primary stop design element that provides shade and shelter is the bus shelter. However, where bus shelters cannot be placed or are fully occupied, people often take advantage of existing elements in the urban environment that can provide shade and shelter, such as trees, building overhangs or awnings.

Relevant Guiding Principles

Experience | Safety | Comfort | Branding | Community

Best Practices

Shelter design: Shelters should be sturdy and vandalism resistant to the extent possible. Transparency is important as it increases visibility and safety and discourages criminal activity. Transparent components should be composed of shatterproof material and marked with decals, logos, or decorative treatments to indicate their presence. All parts should be durable and easily replaced. Wind screens should have six inches of vertical clearance from the sidewalk to avoid collection of trash and debris and for ease of maintenance.

Modular design: Use of a modular shelter allows for the economical "right" sizing of the shelter to match actual needs and to provide flexibility in meeting configuration and circulation needs at different stop types and under a range of local conditions. It also allows damaged or vandalized station components to be replaced individually rather than replacing the entire shelter.

Placement: Shelter placement should minimize the walking distance between the shelter and the 5-foot by 8-foot boarding area. Shelters should not block building entries or pathways to structures. Shelters should not block building windows used for commercial purposes, to the extent feasible. Place shelters in locations that maximize the ability for waiting passengers and approaching buses to see each other. When the shelter is adjacent to a wall, allow 1 foot of space between the shelter and wall for cleaning/maintenance, where possible.

Facilitate movement: Transparent side panels with a maximum depth of about 2 feet facilitate easier ingress and egress and increase the circulation space in front of the shelter where spatial conditions are constrained. Transparent panels with limited depth can also make waiting passengers feel safer as they are less boxed into the shelter while still providing sufficient wind protection.

Accommodate all users: Shelters must include a 30-inch wide and 48-inch long clear space for wheelchairs or other mobility devices and a 36-inch-wide (minimum) accessible path to the bus boarding area. Route maps and schedules that are located inside the shelter should be easily accessible and readable to wheelchair users, as should be any potential intercom system or button to activate audible announcements.

Community integration: At community destination stops, allow the use of custom elements to integrate the bus stop into the surrounding area.

Utilize shade: When no shelter is provided, seek to locate stops in areas with natural shade from trees, building overhangs or awning.

Incorporate lighting: Provide lighting within the shelter whenever feasible.

Product Information and Costs

For product information and costs, please contact bus.stop@vta.org or call (408) 321-5800.

Recommended Amenity Levels

Basic Stop: Relies on existing conditions in bus stop vicinity (trees, building overhangs, awnings) for providing shade and shelter.

Core Stop: Single-unit shelter as warranted by ridership numbers; additional opportunities for shade and shelter in bus stop vicinity (trees, building overhangs, awnings).

Major Stop: Double-unit shelter; additional opportunities for shade and shelter in bus stop vicinity (trees, building overhangs, awnings).

Community Destination Stop: Single-unit, double-unit or custom shelter depending on ridership, adjacent use, space, and community desire; trees: see Greening; consider existing awnings or other elements that provide shelter.

9 BRANDING

Description

Branding is the way VTA communicates its brand to existing and potential customers and the public in general. A brand can also be considered from the point of the customer—a person's "gut feeling" about a product, service, or agency.

Relevant Guiding Principles

Experience | Branding

Best Practices

Create positive experiences: Aside from its buses, bus stops are a transit agency's most visible assets. A well-branded, well-maintained bus stop will create a pleasant waiting experience and in the customer's view reflect positively on the overall quality of service associated with the VTA brand. As such, branding goes well beyond including agency logos in the bus stop design and rather encompasses the design of the entire waiting environment.

Be consistent: Branding should be reinforced by using generally consistent bus stop layouts, a "family" of standard amenities, a coordinated color scheme, logos and other elements in order to establish a countywide identity for VTA bus stops.

Design creatively: An established brand can be modified creatively at community destination stops through use of custom colors or slight alterations of standard elements that make the bus stop seem "cool" or special and add to the positive perception of the VTA brand.

Guidelines

Use official VTA logo: For graphics files, please contact bus.stop@vta.org or call (408) 321-5800.

Recommended Branding

Major Stop: VTA logo on enhanced bus stop sign, and potentially on shelter windscreen; VTA branded family of station amenities (as applicable).

Core Stop: VTA logo on standard bus stop sign and potentially on shelter windscreen; VTA branded family of station amenities (as applicable).

Basic Stop: VTA logo on standard bus stop sign; VTA branded seating elements (where applicable).

Community Destination Stop: VTA logo on bus stop sign and potentially on shelter windscreen, customized VTA station elements (as applicable and coordinated with VTA).

10 WASTE MANAGEMENT

Description

Keeping bus stops clean and free of trash is important to the passenger waiting experience. Waste management is primarily a maintenance-oriented element of the passenger environment and offers opportunities for partnerships between VTA and local jurisdictions or other community stakeholders.

Relevant Guiding Principles

Experience | Operation | Community

Guidelines

Maintenance: VTA supplies, maintains and empties trash receptacles at some bus stops; however, VTA prefers to form partnerships with local jurisdictions, developers, and business districts to supply, maintain and empty trash receptacles. To partner with VTA on trash receptacles in your area, please see www.vta.org/TPEP or contact bus.stop@vta.org / (408) 321-5800.

Adopt-a-Stop Program: VTA partners with the community to keep bus stops clean through the Adopt-a-Stop program. To participate, community members accept the responsibility of monitoring and reporting any trash or maintenance issues to VTA. Adopted stops are adorned with a sign bearing the adopter's name. It is a great way for the community to work with VTA to keep the bus stop and streetscape area clean and inviting. To adopt a stop, please visit: http://www.vta.org/getting-around/riders-tips/adoptastop-program.

Trash receptacle placement: Where trash receptacles are provided, they should be firmly anchored to the ground and placed within the bus stop area to be easily visible and accessible and not in conflict with pedestrian circulation areas.

Recommended Amenity Levels

Major Stop: One trash receptacle; encourage pick-up and maintenance through Adopt-a-Stop program.

Core Stop: One trash receptacle; encourage pick-up and maintenance through Adopt-a-Stop program.

Basic Stop: Encourage trash removal through Adopt-a-Stop program.

Community Destination Stop: One trash receptacle; encourage pick-up and maintenance through Adopt-a-Stop program.

11 GREENING

Description

Greening is the provision and maintenance of street trees or other plants for aesthetic and environmental purposes. Greening softens the urban environment and can provide a more pleasant and human-scaled transit waiting experience. Since the required maintenance can be cost-prohibitive, the incorporation of trees and other plants within the stop area is an opportunity for VTA to partner with the local jurisdictions and community stakeholders for maintenance.

Relevant Guiding Principles

Experience | Comfort | Community

Guidelines

Placement of greening elements: Coordinate the location of trees and other vegetation with areas needed for pedestrian circulation. Vegetation must not encroach on the boarding area and accessible paths and should not be located within the shelter area.

12 BICYCLE PARKING

Description

Bicycle parking is the storage of bicycles at a bus stop using bike racks. Bicycle parking at bus stops ideally serves cyclists who are riding to the stop to board a bus, but it can also serve cyclists in search of general bike parking. Providing bicycle parking at bus stops also helps to alleviate the practice of bikes being locked to other stop design elements, where they may interfere with their function or block pedestrian circulation or accessible pathways.

Relevant Guiding Principles

Accessibility | Community

Best Practices

Assess need: Be aware of whether cyclists that use a given stop are more likely to park their bikes at the stop or travel with it on the bus.

Visibility: Bicycle parking should generally be in view of transit passengers and passers-by and illuminated by lighting at night.

Partners: VTA should involve stakeholders from the cycling community in the design and provision of bike parking at stops that draw high numbers of cyclists.

Tools and Ideas

Bicycle racks: Bike racks are the most fundamental way of providing bicycle storage at a bus stop and come in a wide variety of shapes and designs. When integrating bicycle parking into a bus stop, the following should be considered:

- Bike racks should typically be of the inverted U-type. If other types are used, these should allow for two points of contact and opportunity for locking. Racks should prevent bikes from falling down so that fallen or tipped over bikes do not block pedestrian circulation space or accessible paths.
- Racks should be installed in accordance with VTA's *Bicycle Technical Guidelines* and the stop type layouts provided in Chapter 4 of this document.

Parklets: Parklets are temporary small public spaces placed in the parking lane of a street and have recently gained strong popularity throughout Bay Area cities and towns. Parklets are a way to provide additional public space and streetscape amenities where sidewalk space is otherwise constrained. Many parklets include bike parking, typically in creative and playful ways and may be provided near a bus stop on the initiative of a community stakeholder.

Bike corrals: Bike corrals are areas of bike parking placed in the car parking lane. At stops with high bike use but limited sidewalk space, bike corrals could be used if it is feasible to remove parking in close proximity to the bus stop area.

Guidelines

Placement: Bike parking should be placed at the edge of the stop area to reduce congestion in the core area of the stop and conflicts with boarding and alighting passengers.

Custom designs: VTA is supportive of the use of custom bike racks in the context of Community Destination stops.

Guidance: Bicycle racks should be placed in accordance with the *VTA Bicycle Technical Guidelines*. Please contact bus.stop@vta.org or call (408) 321-5800 for more information.

Recommended Amenity Levels

Major Stop: One or two racks if space is available; additional racks if demand warrants.

Core Stop: One rack where located along bike facility (Class I, II, or III); additional racks if demand warrants.

Basic Stop: None, unless location-specific demand warrants.

Community Destination Stop: Two racks if space is available; additional racks if demand warrants.

13 ADVERTISING

Description

Advertising at bus stops is a source of revenue for VTA and relieves the agency from a significant amount of maintenance work as the advertisers provide maintenance services. VTA currently has a contract with an advertising company under which the advertiser maintains and cleans shelters and empties trash receptacles at regular intervals.

Best Practices

Placement: Advertising should be visible to passing motorists and pedestrians so as to maximize its value, but should not obstruct the line of sight between waiting bus passengers and the approaching bus. Where advertising cannot be integrated into the shelter system due to site constraints, it may be placed as a standalone feature at the edge of the bus stop area.

Guidelines

Permission: Advertising at bus stops must be sanctioned by VTA. Non-sanctioned advertising is prohibited.

14 NEWSPAPER RACKS

Description

Newspaper racks are a part of the urban environment and constitutional rights allow for the dispensing of newspapers and other publications in the public realm.

Relevant Guiding Principles

Operation | Community

Guidelines

Newsracks: VTA does not encourage locating newsracks in the core of the bus stop area. Newsracks located in the areas for their potential placement (see layouts in Chapter 4) must not impede pedestrian circulation and accessible paths, use of the bus stop by passengers, boarding or alighting of passengers or the deployment of accessibility ramps. Newsracks may not be physically attached or chained to VTA bus stop shelters, benches, poles or other bus stop amenities.

Recommended Amenity Levels

Major Stop: Designated space in stop layout.

Community Destination Stop: Designated space in stop layout.

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