



Bus Stop Improvement Plan



April 2024

CA EX 1655

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Introduction





About the Bus Stop Improvement Plan

SamTrans launched the Bus Stop Improvement Plan (hereinafter, “the Plan” or “BSIP”) in 2022 with the goal of improving the bus stop experience for all SamTrans customers through enhanced bus stop amenities and facilities. The Plan includes five main outcomes for SamTrans:

1. Inventory of existing amenities at bus stops across the service area.
2. Understanding of rider preferences for amenities and stakeholder preferences for improvement processes.
3. Design guidelines to establish minimum criteria for bus stop amenities and to guide cities and other partners in improving bus stops to necessary standards.
4. Recommended improvements across the service area to align bus stops with the established design guidelines.
5. Implementation plan to establish a framework for how SamTrans will advance the recommendations of the Plan.

The Plan is a high-level needs assessment; it sets a standardized policy for bus stop improvements and lays out the desired approach for implementation. The Plan does not include a detailed engineering feasibility analysis of each identified improvement or any Americans with

Disabilities Act (ADA) compliance checks. Further engineering and design will be required to finalize the recommended improvements introduced in the Plan.

Background

Measure W passed in 2018, securing additional ongoing funding for the agency and identifying bus stop improvement planning as a priority use of funds. Further, public outreach conducted as a part of *Reimagine SamTrans* established bus stop improvements as a priority request from riders and the community as a whole. Measure W, and continued public requests for improved stop conditions, acted as the catalyst for beginning the Bus Stop Improvement Plan. Key documents, such as the *2013 SamTrans Bus Stop Design Guidebook*, were also



Updating Title VI Policies

SamTrans will work to update its stop-related Title VI policies, which provide criteria for the equitable placement of stop amenities, to incorporate the BSIP recommendations. This will take place as part of the triennial update of SamTrans' Title VI program, which is expected to begin in Summer 2025.

due for refreshment. The Plan serves as a comprehensive update to current policies overseeing bus stop amenities, and fills current policy gaps in bus stop design.

Planning Process

The Plan began with an inventory of the nearly 1,900 SamTrans bus stops active as of August 2022. Outreach efforts paralleled this inventory and included a rider survey that reached approximately 700 SamTrans customers, over 30 one-on-one in-language listening sessions with riders, and conversations with local agency partners and stakeholder groups. The **Existing Conditions** chapter provides key takeaways from the inventory and the **Outreach and Engagement** chapter provides insight into feedback heard from SamTrans stakeholders and riders.

The next phase of the Plan refreshed bus stop design guidance through development of the *2023 SamTrans Bus Stop Design Guidelines* (“Guidelines”). This internally and externally facing reference manual outlines bus stop categories, minimum amenities by category, and other design criteria.

The Guidelines respond directly to rider requests received through engagement. For example, a featured outcome of the Guidelines is that every stop served by

The Bus Stop Improvement Plan sets a goal of improving the bus stop experience for all SamTrans customers through enhanced bus stop amenities and facilities.

all-day service, even those serviced just once an hour, include shade and a place to sit. Once all recommendations are implemented, it would be a 375% increase in shelters compared to today! This was in direct response to riders' feedback that they most need those amenities when they are waiting the longest for the bus, not just at high ridership or high frequency stops. The Guidelines also clarify ownership and maintenance responsibilities for amenities at bus stops, a key request from City staff. The *2023 SamTrans Bus Stop Design Guidelines* is included as **Appendix C** and online for easy access for cities and other partners.

The Plan then identified the number of amenity installations needed to achieve consistency with the Guidelines. A prioritization approach was defined to

accelerate improvements at high ridership stops, stops in equity priority areas (defined in [Reimagine SamTrans](#)), and stops in areas vulnerable to high heat events (defined in [SamTrans Adaptation and Resilience Plan](#)). Generally, stops which ranked the highest across these metrics were categorized as "near-term" improvements. The **Recommended Improvements** chapter provides an overview of the recognized needs and outcomes from the prioritization exercise.

Finally, the Plan outlines an investment and implementation strategy for near-term improvements. The near-term investment strategy was developed by allocating 75%

of the investment to high priority, high ridership stops, 10% to stops that increase geographic distribution of improvements, and 15% to discretionary funds to address pressing improvements as they arise. The implementation strategy puts SamTrans in a leadership position for funding, design, and construction of near-term investments to provide more control over the implementation timeline. The estimated total near-term investment is \$53 million (2023 dollars), anticipated to be spent over three to five years starting in 2025. The **Implementation** chapter provides more details on the implementation approach, investment strategy, potential external funding sources, and clear next steps.



2

Existing Conditions





samTrans

samTrans

Assessing Existing Bus Stops

The first phase of the Plan focused on taking an updated inventory of existing stop features and amenities at SamTrans bus stops across the network as of August 2022. The inventory was used to document existing amenities, placement, and approximate dimensions at each bus stop. The inventory also incorporated posted vehicle speed data, roadway typology data, land use activity density, and other neighborhood information to determine the context at each bus stop. The final product was an online dashboard representing a comprehensive summary of SamTrans stops, to be maintained and utilized internally to quickly ascertain the existing conditions at any stop across the system and respond to constituent questions and concerns. A public-facing version of this dataset is available [here](#).

Bus Stop Inventory

The bus stop inventory assembled over 37,000 datapoints across the approximately 1,900 stops in use as of August 2022, primarily leveraging Google Streetview paired with selective field verification of 60 stops that were particularly challenging to observe by desktop review. Additional spot checks were made by SamTrans staff.

A variety of stop characteristics were examined for every stop across the network, broadly divided into elements that influence the rider experience (amenities) and elements that influence bus stop operations.

Stop characteristics inventoried included the following:

- Presence of a bus stop sign and pole
- Presence of real-time information display
- Presence of a map or route schedule
- Presence and type of shelter
- Number of benches
- Number of Simme-Seats
- Number of trash receptacles
- Bus stop location and position
- Approximate stop length
- Presence of a bus pad
- Presence of red curb
- On-street parking regulations
- Presence and control type of a crosswalk
- Presence of a sidewalk
- Possible landing pad obstruction
- Presence of curb cuts/ramps at the nearest intersection
- Presence of a driveway less than 75 feet upstream from the bus stop sign

For more information on the factors that were included in the inventory, please see the Existing Conditions Memo in **Appendix A**.

In addition to providing a systemwide look into trends, the inventory process found

that distribution of these attributes varies widely across the county. The SamTrans service area includes a wide range of communities and built environments, including urban, suburban, and rural areas; coastal and inland environments spanning several distinct climates; state highways, arterials, and neighborhood streets; and a range of socioeconomic conditions.



Defining the Need

Before BSIP, there was no defined vision or standard for adding amenities at SamTrans bus stops. Through engagement conducted as part of *Reimagine SamTrans*, the agency heard that improvements at bus stops were a priority for riders.

BSIP establishes a vision to improve the experience of waiting for the bus. This includes providing shade and a place to sit at 67% of bus stops, including all stops that are serviced throughout the day. Today, just 31% of stops provide seating and 16% provide shade.

SamTrans will also expand real-time information, providing digital signage at 67% of stops, up from less than 1% of stops today.

With the online dashboard, SamTrans can filter by community and stop to help understand the existing amenities and local context. Factsheets with an overview of existing amenities were generated for each community and are included in **Appendix A**.

Amenities and Rider Experience

The most basic amenity is a standard pole and sign, which helps riders identify where the bus will stop as well as which routes serve the stop. Today, **94%** of stops have a SamTrans pole and sign posted for riders. Remaining stops have signs mounted on streetlight poles or other existing sign posts.

Shelters can provide relief from the elements, including extreme heat, wind, and rain, and help further illuminate the presence and location of bus stops. Benches and Simme-Seats provide a place to sit, which is especially critical to riders who must wait for extended periods. Today, **16%** of stops have a shelter and **31%** have a place to sit.

Beyond these core amenities, stops can be further enhanced with additional service information for riders, such as route schedules and real-time information displays. SamTrans stops do not generally have these amenities today. Only **7%** of stops have a system map

and **less than 1% of stops** are wired for digital real-time displays, which are currently exclusively at transit centers. SamTrans stops do provide a phone number and stop ID clearly displayed where a rider can call into an automated service through 511 to receive real-time next-bus information.

SamTrans does not have direct control over the design, construction, or maintenance of sidewalks, crosswalks, or bicycle facilities—anything outside of the footprint of the stop itself. However, pedestrian and bicycle infrastructure around bus stops are almost as important to the rider experience as the stop itself. According to the [2021 SamTrans Triennial Customer Survey](#), two-thirds of all passengers walk to or from SamTrans stops. Accordingly, **90%** of SamTrans stops are placed on a sidewalk and **62%** are located adjacent to a marked crosswalk.

Table 1 provides a breakdown of existing bus stop amenities across jurisdictions.



Key Terms

Bus stop location: Bus stop location describes a stop's location relative to the travel lane. For bus stops located on-street, there are generally two configurations: “in-lane” or “pull-out” stops. In-lane stops allow for the bus to stop in the travel lane instead of pulling into the parking lane and back out into the travel lane (pull-out stops). In-lane stops minimize dwell times at bus stops and speed up service.

Bus stop position: Bus stop position describes a stop's position relative to the intersection. Bus stops are generally positioned at the near-side of the intersection, far-side of the intersection, or mid-block. Far-side stops are preferred as they allow for the bus to clear the intersection before stopping to load passengers, which is particularly beneficial on corridors with Transit Signal Priority. Near-side stops can lead to conflicts with right-turning vehicles and sight line obstructions for pedestrians crossing the street at the intersection. Far-side stops alleviate these concerns.

Table 1. Existing Bus Stop Amenities and Rider Experience Features by Jurisdiction

Jurisdiction	Total Stops	Pole & Sign	Shelter	Place to Sit	System Map or Schedule	Real-Time Information Sign	Sidewalk	Crosswalk
Atherton	24	96%	4%	17%	4%	0%	21%	33%
Belmont	74	92%	8%	23%	3%	0%	84%	46%
Brisbane	17	100%	47%	59%	24%	0%	76%	82%
Burlingame	56	96%	27%	68%	13%	0%	98%	77%
Colma	11	100%	45%	73%	36%	0%	91%	73%
Daly City	241	98%	19%	27%	10%	0%	98%	65%
East Palo Alto	68	96%	19%	32%	3%	0%	94%	56%
Foster City	81	96%	10%	14%	5%	0%	99%	58%
Half Moon Bay	38	97%	16%	24%	3%	0%	58%	34%
Menlo Park	20	95%	10%	29%	8%	0%	94%	53%
Millbrae	16	100%	25%	94%	19%	0%	100%	88%
Pacifica	117	93%	10%	12%	9%	0%	94%	60%
Palo Alto	27	78%	33%	63%	0%	0%	100%	67%
Portola Valley	17	88%	12%	12%	0%	0%	35%	47%
Redwood City	180	93%	12%	33%	4%	0%	96%	64%
San Bruno	105	94%	9%	37%	9%	0%	99%	71%
San Carlos	64	95%	13%	30%	5%	0%	94%	53%
San Francisco	58	86%	38%	41%	2%	0%	95%	81%
San Mateo	190	95%	16%	34%	5%	0%	96%	73%
South San Francisco	180	88%	16%	34%	7%	0%	99%	76%
Unincorporated San Mateo County	171	92%	14%	20%	5%	0%	63%	27%
Woodside	11	91%	9%	9%	0%	0%	27%	27%

Source: SamTrans 2022.

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Typical Bus Stop Conditions

The following examples show a variety of current trends in amenities across the SamTrans system across a variety of stop types and common scenarios.



El Camino Real Bus Stop

This stop at El Camino Real and Belmont Avenue in San Carlos shows typical conditions along El Camino Real. Route ECR is the busiest route in the system, and most stops have at minimum a sign, bench, and trash receptacle, with shelters present at some stops.



Transit Hub Bus Stop

The Redwood City Transit Center shows typical conditions at transit hubs. Most transit centers include ample shelters, benches, trash receptacles, and wayfinding information.



Residential Street Bus Stop

Typical of many routes across the network, this stop on Arroyo Drive in Daly City is located on a residential street. This is the most common type of stop across the system. Usually only a bus stop sign is provided, and there is limited space for passengers to wait for the bus.



Complete Bus Stop

With signage, wayfinding, shelter, and seating, the bus stop at Hillsdale Blvd. and Edgewater Blvd. in Foster City represents a complete stop, with all baseline amenities present.



High-Ridership Low-Amenity Bus Stop

Numerous stops in North San Mateo County serving standard routes have high ridership relative to the rest of the system, like this one on Southgate Avenue in Daly City, yet lack amenities beyond a bus stop sign.



Simme-Seat Bus Stop

Adoption of Simme-Seats across the network remains limited, with only 11 stops total. Half of these, including the stop to the left at Grand Avenue and Willow Avenue, are in South San Francisco.

Operational Factors

In addition to facilitating a comfortable rider experience, bus stop design can have a significant impact on bus operations, speed, and reliability. Given this, the existing conditions inventory also documented aspects that affect operations, including the bus stop's location, position, parking restrictions, and presence of bus pads.

Bus stop location dictates whether a bus can be serviced from the travel lane (via a sidewalk extension known as a bulb-out or bus bulb) or if it must pull over to the sidewalk. Almost **70%** of SamTrans stops require the driver to pull over.

Stops where the bus must pull over are a potential source of delay as the bus needs additional time to safely merge back into traffic.

Bus stop position describes where a stop is positioned relative to an intersection. Stops positioned on the far-side (or downstream) of an intersection are generally preferred, as they do not block visibility of the intersection, interfere with right-turning vehicle movements, or lead to delays associated with additional red time at the traffic signal. Far-side stops also help facilitate the implementation of Transit Signal Priority (TSP) by minimizing conflicts related to merging back into traffic and bus dwell time that can

add unpredictability to TSP systems. This is described further in the [El Camino Real Bus Speed and Reliability Study](#). Roughly **48%** of SamTrans stops are located on the far-side, with the balance located on the near-side of an intersection or mid-block.

The presence of on-street parking at the stop location poses challenges for individuals boarding and alighting, particularly if riders require the ramp and the bus cannot access the curb due to parked cars. **Sixty-seven percent** of stops have a parking restriction (either red-painted curb and/or signage) restricting vehicle parking. Stops serving school-oriented routes, which may see as few as one bus trip per day, represent much of the balance of stops without parking restrictions.

Bus pads can help reduce pavement damage from the weight and heat of idling buses. **Twelve percent** of stops have bus pads, with many concentrated along El Camino Real. Generally, like sidewalk and crosswalk amenities, the provision of bus pads is a responsibility of the roadway owner, such as a local jurisdiction or Caltrans. Although the primary focus of bus pads is to protect the pavement surface, it also prevents excessive wear and tear on buses' suspension, axles, wheels, and other drivetrain components caused by uneven/damaged pavement. **Table 2** provides a breakdown of existing operational factors at bus stops across jurisdictions.

Table 2. Existing Bus Stop Operational Factors by Jurisdiction

Jurisdiction	Total Stops	Pull-Out Stop Location	Far-Side Stop Location	Parking-Restriction at Stop	Bus Pad
Atherton	24	38%	54%	100%	8%
Belmont	74	54%	28%	69%	15%
Brisbane	17	82%	59%	94%	12%
Burlingame	56	43%	61%	95%	11%
Colma	11	91%	27%	91%	27%
Daly City	241	84%	49%	45%	9%
East Palo Alto	68	72%	50%	56%	4%
Foster City	81	63%	47%	75%	2%
Half Moon Bay	38	84%	45%	89%	3%
Menlo Park	20	47%	43%	86%	8%
Millbrae	16	88%	69%	100%	19%
Pacifica	117	62%	40%	60%	1%
Palo Alto	27	74%	44%	100%	15%
Portola Valley	17	65%	35%	82%	0%
Redwood City	180	72%	57%	77%	10%
San Bruno	105	68%	46%	56%	21%
San Carlos	64	81%	59%	53%	19%
San Francisco	58	48%	72%	84%	55%
San Mateo	190	69%	56%	74%	16%
South San Francisco	180	73%	42%	60%	15%
Unincorporated San Mateo County	171	73%	39%	54%	9%
Woodside	11	27%	36%	82%	9%

Source: SamTrans 2022.

Typical Bus Operating Conditions

The following examples show a variety of current trends in operational characteristics across the SamTrans system across a variety of stop types and common scenarios.



Pull-Out Bus Stop

Common along El Camino Real and other major arterials, this stop at El Camino and Hillcrest Boulevard in Millbrae illustrates a typical pull-out stop where buses often encounter delay merging back into traffic.



Bus Bulbs

Bus bulbs, like this one at Mission and Goethe in Daly City, allow buses to stop in-lane. This treatment eliminates delays that buses encounter merging into traffic. Bus bulbs can also enable space for bus shelters and shorten pedestrian crossing distances.



Near-Side Bus Stop

This stop at Magnolia and Trousdale in Burlingame is an example of a near-side stop. With this configuration, the stopped bus can block sight lines between pedestrians crossing the street and other vehicles, while also encountering conflicts with right-turning vehicles.



Far-Side Bus Stop

More typical on larger volume streets such as El Camino Real and areas with many signalized intersections, far-side stops like the one seen here in South San Francisco allow the bus to clear the intersection before serving riders, limiting the signal delay and improving bus speeds.



Bus Stop with Parking Restrictions

Many SamTrans stops across the network have on-street parking restrictions, clearly delineated by a red curb, such as this example on Whipple Avenue in Redwood City. This allows easy access to the stop for buses and passengers. However, not all stops are properly sized for buses, as illustrated in this example.



Bus Stop without Parking Restrictions

Some SamTrans stops allow parking to overlap the bus stop. For instance, this example in South San Francisco only prohibits parking on certain days for street sweeping. Vehicles blocking the stop can make it difficult for mobility-impaired passengers to access the bus.

Contextual Factors

Apart from physical elements of a stop, other community and built environment factors may influence the waiting environment at the stop. SamTrans looked at the population, demographics, heat vulnerability, and types of buildings surrounding each stop.

It is critical that SamTrans and their partners help prepare their riders and infrastructure for the current and future impacts of climate change. This Plan utilized the heat vulnerability index developed for the *SamTrans Adaptation and Resilience Plan*, which evaluated specific neighborhoods across the SamTrans service area on environmental, demographic, and socio-economic factors to assess the likely impacts of climate change. Overall, **11%** of SamTrans stops are in high-heat vulnerability areas, with another **12%** located in medium-high vulnerability areas. Communities with high concentrations of vulnerable stops include East Palo Alto, San Mateo, and San Carlos.

Reimagine SamTrans established Equity Priority Areas with the greatest potential transit needs and mobility inequities in San Mateo County. **Forty-four percent** of stops are in Equity Priority Areas. In addition, SamTrans transit riders across the whole of San Mateo County are more likely to lack vehicle access, have lower incomes, and be people of color than the overall

county population. Therefore, improving bus stops across the county will help to create more equitable transportation outcomes. Inclusion of Equity Priority Areas in this inventory builds upon the efforts of *Reimagine SamTrans* to improve the transit experience in equity priority communities.

SamTrans-defined heat vulnerability areas and Equity Priority Areas can be viewed on the online dashboard here and in the maps on the following pages.

Activity density, calculated by analyzing areas of the network based on population and job densities, was evaluated to help understand the transit propensity of an area. Transit ridership generally correlates with areas of high activity, or places generating a lot of trips, such as schools, medical centers, and commercial cores.

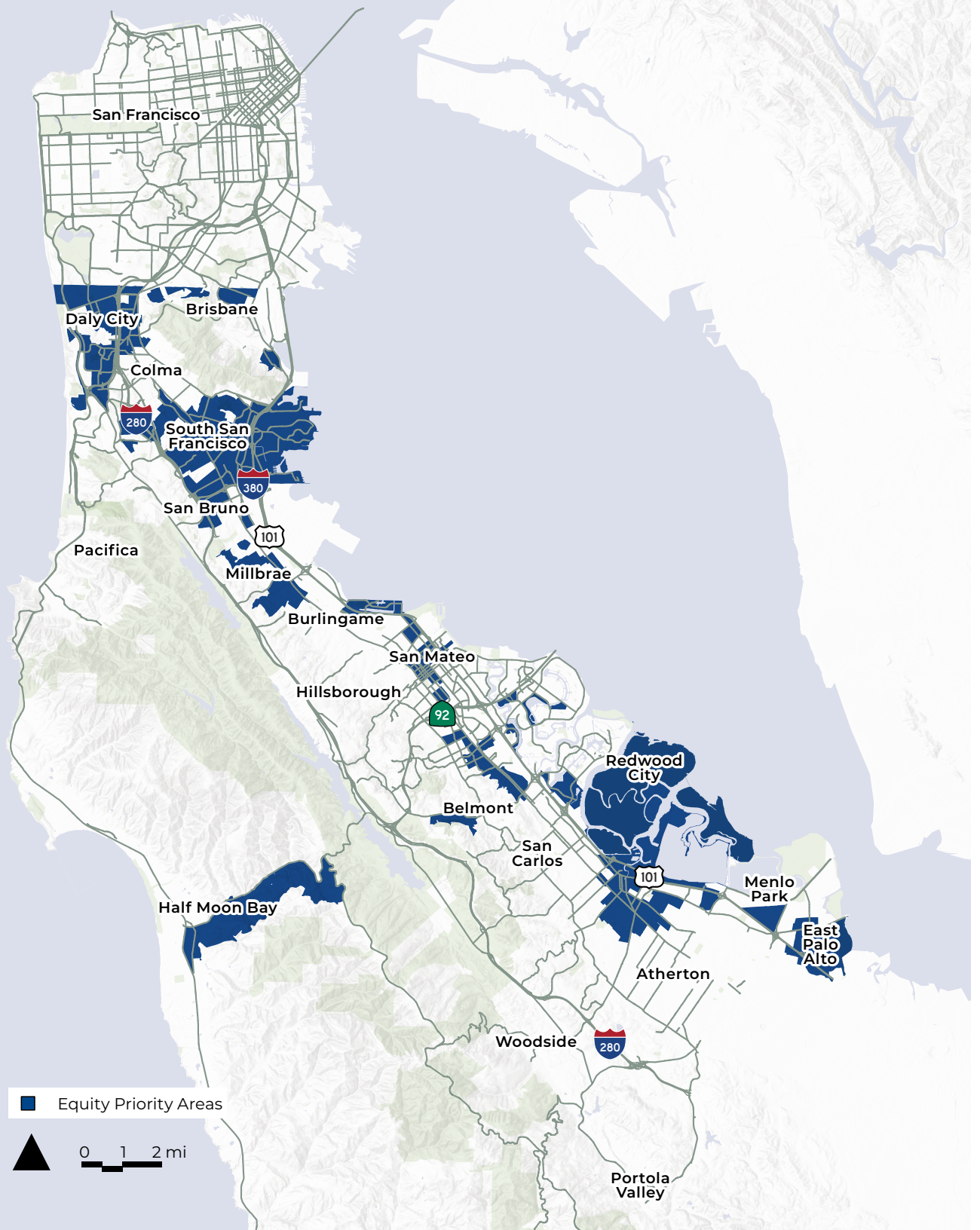
Ten percent of stops are in areas with medium-high to high levels of activity, particularly concentrated in San Francisco and Daly City. **Table 3** provides a breakdown of contextual factors across jurisdictions.

Table 3. Existing Bus Stop Contextual Factors by Jurisdiction

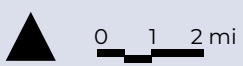
Jurisdiction	Total Stops	High/Med-High Heat Vulnerability Areas	Equity Priority Areas	High/Med-High Activity Areas
Atherton	24	0%	0%	0%
Belmont	74	30%	54%	0%
Brisbane	17	0%	53%	0%
Burlingame	56	2%	34%	9%
Colma	11	0%	9%	0%
Daly City	241	3%	87%	33%
East Palo Alto	68	60%	94%	19%
Foster City	81	0%	32%	2%
Half Moon Bay	38	0%	45%	0%
Menlo Park	20	0%	23%	0%
Millbrae	16	0%	81%	0%
Pacifica	117	0%	3%	0%
Palo Alto	27	0%	7%	0%
Portola Valley	17	0%	0%	0%
Redwood City	180	21%	42%	11%
San Bruno	105	35%	43%	5%
San Carlos	64	61%	0%	14%
San Francisco	58	64%	5%	34%
San Mateo	190	60%	42%	8%
South San Francisco	180	48%	74%	13%
Unincorporated San Mateo County	171	9%	31%	1%
Woodside	11	0%	0%	0%

Source: SamTrans 2022.

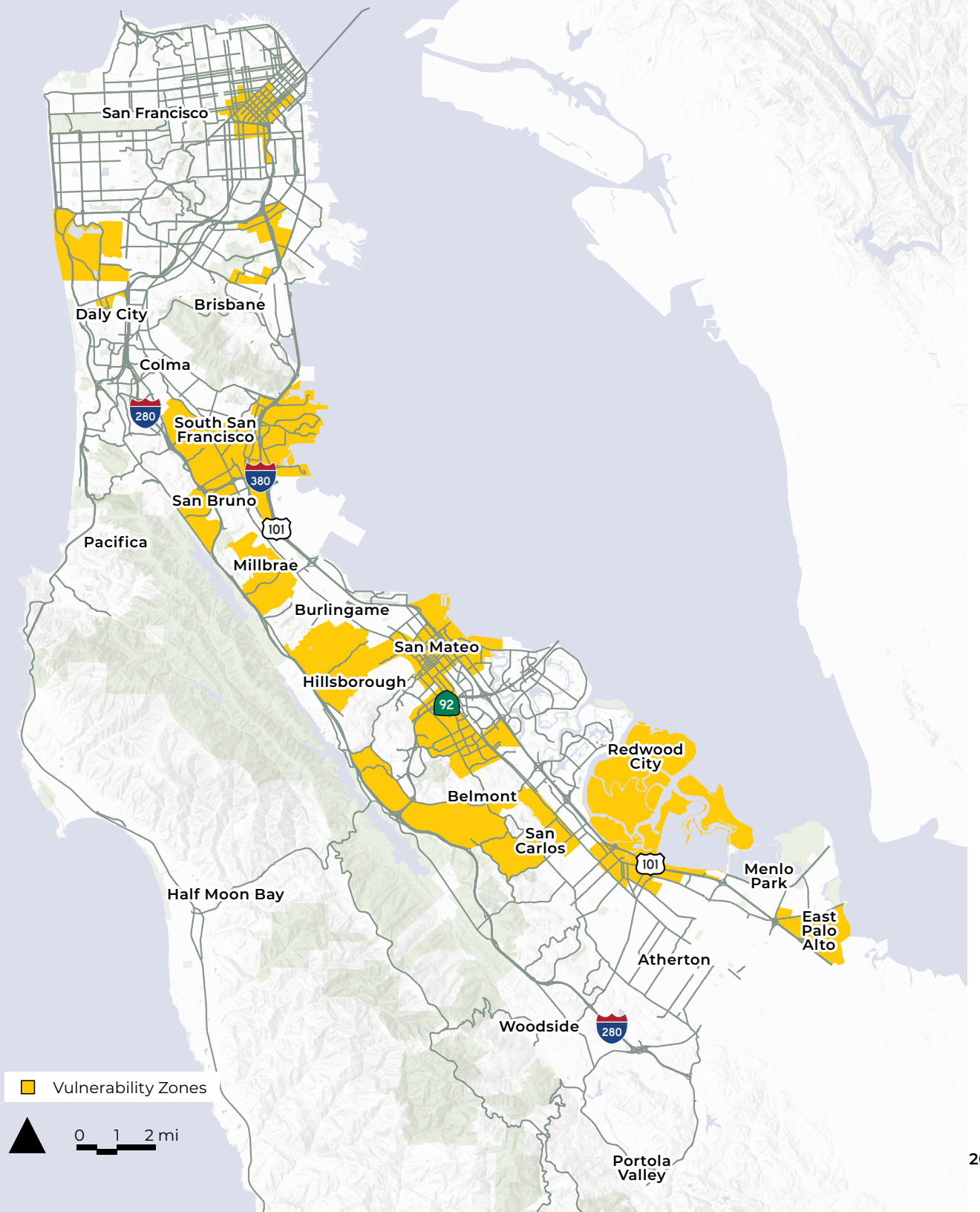
Equity Priority Areas



■ Equity Priority Areas



Medium-High and High Heat Vulnerability Zones



3

Outreach & Engagement

**EL CAMINO REAL (ECR)
BUS SPEED & RELIABILITY STUDY**

 SamTrans wants your feedback for faster ECR service.
Comment by May 20, 2022

SamTrans quiere tu opinión un servicio más rápido en ECR.
Haga sus comentarios a más tardar el 20 de mayo.

SamTrans 希望得到您对加快ECR路线服务的反馈意见
请在5月20日之前提交评论·信息查询

 ecrstudy@samtrans.com
[samtrans.com/ecrstudy](https://www.samtrans.com/ecrstudy) 1-800-438-7272



Engaging Riders, Stakeholders, and Staff

The Plan used a three-pronged engagement approach to incorporate perspectives from community stakeholders, SamTrans riders, and SamTrans staff. Stakeholders included local jurisdictions across the SamTrans service area and were convened through regular Public Agency Working Group sessions and a series of presentations to standing stakeholder meetings. SamTrans rider

engagement focused on reaching a large and diverse rider base that reflects the people who use SamTrans services. Finally, SamTrans staff engagement focused on establishing working groups and regular communication with the SamTrans Executive Team. The project's engagement timeline is shown below.

Feedback received from riders and stakeholders was incorporated into the Guidelines and the prioritization approach for recommended improvements.

Public Agency Working Group Engagement

SamTrans convened three meetings with the Public Agency Working Group (PAWG) to discuss elements of the Plan:

- **Session #1** focused on understanding existing processes, policies, and practices for getting bus stop improvements in the ground. The meeting attendees were organized

Stakeholder Engagement Timeline

2022 2023

December

Public Agency Working Group Meeting 1

51 attendees representing 22 jurisdictions

March

Stakeholder Advisory Group (SAG) Meeting

March

March/April: BSIP Rider Survey—distributed online and in-person at 17 outreach events—yields 684 responses.

Presentation to Chamber San Mateo County Public Policy Committee

Presentation to SamTrans Accessibility Advisory Council

Presentation to Transportation Equity Allied Movement Coalition (TEAM C)

Presentation to San Mateo County Commission on Disabilities Accessible Transportation Committee

April

Presentation to San Mateo County Economic Development Association (SAMCEDA) Housing, Land Use, and Transportation Committee

April

April/May: SamTrans holds 31 listening sessions with off-peak riders, limited to non-English speakers, older adults and people with disabilities, and parents/caretakers.

by the four subregions that compose San Mateo County—Coastside, North County, South County, and Mid County.

- **Session #2** included an overview of the bus stop categories and the draft SamTrans Bus Stop Design Guidelines. Participants were also given an opportunity to comment on the Guidelines.
- **Session #3** focused on funding, phasing, and the implementation approach, including a discussion about potential partnership opportunities between SamTrans and local jurisdictions.

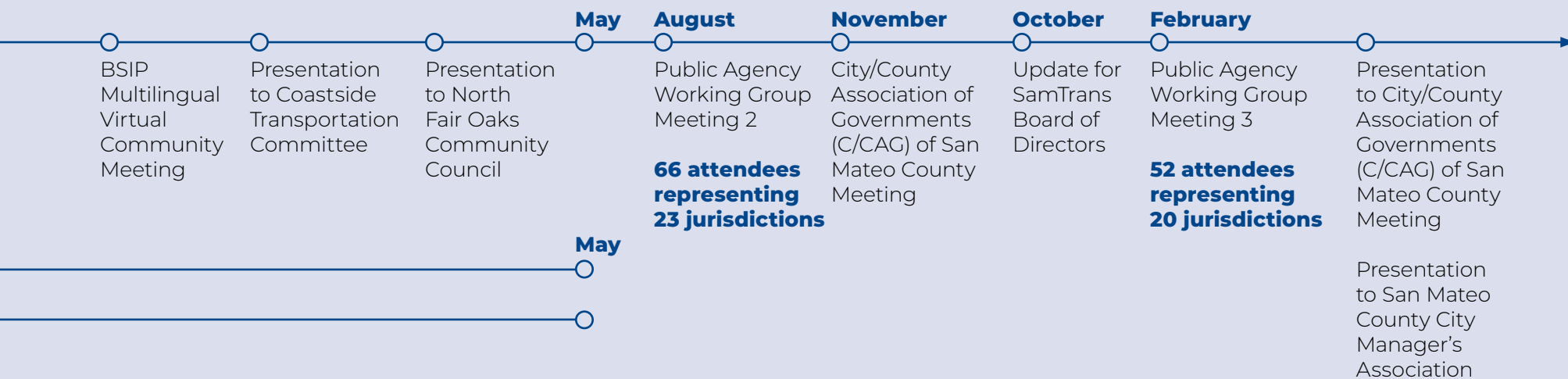
Stakeholder Engagement

SamTrans staff engaged with several other external groups:

- SamTrans Stakeholder Advisory Group (SAG)
- SamTrans Citizens' Advisory Committee (CAC)
- City/County Association of Governments (C/CAG) of San Mateo Congestion Management Technical Advisory Committee

- San Mateo County City Manager's Association
- San Mateo County Chamber of Commerce
- SamTrans Accessibility Advisory Council
- San Mateo County Commission on Disabilities
- Coastside Transportation Committee
- North Fair Oaks Community Council
- East Palo Alto Transportation Commission
- San Mateo County Economic Development Association (SAMCEDA)
- Transportation Equity Allied Movement Coalition (TEAM C)

2024



Multilingual engagement materials for the Bus Stop Improvement Plan



SamTrans is making a plan to improve our bus stops!

The Bus Stop Improvement Plan will:



ANALYZE EXISTING BUS STOPS
so we have data on what each bus stop looks and feels like.



CREATE CLEAR DESIGN GUIDELINES
to help make bus stops more consistent and provide the amenities that are most important to our riders.

Fall
2022

Bus Stop
Inventory

Spring
2023

Stop
Guidelines

Summer
2023

Imple-
mentation
Plan

Fall
2023

DESARROLLAR UN PROCESO CON



SamTrans正在针对我们的巴士站制定改善计划!

本「巴士车站改善计划」包括:



分析现有的巴士车站
以了解每个车站的现状及使用体验



制定清晰明确的巴士站设计指南
使各站有更加一致的设计,且能提供对乘客最重要的设施。

2022年
秋季

巴士站
盘点

2023年
夏季

旅行计划

2023年
春季

巴士站
设计指南

2023年
秋季

与地方政府合作制定流程



¡SamTrans está creando un plan para mejorar las paradas de autobús!

El Plan de Mejora de las Paradas de Autobús hará lo siguiente



ANALIZAR LAS PARADAS QUE YA EXISTEN
para obtener información actualizada sobre la condición de cada parada de autobús.



CREAR PAUTAS CLARAS
para que las paradas tengan un diseño uniforme y que ofrezcan los elementos deseados por nuestros pasajeros.

Ototoño
2022

Inventario
de las
Paradas de
Autobús

Verano
2023

Plan de
Imple-
mentación

Primavera
2023

Pautas de
Diseño

Ototoño
2023

DESARROLLAR UN PROCESO CON

(contd. from page 24) Members of these groups received updates and an opportunity to give feedback throughout the Plan. Feedback from stakeholders was incorporated into the 2023 SamTrans Bus Stop Design Guidelines, as well as into the implementation plan and investment strategy included in this Plan. Examples of themes that routinely came up in PAWG meetings included the following:

- Need for clarity on ownership and maintenance responsibilities for bus stop amenities.
- Preference for consolidating bus stop improvement guidance and resources to one standardized location.
- Desire for greater collaboration between SamTrans and local jurisdictions, including advancing project sharing, data sharing, and cost-sharing opportunities.

- Excitement about having clearly defined amenities by bus stop category.
- General interest in having clearer design guidance, particularly around bus boarding islands, bus bulbs, and bike lane interface with bus stops.
- Limited staff availability and funding to support implementation, but interest in continued collaboration with SamTrans in a leadership role.

Rider Engagement

SamTrans regularly engages with its riders on a variety of topics and received insightful information from more than 8,000 riders as part of the *Reimagine SamTrans* public outreach efforts conducted in 2020-2021. It was important to the Plan's project

management team to respect riders' time and not to ask the same questions twice. Given this, outreach began with a thorough review of prior SamTrans engagement efforts to understand feedback already received regarding bus stops. The team reviewed the following engagement data:

- C/CAG Community Based Transportation Plans, including Daly City and North Fair Oaks
- SamTrans Customer Satisfaction Survey (2019)
- SamTrans Triennial Survey (2021)
- Reimagine SamTrans (2022) -Public Outreach, Market Research, and Operator Survey

In previous engagement efforts, riders requested additional shelters and benches,

improved lighting, improved cleanliness, and real-time information at stops throughout the service area. What was not able to be gleaned from prior engagement efforts is how riders would prioritize these improvements and rank them for relative importance. A rider survey was developed to address these two gaps in feedback.

The Plan survey received 684 responses over a six-week period in the spring of 2023. The survey was offered in several languages (including Spanish, Simplified Chinese, Traditional Chinese, English) and was promoted online, on buses, at bus stops, and through the SamTrans ambassador program. Key takeaways included the following:

- Riders had the lowest satisfaction with the lack of shelters, real-time information, and lighting at bus stops.
- The top two requested amenities were shelters and real-time arrival information.
- Survey respondents noted that shelters, seating, and real-time information are especially important at locations with less frequent SamTrans service. These stops are where riders may be waiting for a transit vehicle for a longer time.
- Lighting is most important to riders firstly at stops that do not have lighting from nearby buildings or businesses, and secondarily where long wait times are expected.
- Other amenities polled were considered less important to riders, including additional trash cans, places to charge devices, bike racks, and better system maps.

To supplement survey results, 31 in-depth, one-on-one in-language listening

sessions in English, Spanish, Chinese, and Tagalog were conducted in the spring of 2023 to hear directly from the following specific rider populations that are often missing from the conversation:

- Off-peak riders
- Limited to no-English speakers
- Older adults and people with disabilities
- Parents and caretakers

Interview process and detailed takeaways are included in **Appendix B**. Key themes from these listening sessions include the following:

- Participants in the study generally rely on SamTrans as their primary means of transportation, including for non-work trips.
- Respondents consistently prioritized the installation of more covered shelters at bus stops and nearly unanimously cited a pressing need for additional seating.
- Riders voiced personal safety concerns at SamTrans stops and want more lighting at bus stops to increase visibility for on-street traffic and to deter criminal activity.
- The interplay between infrequent schedules and the lack of real-time arrival information creates a situation that both worsens and increases the stakes for participants' fundamental personal safety concerns at bus stops.
- A common goal among riders is to spend as little time at bus stops as possible. Bus frequency and reliability is crucial for riders to make appointments and be on time for work.

SamTrans Staff Engagement

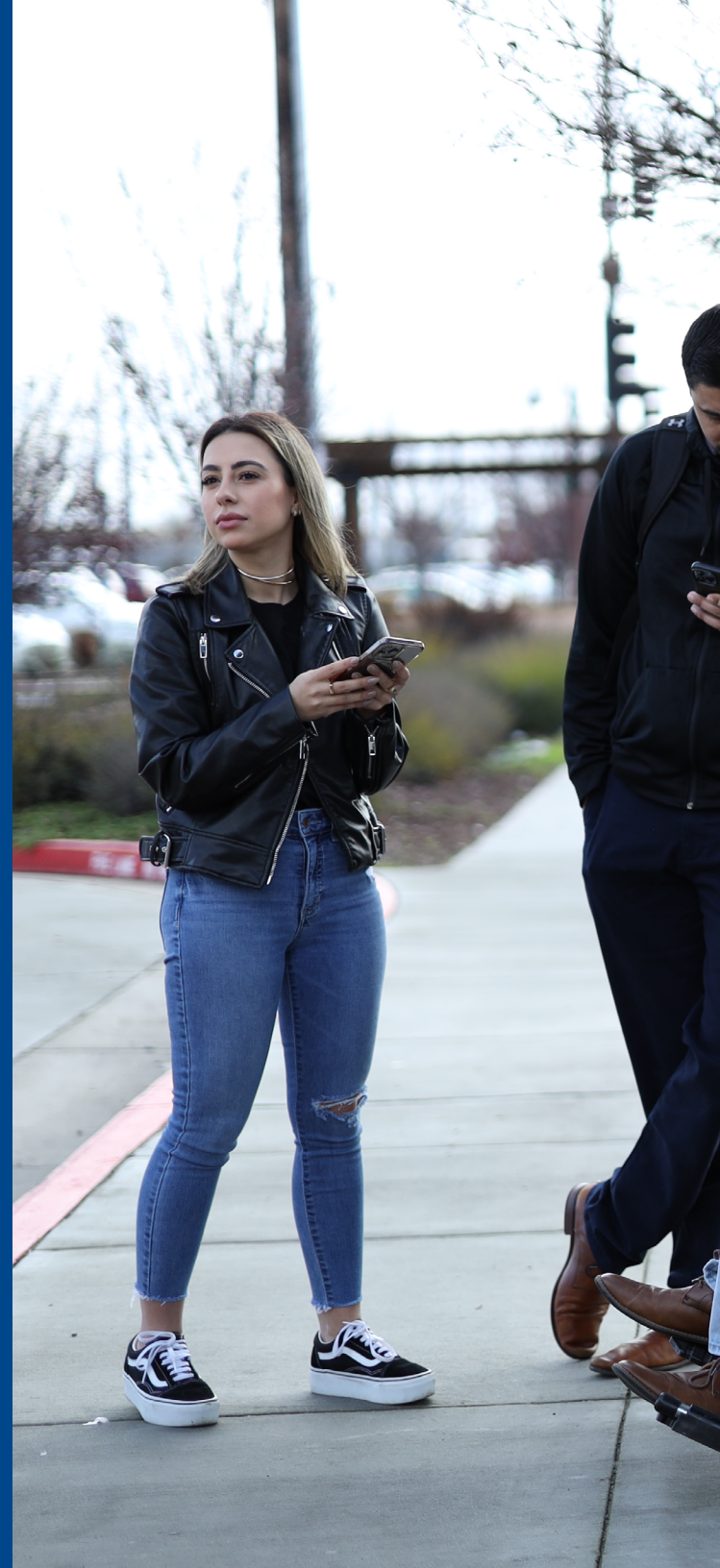
Throughout the Plan, the team engaged with staff at all levels of the organization. This effort was instrumental to inform the development of an implementation plan that is ready to be delivered. Several updates were presented to the SamTrans Executive Team and Board of Directors. Key themes from SamTrans staff engagement include the following:

- SamTrans Executive leadership and Board of Directors expressed a desire to think boldly about the Plan's vision and to implement improvements quickly.
- Staff indicated that additional staffing support will be needed to support Plan implementation while maintaining state of good repair and implementing routine bus stop adjustments.
- Staff and leadership said the Plan should consider recent or parallel planning efforts, such as *Reimagine SamTrans*, *SamTrans Adaptation and Resilience Plan*, *SamTrans ADA Transition Plan*, and the *District Strategic Plan*.

A summary of key takeaways from all engagement efforts, including PAWG meeting summaries, listening session summaries, and survey summaries, is included in **Appendix B**.

4

Recommended Improvements





Cantor Arts Center
at Stanford University

Visit the Cantor
Always fr

SanTrans

SamTrans' Vision for Bus Stops

SamTrans is committed to providing a **comfortable, convenient, and dignified** experience for riders at bus stops. SamTrans has set the following goals for every rider's experience when waiting for the bus:



Convenient

Provide a stop environment that is convenient to use, featuring appropriate curb access and a sidewalk free from obstructions.



Informative

Provide service information to riders at bus stops, including schedules and the ability to access real-time arrival data.



Comfortable

Provide shelter and a place to sit at all-day stops.

The vision shown above for SamTrans riders' experience reflects valuable input from riders and stakeholders

The team followed a four-step process to identify needed bus stop improvements across the network as shown in the diagram to the right. Steps one and two are included in detail in the *2023 SamTrans Bus Stop Design Guidelines* (see **Appendix C**).

Bus Stop Improvements Process

Step 1

Categorize bus stops by service frequency and type.

Step 2

Define minimum bus stop amenities for each bus stop category.

Step 3

Identify improvements necessary at each stop to meet minimum.

Step 4

Prioritize improvements by bus stop.

Transitioning from Outreach & Engagement to Recommended Improvements

Who	What We Heard	How We Responded
Public Agency Working Group	Need for clarity on ownership and maintenance responsibilities for bus stop amenities.	Clearly identified ownership and maintenance responsibilities for all amenities in the <i>2023 Bus Stop Design Guidelines</i>
Public Agency Working Group	Preference for consolidating bus stop improvement guidance and resources to one standardized location.	Created the <i>2023 Bus Stop Design Guidelines</i> as a single, consolidated resource on bus stop design
Public Agency Working Group	Desire for greater collaboration between SamTrans and local jurisdictions.	Reinforced communication channels between staff at partner agencies and SamTrans through one-on-one emails and follow-ups after Public Agency Working Group meetings. Hired a bus stop coordinator/planner. Established a go-to email address for bus stop questions: bus.stops@samtrans.com
Public Agency Working Group	Looking for clearer design guidance, particularly around bus boarding islands, bus bulbs, and bike lane interface with bus stops.	Provided clear guidance in the <i>2023 SamTrans Bus Stop Design Guidelines</i> on the bus/bike interface and design treatments available to agencies to manage conflicts.
Public Agency Working Group	Limited availability and interest to support SamTrans in bus stop improvement funding, design, and construction.	Established an implementation plan that puts SamTrans in a leadership role on funding, design, and construction to help minimize demands on staff time at partner agencies.
Riders	Requested shelters, seating, and real-time information at locations where riders may be waiting for a transit vehicle for a longer time.	Defined a place to sit, real-time information, and shelter (either through a shelter or shade structure) as minimum required amenities at the 65% of stops that receive service for at least twelve hours a day, even those serviced just once an hour.
Riders	Amenities like additional trash cans, places to charge devices, bike racks, and better system maps were ranked lower in importance.	Moving away from providing and maintaining trash cans at stops and, instead, provide trash cans on all buses. Local jurisdictions may still choose to add and maintain their own trash cans adjacent to bus stops as they see fit.
Riders	Request for more lighting at bus stops to increase visibility and deter criminal activity.	All new shelters will come equipped with built-in lighting. Unfortunately, SamTrans does not own or maintain streetlights outside of lighting built into shelters. SamTrans will continue to work with local jurisdictions to elevate street lighting as an important amenity to provide near stops, and will look for stand-alone, solar-powered options that can be installed in the interim.

Step 1. Bus Stop Categories

The 2023 SamTrans Bus Stop Design Guidelines establish bus stop categories for all stops across the SamTrans system. Categorizing bus stops helps condense hundreds of different stops into a few standardized configurations that have easily quantifiable thresholds for minimum amenity provisions and implementation.

All SamTrans bus stops were placed into one of three categories based on transit service frequency: Frequent, Standard, or School-Oriented/Other. **Table 4** provides definitions and number of stops in each category. Using transit service frequency to categorize stops provides several key benefits:

- It is relatively easy for someone to identify a stop's category by looking at the schedules for the stop.
- It aligns with the priorities set forth

in *Reimagine SamTrans* to focus service investment on high ridership corridors and equity priority areas.

- It parallels transit service planning best practice, generally based on key contextual factors such as land use, transit propensity, and activity density. By categorizing based on transit service levels, these factors are indirectly considered.

The project's online dashboard includes the bus stop category for each stop.

Table 4. Bus Stop Categories

Category	Definition	Stops (Percent)	Stops (Number)
Frequent	Weekday SamTrans bus service at least four times per hour for at least 12 hours per day.	20%	374
Standard	Weekday SamTrans bus service every 20-60 minutes (at least once per hour) for at least 12 hours per day.	45%	877
School-Oriented/ Other	Stops served only a few times per day by school-oriented routes or express service.	35%	615

Source: SamTrans 2024.



Key Takeaways

SamTrans stops are organized into **three categories** based on the **amount of transit service provided**.

20% of stops are Frequent stops,

served by a SamTrans bus at least four times per hour for at least 12 hours per day.

45% of stops are Standard stops,

served by a SamTrans bus at least once per hour for at least 12 hours per day.

35% of stops are School-Oriented/Other stops,

served by only a few buses per day, generally during peak hours in the morning and/or evening.

Step 2. Applying the SamTrans Bus Stop Design Guidelines

The *2023 SamTrans Bus Stops Design Guidelines* also establish the minimum required amenities for each stop category. It provides clear guidance for developers constructing new projects adjacent to existing SamTrans stops and to local jurisdictions implementing streetscape projects along corridors with SamTrans service. The Guidelines consolidate and update policies that previously governed bus stop amenity placement to standardize and streamline amenity policy. The required amenities in the Guidelines are also easy to understand for the public and are easy for internal and external stakeholders, such as developers and jurisdictional partners, to apply.

Table 5 identifies the minimum required amenities by stop category. If a shelter or shade structure is identified for a stop, but there are space constraints at the sidewalk, SamTrans will work with the local jurisdiction to explore amenities that have smaller footprints, explore opportunities to widen the sidewalk, or relocate the bus stop to provide those amenities.

Table 5. Minimum Required Amenities by Bus Stop Category¹

Amenity	Frequent	Standard	School-Oriented/Other
Standard Pole & Sign	•	•	•
Shelter ²	•	• ⁴	
Shade Structure		• ⁴	
Bench or other seating		• ⁴	
Map & Schedule	•	•	
Bus Bulb/Boarding Island ³	•		
Real-Time Information ⁵	•	•	•

Source: SamTrans 2024.

Notes:

1. Note that conditions at the stop, including available right-of-way and sidewalk width may impact amenities that can be implemented at the stop. Minimum amenities are subject to engineering feasibility.
2. Full shelter includes seating.
3. Subject to street geometry and conditions at stop.
4. Standard stops should provide shade and a place to sit. High-ridership stops should provide shelters. Low-ridership stops should provide, at minimum, a shade structure and bench or other seating.
5. Real-time information could include full-color displays, paper cast solar-powered displays, and/or QR codes.



What About Trash Cans?

SamTrans is moving away from providing and maintaining trash cans at stops and, instead, provides trash cans on all buses. Local jurisdictions may still choose to add and maintain their own trash cans adjacent to bus stops as they see fit.



Expanding amenities at stops as described in the Guidelines represents a large and varied investment to bus stops across the network, with almost all stops recommended to receive improvements.

Refer to **Appendix C** for the *2023 SamTrans Bus Stop Design Guidelines* for additional guidance on accessibility requirements and bus stop layouts.

Certain amenities are subject to more flexibility in the style or type of amenity provisions at each stop. The following examples are outlined in the *2023 SamTrans Bus Stop Design Guidelines*:

- Shade and seating should be provided at all Standard stops, but whether it's provided by either a shelter or shade structure and bench is flexible.
- Frequent stops should see bus bulbs or boarding islands where feasible based on roadway and transit speeds, if a bicycle facility is present, and roadway geometry.
- Real-time information should be provided to all riders at Frequent and Standard stops, but the type of real-time information device is flexible.

A methodology was developed to determine when and how amenities should be distributed across stop category types, which was then used to develop quantities and cost estimates. The sections below outline the methodology.

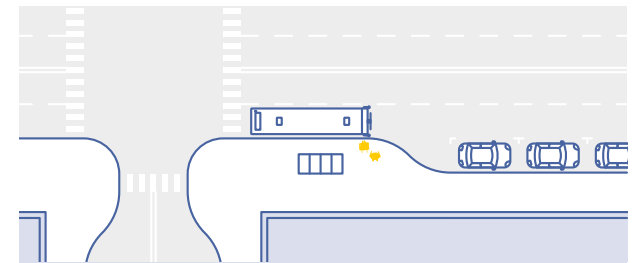
Shade and Seating at Standard Stops

The Guidelines specify that Standard stops require shade and a place to sit, which could be achieved through a full shelter or a shade structure and bench. Many Standard stops lack the ridership that would be necessary to justify investment in a shelter. Therefore, ridership was used to determine which Standard stops would be candidates to receive shelters. Standard stops in the top 25th percentile of boardings are assumed to receive full shelters, while all others would receive shade structures and benches.

Bus Bulbs and Boarding Islands

Bus bulbs and boarding islands serve two primary purposes for transit riders: they allow for in-lane stopping, which improves transit speeds and reliability, and they provide additional sidewalk space for amenities. They are also particularly costly investments. To maximize the return on investment, Frequent stops were analyzed through the following lenses to narrow the list of stops where bus bulbs/boarding islands may be recommended:

- **Pull-out stops:** Only existing pull-out stops are eligible for bus bulbs/boarding islands. In-lane stops either already have a bus bulb/boarding island or do not have the roadway geometry needed to implement them.
- **Low transit speeds:** Corridors with low average bus speeds today (<12.5 miles per hour during the PM peak period) were identified and considered for bus bulb/boarding islands, as they would benefit the most from the transit speed and reliability improvements.
- **Number of boardings:** Stops with high on-boardings better justify the investment of a bus bulb/boarding island, as more riders directly benefit. Frequent stops in the top quartile of on-boardings were considered.



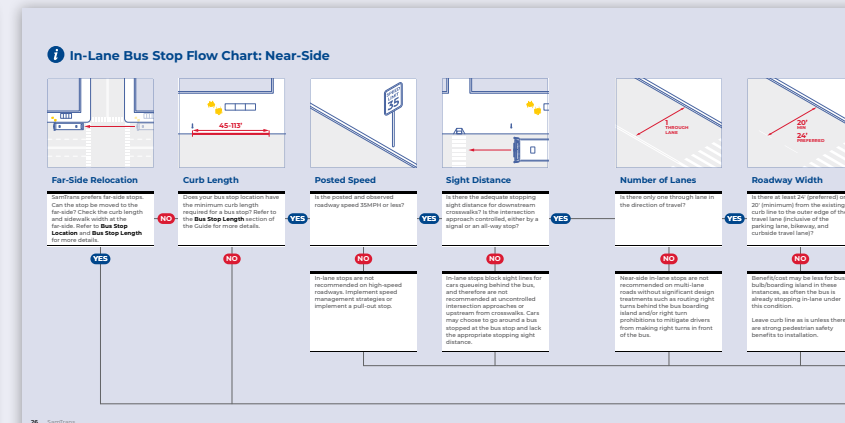
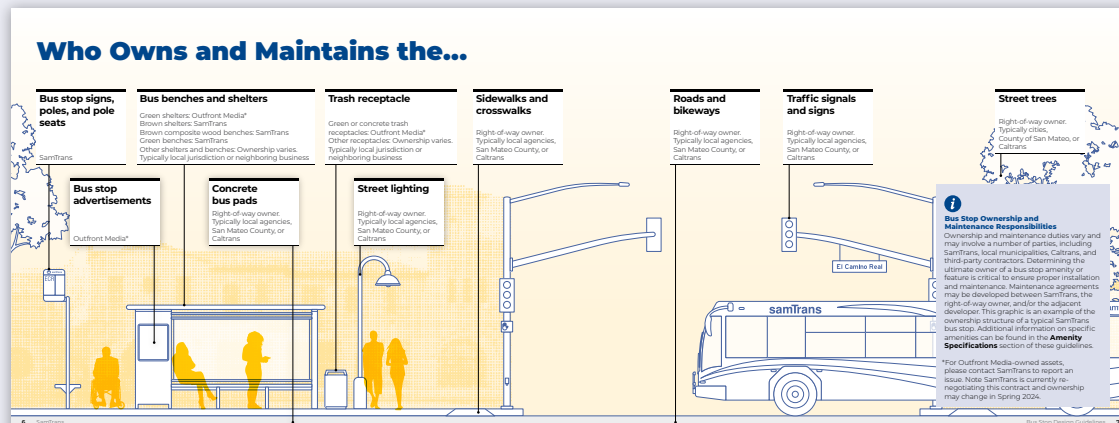
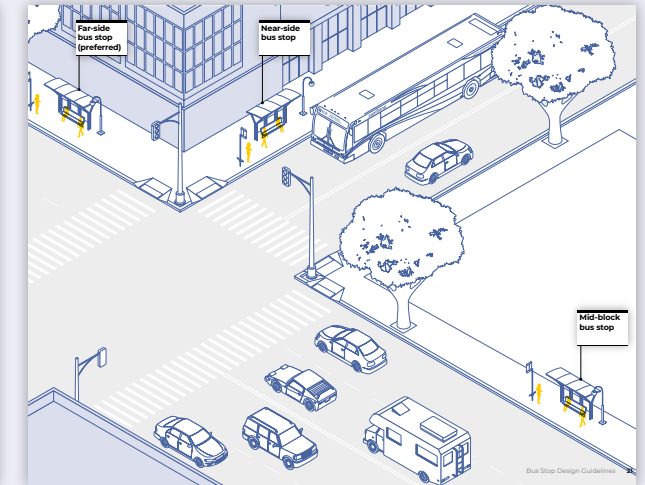
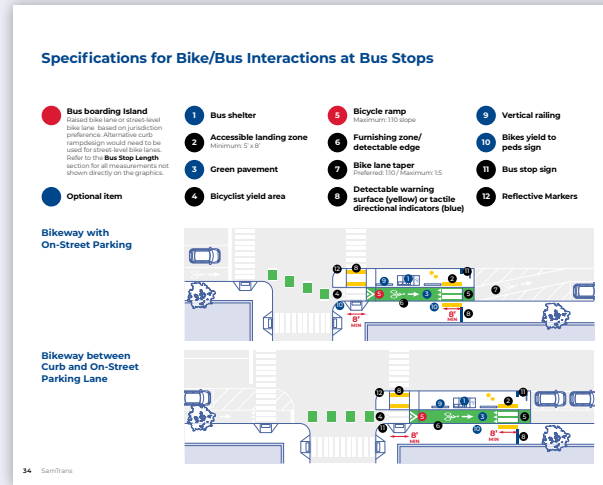
Bus Bulbs

Bus bulbs and boarding islands allow for in-lane stopping, and they provide additional sidewalk space for amenities.

2023 SamTrans Bus Stop Guidelines

SamTrans refreshed the agency's bus stop guidelines, which had last been updated in 2013. The *2023 SamTrans Bus Stop Design Guidelines* provide clear, concise guidance for bus stop amenities, location, position, and access. The Guidelines are designed for internal and external use, including by local jurisdiction staff, developers, and peer agencies. Internal stakeholders may use the Guidelines when identifying amenity upgrades at an existing stop or providing amenities at a new stop. External stakeholders may use the guidelines to understand how to properly design for SamTrans bus stops alongside new private development projects or streetscape improvements. The *2023 SamTrans Bus Stop Design Guidelines* are included as **Appendix C** and [online](#).

Excerpts from 2023 SamTrans Bus Stop Design Guidelines





Real-Time Information Displays



Full-Color Real-Time Arrival Display



Marquee Real-Time Arrival Display

- **Narrow sidewalks:** Investment in bus bulbs/boarding islands at stops with narrow sidewalks can provide the additional space needed for a shelter to be added. Stops with sidewalks less than eight feet wide were also considered.

Additionally, if a Frequent stop is served by Route ECR, a bus bulb/boarding island is recommended, as the *ECR Bus Speed and Reliability Study* recommended bus bulbs or boarding islands at all stops along the corridor.

If a Frequent bus stop meets all these requirements, a bus bulb/boarding island may be recommended. Bus bulbs and boarding islands are subject to other engineering feasibility checks, including vehicle speeds, volumes, and roadway geometry that would be part of engineering plans for each stop. More on the methodology and breakdown is included in **Appendix D**.

Real-Time Information

Several real-time information strategies are proposed at as many stops as possible. The type of information to be provided (where feasible) includes the following:

- Full-color screens at Frequent stops in the top 10th percentile of boardings (139 stops).
- Marquee-type screens at all other Frequent stops (235 stops).
- Papercast “e-reader”-like solar displays at all Standard stops (877 stops).
- QR codes at all stops, including School-Oriented/Other, that, when scanned, direct the rider to a stop-specific webpage with real-time arrival information (1,866 stops).

Step 3. Recommended Improvements

The defined minimum amenities from the *2023 SamTrans Bus Stop Design Guidelines* (**Table 5**) were compared with the existing amenities from the bus stop inventory at a stop-by-stop level. By understanding the current amenities at a stop and comparing them to the minimum recommended amenities by stop category, the project team was able to estimate the number of amenities across the network that would be needed to bring all stops into alignment with amenity recommendations in the Guidelines. This analysis resulted in the recommended improvements summarized in **Table 6**.

When fully implemented, the amenity recommendations represent a 375% increase in the number of shelters, a 150% increase in the amount of seating at bus stops, and the



"Papercast" Real-Time Arrival Display



QR Code for Real-Time Information

introduction of real-time information at all bus stops that see a SamTrans bus at least once per hour throughout the day, representing substantial progress in addressing the greatest needs identified by SamTrans riders. Recommended improvements by bus stop are included in **Appendix E. Table 7** identifies the recommended improvements, broken down by jurisdiction.

Step 4. Prioritization Framework

Recommended improvements were prioritized into three buckets: high, medium, and lower priority. The prioritization methodology was developed in alignment with prior planning efforts, including *Reimagine SamTrans* and the *SamTrans Adaptation and Resilience Plan*. **Table 8** describes the different indicators that were a part of the prioritization framework. Based on its prioritization score, each stop was categorized as high priority, medium priority, or lower priority improvements. High priority stops are generally among the highest ridership in the system or have high ridership and are in an Equity Priority Area and/or a heat vulnerability zone. They represent around 190 stops across San Mateo County and have average daily ridership 2.5 times the systemwide average. Medium

priority stops have average ridership but may not be in an Equity Priority Area or a heat vulnerability zone. They represent around 430 stops. Lower priority stops have below-average ridership, already have shelters, lack sidewalks, or are generally outside of Equity Priority Areas and/or heat vulnerability zones. They represent about 1,250 stops. More information on the prioritization approach, including how each factor was weighted, is included in **Appendix E. Table 9** summarizes the stop prioritization by jurisdiction.

Table 6. Recommended Improvements by Bus Stop Category

Needed Amenities	Frequent	Standard	School Oriented/ Other	Total Recommended Improvements	Existing Amenities	Total after Implementation
Standard Pole & Sign	20	69	29	118	1,748	1,866
Shelter	246	87	N/A ²	333	291	624
Shade Structure	N/A ²	655	N/A ²	655	0	655
Bench	N/A ²	581	N/A ²	581	297	878
System Map	323	829	N/A ²	1,152	99	1,251
Route Schedule	364	872	N/A ²	1,221	30	1,251
Bus Bulb or Boarding Island	160	N/A ²	N/A ²	160	0	160
Real-Time Information (Digital Display)	374	877	N/A ²	1,237 ¹	14	1,251
Real-Time Information (QR Codes)	374	877	615	1,866	0	1,866
Total Inventoried Stops	374	877	615	1,866¹	1,866¹	1,866¹

Source: SamTrans 2024.

Notes:

1. The bus stop inventory was completed in fall 2022 and included 1,871 stops. Since the original inventory, five stops have been taken offline and are no longer serviced.
2. These numbers are subject to change based on SamTrans service changes and engineering feasibility.

Table 7. Recommended Improvements by Jurisdiction

Jurisdiction	Standard Pole & Sign	Shelter	Shade Structure	Bench	System Map	Route Schedule	Bus Bulb or Boarding Island	Real-Time (Digital)	Real-Time (QR)
Atherton	1	7	4	4	11	12	0	12	24
Belmont	6	10	19	15	33	35	9	35	74
Brisbane	0	0	4	3	8	12	0	12	17
Burlingame	2	18	14	4	39	46	5	46	56
Colma	0	6	0	0	7	11	8	11	11
Daly City	6	76	83	78	180	203	26	203	241
East Palo Alto	3	16	33	30	58	60	5	60	68
Foster City	3	0	13	13	14	16	0	16	81
Half Moon Bay	1	3	27	25	35	36	0	36	38
Menlo Park	6	14	24	20	38	47	6	47	120
Millbrae	0	12	0	0	13	16	14	16	16
Pacifica	8	9	66	65	77	85	0	86	117
Palo Alto	6	5	13	7	27	27	4	27	27
Portola Valley	2	0	0	0	0	0	0	0	17
Redwood City	13	19	73	54	102	109	16	109	180
San Bruno	6	15	50	45	70	68	15	73	105
San Carlos	3	11	22	21	36	39	10	39	64
San Francisco	8	10	23	23	53	54	1	54	58
San Mateo	9	44	68	62	132	137	19	138	190
South San Francisco	21	46	48	47	111	123	20	123	180
Unincorporated San Mateo County	13	12	70	64	106	98	2	106	171
Woodside	1	0	1	1	2	2	0	2	11

Source: SamTrans 2024.

Table 8. Prioritization Framework Criteria and Indicators

Criteria	Indicators	Description	Direction of Impact on Prioritization Score
Impact	Boardings	Using boardings in prioritization allows SamTrans stops with high utilization to receive amenity upgrades sooner, spreading benefits to a greater number of riders.	Positive (up to five points depending on boarding)
Equity	Equity Priority Area	Stop presence within SamTrans-defined Equity Priority Areas was used as the primary equity indicator. 44% of SamTrans stops are in Equity Priority Areas. Equity Priority Areas are defined by <i>Reimagine SamTrans</i> .	Positive (up to one point if in Equity Priority Area)
Impact from high-heat events	Heat vulnerability index	SamTrans-defined heat vulnerability zones were used as the primary climate vulnerability indicator. 23% of stops are in medium-high or high heat vulnerability areas. Heat vulnerability indices are defined by the <i>SamTrans Adaptation and Resilience Plan and shown on Page 20</i> . Additionally, high temperatures are a serious threat to human health that can result in medical emergencies.	Positive (up to one point if in heat vulnerability zone)
Feasibility	Lack of sidewalk	The presence of a sidewalk was used as an indicator of the feasibility of installing amenities within the existing footprint of the stop. Note that 82% of stops with no sidewalks are located outside of Equity Priority Areas; therefore, this is expected to have limited to no impact on equitable distribution of prioritization.	Negative (excluded from high priority consideration if lacking sidewalk)
Lack of immediate need	Existing shelter	Roughly 16% of SamTrans stops already have a shelter installed. As these stops have an above-average level of amenities compared to the majority of stops, they are de-prioritized for any amenity improvements.	Negative (excluded from high priority consideration if there is an existing shelter).

Source: SamTrans 2024.

Table 9. Prioritized Stops by Jurisdiction

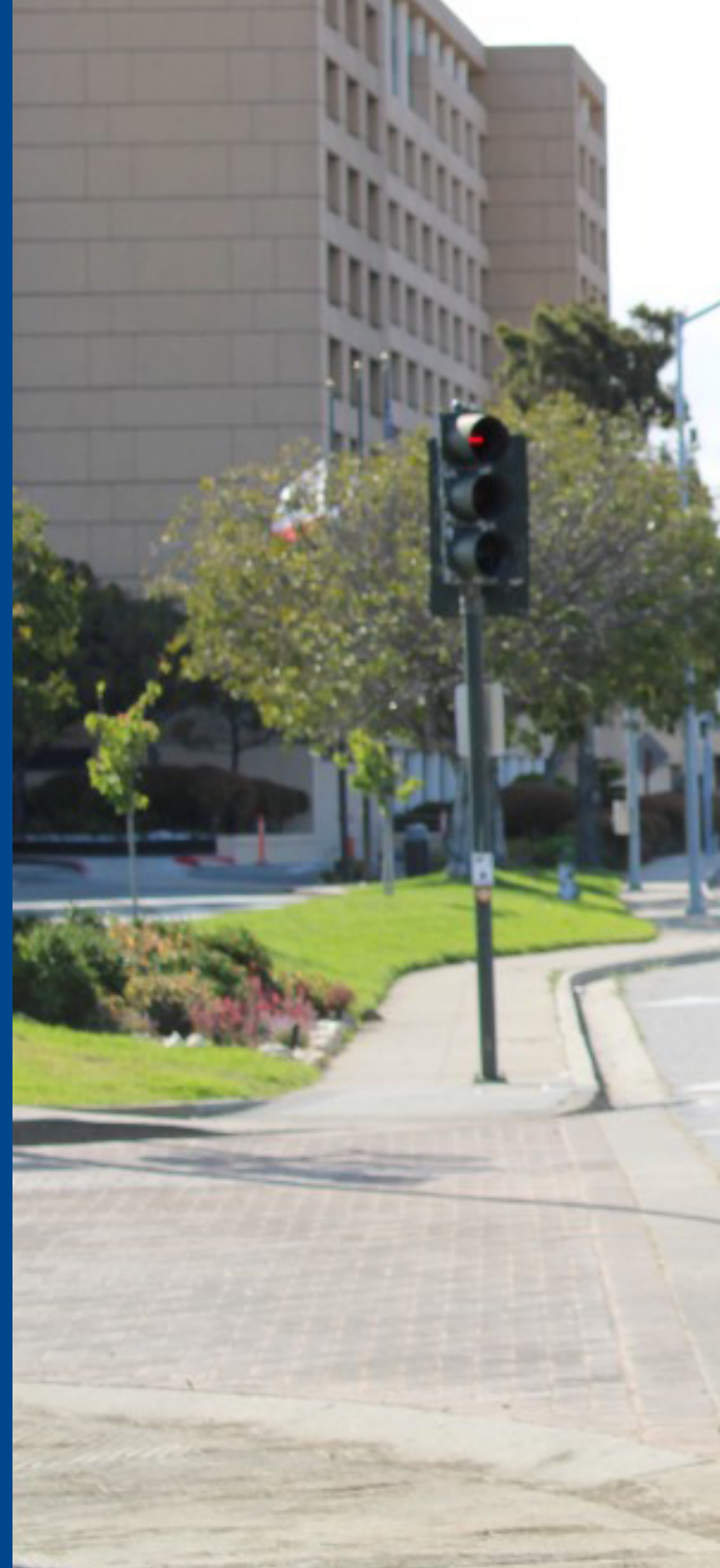
Jurisdiction	High Priority	Medium Priority	Lower Priority	Total
Atherton	0	2	22	24
Belmont	8	17	49	74
Brisbane	1	1	15	17
Burlingame	4	21	31	56
Colma	2	2	7	11
Daly City	38	77	126	241
East Palo Alto	8	33	27	68
Foster City	0	5	76	81
Half Moon Bay	1	7	30	38
Menlo Park	2	17	101	120
Millbrae	8	4	4	16
Pacifica	0	25	92	117
Palo Alto	1	4	22	27
Portola Valley	0	0	17	17
Redwood City	14	35	131	180
San Bruno	14	26	65	105
San Carlos	5	14	45	64
San Francisco	8	5	45	58
San Mateo	40	51	99	190
South San Francisco	27	64	89	180
Unincorporated San Mateo County	8	25	138	171
Woodside	0	0	11	11
Total	189	435	1242	1866¹

Source: SamTrans 2024.

1. The bus stop inventory was completed in fall 2022 and included 1,871 stops. Since the original inventory, five stops have been decommissioned and are no longer serviced.

5

Implementation





Implementing the Bus Stop Improvement Plan

SamTrans is taking a phased approach to implementing the set of recommended improvements identified throughout the system. Following prioritization, recommended improvements were split into near- and longer-term investment buckets to help establish a funding strategy and implementation plan. Near-term investments will be the focus for SamTrans over the next three to five years.

- 75% of near-term investments will fund **all high priority stops** identified through the prioritization process outlined in the previous chapter.
- 10% of near-term investments will fund stop improvements that may have scored lower in overall priority but will help **increase geographic distribution** of funds (referred to as “coverage stops”).
- 15% of near-term investments will be reserved in a **discretionary fund** for pressing needs as they arise.

This approach focuses on aggressive roll-out of amenities to stops deemed to be the most in need of amenity improvements, while also spreading out near-term investments across the system.

Most medium and lower priority stops were classified as longer-term investments. Longer-term investments could still be implemented sooner if opportunities such as

development, streetscape projects, funding opportunities, or other city-led efforts arise. After the implementation of the near-term investments, SamTrans will develop the next funding strategy to continue implementation of the recommended improvements.

Near-Term Investments

SamTrans has identified 225 bus stops to receive improvements as part of the near-term investment strategy, including 189 high priority stops and 36 coverage stops. The coverage stops were identified by elevating medium priority stops in jurisdictions that did not have any high priority stops (and therefore no near-term investments). Including these stops in the investment strategy helps to provide more geographic balance across the network.

The split of near-term stops by jurisdiction, including high priority stops and coverage stops, is presented in **Table 10**. Note that a column is also provided for stops within the Caltrans right-of-way, which may be subject to a more in-depth design, permitting, and construction process. **Table 11** shows the distribution of recommended amenities across near-term stops by jurisdiction.

SamTrans will strive to deliver the near-term investments within a three- to five-year timeframe. The near-term investments require a capital outlay of approximately \$17.7 million annually in 2023 dollars. **Table 12** outlines the recommended investments by fiscal year

and jurisdiction. There are several efficiencies within design, permitting, and construction that can be leveraged by packaging stop improvements by jurisdiction. For this reason, the recommended capital outlay lumps each jurisdiction's near-term investments into a single fiscal year. More information on cost assumptions is included in **Appendix F**.

Implementation Approach

SamTrans is committed to the implementation of the Plan and making quick progress on identified near-term investments. SamTrans plans to take the lead on each step of implementation (including funding, design, permitting, and construction) to have more control over the timeline set forward in this Plan, despite not having full control over the right-of-way that SamTrans bus stops operate within. Delivering on this timeline will require additional staffing resources, which are further discussed in this chapter.

Several options were considered regarding SamTrans's role in the implementation of bus stop improvements. The Plan assumes SamTrans takes the lead on every phase of implementation, though this will require close coordination with local jurisdictions. (All other options considered are included in **Appendix F**).

Table 10. Stops Identified for Near-Term Investments by Jurisdiction

Jurisdiction	High Priority Stops	Coverage Stops	Stops in Caltrans ROW
Atherton	-	2	0
Belmont	8	-	2
Brisbane	1	-	0
Burlingame	4	-	1
Colma	2	-	1
Daly City	38	-	7
East Palo Alto	8	-	1
Foster City	-	5	0
Half Moon Bay	1	4	0
Menlo Park	2	-	1
Millbrae	8	-	8
Pacifica	-	25	1
Palo Alto	1	-	0
Redwood City	14	-	8
San Bruno	14	-	7
San Carlos	5	-	4
San Francisco	8	-	0
San Mateo	40	-	16
South San Francisco	27	-	8
Unincorporated San Mateo County	8	-	2
Total	189	36	67



Key Takeaways

SamTrans should **lead the coordination of funding, design, permitting, and construction for near-term stop improvements.** This allows SamTrans to maintain control of delivery timelines and stop phasing.

Allocation **between four and ten FTEs, either in-house or through contractor support,** are necessary to support the BSIP program.

SamTrans aims to implement the near-term investments within three to five years, including improvements at 189 high priority stops, 36 coverage stops, and other discretionary investments totaling an approximate cost of **\$53 million** inclusive of soft costs, materials, and labor.

Source: SamTrans 2024.

Note: Portola Valley and Woodside have no stops identified for near-term improvements and therefore are not included in the table.

Table 11. Near-Term Recommended Improvements by Jurisdiction

Jurisdiction	Standard Pole & Sign	Shelter	Shade Structure	Bench	System Map	Route Schedule	Bus Bulb or Boarding Island	Real-Time (Digital)	Real-Time (QR)
Atherton	0	0	0	0	0	0	0	0	2
Belmont	3	6	0	0	6	6	2	6	8
Brisbane	0	0	0	0	0	0	0	0	1
Burlingame	0	2	0	0	2	2	0	2	4
Colma	0	2	0	0	2	2	2	2	2
Daly City	1	38	0	0	38	38	15	38	38
East Palo Alto	0	7	1	1	8	8	4	8	8
Foster City	0	0	2	2	2	2	0	2	5
Half Moon Bay	0	2	3	3	5	4	0	5	5
Menlo Park	0	1	0	0	1	1	1	1	2
Millbrae	0	8	0	0	8	8	7	8	8
Pacifica	0	8	14	13	22	22	0	22	25
Palo Alto	0	1	0	0	1	1	0	1	1
Portola Valley	0	0	0	0	0	0	0	0	0
Redwood City	0	13	1	0	14	14	7	14	14
San Bruno	0	13	1	0	14	10	8	14	14
San Carlos	0	5	0	0	5	5	3	5	5
San Francisco	0	8	0	0	8	8	1	8	8
San Mateo	0	32	4	2	36	34	11	36	40
South San Francisco	2	22	1	1	23	23	13	23	27
Unincorporated San Mateo County	0	7	0	0	7	7	2	7	8
Woodside	0	0	0	0	0	0	0	0	0

Source: SamTrans 2024.

Table 12. Near-Term Investments (Thousands of Dollars)

Jurisdiction	Total Near-Term Costs	FY 2025	FY 2026	FY 2027
Atherton	\$10	\$0	\$0	\$10
Belmont	\$1,120	\$0	\$1,120	\$0
Brisbane	\$10	\$0	\$0	\$10
Burlingame	\$230	\$230	\$0	\$0
Colma	\$690	\$690	\$0	\$0
Daly City	\$7,750	\$0	\$7,750	\$0
East Palo Alto	\$1,770	\$1,770	\$0	\$0
Foster City	\$120	\$0	\$0	\$120
Half Moon Bay	\$390	\$390	\$0	\$0
Menlo Park	\$350	\$0	\$0	\$350
Millbrae	\$2,530	\$0	\$0	\$2,530
Pacifica	\$1,660	\$0	\$0	\$1,660
Palo Alto ¹	\$110	\$110	\$0	\$0
Redwood City	\$3,110	\$3,110	\$0	\$0
San Bruno	\$3,370	\$0	\$3,370	\$0
San Carlos	\$110	\$0	\$0	\$110
San Francisco ¹	\$1,100	\$0	\$0	\$1,100
San Mateo	\$6,300	\$6,300	\$0	\$0
South San Francisco	\$5,500	\$0	\$0	\$5,500
Unincorporated SM County	\$1,230	\$0	\$0	\$1,230
Discretionary Funds	\$6,480	\$2,000	\$2,550	\$1,930
Estimated Total Construction Costs	\$43,940	\$14,600	\$14,790	\$14,550
Design/Permitting Soft Costs	\$9,130	\$3,030	\$3,090	\$3,010
Estimated Total Costs	\$53,070	\$17,630	\$17,880	\$17,560

Source: SamTrans 2024.

Note: Portola Valley and Woodside have no stops identified for near-term improvements and therefore are not included in the table.

1. Improvements to stops in Palo Alto and San Francisco may be subject to further coordination with VTA and Muni.



Implementing Near-Term Investments

The BSIP recommendations are based on a high-level planning analysis that identifies needed amenities based on bus stop category. Although a high level feasibility check was performed in the prioritization stage based on the presence of a sidewalk, a number of more detailed site-specific checks will take place as part of the implementation process. For instance, SamTrans will need to check details such as the availability of power for real-time signage, sidewalk widths for shelters, and available red curb length. This may result in changes to the recommended improvements.

If the existing site conditions can't accommodate the full suite of recommendations based on the bus stop category, there are a few different options that will be considered. SamTrans may work with the local jurisdiction to make further improvements to the site, such as widening a sidewalk or constructing a concrete pad for the shelter. An alternative amenity with a smaller footprint, such as a shade structure instead of a shelter, could also be considered. A stop could also be relocated to a more feasible location which can receive the recommended improvement. Or finally, SamTrans may be able to improve a different stop within the jurisdiction instead. All of these options would be considered in consultation with the local jurisdiction.

Bus Stop Improvements Implementation Timeline

Design

9-12 months

Permitting

1-3 months

Construction

4-12 months

Stops within Caltrans right-of-way are subject to differing review requirements. Review cycles take place every six weeks, and one round of review can take about three months.

Grant Funding Timeline

Grant Application Preparation & Submittal

6-12 months

Grant Review and Notification of Award

6 months

Transmittal of Funds/ Finalize Grant Contract

12 months

Design, Permitting, and Construction

The Plan recommends that SamTrans implement stop improvements in batches, by jurisdiction, to maximize efficiencies in the design, permitting, and construction phases. Each batch of stops would likely take between one and two-and-a-half years from initial design to construction completion. The **Bus Stop Improvements Implementation Timeline** diagram on the next page outlines the anticipated timeline for implementation once funding has been secured.

SamTrans will lead the engineering and design for each site. SamTrans will lead the permitting process in partnership with local jurisdictions. SamTrans will also

lead project delivery, including putting the projects out to bid and selecting a contractor. It is expected that both SamTrans and City staff will be involved in overseeing construction activities once they begin.

Staffing Resources

Implementing a large-scale program such as the Bus Stop Improvement Plan requires staffing beyond those required for day-to-day state of good repair projects and minor capital upgrade projects. These increased responsibilities for the agency will require that SamTrans procure dedicated staffing beyond current staffing levels, either through in-house personnel or an increase in external consultant and contractor support.

Based on information from peer agencies with bus stop improvement programs, it is recommended that SamTrans would need to dedicate 1) four full-time employees (FTEs) and an engineering on-call or 2) seven to ten FTEs if engineering were to be done in-house. Key roles required with either option include a dedicated grant and funding coordinator, one to two bus stop planners, and anywhere from two to eight engineering staff members. Increases in maintenance FTEs may be necessary as well, including up to two Intelligent Transportation Systems (ITS) technicians for real-time signage support.

Funding Opportunities

The Plan will be funded by a combination of SamTrans funds, grants, and leveraging planned projects led by partner agencies and the private sector. Of these sources, SamTrans funds provide the greatest flexibility and are the fastest to deploy; consequently, this source will need to be utilized for the initial years of the Plan to fund much of the near-term investments.

Grants will provide an opportunity to augment SamTrans funding. There are several grants available at the local, state, and federal level that have been utilized to fund bus stop improvement projects in the past and are actively seeking applications during their grant cycle period.

Local jurisdictional partners periodically implement capital improvement projects that may include enhancements to bus stops. Partner agencies also administer development permits for land use projects, which often overlap with bus stops. Both project types can help advance the Plan with limited to no use of SamTrans funds.

Table 13 identified potential funding sources for the improvements outlined in this Plan.

Funding Timeline

As seen in the **Grant Funding Timeline**, the time from identifying a suitable grant to receiving the funding award generally takes up to two years. After the award, SamTrans can proceed to the timeline described in the **Bus Stop Improvements Implementation Timeline**. This timeline shows how imperative it is for SamTrans staff to begin tracking grants immediately to support funding of the near-term investments and advance stop improvement efforts for longer-term investments.

Implementing Longer-Term Investments

Upon completion of implementing the near-term investments, SamTrans staff will develop an updated investment strategy for the remaining recommended stop improvements. The longer-term investment stops are estimated to be undertaken in the 5-to-15-year timeframe. This new investment strategy will consider lessons learned from the implementation of the near-term improvements. It will also acknowledge that lower priority stops may have additional feasibility challenges, such as a lack of sidewalk for amenities, that will require further coordination with local partners and/or additional expense to implement.

In the interim, SamTrans may accelerate improvements at medium and lower priority stops through a combination of strategies.

Interim Improvements

Interim improvements can be added at significantly reduced cost compared to all upgrades at a stop. These are generally focused on executing amenity upgrades that don't involve "pouring concrete" such as would be required for shelters, shade structures, and bus bulbs. These upgrades still do require some engineering, design, and permitting, but a far less intensive version of that process that is more time and cost effective. Improvements may include the following:

- Adding QR codes that link to online real-time information at stops in alignment with an overall bus stop sign/blade redesign effort.
- Ensuring all stops have a pole & sign and pole mounted route map and schedule.
- Providing quick-build treatments such as pole-mounted Simme-Seats or temporary bus boarding platforms.

Partner Agency Involvement

Partner agency involvement can help accelerate completion of improvements via capital improvement plans.

Development Projects

Development projects present an opportunity to upgrade stops as land use patterns change.

Table 13. Potential Funding Sources

Funding Type	Funding Source	Frequency and Cycle
Local	Partnership with local jurisdictions to combine stop improvements with streetscape and development projects.	Ongoing
Local	SMCTA Measure W Call for Projects, including: <ul style="list-style-type: none"> • Highway Call for Projects Grants • Pedestrian and Bicycle Call for Projects Grants • Alternative Congestion Relief and Transportation Demand Management Call for Projects Grants • Regional Transit Connections Call for Projects Grants 	Annual
Local	C/CAG Transportation Development Act (TDA) Call for Projects Lifeline Transportation Program Transportation Development Act 3 (TDA 3)	Bi-Annual, February and November
Local	City funding programs, including: <ul style="list-style-type: none"> • Transportation Impact Fees • Development Conditions of Approval • General Funds 	Ongoing
Regional	MTC Grant Programs and Funding Measures	Varies
State	Transit & Intercity Rail Capital Program (TIRCP)	Semi-Annual, Varies
State	Clean California Local Grant Program	Annual, May
State	Clean California Direct Transit Program	Annual, August
Federal	Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program	Annual, February
Federal	FTA Discretionary Grant Program	Varies
Federal	Community Block Grants	Annual, through MTC

Source: SamTrans 2024.

Next Steps

In the coming years, SamTrans staff and leadership will need to exercise several key steps to implement the recommended bus stop improvements:

- Provide regular monitoring on BSIP progress through biennial progress reports to the SamTrans Board of Directors and Executive Team.
- Allocate necessary funding (and/or secure grants) for design, permitting, and construction of near-term investments beginning in Fiscal Year 2025.
- Determine desired staffing approach (predominately in-house or relying on contractor support) and begin hiring.
- Procure new shelter and amenity designs.
- Secure permitting and construct near-term investments within the next three to five years.
- Work with city partners and champions to identify potential overlapping projects and combined funding streams.
- Within three to four years, develop an updated investment strategy for longer-term investments to provide a seamless transition to the next batch of improvements once near-term investments are complete.
- Conduct regular check-ins with SamTrans facilities and implementation staff to update bus stop inventory and dashboard



Appendices

- Appendix A – Existing Conditions Memo**
- Appendix B – Engagement Summaries**
- Appendix C – 2023 SamTrans Bus Stop Design Guidelines**
- Appendix D – Amenity Recommendations Memo**
- Appendix E – Prioritization Methodology Memo**
- Appendix F – Implementation Plan Memo**





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