FEHR PEERS

Memorandum

Date: December 12, 2023

To: Daniel Shockley, San Mateo County Transit District

From: Fehr & Peers

Subject: SamTrans BSIP Implementation Plan Memo

LA22-3373

NOTE TO READER: *The content of this memo was finalized by SamTrans staff in December 2023 and focuses only on the 189 high-priority stops. In Spring 2024, additional coverage stops were identified to bring the total number of near-term stops to 225. Please refer to the BSIP report for the final investment plan.*

Executive Summary

The purpose of this memo is to present the recommended implementation plan for the near-term investments that will be included in the SamTrans Bus Stop Improvement Plan (BSIP) and provide an overview of the opportunities and tradeoffs of different implementation options considered. All identified improvements and associated costs were developed at a planning level. Individual, site-specific analysis is beyond the scope of this effort and was not deemed necessary to establish annual expenditures for an investment plan.

The memo includes:

- An overview of the variables and tradeoffs considered in the prioritization process to score all SamTrans stops based on amenity need.
- Potential strategies the BSIP team considered to fund, design, and construct bus stop improvements and the recommended approach based on conversations with engineering staff.
- A three- or five-year near-term investment plan for near-term improvements
- An overview of longer-term improvements

Key findings include:

- A recommendation that SamTrans leads the coordination of funding, design, permitting, and construction for near-term stop improvements in order to maintain SamTrans control

of delivery timelines and stop phasing. SamTrans is also recommended to work with developers and local cities to take advantage of "low-hanging fruit" improvements that may be funded/ongoing already.

- Allocating between four and 10 full-time equivalent employees, depending on the degree of improvement, coordination to be done with in-house staffing or engineering on-call.
- Implementing all near-term stops within either three or five years, including 189 high-priority stops and roughly 30-60 discretionary stops, for approximately 225-250 total stops. The average cost is $17.7 million per year for the three-year plan and $10.6 million per year for the five-year plan.

Prioritization Framework

The BSIP team engaged in a prioritization exercise to score each stop based on contextual factors in advance of the implementation process. While several approaches were considered, the team settled on a prioritization methodology that favored stops with **higher boardings** with additional priority for stops located in **equity priority areas** and **high heat vulnerability zones,** which aligns with riders desire for more shade as indicated during engagement activities.

This prioritization framework aligns with the goals established in *Reimagine SamTrans* to align service along more frequent corridors with a focus on equity and serving equity priority areas. SamTrans survey data shows that riders across the system tend to be lower income and more likely to be people of color or reside in car free households than the County as a whole, so accelerating improvements that benefit the most SamTrans riders has an intrinsic equity component. Additionally, by prioritizing stops in high heat vulnerability zones, SamTrans is able to act on recommendations from the *SamTrans Adaptation and Resilience Plan* to reduce rider exposure to heat exacerbated by climate change through a bus stop shelter program.

In addition to low ridership stops, those with an existing shelter were considered to be a lower priority due to significant amenity investment having already occurred. Stops without a sidewalk were also deemed to be lower priority for inclusion in the near-term capital project package, as extensive coordination with local governments and further capital outlay would be needed prior to advancing upgrades to the amenities at the stop. When looking at two otherwise equivalent priority-scored stops, overall boardings can be used as a tiebreak for choosing which stop to proceed with.

Stops were scored from a maximum of 7 points to a minimum of 0 points. The final breakdown of stops is available in **Error! Reference source not found.** below. For more information on the prioritization framework, please see the Prioritization Methodology Memo**.**

Table 1 – SamTrans Stops by Prioritization

Investment Timeline	Prioritization Score Range	Number of Stops
Highest Priority Stops	5-7	189
Medium-Priority Stops	2-4	435
Lowest-Priority Stops	0-1	1,242
Total Stops	**0-7**	**1,866[1]**

Source: Fehr & Peers
Notes: 1. As of August 7, 2022. Note that since the survey, five stops have been taken out of service and are therefore not reflected in these totals

Overview of Implementation Options

The BSIP team evaluated several potential pathways to implementation, with varying levels of responsibility from SamTrans as summarized in Table 2.

Table 2 – SamTrans Options for Implementation

	Most ←	SamTrans Control/Responsibility		→ Least
Task	**Option 1**	**Option 2**	**Option 3**	**Option 4**
Funding	SamTrans	SamTrans	SamTrans	Developer/City/ County
Design	SamTrans	SamTrans	City/County	Developer/City/ County (SamTrans Review)
Permitting	SamTrans/City/ County	City/County	City/County	City/County
Construction	SamTrans	City/County	City/County	Developer/City/ County

Source: Fehr & Peers, Mark Thomas

Generally, Option 1 provides SamTrans with the greatest control over bus stop design and construction bidding and scheduling; however, it also requires the largest outlay of funding and level of effort from SamTrans in terms of staffing requirements for bus stop improvement projects. Options 2 and 3 rely more heavily on local agency partners to execute improvements but offer less SamTrans control over design and schedule. Option 4 utilizes opportunities for efficiency by making stop improvements in tandem with the approval of new development projects or existing streetscape/public right-of-way improvements undertaken by a local jurisdiction; however, schedule for implementation is out of SamTrans' control.

Overall, the BSIP team recommends implementing the BSIP recommendation using a hybrid of Option 1 and Option 4. Option 1 allows for the greatest degree of SamTrans control

to fund and get improvements in the ground, while Option 4 allows for SamTrans to take advantage of low hanging fruit as other actors undertake improvements around bus stops.

Under Option 1, a single batch of stops would take 1-2.5 years to get in the ground, excluding any grant funding timelines. Ideally, a "batch" of stops would include all near-term stops within a given jurisdiction, which may include up to 40 stops. SamTrans' roles under Option 1 would include the following responsibilities:

- **Funding:** SamTrans commits financial resources and leads grant applications and coordination of funds.
- **Design:** SamTrans lead the engineering and design through each site through an engineering on-call or expanded staff. The agency generates plans for each site. This can be expected to take nine to 12 months, including agency review periods.
- **Permitting:** SamTrans obtains construction, excavation, and encroachment permits from respective cities. Ideally, SamTrans is working with an internal agency partner at the city who can champion the project and minimize/eliminate permitting fees. This is expected to take one to three months assuming Plans, Specifications, and Estimates (PS&E) have been reviewed by the agency throughout the process.
    - Note for stops in Caltrans right-of-way: Caltrans will only review plans that are final and have review periods every six weeks. One round of review can take about three months.
- **Construction:** SamTrans coordinates construction activities, including involvement of contractors and in-house facilities staff. Construction activities usually take anywhere from four to 12 months, including contractor and material procurement.

Under Option 4, SamTrans' staff involvement includes:

- **Plan Review:** SamTrans commits staffing resources to be more involved in development site plan and streetscape plan review to identify opportunities for bus stop improvements.

Securing Appropriate Resourcing for Implementation

Implementing a large-scale program such as the BSIP 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. A review of peer agencies who have embarked on bus stop improvement programs shows increased staffing by amounts listed in Increases in maintenance FTEs may be necessary as well, including up to two ITS technicians for real-time signage support.

Table 3.

Overall, peer agencies retain two to three FTEs per 1,000 bus stops. Peer agencies also noted a range of stop improvements that were delivered each year. TriMet expects to upgrade 15 stops in 2023, VTA expects close to 35 stops, and AC Transit aims to deliver 2-3 corridors each year. VTA provides the broadest number of similarities to SamTrans, as stop amenities are designed through their Better Bus Stops bus improvement program[1] and have a relatively aggressive implementation schedule. Note that these numbers do not include facilities/maintenance staff, which will likely scale evenly to the FTEs that SamTrans requires to maintain current stop amenities systemwide.

When scaling these staffing numbers to a project that is the size and scope of BSIP and is desired to be implemented on the timeframe dictated by SamTrans leadership, it is recommended that SamTrans either dedicate 1) four FTEs and an engineering on-call or 2) seven to ten FTEs if engineering were to be done in-house for program management. 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 ITS technicians for real-time signage support.

Table 3 – Program Management FTEs from Peer Agencies (Excluding Maintenance Staff)

Agency	Bus Stop Improvement FTEs	Engineering Services	Approximate Number of Stops Systemwide
SamTrans	*1*	*In-house*	*1,879*
Santa Clara VTA	7	In-house	3,375
AC Transit	12	In-house & on-call	4,750
TriMet	13	Majority in-house	6,375

Source: FTE and engineering services information from respective agency staff. Stop counts are from agency GTFS feeds.
Note: "In-house" refers to agency staff completing engineering and design review, while "on-call" refers to consultant or contractor support completing this phase. Planning and coordination is done by agency staff across all peer agencies.

Near-Term Investment Plan

189 high-priority SamTrans stops were identified as appropriate for improvements over the next three to five years. The breakdown of such "near-term" stops by jurisdiction is available in

[1] VTA Better Bus Stops Program: https://www.vta.org/projects/better-bus-stops

Table 4 below. The total number of near-term stops are listed by jurisdiction along with the number of stops located along Caltrans right-of-way as well. These stops will require additional coordination with Caltrans as an agency partner alongside the jurisdiction.

Table 4 – Near Term Stops by Jurisdiction

Jurisdiction	Near-Term Stops	Stops in Caltrans ROW
San Mateo	40	16
Daly City	38	7
South San Francisco	27	8
Redwood City	14	8
San Bruno	14	7
Belmont	8	2
East Palo Alto	8	1
Millbrae	8	8
San Francisco	8	0
Unincorporated San Mateo County	8	2
San Carlos	5	4
Burlingame	4	1
Colma	2	1
Menlo Park	2	1
Brisbane	1	0
Half Moon Bay	1	0
Palo Alto	1	0
Total	**189**	**66**

Source: Fehr & Peers
Note: Atherton, Foster City, Pacifica, Portola Valley, and Woodside have no stops identified for near-term improvements and therefore are not included in the table.

The breakdown of stops by prioritization score and jurisdiction can be explored in the SamTrans bus stops dashboard[2]. Depending on the amount and timing of funding secured (either internal or external), improvements at near-term stops can be completed on either a Three-Year or Five-Year Investment Plan. Costs for each improvement were compiled from SamTrans and industry-standard estimates from similar projects and are presented in

[2] SamTrans bus stop dashboard: https://fehrandpeers.maps.arcgis.com/apps/dashboards/baf13e3c146543eda1a2e858e2bc0c51

Table 5. Costs are rough order of magnitude (ROM) costs established to develop needed annual expenditures for an investment plan. Costs will vary by site, depending on the complexity of the location. These costs were established to account for that variability and represent a middle-ground for expected costs. Costs are inclusive of all materials and installation labor.

Table 5 – Estimated Construction Material & Labor Costs in 2023 Dollars

Amenity	Unit Cost	Notes/Source
Standard Pole & Sign	$200	In-house installation, Cost from SamTrans facilities team
Shelter	$100,000	Industry-standard
Alternative Shade Structure	$50,000	Industry-standard
Bench	$3,000	In-house installation, Cost from SamTrans facilities team
System Map	$40	In-house installation, Cost from SamTrans facilities team
Route Schedule	$20	In-house installation, Cost from SamTrans facilities team
Bus Bulb or Boarding Island	$300,000	Cost from SamTrans Bus Stop Speed and Reliability Study
Real Time Information Signage – Large Full Color Sign	$15,000	Industry-standard, Cost from bus stop amenity provider
Real Time Information Signage – Small Full Color Marquee Sign	$12,000	Industry-standard, Cost from bus stop amenity provider
Real Time Information Signage – Papercast Sign	$5,500	Industry-standard, Cost from bus stop amenity provider
Real Time Information Signage – QR Code	$40	Industry-standard

Note: above unit costs are inclusive of both construction material and labor.
Source: Fehr & Peers

Table 6 presents the cost estimate by stop category, based on the minimum stop amenities as defined in the 2023 SamTrans Bus Stop Guidelines. Note that depending on actual improvements may vary from amenity guidance based on a detailed site review. Constraints in the field at each stop may reduce the feasibility of implementation of a certain improvement.

Table 6 – Minimum Required Amenities by Stop Category

Stop Category	Minimum Required Amenities

Frequent Stop	• Standard Pole & Sign • Shelter • System map & route schedule • Real time information signage [Large or small full-color sign, QR code] • Bus bulb or boarding island (where appropriate from an engineering/operations perspective)
Standard Stop	• Standard Pole & Sign • Shelter OR shade structure + bench • System map & route schedule • Real time information signage [Papercast sign, QR code]
Peak/School-Oriented Stop	• Standard Pole & Sign • Real time information signage [QR code]

Source: Fehr & Peers

Funding for plans may come directly from SamTrans or through local, state, and federal grants. Investment plans were developed by equating cost packages to reach a roughly equivalent amount year to year while considering geographic spread across the service area.

For each of the investment plan options, planning-level costs were estimated comparing the list of required amenities from Table 7 above with the current conditions at the stop based on the 2022 SamTrans bus stop inventory. The investment plan represents the specific needed improvements at the stop level for each near-term stop, which may or may not encompass all amenities listed in Table 8 depending on the amenities already located at the stop.

Three-Year Capital Investment Plan Option

The three-year plan requires capital outlays of approximately $17.7 Million annually in 2023 dollars, including soft costs and a discretionary contingency pot of money for "coverage" stops for an additional 60 stops (25% of total). This contingency fund could be used to address stops that need to be incorporated in the near-term package for reasons to be determined as implementation begins. Note that in addition to construction time and materials, an estimate for soft costs of 20% of construction costs is included based on industry best-practice. Soft costs include planning, permitting, and design costs. For a breakdown in amenity recommendations, please refer to the final BSIP report.

Table 9 – Three-Year Investment Plan

Jurisdiction	Total Near-Term Costs	FY 2025	FY 2026	FY 2027
San Mateo	$6,300,000	$6,300,000	$0	$0
Daly City	$7,750,000	$0	$7,750,000	$0
South San Francisco	$5,500,000	$0	$0	$5,500,000
Redwood City	$3,110,000	$3,110,000	$0	$0
San Bruno	$3,370,000	$0	$3,370,000	$0
Belmont	$1,120,000	$0	$0	$1,120,000
East Palo Alto	$1,770,000	$1,770,000	$0	$0
Millbrae	$2,530,000	$0	$0	$2,530,000
San Francisco[1]	$1,100,000	$0	$0	$1,100,000
San Carlos	$110,000	$0	$0	$110,000
Burlingame	$230,000	$230,000	$0	$0
Colma	$690,000	$0	$690,000	$0
Menlo Park	$350,000	$350,000	$0	$0
Brisbane	$10,000	$0	$0	$10,000
Half Moon Bay	$110,000	$0	$0	$110,000
Palo Alto[1]	$110,000	$0	$110,000	$0
Unincorporated SM County	$1,230,000	$0	$0	$1,230,000
Discretionary "Coverage" Stops[2]	$8,830,000	$2,930,000	$2,980,000	$2,920,000
Estimated Total Construction Costs	**$44,220,000**	**$14,690,000**	**$14,900,000**	**$14,630,000**
Design/Permitting Soft Costs	$8,844,000	$2,938,000	$2,980,000	$2,926,000
Estimated Total Costs	**$53,064,000**	**$17,628,000**	**$17,880,000**	**$17,556,000**

Source: Fehr & Peers
Note: Atherton, Foster City, Pacifica, Portola Valley, and Woodside have no stops identified for near-term improvements based on the prioritization methodology described earlier in this memo and therefore are not included in the table.

1. Improvements to stops in Palo Alto and San Francisco may be subject to delay/further coordination. In addition to being outside of San Mateo County which has funding implications, VTA/Muni stop ownership will require additional agency outreach.
2. A discretionary, contingency fund set at 25% of the investment plan cost can be used for longer-term improvements that are worthy of being bumped up to near-term investments to ensure geographic coverage of stop improvements or to fund improvements in jurisdictions that are willing partners, but may not have many near-term bus stop improvements.

Five-Year Investment Plan Option

The five-year plan requires capital outlays of approximately $10.6 Million annually in 2023 dollars, including soft costs and a discretionary pot of money for "coverage" stops for an additional 60 stops (25% of total). Note that as in the three-year plan, in addition to construction time and materials an estimate for soft costs of 50% of construction costs is included based on industry best-practice. For a breakdown in amenity recommendations, please refer to the final BSIP report.

Jurisdiction	Total Near-Term Costs	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
San Mateo	$6,300,000	$0	$0	$0	$6,300,000	$0
Daly City	$7,750,000	$0	$7,750,000	$0	$0	$0
South San Francisco	$5,500,000	$5,500,000	$0	$0	$0	$0
Redwood City	$3,110,000	$0	$0	$0	$0	$3,110,000
San Bruno	$3,370,000	$0	$0	$3,370,000	$0	$0
Belmont	$1,120,000	$0	$0	$0	$0	$1,120,000
East Palo Alto	$1,770,000	$0	$0	$1,770,000	$0	$0
Millbrae	$2,530,000	$0	$0	$0	$0	$2,530,000
San Francisco[1]	$1,100,000	$1,100,000	$0	$0	$0	$0
San Carlos	$110,000	$0	$0	$110,000	$0	$0
Burlingame	$230,000	$0	$0	$230,000	$0	$0
Colma	$690,000	$0	$0	$690,000	$0	$0
Menlo Park	$350,000	$0	$0	$0	$0	$350,000
Brisbane	$10,000	$10,000	$0	$0	$0	$0
Half Moon Bay	$110,000	$0	$0	$110,000	$0	$0
Palo Alto[1]	$110,000	$0	$0	$0	$0	$110,000
Unincorporated SM County	$1,230,000	$0	$0	$0	$1,230,000	$0
Discretionary "Coverage" Stops[2]	$8,830,000	$1,650,000	$1,940,000	$1,560,000	$1,880,000	$1,800,000
Estimated Total Construction Costs	**$44,220,000**	**$8,260,000**	**$9,690,000**	**$7,840,000**	**$9,410,000**	**$9,020,000**
Design/Permitting Soft Costs	$8,844,000	$1,652,000	$1,938,000	$1,568,000	$1,882,000	$1,804,000
Estimated Total Costs	**$53,064,000**	**$9,912,000**	**$11,628,000**	**$9,408,000**	**$11,292,000**	**$10,824,000**

Source: Fehr & Peers
Note: Atherton, Foster City, Pacifica, 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 delay/further coordination. In addition to being outside of San Mateo County which has funding implications, VTA/Muni stop ownership will require additional agency outreach.
2. A discretionary fund set at 25% of the investment plan cost can be used for longer-term improvements that are worthy of being bumped up to near-term investments to ensure geographic coverage of stop improvements or to fund improvements in jurisdictions that are willing partners, but may not have many near-term bus stop improvements.

Funding Opportunities

Though SamTrans should pursue external funding to offset a full investment by local SamTrans sources, being prepared to front-load funds from the agency budget will help advance the work on a three or five-year timeframe as desired by SamTrans leadership. There are several grants available at the local, state, and federal level to increase the resources available to implement improvements at bus stops. Several sources have been utilized to fund bus stop improvement projects in the past and are actively seeking applications during their grant cycle period.

Table 10 – Potential Funding Sources

Funding Source	Funding Type
Partnership with local DOT to combine stop improvements with streetscape projects.	Local
SMCTA Measure W Call for Projects, including: • 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	Local
C/CAG Transportation Development Act (TDA) Call for Projects	Local
City funding programs, including: • Transportation Impact Fees • Development Conditions of Approval • General Funds	Local
MTC Grant Programs and Funding Measures	Regional
Transit & Intercity Rail Capital Program (TIRCP)	State
Clean California Local Grant Program	State
Clean California Direct Transit Program	State
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program	Federal
FTA Discretionary Grant Program	Federal
Community Block Grants	Federal

Source: Fehr & Peers

More information about the pros and cons of each of these grants to funding BSIP improvements is available in the attached grant funding table.

Longer-Term Stop Improvements

Outside of the 189 near-term stops, the remaining lower-priority stops falling within longer-term implementation packages will require additional funding resources and an extended timeline to be implemented. A time estimate of greater than 10 years is likely appropriate to make substantial progress on constructing improvements at these stops. The breakdown of these stops across jurisdictions is available below. Note that improvements at these stops may be accelerated into the discretionary "coverage" supplemental funding stream, which will fund upwards of 30 to 60 of these remaining stops over the next three to five years. As specific additional investment plans are created to address the remaining stops, SamTrans may choose to prioritize cities or local jurisdictions that did not receive improvements in the near-term phase.

Table 11 – Long-Term Stops by Jurisdiction

Jurisdiction	Longer-Term Stops
Atherton	24
Belmont	66
Brisbane	16
Burlingame	52
Colma	9
Daly City	203
East Palo Alto	60
Foster City	81
Half Moon Bay	37
Menlo Park	118
Millbrae	8
Pacifica	117
Palo Alto	26
Portola Valley	17
Redwood City	166
San Bruno	91
San Carlos	59
San Francisco	50
San Mateo	150
South San Francisco	153
Unincorporated San Mateo County	163
Woodside	11
Total	**1,677**

Source: Fehr & Peers

Opportunities for Acceleration

SamTrans can consider several different options to accelerate certain improvements for mid/long term priority stops. These suggestions are not meant to supersede eventual SamTrans improvements at stops but may offer benefits to riders as an interim measure in advance of full amenity upgrades.

1. **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 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:
    - 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.
    - Quick-build treatments such as pole-mounted Simme seats or Zicla temporary bus boarding platforms.

2. **Utilize implementation Options 2 & 3 (Increased city involvement) for jurisdictions that are willing and eager partners in getting improvements in the ground.** These options reduce the staff time for SamTrans. Discretionary "coverage" funds can be used to design and construct these improvements.

3. **Utilize implementation Option 4 to implement improvements through new development and streetscape projects.** SamTrans will remain an active participant in development site plan review and will recommend developer-funded improvements at all stops where appropriate. A number of corridor projects are proposed from the latest project list released by the Transportation Authority that include corridors with SamTrans bus stops. Any stops upgraded or altered through these projects should be brought up to the minimum amenity standard defined in the latest update to the bus stop guidelines.

    The final BSIP Report will include more information about projects in the pipeline as of late 2023/early 2024 that SamTrans may be able to capitalize on to get more bus stop amenities in the field. The list of documents to be referenced will include:

    - SMCTA - Highway CFP, ACR/TDM, Measure A and W Pedestrian and Bicycle Call for Projects
    - C/CAG – TDA Grants
    - Ongoing El Camino Real projects
    - Development Inventory

- Call to Public Agency Working Group (PAWG) partners to identify upcoming city and county street improvement projects.
- A reference of existing TDM ordinances, including a list of agencies actively requiring transit enhancements as a part of development.

Next Steps Toward Implementation

SamTrans decisionmakers have several key actions for the implementation of the Bus Stop Improvement Plan, including the following:

- Allocate necessary funding for design, permitting, and construction beginning in Fiscal Year 2025.
- Determined desired staffing approach (predominately in-house or relying on contractor support) and begin hiring/soliciting bids.
- Select new shelter and amenity designs.
- Apply for grant funding, including working city partners and champions to identify potential overlapping projects and combined funding streams.

High Priority Amenity Recommendations by City

Amenity Recommendations & Costs Frequent Frequent Standard Peak San Mateo High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**16**	**4**	**16**	**4**	**40**		**$ 6,291,720**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	6	3	12	0	**21**	$100,000	$2,100,000
Shelter w/ Bus Bulb/Boarding Island	10	1	0	0	**11**	$330,000	$3,630,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	4	0	**4**	$50,000	$200,000
Bench	0	0	1	0	**1**	$3,000	$3,000
System Map	16	4	16	0	**36**	$40	$1,440
Route Schedule	16	3	15	0	**34**	$20	$680
Real Time Information - Full Color Sign	7	2	0	0	**9**	$15,000	$135,000
Real Time Information - Color Marquee Sign	9	2	0	0	**11**	$12,000	$132,000
Real Time Information - Papercast Sign	0	0	16	0	**16**	$5,500	$88,000
Real Time Information - QR	16	4	16	4	**40**	$40	$1,600

Amenity Recommendations & Costs Frequent Frequent Standard Peak Daly City High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**8**	**28**	**2**	**0**	**38**		**$ 7,745,000**
Standard Pole & Sign	0	0	1	0	**1**	$200	$200
Shelter Only	0	21	2	0	**23**	$100,000	$2,300,000
Shelter w/ Bus Bulb/Boarding Island	8	7	0	0	**15**	$330,000	$4,950,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	8	28	2	0	**38**	$40	$1,520
Route Schedule	8	28	2	0	**38**	$20	$760
Real Time Information - Full Color Sign	3	13	0	0	**16**	$15,000	$240,000
Real Time Information - Color Marquee Sign	5	15	0	0	**20**	$12,000	$240,000
Real Time Information - Papercast Sign	0	0	2	0	**2**	$5,500	$11,000
Real Time Information - QR	8	28	2	0	**38**	$40	$1,520

Amenity Recommendations & Costs Frequent Frequent Standard Peak South San Francisco High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost

Total Inventoried Stops	**8**	**8**	**7**	**4**	**27**		**$ 5,497,360**
Standard Pole & Sign	0	0	2	0	**2**	$200	$400
Shelter Only	1	2	6	0	**9**	$100,000	$900,000
Shelter w/ Bus Bulb/Boarding Island	7	6	0	0	**13**	$330,000	$4,290,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	1	0	**1**	$50,000	$50,000
Bench	0	0	0	0	**0**	$3,000	$0
System Map	8	8	7	0	**23**	$40	$920
Route Schedule	8	8	7	0	**23**	$20	$460
Real Time Information - Full Color Sign	4	4	0	0	**8**	$15,000	$120,000
Real Time Information - Color Marquee Sign	4	4	0	0	**8**	$12,000	$96,000
Real Time Information - Papercast Sign	0	0	7	0	**7**	$5,500	$38,500
Real Time Information - QR	8	8	7	4	**27**	$40	$1,080

Amenity Recommendations & Costs Frequent Frequent Standard Peak Redwood City High-Priority

Recommended Amenities	**ECR - Frequent**	**Frequent**	**Standard**	**School-Oriented/ Other**	**Total**	**Element Cost**	**Total Cost**
Total Inventoried Stops	**8**	**0**	**6**	**0**	**14**		**$ 3,105,400**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	1	0	5	0	**6**	$100,000	$600,000
Shelter w/ Bus Bulb/Boarding Island	7	0	0	0	**7**	$330,000	$2,310,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	1	0	**1**	$50,000	$50,000
Bench	0	0	0	0	**0**	$3,000	$0
System Map	8	0	6	0	**14**	$40	$560
Route Schedule	8	0	6	0	**14**	$20	$280
Real Time Information - Full Color Sign	5	0	0	0	**5**	$15,000	$75,000
Real Time Information - Color Marquee Sign	3	0	0	0	**3**	$12,000	$36,000
Real Time Information - Papercast Sign	0	0	6	0	**6**	$5,500	$33,000
Real Time Information - QR	8	0	6	0	**14**	$40	$560

Amenity Recommendations & Costs Frequent Frequent Standard Peak San Bruno High-Priority

Recommended Amenities	**ECR - Frequent**	**Frequent**	**Standard**	**School-Oriented/ Other**	**Total**	**Element Cost**	**Total Cost**
Total Inventoried Stops	**11**	**1**	**2**	**0**	**14**		**$ 3,367,320**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	3	1	1	0	**5**	$100,000	$500,000
Shelter w/ Bus Bulb/Boarding Island	8	0	0	0	**8**	$330,000	$2,640,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	1	0	**1**	$50,000	$50,000
Bench	0	0	0	0	**0**	$3,000	$0
System Map	11	1	2	0	**14**	$40	$560

Route Schedule	9	0	1	0	**10**	$20	$200
Real Time Information - Full Color Sign	6	1	0	0	**7**	$15,000	$105,000
Real Time Information - Color Marquee Sign	5	0	0	0	**5**	$12,000	$60,000
Real Time Information - Papercast Sign	0	0	2	0	**2**	$5,500	$11,000
Real Time Information - QR	11	1	2	0	**14**	$40	$560

Amenity Recommendations & Costs Frequent Frequent Standard Peak **Belmont** **High-Priority**

Recommended Amenities	**ECR - Frequent**	**Frequent**	**Standard**	**School-Oriented/ Other**	**Total**	**Element Cost**	**Total Cost**
Total Inventoried Stops	**2**	**1**	**3**	**2**	**8**		**$ 1,119,780**
Standard Pole & Sign	0	1	1	1	**3**	$200	$600
Shelter Only	0	1	3	0	**4**	$100,000	$400,000
Shelter w/ Bus Bulb/Boarding Island	2	0	0	0	**2**	$330,000	$660,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	2	1	3	0	**6**	$40	$240
Route Schedule	2	1	3	0	**6**	$20	$120
Real Time Information - Full Color Sign	1	1	0	0	**2**	$15,000	$30,000
Real Time Information - Color Marquee Sign	1	0	0	0	**1**	$12,000	$12,000
Real Time Information - Papercast Sign	0	0	3	0	**3**	$5,500	$16,500
Real Time Information - QR	2	1	3	2	**8**	$40	$320

Amenity Recommendations & Costs Frequent Frequent Standard Peak **East Palo Alto** **High-Priority**

Recommended Amenities	**ECR - Frequent**	**Frequent**	**Standard**	**School-Oriented/ Other**	**Total**	**Element Cost**	**Total Cost**
Total Inventoried Stops	**0**	**6**	**2**	**0**	**8**		**$ 1,765,800**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	2	1	0	**3**	$100,000	$300,000
Shelter w/ Bus Bulb/Boarding Island	0	4	0	0	**4**	$330,000	$1,320,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	1	0	**1**	$50,000	$50,000
Bench	0	0	0	0	**0**	$3,000	$0
System Map	0	6	2	0	**8**	$40	$320
Route Schedule	0	6	2	0	**8**	$20	$160
Real Time Information - Full Color Sign	0	4	0	0	**4**	$15,000	$60,000
Real Time Information - Color Marquee Sign	0	2	0	0	**2**	$12,000	$24,000
Real Time Information - Papercast Sign	0	0	2	0	**2**	$5,500	$11,000
Real Time Information - QR	0	6	2	0	**8**	$40	$320

Amenity Recommendations & Costs Millbrae High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**8**	**0**	**0**	**0**	**8**		**$ 2,521,800**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	1	0	0	0	**1**	$100,000	$100,000
Shelter w/ Bus Bulb/Boarding Island	7	0	0	0	**7**	$330,000	$2,310,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	8	0	0	0	**8**	$40	$320
Route Schedule	8	0	0	0	**8**	$20	$160
Real Time Information - Full Color Sign	5	0	0	0	**5**	$15,000	$75,000
Real Time Information - Color Marquee Sign	3	0	0	0	**3**	$12,000	$36,000
Real Time Information - Papercast Sign	0	0	0	0	**0**	$5,500	$0
Real Time Information - QR	8	0	0	0	**8**	$40	$320

Amenity Recommendations & Costs San Francisco High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**0**	**2**	**6**	**0**	**8**		**$ 1,093,800**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	1	6	0	**7**	$100,000	$700,000
Shelter w/ Bus Bulb/Boarding Island	0	1	0	0	**1**	$330,000	$330,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	0	2	6	0	**8**	$40	$320
Route Schedule	0	2	6	0	**8**	$20	$160
Real Time Information - Full Color Sign	0	2	0	0	**2**	$15,000	$30,000
Real Time Information - Color Marquee Sign	0	0	0	0	**0**	$12,000	$0
Real Time Information - Papercast Sign	0	0	6	0	**6**	$5,500	$33,000
Real Time Information - QR	0	2	6	0	**8**	$40	$320

Amenity Recommendations & Costs San Carlos High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**4**	**0**	**1**	**0**	**5**		**$ 107,000**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	0	0	0	**0**	$100,000	$0

Shelter w/ Bus Bulb/Boarding Island	0	0	0	0	**0**	$330,000	$0
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	1	0	**1**	$50,000	$50,000
Bench	0	0	0	0	**0**	$3,000	$0
System Map	4	0	1	0	**5**	$40	$200
Route Schedule	4	0	1	0	**5**	$20	$100
Real Time Information - Full Color Sign	1	0	0	0	**1**	$15,000	$15,000
Real Time Information - Color Marquee Sign	3	0	0	0	**3**	$12,000	$36,000
Real Time Information - Papercast Sign	0	0	1	0	**1**	$5,500	$5,500
Real Time Information - QR	4	0	1	0	**5**	$40	$200

Amenity Recommendations & Costs Frequent Frequent Standard Peak **Burlingame** **High-Priority**

Recommended Amenities	**ECR - Frequent**	**Frequent**	**Standard**	**School-Oriented/ Other**	**Total**	**Element Cost**	**Total Cost**
Total Inventoried Stops	**0**	**1**	**1**	**2**	**4**		**$ 220,780**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	1	1	0	**2**	$100,000	$200,000
Shelter w/ Bus Bulb/Boarding Island	0	0	0	0	**0**	$330,000	$0
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	0	1	1	0	**2**	$40	$80
Route Schedule	0	1	1	0	**2**	$20	$40
Real Time Information - Full Color Sign	0	1	0	0	**1**	$15,000	$15,000
Real Time Information - Color Marquee Sign	0	0	0	0	**0**	$12,000	$0
Real Time Information - Papercast Sign	0	0	1	0	**1**	$5,500	$5,500
Real Time Information - QR	0	1	1	2	**4**	$40	$160

Amenity Recommendations & Costs Frequent Frequent Standard Peak **Colma** **High-Priority**

Recommended Amenities	**ECR - Frequent**	**Frequent**	**Standard**	**School-Oriented/ Other**	**Total**	**Element Cost**	**Total Cost**
Total Inventoried Stops	**1**	**1**	**0**	**0**	**2**		**$ 687,200**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	0	0	0	**0**	$100,000	$0
Shelter w/ Bus Bulb/Boarding Island	1	1	0	0	**2**	$330,000	$660,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	1	1	0	0	**2**	$40	$80
Route Schedule	1	1	0	0	**2**	$20	$40
Real Time Information - Full Color Sign	0	1	0	0	**1**	$15,000	$15,000
Real Time Information - Color Marquee Sign	1	0	0	0	**1**	$12,000	$12,000

Real Time Information - Papercast Sign	0	0	0	0	**0**	$5,500	$0
Real Time Information - QR	1	1	0	0	**2**	$40	$80

Amenity Recommendations & Costs Frequent Frequent Standard Peak Menlo Park High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**1**	**0**	**0**	**1**	**2**		**$ 345,140**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	0	0	0	**0**	$100,000	$0
Shelter w/ Bus Bulb/Boarding Island	1	0	0	0	**1**	$330,000	$330,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	1	0	0	0	**1**	$40	$40
Route Schedule	1	0	0	0	**1**	$20	$20
Real Time Information - Full Color Sign	1	0	0	0	**1**	$15,000	$15,000
Real Time Information - Color Marquee Sign	0	0	0	0	**0**	$12,000	$0
Real Time Information - Papercast Sign	0	0	0	0	**0**	$5,500	$0
Real Time Information - QR	1	0	0	1	**2**	$40	$80

Amenity Recommendations & Costs Frequent Frequent Standard Peak Brisbane High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**0**	**0**	**0**	**1**	**1**		**$ 40**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	0	0	0	**0**	$100,000	$0
Shelter w/ Bus Bulb/Boarding Island	0	0	0	0	**0**	$330,000	$0
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	0	0	0	0	**0**	$40	$0
Route Schedule	0	0	0	0	**0**	$20	$0
Real Time Information - Full Color Sign	0	0	0	0	**0**	$15,000	$0
Real Time Information - Color Marquee Sign	0	0	0	0	**0**	$12,000	$0
Real Time Information - Papercast Sign	0	0	0	0	**0**	$5,500	$0
Real Time Information - QR	0	0	0	1	**1**	$40	$40

Amenity Recommendations & Costs Frequent Frequent Standard Peak Half Moon Bay High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**0**	**0**	**1**	**0**	**1**		**$ 105,600**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	0	1	0	**1**	$100,000	$100,000
Shelter w/ Bus Bulb/Boarding Island	0	0	0	0	**0**	$330,000	$0
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	0	0	1	0	**1**	$40	$40
Route Schedule	0	0	1	0	**1**	$20	$20
Real Time Information - Full Color Sign	0	0	0	0	**0**	$15,000	$0
Real Time Information - Color Marquee Sign	0	0	0	0	**0**	$12,000	$0
Real Time Information - Papercast Sign	0	0	1	0	**1**	$5,500	$5,500
Real Time Information - QR	0	0	1	0	**1**	$40	$40

Amenity Recommendations & Costs Frequent Frequent Standard Peak Palo Alto High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**0**	**0**	**1**	**0**	**1**		**$ 105,600**
Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	0	1	0	**1**	$100,000	$100,000
Shelter w/ Bus Bulb/Boarding Island	0	0	0	0	**0**	$330,000	$0
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	0	0	1	0	**1**	$40	$40
Route Schedule	0	0	1	0	**1**	$20	$20
Real Time Information - Full Color Sign	0	0	0	0	**0**	$15,000	$0
Real Time Information - Color Marquee Sign	0	0	0	0	**0**	$12,000	$0
Real Time Information - Papercast Sign	0	0	1	0	**1**	$5,500	$5,500
Real Time Information - QR	0	0	1	0	**1**	$40	$40

Amenity Recommendations & Costs Frequent Frequent Standard Peak Unincorporated San Mateo County High-Priority

Recommended Amenities	ECR - Frequent	Frequent	Standard	School-Oriented/ Other	Total	Element Cost	Total Cost
Total Inventoried Stops	**2**	**1**	**4**	**1**	**8**		**$ 1,224,740**

Standard Pole & Sign	0	0	0	0	**0**	$200	$0
Shelter Only	0	1	4	0	**5**	$100,000	$500,000
Shelter w/ Bus Bulb/Boarding Island	2	0	0	0	**2**	$330,000	$660,000
Bus Bulb/Boarding Island Only	0	0	0	0	**0**	$300,000	$0
Shade Structure	0	0	0	0	**0**	$50,000	$0
Bench	0	0	0	0	**0**	$3,000	$0
System Map	2	1	4	0	**7**	$40	$280
Route Schedule	2	1	4	0	**7**	$20	$140
Real Time Information - Full Color Sign	2	0	0	0	**2**	$15,000	$30,000
Real Time Information - Color Marquee Sign	0	1	0	0	**1**	$12,000	$12,000
Real Time Information - Papercast Sign	0	0	4	0	**4**	$5,500	$22,000
Real Time Information - QR	2	1	4	1	**8**	$40	$320