

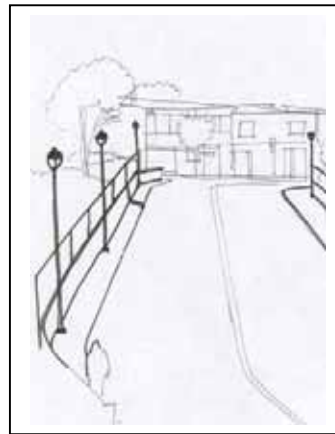
5.0 Station Access

With the Station Area so constrained by topography, development patterns, high traffic volume arterials and I-280, achieving BART and community goals of more balanced station access relying less on the automobile is a prime concern, as described in the Existing Conditions and Vision chapters above. BART's 2002 *Station Access Plan* developed specific recommendations to effect these changes, in partnership with the City of Daly City, San Francisco, Caltrans and local transit operators (Muni and SamTrans).

Access Projects Underway

Since the Access Plan was completed in 2002 and reviewed in several community meetings, the one-sided sidewalk, poorly-lit St. Charles Bridge has become a major focus of community and access concern. A "Transportation for Livable Communities" grant from the Metropolitan Transportation Commission was awarded to BART in 2004, and matched by a funding commitment from Caltrans and in-kind cooperation from the City of San Francisco and BART, the St. Charles Bridge project is fully funded and implementation underway at the time of this writing. The project features a second sidewalk on the south side of the bridge, six new, pedestrian-scaled streetlights and two safety railings on the bridge, new streetlights, a crosswalk and a sidewalk on BART property, and a provision for artwork. This project is fully consistent with the *Access Plan* and the *Community Vision Plan*.

After the community workshops in October and November 2005, BART, Daly City and Caltrans staff met to review the feasibility of a new surface-level crosswalk near the intersection of John Daly and Junipero Serra Blvds. Early recommendations for one crosswalk now propose its location to be close to Niantic and John Daly Blvd, consistent with the Community Vision Plan.



St. Charles Bridge Improvements

TOP: Previous Condition (no south sidewalk, no safety rail, only two streetlights)

MIDDLE: Concept and Construction

BOTTOM: New sidewalk, safety rails and six new streetlights

Other Access Recommendations

To effect a better balance of transportation modes used to reach the BART station, particularly emphasizing pedestrian, bicycle and transit, the following recommendations were made for the Daly City Station in 2002 and revised in the Community Vision process of 2005. Chapter 7 lists a comprehensive inventory of recommendations.

- Install new sidewalks in critical locations to improve pedestrian access and safety. Study pedestrian movements in other key locations to determine the feasibility and configuration of new sidewalks, crosswalks, and signals.
- Encourage the cities of San Francisco and Daly City to expand the network of Class I and Class II bike paths connecting to the BART station.
- In addition to the reserved parking program, implement a daily charge for all parking stalls consistent with policies at other San Mateo County stations.
- Collaborate with Muni, SamTrans and Daly City to enhance the connection between Muni's 14 Mission line and the BART station, without creating visual blight on John Daly Blvd.
- Add real time information for drivers and transit riders, including "predictive arrival" displays for bus connections as well as parking space availability displays.

C. Process

BART's Strategic Plan calls for improving station access by all modes, promoting alternatives to driving alone, and linking station access with other key strategic goals. In May 2000, the BART Board adopted the "Access Management and Improvement Policy Framework" which focuses on:

- *Enhancing customer satisfaction;*
- *Increasing ridership by enhancing access to the BART system;*
- *Creating access programs in partnership with communities; and*



- *Managing access programs and parking assets in an efficient, productive, environmentally sensitive and equitable manner.*

In accordance with these goals, the BART Board directed staff to prepare a series Access Plans for stations throughout the BART system. The development of this Station Access Plan began with a systematic information gathering effort. It included a review of patron data such as ridership trends and projections, rider demographics, and mode split, as well as station area characteristics such as land use and neighborhood demographics. It also involved an examination of the existing plans and pending improvements of both BART and other local stakeholders, including:

Review of Local and Regional Plans

- Daly City General Plan
- BART CIP and SRTP
- San Francisco Bicycle Plan
- Draft San Francisco Countywide Transportation Plan
- Muni “X” Plan
- SamTrans Bus Service Changes for SFO Extension

An “Open House” workshop on October 29, 2002 was held to gather community and agency input. Prior to this Open House, several other meetings were held with BART staff, community groups, and agencies in both Daly City and San Francisco.

Input from BART and Partner Agencies

- BART (Customer Access, Station Working Grp)
- San Francisco Dept of Parking and Traffic
- San Francisco County Transportation Authority
- Muni
- SamTrans
- Daly City Planning & Zoning
- Daly City Economic and Community Develop’t
- Daly City Public Works / Engineering
- Caltrans

Other Stakeholder Outreach

- Daly City BART patrons
- Daly City Council of Homeowners & Residents Association
- San Mateo County League of Women Voters
- CCAG Bike & Pedestrian Task Force
- BART Accessibility Task Force
- BART Bicycle Advisory Committee
- Peninsula Pedestrian and Bicycle Coalition
- San Francisco Bike Coalition
- Daly City and San Francisco station area residents

Altogether, access to the Daly City BART Station is fairly multi-modal when compared to other BART stations. Relatively rich local transit service and a medium density surrounding residential neighborhood contributes to this balance.

Certain conditions, however, may be limiting the appeal of alternative modes of station access, particularly for bikes and pedestrians. A detailed description of the opportunities for improving access by each mode follows below.

5.1 On Foot

The defining feature of the station environment and the chief liability for pedestrians is the presence of I-280, which acts as both a physical and psychological barrier to the neighborhoods north and west of the station. Presently there are only two ways to cross I-280: the St. Charles Bridge, which crosses to the north (and to San Francisco), and the John Daly Bridge, which links to the west.

The St. Charles Bridge is the chief gateway into San Francisco. It is used by pedestrians as well as BART parkers who use the 217-space lot across I-280 from the station. At present, the second sidewalk on the southern side of the bridge is nearly complete. Since the parking lot and the station are both on the southern side of the bridge, this will serve most customers who used to cross the street twice or walk along an edge with no sidewalk. The

latter was especially dangerous given that the bridge has sharp curves at either end and used by cars, shuttles and Muni buses. The absence of a grade-separated walking path and the inadequate street lighting (two lights along the entire path, one on each end of the street) limited the sense of safety and security for pedestrians.

Since this deficiency was identified in the 2002 Access Plan and the subject of strong concern from the Merced Extension Triangle neighborhood, a grant from MTC to BART and a match from Caltrans are now funding the construction of a second sidewalk, six new streetlights, two safety railings and an extended and lit path on BART property, along with artwork.

At the other end of the St. Charles Bridge, a BART wayfinding sign greets patrons approaching the station by directing them into to BART's auxiliary parking lot across 280, rather than toward the station itself. This could be confusing to new customers who are looking for the actual station. To clarify, the wayfinding sign should direct patrons across the bridge toward the station while another sign that reads "BART Parking" lets them know about the BART parking lot. This change would benefit those accessing the station by a variety of modes.



Sign for cars, but not for pedestrians

In the San Francisco station area neighborhoods, the pedestrian environment is generally good with one exception: there is no continuous, ADA-complying sidewalk along Niantic to get to OceanView Village. Pedestrians heading for BART from this high-density development must walk into the street around telephone poles and streetlights in the very narrow (less than three feet wide) off-street path.

Within the neighborhoods to the east and south, known as "Original Daly City", the pedestrian environment is generally good with a grid street pattern and sidewalks. Getting to these neighborhoods from the station can be challenging, however, due to the complicated, confusing and unpleasant BART station exits and to the limited

number of at-grade crosswalks on John Daly Blvd.

To get to the east, pedestrians have two primary options. One is the overpass over the bus intermodal, which requires walking up stairs, passing through an uninvitingly utilitarian overpass lined with chainlink fences and then walking through or around a parking lot which has no designated pedestrian route.

The second option is to leave the station via the lone sidewalk on the east side of the bus exit. The only access to that sidewalk is in the bus bay area. Patrons walking from the faregates toward John Daly Blvd. find no sidewalk on their side (the west side) of the bus exit, and also lack a crosswalk to get over to the east side, forcing them to backtrack or jaywalk in front of buses. The sidewalk itself is narrow, sandwiched between the bus exit and a high, blank concrete wall in the bus intermodal area.

A pedestrian who wants to cross John Daly Boulevard to get south has only two options: to head toward a crosswalk several hundred feet uphill to the east, via one of the routes previously described, or to go through the BART tunnel which runs beneath John Daly Boulevard. Uninitiated patrons do not immediately know that a tunnel exists, where it goes, or how to find its entrance, given the lack of wayfinding signage, and a lack of distinctiveness about the tunnel entry itself.

Even those who are aware of the tunnel, however, often avoid it. Many patrons simply jaywalk across John Daly Boulevard at several locations, minimizing the distance between the station and most destinations to the east, west and south, sometime carving a shortcut in BART's landscaping. The City has responded to this jaywalking danger by constructing high and long iron fences in the John Daly Boulevard median and installing "no ped crossing" signs at the most inviting cross points.

Walking to the west of the station is also challenging. There is only one sidewalk on the



Overcrossing to Parking Lot



Limited sidewalks, bleak intermodal



Tunnel under John Daly Blvd



Crossing ban and median fence

southern side of the John Daly Bridge, even though the BART station is on the north. Those who want to connect with somewhere west of I-280 but north of John Daly must cross Junipero Serra, I-280, and John Daly Boulevard twice and use the tunnel.

Crossing John Daly Blvd. west of 280 is not easy either. For the residents of Westlake Village, (situated north of John Daly Blvd. and west of 280) the closest crosswalk is on the west side of Sheffield Dr. which forces backtracking and encourages jaywalking in front of a freeway offramp. Shortcuts between the Westlake apartments on the south side of John Daly, near the sidewalk, are discouraged by fences and the uncontrolled southbound on-ramp to I-280.

Finally, a deficiency that affects all modes of access is the general lack of strong station identification signage. BART entrance signs include only BART's logo and not the name of the station. In the words of a 2001 Booz, Allen & Hamilton signage study for BART, "station identification on the street level is often difficult to locate and identify." The study also notes that "BART takes a very understated approach to its identity", and that "a strong identity system can help to create a sense of place"

Key strategies for increasing the number of patrons accessing BART on foot include:

- Studying pedestrian circulation in the area with the City of Daly City and Caltrans, particularly around John Daly Boulevard and the freeway ramps, for means of removing barriers and giving higher priority to pedestrians seeking direct connections to BART.
- Installing new sidewalks, signals and crosswalks where needed to provide safer and more direct access from the station: especially at the intersection of John Daly Blvd and Niantic.
- "Calming" auto traffic where it comes in conflict with existing pedestrian circulation.
- Improving signage and orientation between the station and key area destinations.

5.2 By Bicycle

Very few patrons ride bikes to Daly City Station. Consequently, it is tied with three other stations for the second lowest bike mode split in the BART System (Colma has the lowest). As a result of the low bike access, bike racks tend to be relatively empty. In mid 2002, they were measured to be at an extremely low 2% of capacity.

Bike lockers, which are often require getting on to a long wait list at other stations, are available here in large quantity. They are the “first generation” of electronic lockers, which do not allow for shared use and have notable maintenance problems. These need to be upgraded to electronic lockers with fewer maintenance problems and shared-use capacity. As of 2005, 12 of the 16 lockers were observed as filled.

The recently completed BART Bicycle Access and Parking Plan ranked the growth potential for bikes at Daly City as “low”. There are some inherent difficulties in biking to this station that include the presence of the highway, narrow residential streets, the foggy and windy climate, and some hills. However, a primary barrier may be the absence of dedicated bike lanes in the station vicinity, meaning that cyclists must mix with road traffic. The official bike routes in the area include St. Charles Ave, Mission Road, and John Daly Blvd, though none have dedicated lanes.

Another barrier may be the lack of at-grade crossings on John Daly Blvd. which means that cyclists must often use the BART tunnel. Riding in two elevators at either end of the tunnel can be time consuming, while taking the stairs at both ends is a physical challenge. Some cyclists simply cross the street illegally posing a danger to both themselves and vehicular traffic. Another at-grade crossing would not only greatly benefit pedestrians, but bicyclists as well.

Given that bike parking at the station tends to be underutilized, a major expansion of the capacity of



bike lockers and racks is not a pressing priority at this station. However, relocating racks and lockers to a better location could make bike access more convenient. The space being created by the removal of concrete mounds in the plaza area could provide an excellent site for bike parking, making it more visible and secure. Additionally, lighting in the plaza area could not only brighten the unpleasantly dark space, but help to both secure and draw attention to bike parking.

An important strategy for improving access to the Daly City Station by bike is collaboration with local governments and bike users to increase the number of safe bike routes to the station.

At present, Daly City is engaged in an effort to create a bikeway path along John Daly Blvd. between the station area and Skyline Blvd. This could improve bike access from areas to the west of the station. Another opportunity to better sign and/or stencil the route on St. Charles Avenue, whose bridge over I-280 links the BART station to the existing bike route network in San Francisco.

Key strategies for increasing bike access to the station include:

- Encouraging the expansion and improvement of the San Francisco and Daly City bicycle network, in particular on St. Charles.
- Increasing the number of at-grade pedestrian crosswalks on John Daly Blvd.
- Developing a BART brochure to promote bike access for use at all stations.

5.3 By Transit

The Daly City BART station is served by both Muni and SamTrans buses being located near the boundary of each operator's service area. There are two Muni routes that serve the station, the 28 and the 54. The SamTrans routes include the local routes 110, 120, and 121 as well as the long



distance route 390 which terminates at Daly City after running up the El Camino Real from Redwood City. In addition to being a transfer point between buses and BART, the Daly City bus intermodal is also used a transfer point by those going from one bus route to another. The routes that serve the station are described in the table below:

Table 5.1: Public Transit Routes to/from Daly City BART

Route	Description	Peak Frequency	Off-Peak Frequency	Hours of Operation
<u>SamTrans</u>				
110	To west Daly City and Pacifica	30 min	60 min	6:35AM - 10:40PM
120	To west Daly City, Colma BART and Crocker in S.F.	10 min	20 min	5:24AM - 10:13PM
121	To Skyline College – Lowell/Hanover	15 min	30 min	6:41AM - 9:29PM
130	To South San Francisco via Hillside, El Camino and Grand	20 min	30 min	6:10AM - 10:45PM
390	To Redwood City via El Camino Real	20 min	30 min	6:00AM - 10:04PM
<u>SamTrans Shuttle Program</u>				
Seton	To Daly City Civic Center and Seton Medical Center	10 a.m. trips 10 p.m. trips	n.a.	5:50 AM – 9:00 AM 3:16 PM – 7:00 PM
Bayhill	To Bayhill area office buildings including the Gap	5 a.m. trips 5 p.m. trips	n.a.	6:49 AM – 8:15 AM 4:52 PM – 6:15 PM
F.C.	To employment centers in Foster City	2 a.m. trips 2 p.m. trips	n.a.	6:30 AM – 8:00 AM 5:00 PM – 6:30 PM
<u>Muni</u>				
28	To Presidio via 19 th Ave.	7 min	12 min	5:23AM - 12:23AM
54	To Hunter’s Point via Ingleside and Excelsior	22 min	22 min	5:53AM - 12:57PM

SamTrans also serves Daly City BART with three shuttles that involve partnerships with local employers. This service, part of a peninsula-wide SamTrans shuttle program, has been a highly successful boon to BART riders. SamTrans anticipates relocating at least two and maybe all

three of these Daly City shuttle routes to new BART stations farther south once they open. These relocations may reduce shuttle travel times and lower shuttle operating costs. However, some patrons could have to travel longer distances on BART to connect with their shuttle in the a.m., and may also have less frequent train service at BART stations south of Daly City.

Muni's long range "X" Plan calls for a BRT system along 19th Ave, currently served by the Route 28 series buses. This BRT could potentially be replaced with light rail in the future. The "X" Plan also calls for an extension of the 14 Mission series to Daly City BART and envisions it being replaced with a Bus Rapid Transit (BRT) system in the future, and possibly a light rail system in the more distant future.

Muni's 14 Mission series bus routes form a major transit spine that runs along Mission Street from downtown San Francisco to the "top of the hill" area in Daly City, terminating about ½ mile away from the Daly City BART station. Currently, the only opportunities for BART patrons to make a direct connection to the 14 Mission are at the 16th and 24th Street BART Stations in the Mission District of San Francisco.

Despite the intent expressed in long range plan, there are several obstacles that must be overcome before the 14 Mission could be extended. First, such a change would create operational complexities for Muni, including additional operating costs and line haul capacity issues.

Secondly, the city of Daly City has expressed concerns about overhead wires along John Daly Boulevard that would be required for the electrified trolley bus to be extended. Also, there is an overall lack of additional layover space for buses in the Daly City BART station area. Finally, any additional peak hour bus service feeding the Daly City BART bus intermodal could require an expansion of that facility.



Muni's "X" Plan

Despite these challenges, however, providing a better connection between the 14 Mission and BART will require BART to partner with Muni, SamTrans and the City of Daly City to explore the potential for an extension in the possibility of a future re-design of the bus intermodal and alternative ways to close this gap without impairing the appearance of John Daly Blvd.

Muni's 54 line currently runs along narrow St. Charles Avenue through the Merced Extension Triangle neighborhood. Neighbors have expressed a desire to move this line off that street, which would require an entirely different approach to the station for this line which runs from the Bayview neighborhood through the Portola, Excelsior, San Miguel, Ingleside and Ocean View districts in San Francisco. The outcome of this proposal may require extra space provisions at the intermodal, as the 54 currently is the only Muni line that stops on the west side of the station.

In addition to having capacity constraints, the bus intermodal area is an unattractive place to catch a bus. A redesign could expand capacity, tie-in pedestrian improvements and could be implemented in conjunction with joint development of the John Daly / Delong St. parking lot. Any redesign of the area should consider the Daly City's windy and foggy climate and give special attention to customer comfort. It should also aim to create a better lit and more aesthetically pleasing space.

In the interim there are some ways to improve the BART to bus experience. Real-time information about bus connections in the intermodal area would be a great benefit to riders. Muni is now embarking on a project to outfit their fleet with "Next Bus" automatic vehicle location technology along with predictive arrival displays at some bus stops. While they intend to begin with the Muni Metro, light rail vehicles, and cable cars, they hope to expand this technology to all bus routes subject to available funds.

To aid seamless connections between different



Muni's 54 line at Daly City

regional transit operators, Muni should prioritize adding “Next Bus” to those routes that connect to BART and offer digital displays in the stations. Daly City is an especially good place for this type of improvement since its also a transfer point between Muni and SamTrans. SamTrans is exploring the use of similar predictive arrival displays at the Millbrae station. Should such a pilot project be successful, this type of information could be expanded to all BART stations, including Daly City. Along similar lines, information about arriving BART trains could also be made available in the intermodal area for the benefit of both riders and bus drivers.

Another improvement for transit riding customers would be to add visibility and increase publicity for the free Muni round trip transfer that is now available to BART patrons in the station. Many BART customers are unaware of this transfer incentive.

Key strategies for increasing station access by transit include:

- Studying a Muni 14 connection/ extension to the Daly City BART with other local partners
- Studying bus intermodal expansion with other local partners
- Incorporating “real-time” predictive arrival information for both Muni and Samtrans buses
- Publicizing the existing free Muni transfer

5.4 By Auto

Despite the fact that there are about 2100 parking spaces at Daly City BART, the demand to use those spaces is so strong that almost all BART lots at the station have been full by approximately 8:30 a.m. (the notable exception being the lot across the St. Charles Bridge, which averages about half-full). With the recent implementation of the daily paid and reserved parking program at Daly City, the garage continues to fill up, most likely due to the station’s strong appeal to Peninsula commuters who value the close freeway proximity, the parking

facilities, the lower fares to San Francisco if coming from the South, and the high-frequency level of BART service.

Before daily parking charges, this heavy demand made the station the sixth earliest to fill up in the morning out of a total of 28 stations with available parking. When introduced in 2003, the reserved parking permits for Daly City BART outsold all other stations. The \$2 daily charge for all parking spaces at Daly City does not seem to have diminished the number of patrons who park at the station – although it is believed to have discouraged parkers who used the garage for other purposes than riding BART, such as to catch the SFSU shuttle.

Current BART ridership projections show that demand to use the Daly City Station is not expected to decline in the years following the opening of the BART SFO extension. In fact, ridership is expected to increase very slightly at the station each year over the next two decades. As a result, any slack in the parking demand that could occur immediately after the new extension opens may be short lived. Thus, the demand for parking will likely continue to be strong over the long term.

One option to manage the tight parking situation at Daly City is to expand the supply of parking, such as by paving the corporate yard north of the garage, and by adding new parking structures or new floors or wings to the existing one. There are few opportunities in the station area for the acquisition of new property for parking, although with the large and currently underused garages nearby Pacific Plaza, there are unusually advantageous opportunities to share the use of parking in these garages to capitalize on the different hours of primary use between the offices, the station and the theater, and to make better use of the entire inventory of off-street parking in the area.

Another opportunities for expanding the number of parking spaces at the station is to create a “parking revenue district” in partnership with the city of Daly

City. This would entail claiming underutilized pavement (such as along Delong Street) for metered on-street parking, and directing the revenues back to the station area for improvements, better parking management and support for other access modes.

Additionally, this district could be expanded to include the wide arterials surrounding the station that often feature underused lanes at midday and off-peak times. These lanes could be striped and metered as midday on-street parking with tow-away restrictions to protect traffic flow at the peak periods. This is being considered at Pleasant Hill Station, and would allow more potential BART patrons to park and use the system at midday even as the garages and lots are filled with cars from morning commuters.

Another response to BART's parking demand could be met through expanding the reserved parking program at Daly City beyond 25% of spaces at a station. The BART Board has authorized increasing the amount of parking dedicated to this program up to 40% consistent without needing Board action. Other considerations for increasing or modifying the service include charging a higher premium and studying impacts on parking at other San Mateo County stations.

As demand for any parking at the station grows, BART should re-evaluate the charge at Daly City, which is currently \$2/day. As the garage continues to fill up (occupancy of garage and lots averages over 90%), an increased charge could fund parking management and other station access improvements. At \$3/day, Daly City would still be below West Oakland's \$5/day charge set in 2006. West Oakland enjoys the same, unique highest-level of BART service as San Francisco and Daly City.

An enhancement to BART's parking program would be the integration of real-time information for customers. Digital displays, now common at parking facilities worldwide, could let customers know whether parking is available and where its located. This would add convenience for BART



South Parking Lot

patrons who could reduce their time spent circulating in search of a space. This could also ease congestion in BART's parking lots as well as the emissions produced in BART lots.

Another smart parking technology involves the use of digital display on nearby roadways to inform customers about parking availability at the station. Again, this could add convenience and alleviate frustration for BART riders. At Daly City, these displays could be located on I-280 for customers headed north. BART staff have already had conversations with Caltrans about pursuing such a system.

Key strategies for improving access by automobile include:

- Meeting future demand for reserved parking stalls (BART's Board currently allows up to 40% of all spaces) and charging a premium rate.
- Study demand, elasticity and mode shift if BART increases the daily charge rate to \$3/day.
- Institute an on-street "parking revenue district" in partnership with Daly City, with the extra revenues returning to the station area for improvements and better management.
- Partner with Pacific Plaza to explore shared use of the Plaza parking garages at times when peak demands allow for the flexibility.
- Exploring the implementation of "smart parking" technologies to enhance customer convenience

5.5 By Taxi, Shuttle or Drop Off

A significant number of riders at Daly City BART are dropped off at the station (12.7%) and the capacity for this type of access is high. However, some customers unfamiliar with the station confuse the drop-off area with the bus intermodal area. In addition many do not realize that local shuttles pick-up in the drop-off area and not in the bus

intermodal. Better signage to distinguish the two areas near the faregates could clarify the situation.

Taxis generally do not use the drop-off area, but instead wait on the curb and in a small parking lot just to the south of the faregates near the station exit. Station signage could also clarify this to customers, some of whom attempt to catch cabs in the drop-off area before noticing the taxi stand.

The very successful, free SFSU shuttle carries over 3,000 riders daily to and from Daly City BART. Long queues of waiting passengers form along the edge of the parking garage west of the station, sometimes limiting sidewalk access to and from cabs, the parking garage and general foot traffic toward Pacific Plaza.

Key strategies for vehicle drop-offs include:

- Installing clear and bold signs inside, or just outside, the station to guide BART customers to connecting transit – buses, taxis and the shuttle / drop-off area respectively.
- Shift the SFSU shuttle stop slightly north to reduce conflict between queuing students, shuttles, cabs and garage traffic

5.6 Access Recommendation Summary

Table 7.1 contains the summary of access recommendation in Implementation (Chapter 7), with preliminary costs and program phasing suggestions when applicable or available. Also in Chapter 7 is Map 7.1, which indicates the location of key Access Recommendations.



6. Station Capacity and Functionality

BART staff prepared this Capacity Plan in 2004 to develop a strategy for meeting projected ridership increases in 2025. To accommodate this growth, station capital improvements intended to meet specific building and safety codes were identified and costs estimated.

This Capacity Plan is organized into two categories: full build-out of all capital improvements required in Year 2025 is known as the *Capacity Plan (Table 1)*; and an option (without cost estimates) that proposes improvements anticipating future station area development known as the *Enhanced Plan (Table 2)*. The recommendations in the *Enhanced Plan* are not included in the *Capacity Plan*.

Table 6.1: Capacity Plan Recommendations

Capacity Plan	Cost (millions) In \$2004
Platform Expansion	\$4.4
New Stairs (3), New Escalators (3), New Elevators (2)	7.7
Exit Stairs Modification and Update (2)	0.9
Inter-Platform Bridge (1)	1.9
Expanded Paid Area	6.2
Replace Supervisor Building	1.5
Move Drop-Off Lane	0.3
Total	\$22.8

Table 6.2: Enhanced Plan Recommendations (Not included in the Capacity Plan)

Enhanced Plan	Costs
Eliminate Driveway Cut-Through, Expand Free Area on Ground	TBD
Add TVM kiosks (4), AFCs (2) to New Free Area, North Entrance	~ \$1 million
Replace Restrooms and Core Areas with New	~ \$2 million

See Appendix A for Plans and Appendix B for recommendation details & costs

The key assumptions for this analysis are below:

**Table 6.3
Key Station Capacity Assumptions**

Assumption	<u>Description</u>
Ridership	Ridership is based on estimates of patronage for 2025. Estimates were developed for the extension to Santa Clara.
Operating Scenario	The assumed operating scenario for 2025 is characterized by 12-minute headways in the peak period and up to 30 trains per hour operating through BART's transbay tube.
Horizon Year	The planning year used for all capacity planning is 2025. An interim year has not been identified, however Interim Plans represent a phased alternative of Capacity Plans.
Fares and pricing	The assumption for fares and other system pricing (e.g., parking charges) is that the existing structure will remain in place in 2025, without significant modifications. Translink, which would affect fare collection and fare gate capacity, is not assumed to be in place. ¹
Codes and Standards	Codes and standards used to analyze station capacity and guide capital improvements are a mix of fire and evacuation codes, California building codes and industry practices. A more detailed discussion is also presented below in Section 3.2.

**Table 6.4
Projected Ridership at Daly City BART Station**

	CURRENT RIDERSHIP	PROJECTED RIDERSHIP*	
		With San Jose Extension	Without San Jose Extension
Year	2004	2025	2025
Exits	7,299	10,393	10,539
Growth from FY 2004	--	29.8%	30.7%

Data Source: SVRT DEIR

*decreased ridership at Daly City with extension to San Jose in this study is due to assumption that without direct San Jose extension from Fremont, more riders would go through Daly City to get to San Jose via Millbrae/Caltrain

To evaluate station impacts, three critical station features are evaluated which can be tied to fire and life safety codes, and to accepted BART and industry standards: platform width, vertical circulation, and AFC equipment. The standards that govern these three station elements are presented in Table 1.

Table 6.5: Guidelines for Station Evaluation

Element	Guideline	Source
Vertical Circulation: Platform to Concourse	Must exit trainload and occupant load from platforms within 4 minutes. Based on 12-minute delay (or two headways) plus one delayed peak direction off-loading train and one normally loaded off-peak train also off loading.	NFPA 130 (2000)
Vertical Circulation: Concourse to Street (subway stations)	Must exit trainload and occupant load from platforms to public street within 6 minutes.	NFPA 130 (2000)
Platforms: Delay operation (12 minutes delay)	5 sq ft/passenger. Based on a 12-minute delay (or two headways) plus off loading one delayed peak direction train. Off-peak direction operates normally.	Industry and BART Practice
AFC Equipment	No more than 60-second delay at fare gate with one gate per array out of service in peak direction. Based on total entries and exits. No queue long enough to interfere with stair and escalator operations.	BART standard

Applying these station guidelines to each of the core system stations allows for a relatively straightforward calculation of the adequacy of BART stations under future conditions. All guidelines are applied to the peak 15 minutes of the peak hour (“peak of the peak”) in the peak direction, as is consistent with BART practice.

To translate the station evaluation guidelines into additional capacity requirements, a design population must first be calculated for each of the three capacity features: vertical circulation, platform

area, and AFC equipment. The design populations are then translated into gross and net additional capacity requirements.

6.1 Vertical Circulation

The design population for vertical circulation is a count of the patrons who must be cleared from a crowded platform and evacuated via stairs and escalators to the station concourse. The design population is the sum of the total patrons on the platform (boarding load) and on the trains coming into the station that must be off-loaded (train load). The hourly patronage provided by the VTA 2025 patronage estimates (with the Silicon Valley Rapid Transit, or SVRT, Project) is translated into “peak of the peak” to capture the period of most intense demand at the station. A surge factor consistent with BART experience (1.2 for downtown stations and 1.4 for suburban stations) is used to approximate the peak period. A delay factor is also applied to the patronage to calculate the number of patrons who will accumulate on the platform when the peak direction train is delayed by 12 minutes or 2 missed headways (whichever is greater). By applying these factors, the design population can be determined for each station (Fig. 6).

Figure 6.1: Capacity Design Formulas

Required Capacity (pax/min) = $\frac{\text{Design Population (pax)}}{4 \text{ minutes}}$

Existing Capacity (pax/min) =

Total Stair Width (in) X capacity rate (pax/in/min)
+ Total Escalator Width X capacity rate (pax/in/min)

Additional Width Required (inches) =

$\frac{\text{Required Capacity} - \text{Existing Capacity (pax/min)}}{\text{stair capacity rate (pax/in/min)}}$

Once a design population is established, the next step is to calculate the necessary vertical circulation capacity to evacuate that population. Dividing the

total design population by the 4 minute (NPFA 130 (2000) safe exiting requirement yields a required rate per minute to clear the platform. Stairs and escalators have accepted industry averages for capacity that is expressed as passengers per inch of stair width per minute. Therefore the evacuation capacity of existing vertical elements can be calculated, and a net additional need for vertical circulation (expressed as inches of stair width) can be determined.

6.2 Platform Area Requirements

Platform Area requirements use the same delayed operation scenario as for the vertical circulation, which assumes that there are two missed headways or a delay of 12 minutes (whichever is greater) and the incoming peak direction train must be off-loaded onto the platform. The off-peak direction train is assumed to be operating normally and is not off loaded at the station, so the design population for platform requirements is slightly lower than that for vertical circulation, for which both directions are off loaded. This scenario assumes all patrons must be accommodated on the platform with a minimum platform space of 5 square feet per person, in conformance with BART and industry practice.

The area required for passengers is a calculation of the design population times 5 square feet per person. The square footage of the footprint of new required vertical circulation is added in to reach a total required area. Subtracting the current platform area derives the net additional area required (Fig. 7).

Figure 6.2: Platform Area Formula

Passenger Area Required = Design Population x 5 sq. ft./person

Total Area Required = Passenger Area + footprint of new stairs/escalators

Additional Area Required = Total Area Required - Current Available area

6.3 AFC Equipment

The AFC gate requirement is calculated in accordance with the methodology set out in the BART Extension Program: Automatic Fare Collection Equipment Final Report (April 1991). The required number of AFC gates is calculated considering the peak passenger loads (boarding and alighting), the passenger flow rate from the platform vertical circulation elements, the expected queue length and the maximum delay permitted at the gates.

The design demand for fare gates is based on the maximum board load during the peak five minutes, and the maximum alighting load during the peak 15 minutes.

The required number of AFC exit aisles is determined to clear the design population in one minute in accordance with BART standard practice. A secondary check is also undertaken to ensure that sufficient area is available to accommodate the resulting queue length.

The requirement for AFC gates is initially calculated as aisles of travel. It's important to note that actual AFC equipment for design and costing purposes is counted as pieces of gate equipment, not the circulation space between it, meaning that to serve five aisles six AFC gates must be installed.

6.4 Station Improvement Plan Development

Customized capital improvement plans were developed for Daly City Station. Each of the capital improvement plans were designed to meet the capacity requirements calculated using the station metrics, as well as reflecting specific station use patterns, as determined by interviewing station agents, BART police, planning, and transportation staff. In all cases, engineering staff was included to ensure that capital improvements recommended in the plans were constructible and reasonable.

In earlier capacity studies of selected prototypical stations, design workshops were conducted with both BART and VTA staff to review the development of reasonable improvements. In some cases, station improvements were recommended that were not solely demanded by capacity needs, but would be useful for improving station flow or station operations.

Where possible, capacity needs were designed to be met with capital improvements to stations. It should be noted that in some cases, no reasonable capital project could be developed that would fully satisfy capacity requirements. In all cases, the team limited recommendations to those that could be implemented while maintaining service through the station.

The following sections show the plans developed for this station, with a description of the improvements recommended and their associated costs. An important criterion for all of the plans developed in the station planning process was the requirement that the station be kept open and that service be uninterrupted during construction. Vertical circulation between the concourse and platform must be maintained at least at its present capacity at all times, and fare collection functions must also be continuously maintained. New or temporary restrooms and staff facilities must be provided prior to removal of existing facilities. All improvements will also meet current ADA accessibility requirements.

6.5 Specific Comments on Daly City Station

Key recommendations for providing sufficient capacity to meet future ridership projections at the Daly City BART Station include expansion of the platform and paid area, additional ticket vending machines (TVMs) and kiosks, addition of vertical circulation systems, including a new inter-platform bridge and machine room, and modifying the

location of faregates, concession stands, a drop-off lane and the supervising building.

6.5.1 Paid Areas and Platforms

Paid areas must be sufficient to handle passenger flow between the fare gates and the platforms and serve as a landing for stairs, escalators and elevators from the platform. Paid areas must also house passenger amenities (e.g. restrooms), station agent booths and staff facilities (e.g. break room, janitor room).

In the Capacity Plan, the paid area is expanded to the south by 6,000 square feet, and the west-most platform is expanded to the west by 4,297 square feet. The expanded ground-level paid area will require the relocation of the station agent booth, 11 existing faregates, concession stands, and the addition of 9 TVMs and two kiosks. It will allow the landing of two new stairs and an escalator that serve the eastern platform, which currently lacks such vertical circulation on the southernmost third of the platform and forces bunching of patrons in the fewer, concentrated, centrally located stairs and escalators.

The expanded western platform also features a new stair, elevator and escalator in the central portion of the platform. A new bridge is proposed to connect the east and west platforms to will allow platform-to-platform transfers without requiring patrons to descend to ground level.

6.5.2 AFC Equipment

As described above, the Capacity Plan does not require new faregates, but the expanded paid area requires the relocation of 11 existing faregates and provides for nine new TVMs and two kiosks. The Enhanced Plan provides for the addition of two new faregates on the northern edge of the ground-level paid area and four new TVM kiosks.

6.5.3 Vertical Circulation

Vertical circulation elements (stairs, escalators, elevators, bridge) serve two important and interconnected functions at BART station: moving passengers between the fare gates and the platforms and evacuating passengers in the event of an emergency.

In the short-term, vertical circulation for day-to-day operations is sufficient. However, more vertical capacity is needed for evacuation purposes in the event of an emergency. In the Capacity Plan, two existing exit-only stairs located at the southern end of the platforms need to be updated, a new one that is connected to both platforms by an new open steel frame inter-platform bridge is needed at the northern end of the eastern platform. Two new, fully ADA-compliant elevators are proposed next to the two existing elevators in the center, flanking edge of each of the two platforms. A new machine room is also proposed near the expanded elevator bank on the west side.

The inter-platform bridge is a particular solution for the Daly City BART station because it has two platforms. If a train is on fire, and all of the vertical elements on one of the platforms are at capacity, the bridge would allow BART patrons to cross platforms and access the other unused vertical elements. The bridge is open (versus fully enclosed) with railings. The bridge would be usable during regular operations hours and for emergency evacuations.

6.5.4 Other Improvements

Supervisor Building, Concession Stands

The relocation of the Supervisor Building is necessary to accommodate the new emergency stair on the northern end of the eastern platform. The relocation of small concession spaces within the paid area and the “Black BART” concession stand outside the faregates is also necessary to accommodate the expansion of the ground-level paid area and the elevators.

Drop-Off Lane

The drop-off lane across the roadway separating the station from the garage will be replaced with the traffic lane that now flanks the station. This relocation allows patrons who are being dropped off to avoid crossing the roadway.

6.5.5 Proposed Enhanced Plan

The changes recommended in the Enhanced Plan include an expansion of the ground-level free paid area on the north side of the station. This would require the closure or more distant relocation of the access roadway from the east side of the station, which currently runs in a tunnel underneath the platform, inhibiting pedestrian circulation. Moving or eliminating this roadway also would allow the installation of 2 new faregates on the northern edge of the ground-level paid area, and at least four new TVM kiosks.

Because these changes would require much more extensive site and station access planning that contend with broader area development changes, and deliver only moderate capacity expansion, their costs are not included in this analysis. The Enhanced Plan presents the benefits these changes provide for further discussion and inclusion in a more comprehensive station area planning effort.

6.5.6 Construction

There are two construction issues associated with implementation of the Capacity Plan and the Enhanced Plan that may require further study and funding and should be highlighted:

- One or more of the BART parking lots may not be available for staging because of possible transit-oriented development, requiring a coordinated construction phasing strategy linking capacity expansion, access and station area development.

- The extent of any excavation beneath the platforms to expand or replace vehicular access to accommodate the Enhanced Plan is unknown at this time. Further evaluation of the station structure, the embankment beneath, and surrounding vehicular and pedestrian access systems is needed to determine how tunneling should proceed through retaining walls and fill (which support the structure of the BART station and Supervisor Building). Keys to determining these factors include the type of fill material, the understanding the station support system, its seismic integrity, and the extent of vehicular and pedestrian circulation and permeability that will define the future station area.

The above items are not reflected in the Capacity Plan cost estimate.

6.5.7 Other Planning Considerations

The staff of the City of Daly City and BART share a common interest in updating the Daly City BART Station Specific Plan with a community-based planning process. Responding to broader community support for BART's 2002 Daly City Station Access Plan recommending better pedestrian access from the Westlake area west of the I-280 Freeway, from San Francisco, and from the Pacific Plaza area south of John Daly Boulevard, BART and Daly City are proceeding with a Comprehensive Station Plan funded in part by Caltrans grants.

The Capacity Plan does not address access- and development-induced capacity projections, nor do its recommendations extend outside the current "drip-line" area beneath the existing station platforms. A key goal in developing the Comprehensive Station Plan for the Daly City BART Station is to meld capacity projects responding to projected growth, access improvements that increase station access for a variety of transportation modes, and transit-oriented

development opportunities that reflect community goals and those of BART and the City of Daly City.

Integrating this Capacity Plan with other elements of the Daly City Comprehensive Station Plan may in turn modify capacity projections based on station structural changes and revised/updated ridership projections, particularly with new ridership generated by the new station area development and access improvements.

Additionally, the structural modifications to the station itself present an opportunity to make architectural and aesthetic improvements to the station's design and appearance that help meld the station facility itself to the surrounding new development and access improvements, including the landscaping, revised intermodal and entry plaza.

The generation of new ridership from various sectors of the station area should also be studied in terms of the recommendations of the Enhanced Plan, which proposes a new station agent booth and faregate array that anticipates a significant number of patrons arriving from the north. The study may determine that the significant costs of this Enhanced Plan may not be justified if the volume of patron from this direction is not sufficient to warrant these modifications.

6.5.8 Projected Capacity Improvement

Costs: \$22.9 million (*not including Enhanced Plan*)

Section 7 (Implementation) details the costs of each of the capacity improvements, except the Enhanced Plan (which includes significant and not-yet estimated costs of tunneling under the tracks and resultant structural changes). They are also shown on the plans in Figures 7.1 and 7.2.

7.0 Implementation

BART's implementation of the recommendations in the Daly City Station Comprehensive Plan is grouped in three categories: Development Pro Forma, Capacity Projects and Access Plan Recommendations. Both Access and Capacity projects are integral parts of the recommended Development Pro Forma's Station Area Planning program – particularly, the development on the DeLong lot (which enhances the pedestrian network and bus intermodal areas through activation, construction coordination and site design) and with the proposed surface crosswalk and signal at Niantic and John Daly Boulevard, which provides additional pedestrian and bicycle connections while strengthening the east entry of the station as the primary station gateway.

As the development of Pacific Plaza continues northward to include the banquet and conference facility, these access improvements will become critical urban design features. The development of the station area and the expansion of the station as recommended in the capacity Plan should also be seen as opportunities to implement architectural enhancements to the station itself. The exterior finishes, colors and other design aspects of the station should take its cues from the surrounding development, as has been proposed at the Pleasant Hill BART station, to further integrate and aesthetically unify the station area.

Indications of “Tier 1” in the Access Table 7.1 suggest high priority, project underway or immediacy of implementation. Where this table and the capacity tables show “Tier 2” or “TBD,” the budget or schedule for the recommended projects was not seen as being so critical or feasible as the Tier 1 projects. When updating or accelerating parts of this plan, these categories should be revisited for project status and relevancy.

**7.1 CAPACITY STUDY
FOR DALY CITY STATION**

**CONCEPTUAL CONSTRUCTION COST ESTIMATE
(AN OPINION OF PROBABLE CONSTRUCTION COSTS)**

Owner

BART (Bay Area Rapid Transit)

300 Lakeside Dr

Oakland, CA 94612

Prepared by

M. LEE CORPORATION

Construction Management & Consulting

Cost Estimating & Scheduling

3075 Citrus Circle, Suite 200

Walnut Creek, CA 94598

(925) 938-4567; FAX (925) 938-4568

This cost estimate is an excerpt from work performed by Martin Lee for six BART stations in 2004. For purposes of this memorandum, only the pages and estimates that summarize work done for Daly City Station are included.

The excerpt work was done by BART staff in March 2005.

Dated: September 10 , 2004 Rev. 1

Dated: September 10 , 2004 Rev. 1

FIG. 7.1:
STATION CAPACITY STUDY FOR DALY CITY STATION
CONCEPTUAL CONSTRUCTION COST ESTIMATE
PREAMBLE

Dated: September 10 , 2004 Rev. 1

1.0 Outline

1.1 The preliminary conceptual construction cost estimate, which represents our opinion of probable construction costs, is comprised of the following integral parts:

- A) Preamble
- B) Grand Summary
- C) Summaries by Stations
- D) Direct Cost Detail Estimates by Stations

2.0 Scope of Work

2.1 The estimate has been prepared based on the following information:

Conceptual capacity plans and list of station development for each of the six stations prepared by Robin Chiang & Company dated July 2004 received by us in an email on July 30, 2004.

Selected as-built drawings for each of the six stations

Observations during the site visits on May 4 and May 6, 2004

Incorporation of comments from BART on previous draft estimates.

2.2 The general scope of work in this estimate, per the information listed above, is as follows:

Daly City

- New Platform Expansion
- Vertical Circulation (22 ft high)
- Exit Stairs
- Cross Platform Transfer Bridge
- Expanded New Paid Area
- Replace Supervisor Building
- Move Drop off Lane

3.0 Assumptions and Qualifications

3.1 The estimate specifically excludes the following:

Costs for existing facilities enhancement

Costs for existing equipment or system upgrade

New radio communication, train control and SCADA system (assumed to use existing system)

Costs for right-of-ways and land acquisition if required

Costs for operation/maintenance

Seismic upgrade to existing facilities

Intelligent Transportation System (ITS)

Cost escalation from the date of this estimate

It is assumed that the above items, if needed, are included elsewhere in the owner's overall project budget.

3.2 The estimate is based on one general contract for one station.

3.3 Work is assumed to be performed on regular working hours except for a small portion of the work, overheads bridges, delivery of major equipment) which will be performed during non-revenue hours.

3.4 The estimate is based on estimated prices current as of August 2004, with at least four responsible and responsive bids under a competitive bidding environment for a fixed price lump sum contract.

3.5 Allowances have been used for items which are required but are not able to be defined at this time.

3.6 It has been assumed that the widened platforms at Daly City are cantilevered from existing platform slabs without additional column support.

3.7 It is assumed that the quality of new construction will match with the existing BART Facility Standards, NFPA 130, and California Building Codes.

3.8 The unit prices used in the direct cost section are composite unit prices which include costs for material, labor, equipment and subcontractor's/supplier's mark-ups.

3.9 A mark-up of 26.5% of direct construction costs has been used for general contractor's general conditions, overhead and profit. This rate is comprised of 15% for general conditions and compounded with a 10% for overhead and profit.

3.10 A 25% rate has been included for design development, construction and estimating contingencies due to the conceptual nature of the scope. This is deemed to be the minimum prudent allowance considering the level of scope development and information available at the time of the estimate.

- 3.11 BART soft cost for project development and implementation has been included for at 50% of total estimated construction cost based on BART's historical record on various sizes of projects from small local projects to large extension projects. This is for design services, construction management services and BART project administration.
- 3.12 BART's project contingency has been included for at 10% of total estimated construction cost and BART soft cost.
- 3.13 Items potentially affecting the cost estimate include, but are not limited to, the following:
Modifications to the scope of work included in this estimate.
Unforeseen sub-surface conditions.
Special phasing requirements.
Restrictive technical specifications or excessive contract conditions.
Any specified item of equipment, material, or product that cannot be obtained from at least three different sources.
Any other non-competitive bid situations.
- 3.14 The estimate has been prepared using accepted practices and it represents our opinion of probable construction costs. We make no other warranties, either expressed or implied, and are not responsible for the interpretation by others of the contents herein the cost estimate.
- 3.15 Please note that the estimate has been based on very preliminary and limited information and it only serves as a general guideline for more specific and detailed studies in the future.

4 Basis for Pricing

In pricing the estimate, we have made references to the following sources for cost data:

Historical cost data for BART projects (for AFC equipment, elevators, escalators and parking)

Historical cost data of similar projects (general use for building up unit costs)

2004 RS Means Building Construction Cost Data by RS Means (general use for building up unit costs)

2004 Current Construction Costs by Saylor Publications (general use for building up unit costs)

2004 National Construction Estimator by Craftsman (general use for building up unit costs)

Construction Economics in Engineering-News-Record (ENR) (for material costs and building market trends)

Walker's Building Estimator's Reference Book by Frank R. Walker Company (for general references)

Conceptual Construction Cost Estimates, VTA Impacts on BART Core System Stations Phase One Preliminary Study, prepared by M. Lee Corporation, dated 4/4/2003 (Rev. 4)

Based on the above cost sources, our analysis of the project specific requirements and our judgment of the current market conditions, we have come up with the unit costs specifically for this project.

5.0 Abbreviations used in the estimate:

ea = each

cy = cubic yard

lf = linear foot

ls = lump sum

sf = square foot

F & I = Furnish & Install

N/A = Not Applicable

S/T = Subtotal

AFC = Automatic Fare Collection (Equipment)

AFM = Add Fare Machine

FG = Fare Gate

TVM = Ticket Vending Machine

Station	Total Project Cost	Interim Included in the Total Project Cost
Daly City	\$22,800,000	

Prices current as of August 2004

Please read the attached "Preamble" and "Estimate Details"
for assumptions, qualifications and scope of work.

**STATION CAPACITY STUDY
FOR DALY CITY STATION
CONCEPTUAL CONSTRUCTION
COST ESTIMATE**

PROJECT COST SUMMARY

Dated: Sept 10, 2004

Rev.1

Elem Code	Item Description	Direct Cost \$	G.C. OH&P \$ 26.5%	Contingency \$ 25%	Total Constructn Cost \$
1.0	New Platform Expansion	1,670,701	443,000	528,000	2,641,700
2.0	Vertical Circulation (22 ft high)	2,944,100	780,000	931,000	4,655,100
3.0	Exit Stairs	350,000	93,000	111,000	554,000
4.0	Cross Platform Transfer Bridge	727,700	193,000	230,000	1,150,700
5.0	Expanded New Paid Area	2,361,100	626,000	747,000	3,734,100
6.0	Replace Supervisor Building	581,975	154,000	184,000	920,000
7.0	Move Drop off Lane	107,500	28,000	34,000	169,500
8.0	A) TOTAL EST. CONST. COST	8,743,076	2,317,000	2,765,000	13,825,100

Elem Code	Item Description	Const Cost \$	BART Soft \$ 50.0%	BART Proj Cont. 10%	TOTAL PROJECT COST \$
1.0	New Platform Expansion	2,641,700	1,321,000	396,000	4,358,700
2.0	Vertical Circulation (22 ft high)	4,655,100	2,328,000	698,000	7,681,100
3.0	Exit Stairs	554,000	277,000	83,000	914,000
4.0	Cross Platform Transfer Bridge	1,150,700	575,000	173,000	1,898,700
5.0	Expanded New Paid Area	3,734,100	1,867,000	560,000	6,161,100
6.0	Replace Supervisor Building	920,000	460,000	138,000	1,518,000
7.0	Move Drop off Lane	169,500	85,000	25,000	279,500
8.0	B) TOTAL EST. PROJ. COST	13,825,100	6,913,000	2,073,000	22,811,100

STATION CAPACITY STUDY FOR DALY CITY STATION Dated: September 10 , 2004 Rev. 1
CONCEPTUAL CONSTRUCTION COST ESTIMATE
DALY CITY - DIRECT COST ESTIMATE DETAIL

Line #	Elem Code	Item Description	Qty	Unit	Unit Cost (Direct)	Total Direct Cost
1	1.0	New Platform Expansion				
2		About 4297 sf				
3		Remove concrete wall	2,800	sf	15.00	42,000
4		Remove existing platform SLPA structure	700	lf	30.00	21,000
5		Remove and disconnect existing power supply	1	ls	30,000.00	30,000
6		Extend platform structure, cantilevered from existing	4,297	sf	225.00	966,825
7		Extend platform roof, cantilevered from existing	3,500	sf	85.00	297,500
8		Extend fire sprinkler system for platform roof	3,500	sf	15.00	52,500
9		Support system: columns/pile caps/drilled piers		None required		-
10		Platform guard rail, concrete 6-1/2"thk x 3'-11"high	2,800	sf	50.00	140,000
11		Guard wall for escalator and stairs (on platform)	200	sf	80.00	16,000
12		Expansion joint	700	lf	65.00	45,500
13		Platform floor waterproofing w/nonslip resist fin.	4,297	sf	8.00	34,376
14		Modification of platform amenities	1	ls	25,000.00	25,000
15						
16		S/T				1,670,701
17						
18						
19	2.0	Vertical Circulation (22 ft high)				
20		New stairs, 66"	3	ea	260,000.00	780,000
21		New escalators	3	ea	273,000.00	819,000
22		Escalator and stairway side wall and soffit finish	990	sf	90.00	89,100
23		Escalator pits	3	ea	50,000.00	150,000
25		New elevators - two stops, glass enclosure	2	ea	308,000.00	616,000
26		New elevator shafts incl'd pits	2	ea	170,000.00	340,000
27		Elevator machine room	1	ea	50,000.00	50,000
27		Power supply for new escalators & elevators	5	ea	20,000.00	100,000
28						
29		S/T				2,944,100
30						
31						
32						
33	3.0	Exit Stairs				
34		Modify existing exit stairs	2	ea	100,000.00	200,000
35		New exit stair at (E) Supervision Bldg	1	ea	110,000.00	110,000
35		Demolish (E) Supervising Bdg spaces	1	ea	40,000.00	40,000
36						
37		S/T				350,000

40	4.0 Cross Platform Transfer Bridge				
41	About 65 ft span				
42	Platform structure	390	sf	650.00	253,500
43	Stairs	4	ea	65,000.00	260,000
44	Connect to (E) platform structure	1	ls	80,000.00	80,000
45	Guardrail & handrail	265	lf	280.00	74,200
46	Bridge finishes	1,000	sf	15.00	15,000
47	Lighting	1	ls	25,000.00	25,000
48	Signage, graphic & incidental items	1	ls	20,000.00	20,000
49					
50	S/T				727,700
51					
52					
53	5.0 Expanded New Paid Area				
54	Exterior wall	3,000	sf	40.00	120,000
55	Floor finishes, brick paving	6,000	sf	18.00	108,000
56	Wall finishes, painting	6,000	sf	1.10	6,600
57	Roll-down grille, 50'x15'	1	ea	67,500.00	67,500
58	TVM	9	ea	76,000.00	684,000
59	TVM kiosk	2	ea	50,000.00	100,000
60	New Black BART Concession	1,350	sf	250.00	337,500
61	Relocate the following:				-
62	Agent Booth	1	ea	300,000.00	300,000
63	Fare gates	10	ea	30,000.00	300,000
65	TVM	5	ea	7,500.00	37,500
64	Replace BART concession with permanent structure	1	ea	120,000.00	120,000
66	Electrical	1	ls	100,000.00	100,000
67	Lighting	1	ls	50,000.00	50,000
68	Signage & graphic	1	ls	30,000.00	30,000
69					
70	S/T				2,361,100
71					

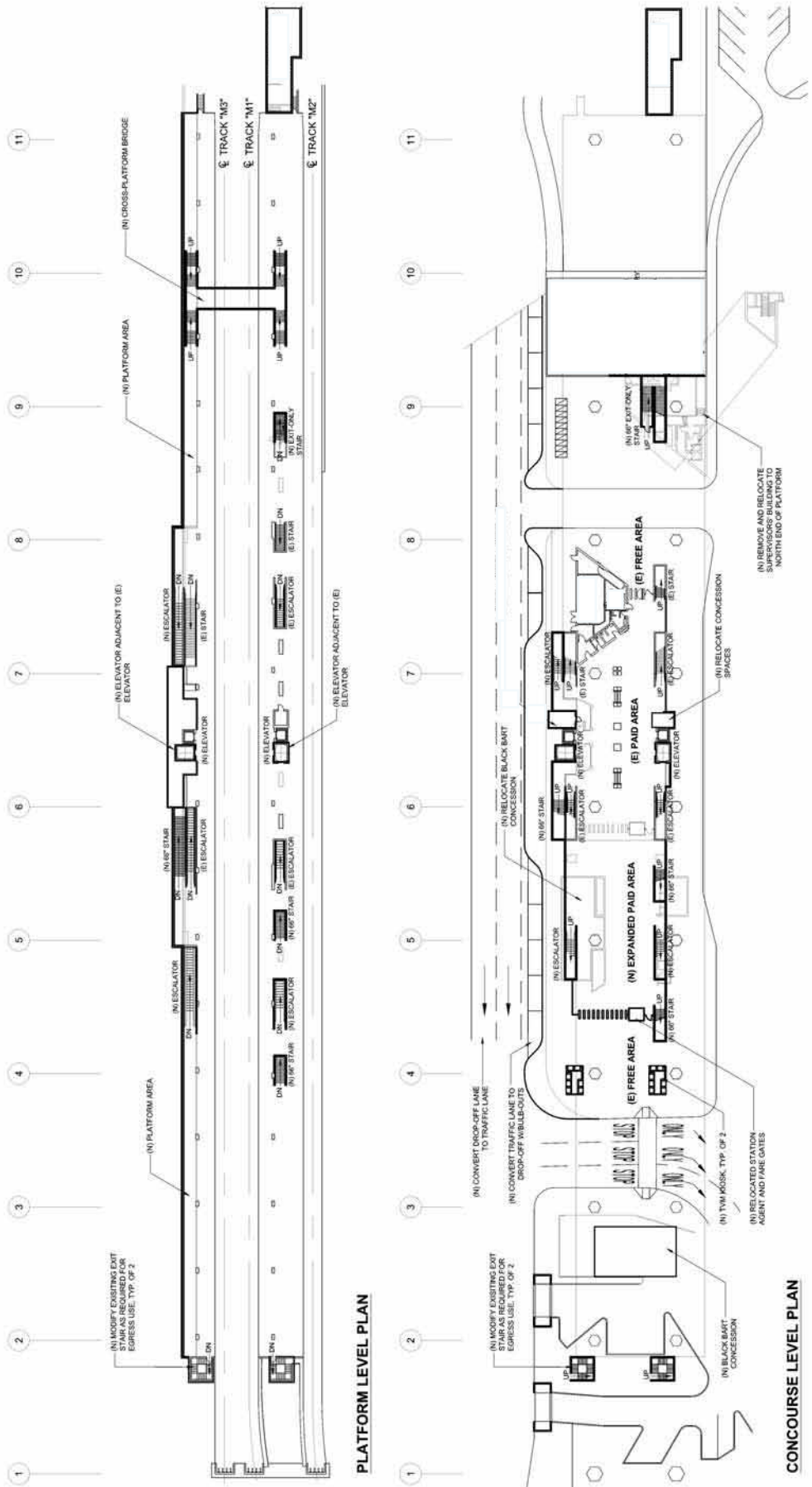
73	6.0 Replace Supervisor Building				
74	About 2,100 sf in two stories				
75	Site preparation	1,200	sf	2.00	2,400
76	Foundation & footing	1,050	sf	10.00	10,500
77	Slab on grade	1,050	sf	6.50	6,825
78	2nd Floor slab	1,050	sf	25.00	26,250
79	Roof framing	1,050	sf	20.00	21,000
80	Exterior concrete wall, metal panels & vision glass	3,750	sf	40.00	150,000
81	Sloping metal roofing	1,200	sf	20.00	24,000
82	Interior work:partitions, doors, carpentry, misc iron, etc	2,100	sf	35.00	73,500
83	Interior finishes: floor/wall/ceiling	2,100	sf	15.00	31,500
84	Elevator, hydraulic, 2 stops, complete	1	ea	95,000.00	95,000
85	Stair/railing	1	ea	15,000.00	15,000
86	HVAC	2,100	sf	15.00	31,500
87	Plumbing	2,100	sf	20.00	42,000
88	Electrical	2,100	sf	25.00	52,500
89					
90	S/T	2,100	sf	277.13	581,975
91					
92					
93	7.0 Move Drop off Lane				
94	New curb extension	2,500	sf	35.00	87,500
95	Restore curb & gutter	400	lf	30.00	12,000
96	Re-strip lanes	1	ls	3,000.00	3,000
97	Signage & graphic	1	ls	5,000.00	5,000
98					
99	S/T				107,500
100					
101					
102					
103	TOTAL DIRECT COST				8,743,076
104				Rounded-off	8,740,000

7.2 CAPACITY AND ACCESS PLAN FIGURES

Attached are Plans that show the location of Recommended Capacity and Access Improvements, with Table 7.1 listing the specific access projects in more detail.

No suggestions or indications of architectural enhancements beyond capacity or access improvements are made. As noted earlier in the Plan, the specific location of improvements for primarily aesthetic purposes should be made with a broader sense of the design and themes of the surrounding, adjacent development.

Figure 7.2
Daly City Station Capacity Plan



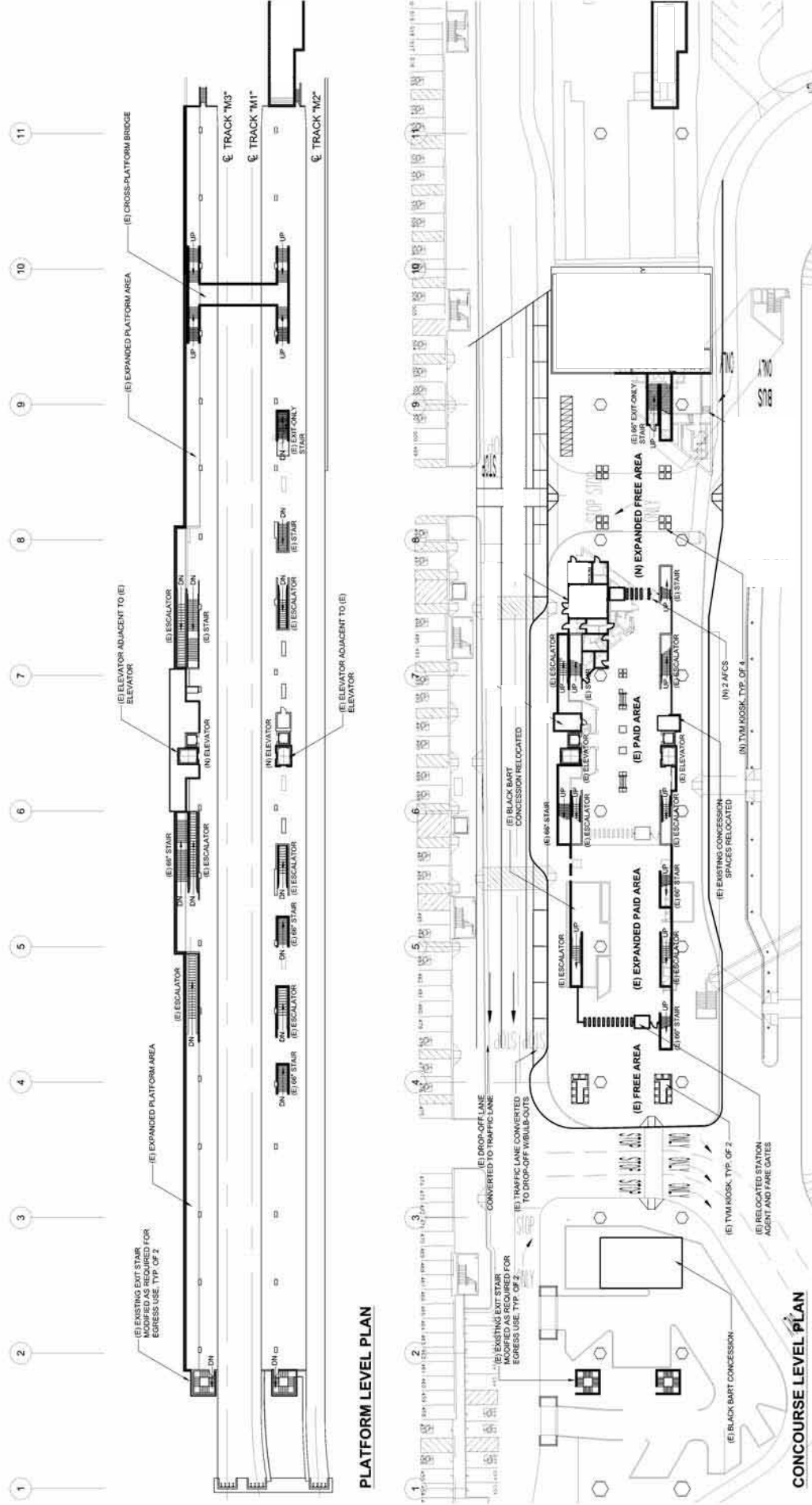
CAPACITY PLAN
CONCOURSE/PLATFORM PLAN



DALY CITY STATION
BART STATION CAPACITY STUDIES : JULY 2004

Figure 7.3
Daly City Station Enhanced Plan

Daly City
Comprehensive Station Plan



DALY CITY STATION
BART STATION CAPACITY STUDIES : JULY 2004

ENHANCED PLAN
CONCOURSE/PLATFORM PLAN

Table 7.1: Access Improvement Recommendations

Mode	Recommendation - Map Reference #	S/M/L Term	Lead	Funding Tier and Source
WALK				
St. Charles St. and Bridge	<p>W1: <u>St. Charles Bridge Sidewalk:</u> Coordinate with Caltrans on installing new sidewalk along south side of St. Charles Bridge to improve the pedestrian connection from the station to San Francisco and BART's surface parking lot. Includes safety railing, lights, sidewalk and lights on BART property, artwork (see W2 below)</p> <p>W2: <u>Close Sidewalk Gap in BART Station:</u> Extend Caltrans sidewalk on south side of St. Charles bridge to provide ADA-complying connection to existing, truncated sidewalk near the northeastern corner of BART's parking structure. Include wayfinding, landscaping and lighting. Artwork may be installed on this site as well.</p> <p>W3: <u>New Sidewalk on Niantic to Oceanview Village:</u> Create an unobstructed, ADA-complying sidewalk along either side of Niantic Ave. to link the St. Charles Bridge with Oceanview Village</p> <p>W4: <u>Better Lighting on St. Charles Bridge:</u> Install six decorative street lamps along sidewalks on the St. Charles Bridge to improve the visibility, aesthetics, safety and security of this gateway into the BART station.</p> <p>W5: <u>Re-orient Wayfinding Signage:</u> Redesign BART wayfinding signage to guide patrons to the station itself and not parking lots. Wayfinding signage for BART parking lots should read "BART Parking".</p>	S	<p>Caltrans BART City of SF</p> <p>BART Caltrans</p> <p>San Francisco</p> <p>Caltrans City of SF</p> <p>BART</p>	<p>Tier 1: Caltrans Project funded and underway by Caltrans (funds used as match of \$350,000 for TLC)</p> <p>Tier 1: Caltrans / BART Project matched by Caltrans, Paid by TLC grant of \$501,000 Project in design phase Due for completion in 2007</p> <p>Tier 2: San Francisco (May be coordinated with other infrastructure upgrades on St. Charles Ave.)</p> <p>Tier 1: Caltrans and SF PUC lights funded by MTC grant: installation by Caltrans Project underway</p> <p>Tier 2: BART</p>

<p>John Daly Boulevard: south and west of station</p>	<p>W6: <u>John Daly Boulevard to Westlake Pedestrian Study:</u> Develop two-part "Safe Routes to Transit" pedestrian study of John Daly Blvd. corridor between BART station and Westlake Village. Study jaywalking patterns & barriers to identify possible treatments (new signals, crosswalks, sidewalks, steps) to facilitate safe pedestrian travel in area now dominated by auto traffic. (* The East Part includes pedestrian circulation from station to intersection with Junipero Serra (above tunnel). Mtg w/ Caltrans, BART & Daly City led to recommendation of Niantic/JD Blvd crossing (W7) (**) The West Part would accommodate pedestrians wanting to cross the freeway ramps and use north side of Bridge to reach Westlake area north of John Daly Blvd. and east of freeway.</p>	<p>M-L</p>	<p>Daly City Caltrans BART</p>	<p>Tier 1 and 3: Daly City, Caltrans, BART Tier 1 – preliminary mtgs Held w/ BART, Caltrans, DC Grant Funding sought Tier 3</p>
<p>Connecting to Westlake</p>	<p>W7: <u>John Daly Blvd at Niantic/BART Busway Exit:</u> Install a signal & crosswalk across John Daly Blvd. linking the western edge of the BART busway exit to the sidewalk on the southside of John Daly Blvd. near the intersection of Niantic Ave. * W8: <u>Stairs to John Daly Blvd (at station):</u> If recommended in study (W6), install stairs between new sidewalk along the south edge of the BART station and new sidewalk along the north edge of John Daly Blvd.</p>	<p>M L M</p>	<p>Daly City BART BART Daly City Caltrans Daly City</p>	<p>Tier 2: Daly City, BART Tier 3: TBD Tier 2: Daly City</p>
<p>Connecting to Westlake</p>	<p>W9: <u>John Daly Blvd west of I-280:</u> Install new ped signal, crosswalk across John Daly Blvd. at the east side of the Sheffield Drive intersection to shorten walk to BART from residential areas north of John Daly Blvd. and west of I-280. W10: <u>Path / Stairs to John Daly Blvd (southwest):</u> Install path or stairs between apartments at Westlake Village west of I-280 to the south side of John Daly Blvd. for shortcut to BART ** W11: <u>Stairs or Ramp to John Daly Blvd (west):</u> If recommended in study (W6), install stairs/ramp between residential area of Westlake Village north of John Daly Blvd., west of 280, to BART via new ped bridge or sidewalk on bridge with calmed offramp/ped crossing</p>	<p>M M-L</p>	<p>Westlake Vill. Daly City Westlake Vill. Daly City</p>	<p>Tier 3: Daly City, Caltrans Tier 3: Daly City, Caltrans</p>

<p>Pacific Plaza connection</p>	<p>W12: <u>Pacific Plaza Wayfinding:</u> Collaborate with Pacific Plaza to install a wayfinding sign on BART property directing patrons to Pacific Plaza via the BART tunnel to reduce confusion. (*) Incorporate with implementation of improvements recommended in study (W6).</p> <p>W13: <u>Improve Maintenance of BART Tunnel:</u> Develop public/private agreement to improve maintenance of BART tunnel and reduce litter and debris. (*) Project may require other collaboration if recommendations for alternative pedestrian path are implemented following study (W6).</p>	<p>S</p>	<p>BART Pacific Plaza</p>	<p>Tier 2: TBD</p>
<p>Toward Top of The Hill (east of station)</p>	<p>W14: <u>Parking Lot Path:</u> Create a sloping, ADA compliant path through Delong (upper) parking lot from the bus intermodal to De Long. Connect with sidewalk along eastern edge of the station property. Shorten JDB and Delong ped crossing width as cited in W16. Orient TOD to activate and monitor foot traffic.</p> <p>W15: <u>Landscaping in John Daly Median:</u> Maintain & add trees to John Daly Blvd. and "side" medians to strengthen visual corridor and buffer residences along this key gateway that links I-280, BART and "Top of the Hill". Consider as part of "Great Streets" design on John Daly Blvd, especially where Blvd abuts BART.</p> <p>W16: <u>Reduce Turning Radius (De Long Parking Lot Entry):</u> Reduce turning radius and extend sidewalk at De Long and at entrance to station parking lot to slow speed of cars and buses turning into (or exiting from) station area to facilitate safe pedestrian travel up and across John Daly Boulevard.</p>	<p>M</p>	<p>BART</p>	<p>Tier 2: BART</p>
		<p>S</p>	<p>Daly City</p>	<p>Tier 2: Daly City</p>
		<p>M</p>	<p>Daly City BART</p>	<p>Tier 2: Daly City</p>

BIKE				
Key Access Routes	B1: <u>St. Charles Ave:</u> Sign and stencil a bike route on St. Charles Ave. to improve bike access between the station and San Francisco neighborhoods.	M	Caltrans, City of SF Daly City	Tier 2: San Francisco DPT, Daly City
	B2: <u>John Daly Blvd to Skyline Bike Route:</u> Implement the Daly City bikeway project on John Daly Blvd. to Skyline Blvd.	S	Daly City	Tier 1: Daly City
	B3: <u>John Daly Boulevard Bike Crossing:</u> Improve bike access to BART station from the south and west by allowing bikes to make street-level crossing of John Daly Blvd. (related to W6 and W7)	M	Daly City BART	Tiers 1 an 3: TBD
Parking	B4: <u>New or Relocated Racks/Lockers:</u> Upgrade bike e-lockers and relocated in plaza area where concrete mounds have been removed. Incorporate art elements and lighting.	M	BART	Tier 2: BART
Information	B5: <u>Free Brochure:</u> Develop a brochure that illustrates the regional bike network and connections to BART	M	BART	Tier 2: BART

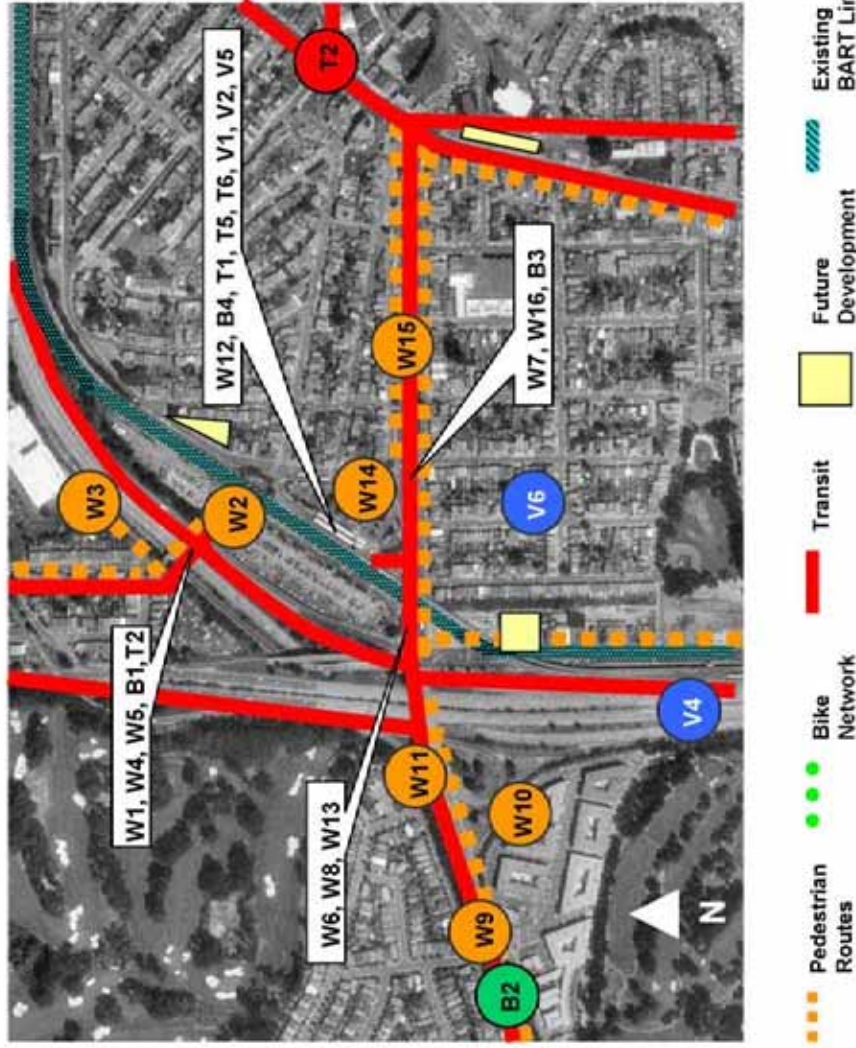
TRANSIT					
Muni/SamTrans Intermodal	T1: Bus Intermodal Expansion/Enhancement: Redevelop bus intermodal area to accommodate future bus needs designed to serve Muni, SamTrans & shuttles, to enhance waiting area, and to improve pedestrian circulation through area to east/south (includes sidewalks, shelters, bike access, lighting and landscaping) Incorporate per Vision Plan, with Plaza and TOD /retail to activate area.	L	BART Daly City Sam Trans Muni	Tier 3: BART leads planning Daly City RDA, Muni, SamTrans	
	T2: 14 Mission Extension, 54 Felton Approach: Improve connection from 14 Mission Bus terminal to the BART Station consistent with Muni X Plan, support study of relocation 54 off St. Charles that address the concerns of public agencies, riders and neighborhood regarding traffic, delays, aesthetics, landscaping (W15)	L	Muni	Tier 3: Muni Caltrans, Daly City	
SamTrans	T3: Trunkline Transit Improvements: Implement SamTrans recommendation to support and enhance regional bus service using BART as hub.	M	SamTrans	Tier 1: SamTrans	
Transfer Info for both Muni and SamTrans	T4: Publicize Free Muni Transfer: Market free Muni transfer at Daly City BART to potential riders.	S	Muni BART	Tier 1: Muni	
	T5: Install Bus "Predictive Arrival" Displays: Prioritize BART feeder routes in Muni's "Next Bus" expansion. Expand SamTrans predictive arrival system for lines that run to Daly City BART.	M	Muni Samtrans BART	Tier 2: Muni, SamTrans	
Shuttle Service	T6: Display BART "Real-Time" Information: Install real time displays of BART train service in the station and in the bus intermodal area.	M	BART Muni	Tier 2: BART, Muni	
	T7: SamTrans Shuttle Service Plan: Evaluate and monitor changes to shuttles serving Daly City BART to ensure convenience for BART riders using Daly City Station while achieving efficiency and directness of on-street shuttle routes.	S	SamTrans	Tier 2: SamTrans	

VEHICULAR						
Parking	<p>V1: <u>Price Parking to Manage Demand:</u> Consider increasing parking availability and convenience by initiating a higher-than \$2 fee to match value of high frequency service comparable to West Oakland and to encourage parking at other San Mateo County Stations. Work with DC to manage overflow parking w/ permit district (V6)</p> <p>V2: <u>Expand Reserved Parking:</u> Increase the number of spaces available for reserved parking permit holders from 25% of stalls up to a maximum of 40% of stalls, based on the demand and consider a premium rate consistency with and higher than base parking fees.</p> <p>V3: <u>Identify New Parking Opportunities:</u> Work with Daly City, San Francisco and adjacent property owners to identify opportunities for joint use & improved efficiency of existing parking facilities, including metered on-street parking on midday tow-away lanes and at excess width (Delong) for parking revenue district. Explore shared use of Pacific Plaza garage when peak hours are complementary</p> <p>V4: <u>"Smart Parking" Highway Information:</u> Provide "real time" parking garage capacity information at key highway junctions to alert drivers to the availability of parking at Daly City and Colma garages in time for them to make choices prior to leaving highway.</p> <p>V5: <u>Real Time Parking Information Display:</u> Provide information at parking garage entrances that identifies location and availability of parking throughout structure on "real time" basis.</p> <p>V6: <u>Protect Residential Parking:</u> Provide and expand residential permit parking programs to minimize BART parking spillover issues. Consider use of on-street parking revenues to help fund & enforce permit program as in parking revenue district proposed in V5.</p>	S	BART	Tier 1: BART		
	S	BART	Tier 1: BART			
	M	BART Daly City City of S.F.	Tier 2: BART, Daly City City of S.F.			
	M	Caltrans BART	Tier 2: Caltrans, BART			
	M	BART	Tier 2: BART			
	S-M	Daly City City of S.F. BART	Tier 2: Daly City, City of S.F.			

ALL MODES			
Exterior Signage	<p>A1: Station Identification: Install prominent and distinctive signage at the station entrance with station name, consistent with systemwide plans to "landmark" stations and to improve orientation in and around the station area.</p>	M	BART Tier 2: BART
Information	<p>A2: New Maps: Update the station area maps inside the station and include local transit connections to key destinations.</p>	S	BART Tier 2: BART

Map 7.1: Access Plan Recommendations and Highlights

Daly City BART Station Area Access Recommendations



- WALK**
- W1: St. Charles Bridge Sidewalk
 - W2: Sidewalk Link to BART
 - W3: Niantic Sidewalk
 - W4: St. Charles Bridge Lighting
 - W5: Wayfinding Clarification
 - W6: John Daly Ped Study
 - W7: John Daly Crossing
 - W8: Stairs to John Daly Sidewalk
 - W9: John Daly Crossing / west
 - W10: Stairs to John Daly (sw)
 - W11: Stairs to John Daly (w)
 - W12: Wayfinding
 - W13: Tunnel Maintenance
 - W14: Parking Lot Path
 - W15: Landscaping
 - W16: Reduce Turning Radius
- BIKE**
- B1: St. Charles Ave.
 - B2: John Daly Bike Path
 - B3: John Daly Crossing
 - B4: Relocated Racks/Lockers
- TRANSIT**
- T1: Bus Intermodal Expansion
 - T2: Muni 14,54 Extension
 - T5, T6: Real Time Information
- AUTO**
- V1, V2: Parking Pricing
 - V4: "Smart Parking" Info
 - V5: Real-Time Parking Displays
 - V6: Protect Residential Parking