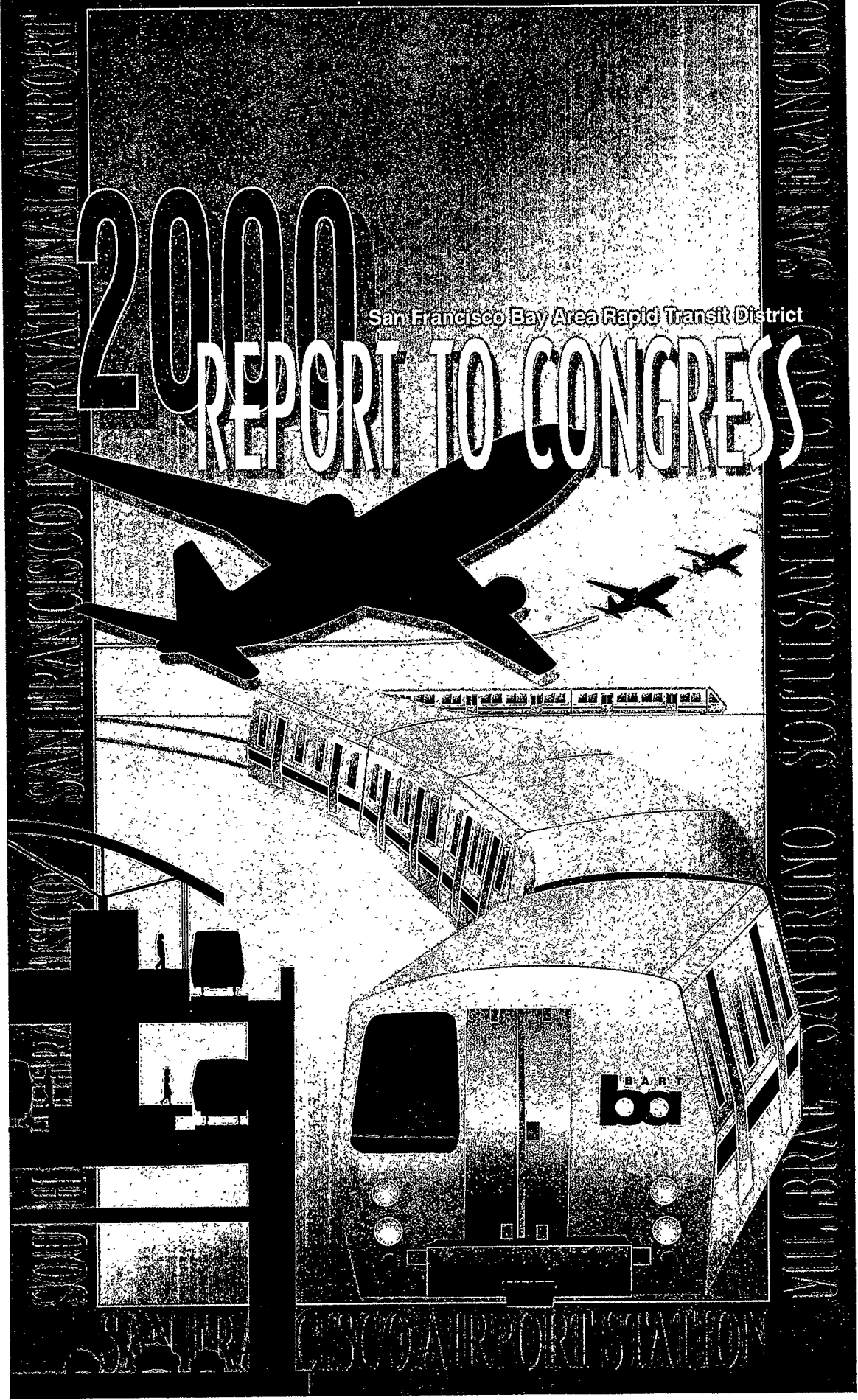


2000 REPORT TO CONGRESS

San Francisco Bay Area Rapid Transit District



SAN FRANCISCO INTERNATIONAL AIRPORT
SAN FRANCISCO
MILBURN
SAN BRUNO
SOUTHERN
SAN FRANCISCO
SANTA ANA AIRPORT STATION

SAN FRANCISCO
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SAN BRUNO
SOUTHERN
SAN FRANCISCO
SANTA ANA AIRPORT STATION

San Francisco Bay Area Rapid Transit District

2000 Report to Congress



800 Madison Street
Oakland, CA 94607
(510) 464-6000
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SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
800 Madison Street - Lake Merritt Station
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Oakland, CA 94604-2688
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March 10, 2000

Dear Member of Congress:

On behalf of the BART Board of Directors, I am pleased to transmit the District's 2000 Report to Congress. I hope that this will serve as a useful reference as you develop next year's transportation appropriations bill and other transit-related legislation.

THOMAS M. BLALOCK
PRESIDENT

WILLIE B. KENNEDY
VICE-PRESIDENT

THOMAS E. MARGRO
GENERAL MANAGER

DIRECTORS

DAN RICHARD
1ST DISTRICT

JOEL KELLER
2ND DISTRICT

ROY NAKADEGAWA
3RD DISTRICT

CAROLE WARD ALLEN
4TH DISTRICT

PETER W. SNYDER
5TH DISTRICT

THOMAS M. BLALOCK
6TH DISTRICT

WILLIE B. KENNEDY
7TH DISTRICT

JAMES FANG
8TH DISTRICT

TOM RADULOVICH
9TH DISTRICT

The centerpiece of our federal legislative agenda concerns continued funding, as committed in the Full Funding Grant Agreement (FFGA), for the 8.7-mile, four-station rapid rail transit extension to the San Francisco International Airport, also known as the BART SFO Extension. As the photographs included here vividly illustrate, construction is progressing extremely well and the project is rapidly taking shape on the San Francisco Peninsula. To date, all of the construction contracts have been awarded and the largest - the Line, Trackwork and Systems contract - is now fifty percent complete. More than three miles of subway have been built and excavation and construction activities are moving ahead at each of the four station sites.

Progress on the BART SFO Extension would not have been possible without the unified support of the San Francisco Bay Area Congressional Delegation. Their steadfast support and close cooperation with members of the House and Senate Appropriations Committees has yielded appropriations totaling \$220 million and a crucial \$750 million FFGA for the project. We deeply appreciate our delegation's leadership in Washington to deliver the federal funds necessary to build the project in partnership with our state and local funding agencies.

The report also summarizes other significant capital initiatives which have been funded in part with federal dollars, such as the comprehensive system renovation program, the Oakland International Airport Connector Project, transit-oriented development and new technologies. Together with the BART SFO Extension, these initiatives will enable us to continue to fulfill our mission of providing safe, clean, reliable and customer-friendly regional public transit services to the San Francisco Bay Area.

Again, thank you for your support and from all of us at BART, warmest regards for a productive legislative year.

Sincerely,

Thomas M. Blalock, P.E.
President

San Francisco Bay Area Rapid Transit District

2000 REPORT to CONGRESS

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Message from General Manager Thomas E. Margro

As we stand at the threshold of a new century, I am pleased to have this opportunity to update you on many of the exciting initiatives taking place at the San Francisco Bay Area Rapid Transit District (BART). To better serve the region's growing mobility needs, BART has embarked upon an ambitious program of expansion and renovation. Thanks to Congress' support for the federal transit programs that have made many of these critical initiatives possible, we are making great strides in our capital program as we prepare to meet the challenges and opportunities of this new era.

Construction of the much-anticipated BART Extension to the San Francisco International Airport, the centerpiece of our federal legislative agenda, is progressing extremely well and moving ahead at a time when the BART system has never been more robust. Ridership is at an all-time high, having risen 50 percent over the last decade. Our year-to-date system operating ratio is 68.5 percent, one of the highest in the nation. This represents the amount of operating costs paid for by fares and other revenue generated by BART. A ten-year, one billion dollar plus capital renovation program to overhaul the core system infrastructure, top to bottom, and the original fleet of 439 rail cars, is 70 percent underway. A substantial portion of the funding for that program, \$480 million, has come from BART's own resources, which are being re-invested in our 30-year old capital plant.

A newly adopted Strategic Plan, two years in the making, has become the framework for decision-making at BART, including establishing operating and capital priorities and investments. The new BART strategy is based on a clear mission and vision of our role in Bay Area transit:

To provide safe, clean, reliable and customer-friendly regional public transit in order to increase mobility and accessibility, strengthen community and economic prosperity, and preserve the environment in the Bay Area.

Strengthening partnerships with local communities and other transit operators is a key element of the Strategic Plan and, we believe, an important means of achieving more "livable communities" in the Bay Area. In partnership with the communities we serve, we are working to encourage transit-oriented development (TOD) at existing stations and to include TOD considerations in the planning process for possible future expansions. Our goal is to promote transit ridership and enhance the region's quality of life by improving access to transit through communities centered around transit stations.

As part of our efforts to implement transit-supportive policies and investment choices, last November, BART sponsored a land use and transportation forum that drew elected officials and other policymakers from throughout the region. The forum served as an important opportunity to hear from "smart growth" experts and to begin a dialogue about the role of transit in relation to the jobs/housing balance, traffic congestion and quality of life issues.

The Fruitvale Transit Village Project at the BART Fruitvale Station in Oakland and the 16th and Mission BART Station revitalization project in San Francisco are two notable examples of TOD projects already underway, thanks in part to support from the federal government. The Fruitvale project, sponsored by the Spanish Speaking Unity Council, the City of Oakland and BART, has received strong support from the Federal Transit Administration (FTA), while the 16th and Mission

project is the recipient of a \$1.7 million Transportation for Livable Communities grant from the Metropolitan Transportation Commission using federal "flexible" funds.

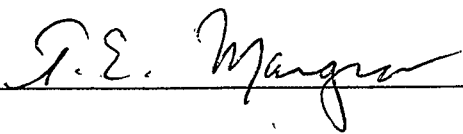
There is much more that can and should be done to create "livable communities" that reflect intelligent land use decisions and maximize the full value of our transit investments. Looking ahead to the transportation reauthorization bill, I strongly encourage you to include more money for these efforts so that communities have a real opportunity to implement sustainable, transit-friendly development projects.

The 8.7-mile, four-station BART SFO Extension, the federal cornerstone of our expansion program, has been a top transit priority in our region for more than a decade. Bringing reliable and convenient rapid rail transit service directly to the "front door" of the new international terminal at San Francisco International Airport (SFIA), the fifth busiest airport in the country, is critically important to our metropolitan region, which is experiencing one of the fastest growing, strongest regional economies in the United States. Ridership on the SFO Extension is projected to reach nearly 70,000 passenger trips per day by the year 2010, which would make it the most heavily used line in the BART system.

Project construction on the main Line, Trackwork and Systems contract is now at the halfway mark. All of the four construction contracts have been awarded, more than three miles of subway have been completed and excavation and construction activities are moving ahead at each of the four stations on this line. In particular, the airport station is approximately 70 percent complete and the intermodal terminus station at Millbrae is 40 percent complete.

We have come this far thanks to the Bay Area Congressional Delegation's steadfast support and tireless advocacy. Their unified commitment to the SFO Extension has yielded a total of \$220 million in Section 3 New Rail Starts appropriations through the current fiscal year and a crucial \$750 million Full Funding Grant Agreement (FFGA) from the FTA.

We look forward to working in partnership with you to secure the appropriations necessary to complete the project and to ushering in a new era of fast and convenient intermodal rail transportation at the San Francisco International Airport.



BART Ridership At All-Time High

Last week saw record levels

By Michael Cabanatuan
CHRONICLE STAFF WRITER

If BART seems more crowded, it's not your imagination. BART ridership has surged to record levels and may continue climbing.

Two weekday ridership records were set last week. The first was on February 1, when there were 322,685 passenger trips on the silver trains. Then BART surpassed that record the next day when trains carried 326,137 riders. The system had been averaging about 318,000 passenger trips on weekdays.

BART spokesman Mike Healy said there were no special events or unusual occurrences to account for the added ridership.

"It just seems like people are getting tired of fighting the traffic," he said. "The congestion is just awful out there. Then there's the hassle of finding a parking space in San Francisco."

BART's monthly ridership figures in January were record-setting as well, Healy said. The system had an average of about 318,000 passenger trips per weekday — 18 percent higher than the 269,527 average for January 1999. It exceeded BART's own projections by about 12 percent.

BART ended 1999 in record fashion, averaging 301,930 passenger trips per weekday during the last three months of the year. It was the first quarter that the average surpassed the 300,000 mark.

"Our ridership continues to grow at what I consider near-astonishment levels," said Paul Oversier, BART assistant general manager.

BART's all-time single-day ridership record was 357,135 trips on Nov. 16, 1989 — the day before the Bay Bridge reopened after the Loma

"It just seems like people are getting tired of fighting the traffic. The congestion is just awful out there."

MIKE HEALY
BART spokesman

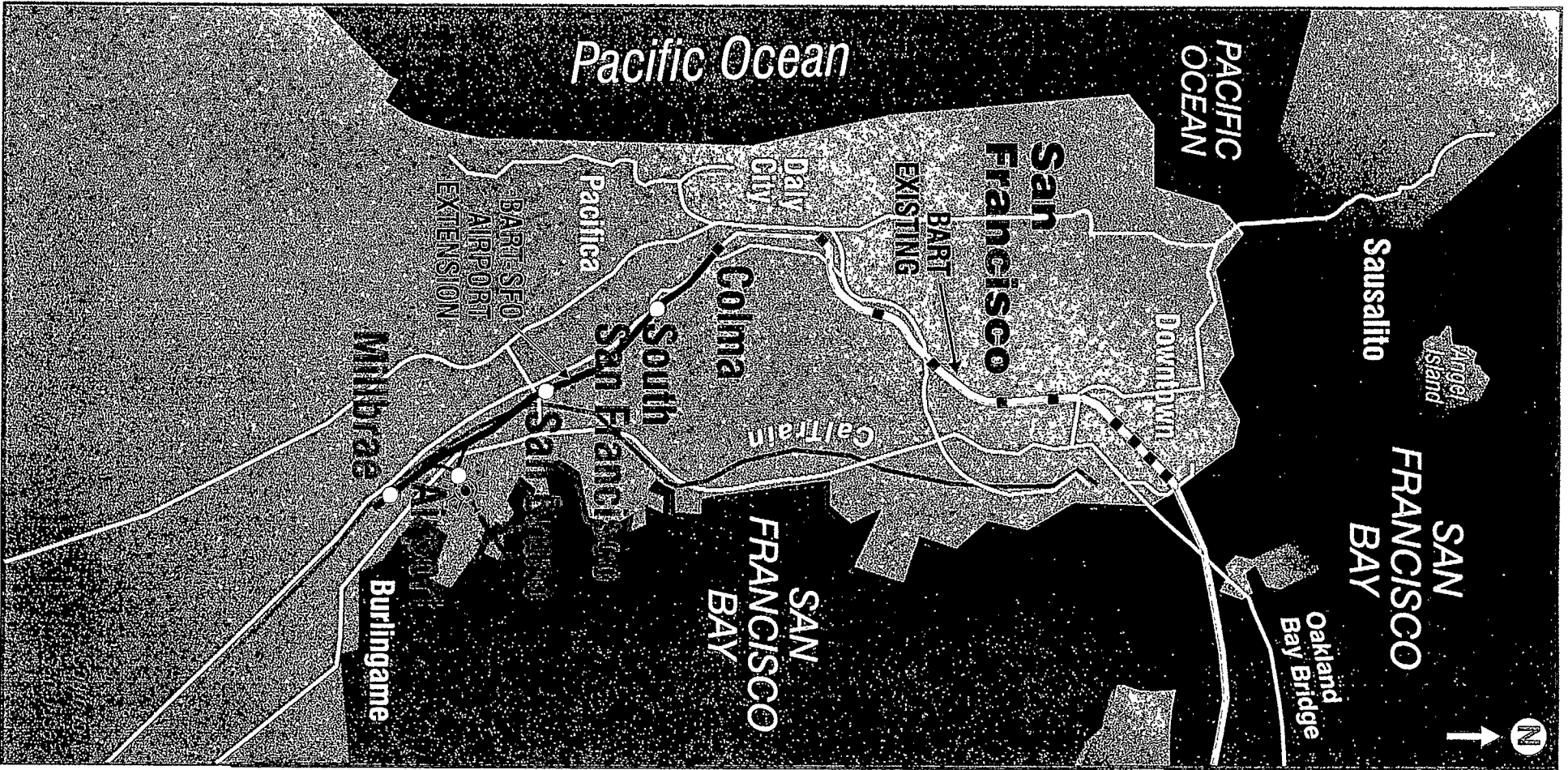
Prieta earthquake. But that does not count as a regular weekday record, since BART operated 24 hours a day while the bridge was closed. It now runs from 4 a.m. to shortly after midnight.

While most of BART's passengers board trains during commute hours, last week's ridership surge showed substantial jumps in midday travel. On a typical day, there are about 115,000 passenger trips between 9 a.m. and 4 p.m. On February 1, there were 124,000 trips during that period, and on February 2, BART saw 121,000 midday passenger trips.

While BART officials are pleased with the increase, the boom has brought an increase in customer complaints — most of them about the lack of parking at suburban BART stations, which usually fill by 7:30 a.m.

Weekend ridership is also on the rise. The number of passenger trips on BART on Saturdays increased 10 percent in 1999, to an average of 127,323. Sunday ridership was up about 8 percent, to an average of 89,000.

I. Expansion



BART SFO Extension Overview of Construction

Overview

- All of the construction contracts have been awarded for the 8.7-mile, four-station BART Extension to the San Francisco International Airport (SFO). More than three miles of subway have been completed. Excavation and construction is progressing rapidly at each of the station sites. Most of the new line is being built underground with subway stations under construction in the cities of San Bruno and South San Francisco. The airport station is elevated and linked to the departure level of a new \$2.5 billion International Terminal, now under construction. The new mainline terminus station in Millbrae is being built at-grade to facilitate cross-platform transfers with the Caltrain commuter rail service.

Line, Trackwork and Systems

- The Line contractor, Tutor-Saliba/Slattery, JV, is building the entire railroad and all of its control and operating systems, including train control and communication systems.
- 53.8% of this \$526 million design-build contract is now complete. In addition to three miles of completed subway, active subway construction continues through the cities of Colma and San Bruno, plus two subway construction headings, one north and one south, from the South San Francisco station.
- In the West of Bayshore endangered species habitat area, over 76% of the piles have been placed and roughly 44% of the concrete columns have been poured for the south leg of the aerial wye. The north temporary construction trestle is 100% complete. The contractor has begun installation of piles on the northern leg of the aerial wye.
- Unforeseen costs, or change orders, have only amounted to 1.25 percent of the total contract amount.

Millbrae Station and Parking

- The \$70.5 million design-build contract for the Millbrae station and parking is now 40% complete. This is the intermodal terminus

station south of the airport that will, for the first time, provide easy, cross-platform transfers between BART and the 77-mile Caltrain commuter rail service that operates on the San Francisco Peninsula.

- The contractor has completed all of the columns that will support the second level concourse. Slab work for the parking garage is complete. The rebar cages that will support the second level parking deck are being fabricated and erected.
- Change orders have been minimal, amounting to less than one percent of the total contract amount.

San Bruno Station and Parking

- Notice-to-Proceed on this \$45 million design-build contract was issued on August 12, 1999.
- The Line contractor has finished excavation of the station shell and the concrete station floor and is placing concrete for the lower half of the station walls.
- The San Bruno Station and Parking contractor has completed 40% of the design work.

South San Francisco Station and Parking

- Notice-to-Proceed on this \$48 million design-build contract was issued on January 3, 2000. Design work has begun.

Airport Station and Facilities

- The BART guideway into SFIA, the BART airport station and terminal improvements are being constructed separately through contracts awarded and managed by SFIA.
- Large sections of the Concourse H BART/Air Train Station, BART/Air Train combined guideway and BART overcrossing of Highway 101 are taking shape, with approximately 75% of the fixed facilities work completed.

BART-SFO Extension Project

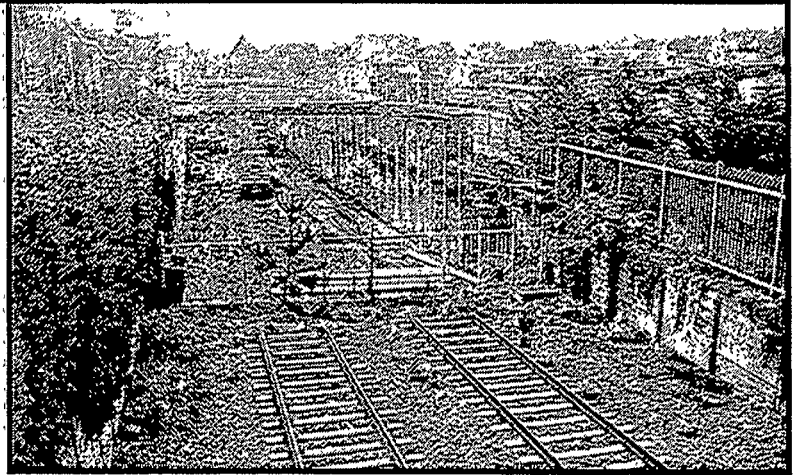
Construction Activity Update

February 2000

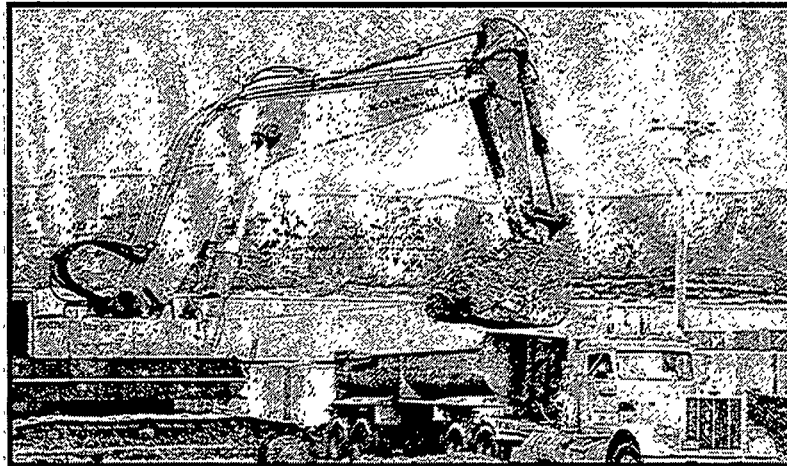


Colma

- ◆ Soil mix wall installation has been completed up to the existing Colma tailtracks.
- ◆ Excavation and construction of subway box at Eternal Home and Italian Cemetery continues.
- ◆ Backfill of completed subway box continues moving north from Salem Memorial Park.
- ◆ Construction of ventilation structures at Serramonte Blvd. and Mission Road continues.



Soil Mix Wall Installation Has Reached Existing Colma BART Facilities



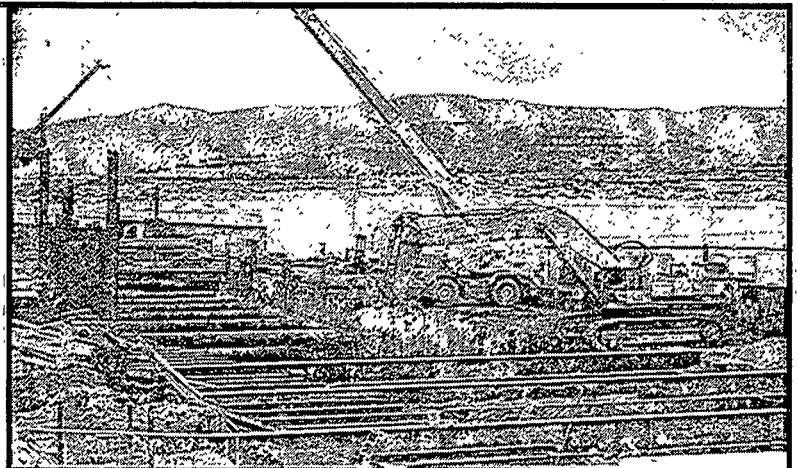
Subway Excavation Has Reached Southern Border of South San Francisco

South San Francisco

- ◆ Completion of the South San Francisco Station platform is anticipated by the end of February.
- ◆ Removal of Spruce Avenue street decking is scheduled for late February.
- ◆ The first installation of rail in existing subway is scheduled for this month.

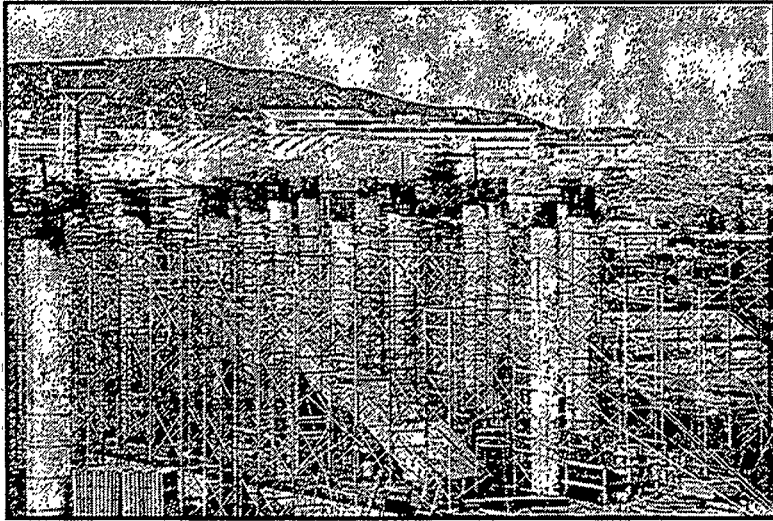
San Bruno

- ◆ Completion of station shell floor is anticipated for mid-February. Rebar work for the walls is ongoing and concrete pours are anticipated to begin this month.
- ◆ Subway construction continues moving south from South San Francisco/San Bruno border towards San Bruno Station site.
- ◆ Installation of street decking across New Huntington Avenue is expected for mid-February.
- ◆ Completion of the temporary Caltrain shoofly is expected this month.



View Looking North of Subway Construction Activities Reaching Northern Border of San Bruno

February Construction Update...continued



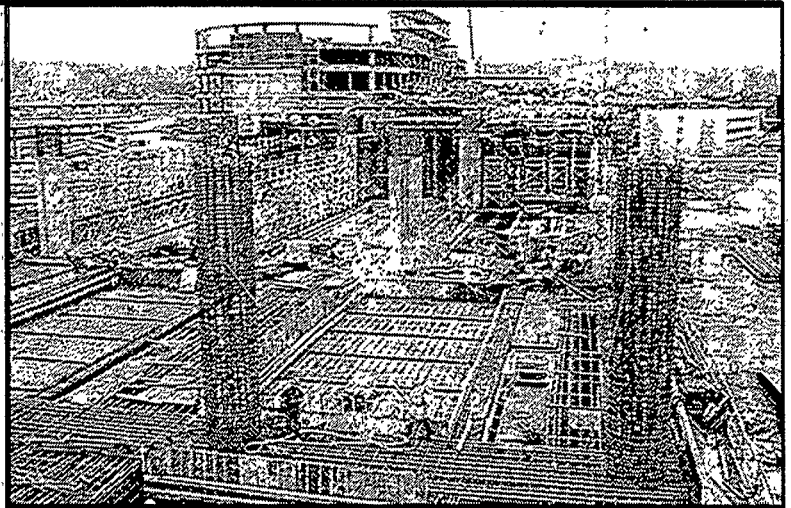
Looking North at Scaffolding To Be Used For Construction of Station Concourse

Millbrae/Burlingame

- ◆ Installation of large diameter drainage pipes under Caltrain tracks continues.
- ◆ Relocation of Garden Lane approximately 100 yards south is scheduled for late February.
- ◆ Placement of scaffolding is underway for construction of the station concourse level.
- ◆ Work continues on the construction of columns used to support the second floor of the parking garage.

SFIA

- ◆ Construction of the BART Highway 101 crossing is 90% complete with continued placement of concrete forms, reinforcing steel and concrete for the guideway structure over Highway 101.
- ◆ Construction of the BART/AirTrain Combined Guideway continues with the erection of falsework and placement of reinforcing steel and concrete for the AirTrain level. Concrete placement for the BART guideway has been completed.
- ◆ Placement of reinforcing steel and concrete for the BART and AirTrain platform level girders towards the east end of the station area continue at Concourse H.

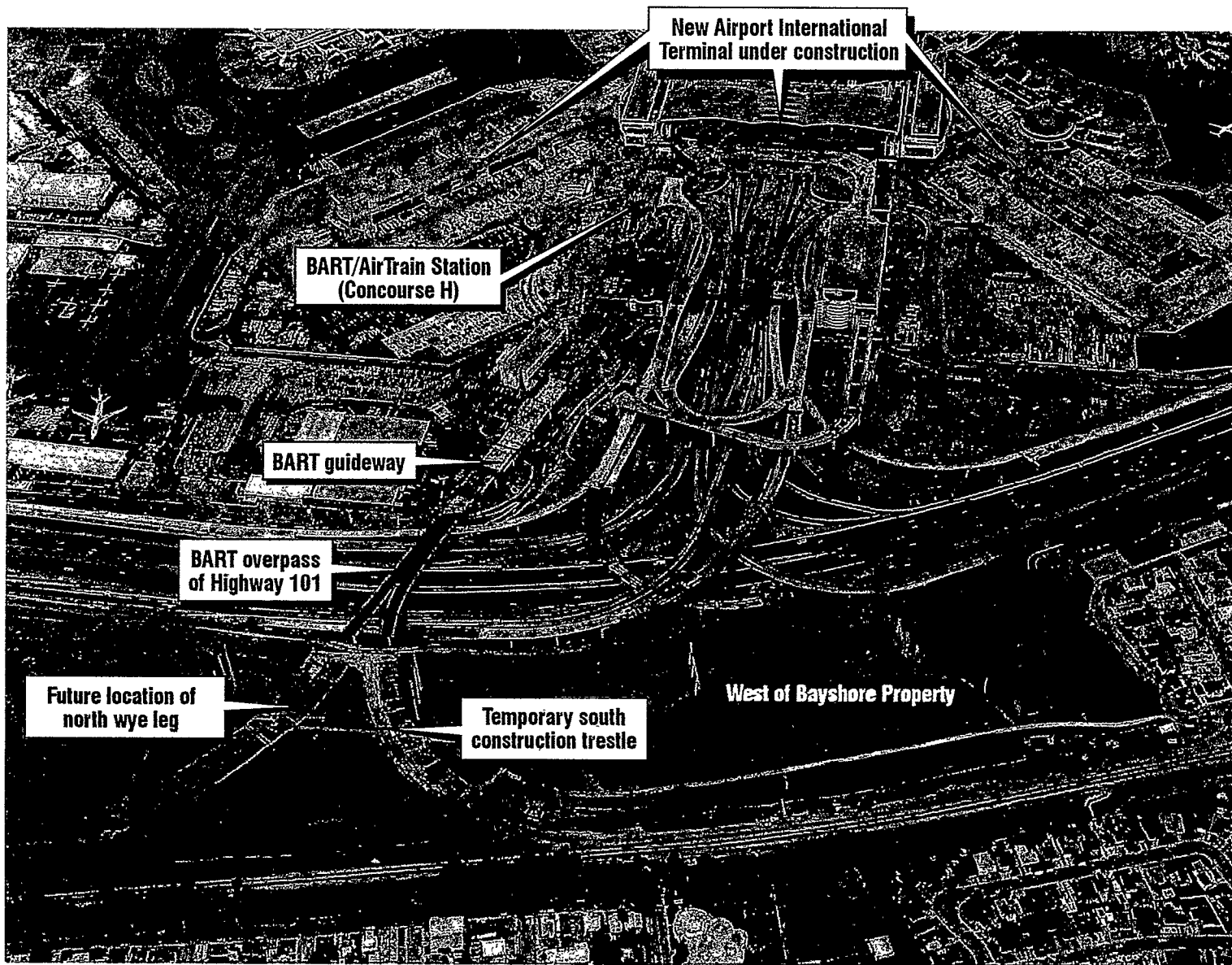


View Looking West Towards Concourse H - BART/AirTrain Station Construction

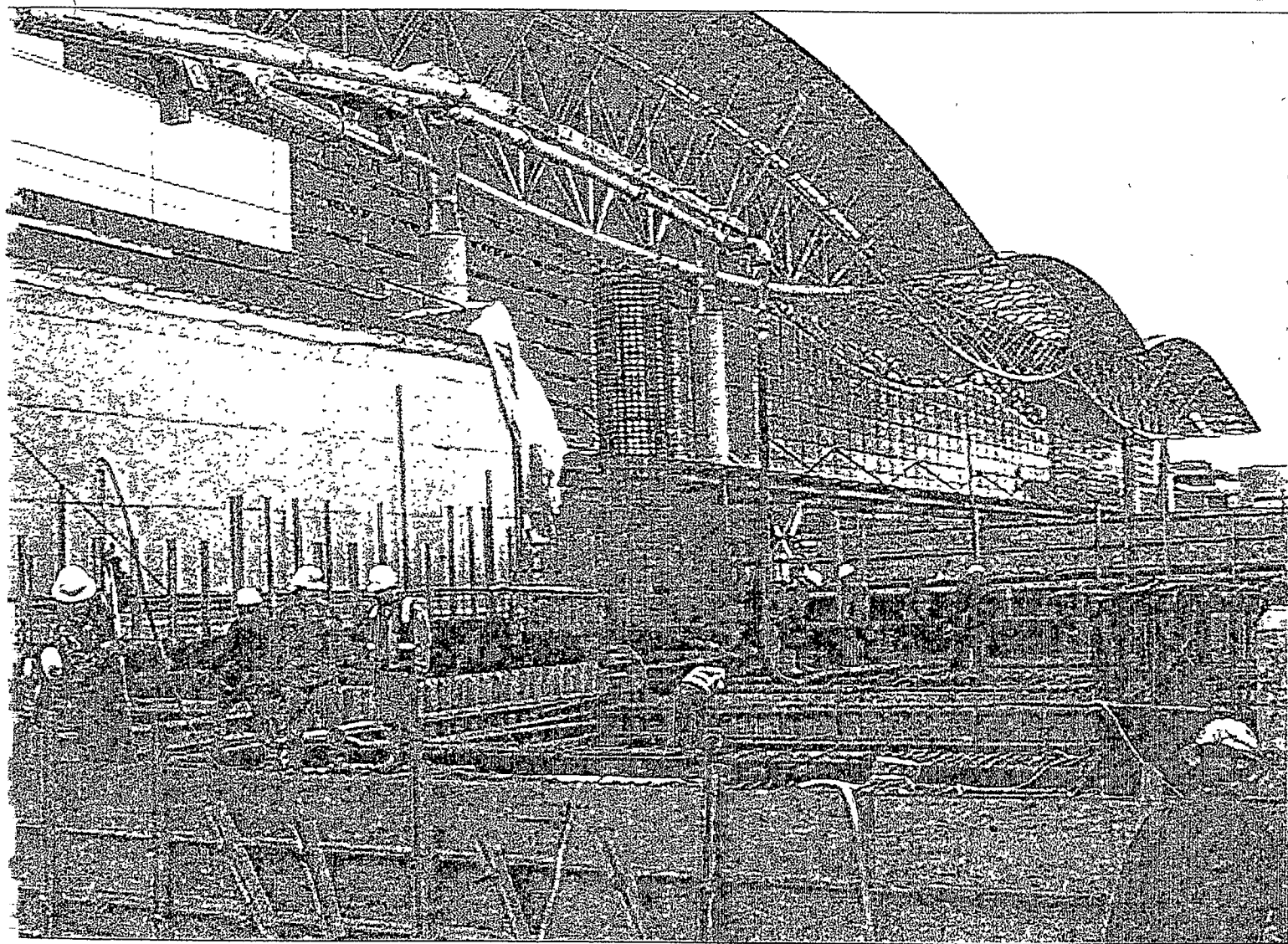
► Construction dates are subject to change ◀

For more BART-SFO Extension Project Information,
please contact our Project InfoLine at (650) 689-8365,
or Visit the BART-SFO Webpage at www.bart.gov





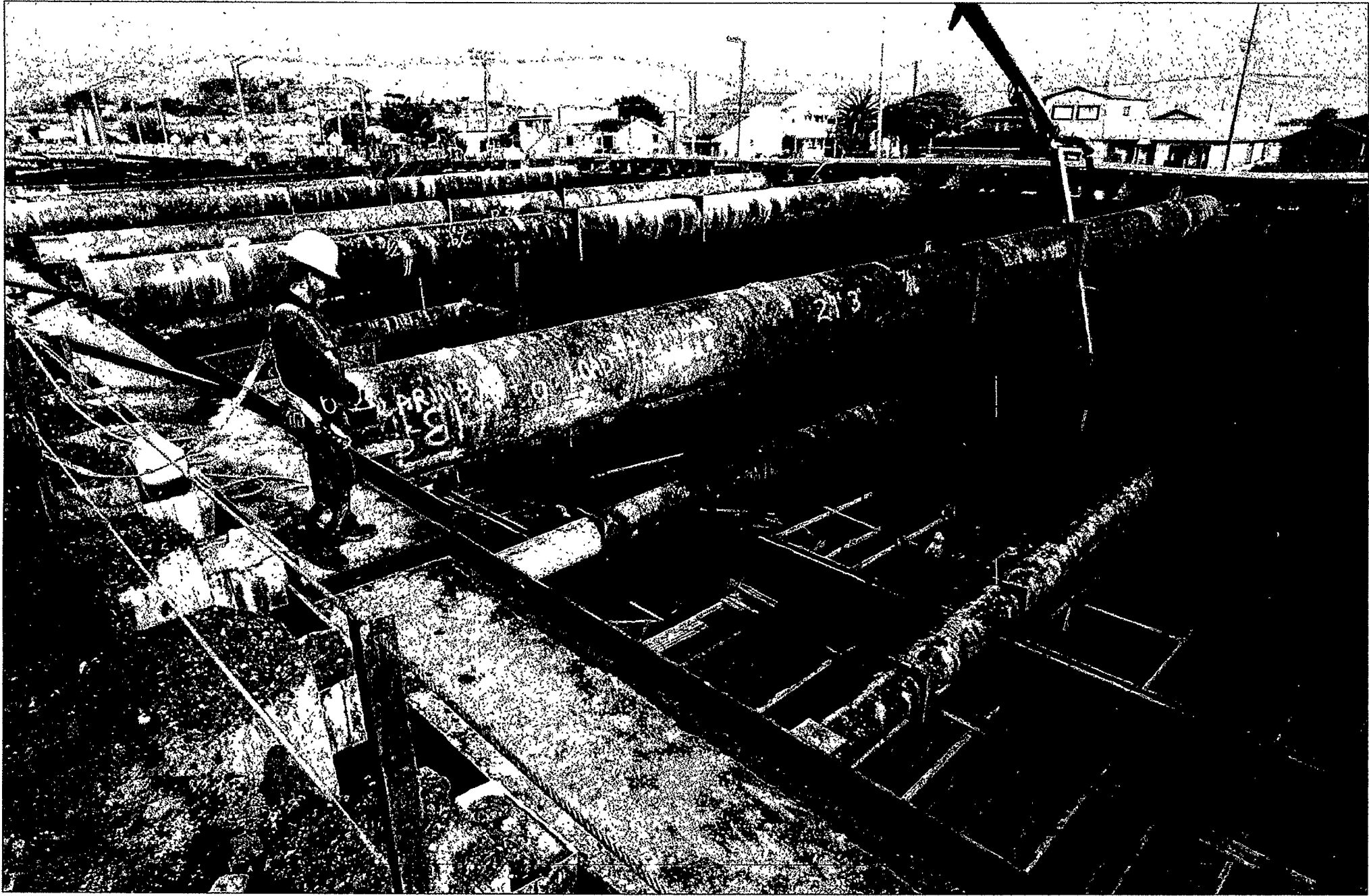
Overview of the BART aerial wye structure into San Francisco International Airport



Construction on BART level of Concourse H with new International Terminal in background



Subway construction through cemeteries with BART Colma Station in background



Concrete pump operator delivers concrete for invert pour at BART San Bruno Station

BART SFO Extension FY 2001 Appropriations Request

FY 2001 Request

- BART *strongly urges* the House and Senate Appropriations Committees to include **\$80 million** in Section 3 New Rail Starts for the BART Extension to the San Francisco International Airport in the FY 2001 Department of Transportation and Related Agencies Appropriations Act.
- The amount requested, **\$80 million**, is consistent with the amount identified for FY 2001 under the project's Full Funding Grant Agreement (FFGA) revised schedule for annual federal appropriations (see page 18) and with the President's FY 2001 budget request.
- Federal support for the SFO Extension at the amount requested will enable BART to meet the tremendous cash flow needs of an aggressive construction schedule and minimize unplanned financing costs.

Past Appropriations

- To date, the BART SFO Extension has received a total of \$219 million in federal New Rail Starts appropriations as follows:

Through FY 1997 (ISTEA 1991-1997)	\$ 84 million
FY 1998 (TEA 21 1998-2003)	\$ 30 million
FY 1999	\$ 40 million
FY 2000	<u>\$ 65 million</u>
TOTAL	\$219 million

Federal Funding Shortfalls Threaten Project Budget and Delivery

- Federal appropriations for the last two fiscal years have fallen **\$79 million below amounts budgeted** in the FFGA appropriations schedule. Given the substantial cash flow needs of a project of this scale, it is imperative that federal appropriations adhere to the FFGA funding levels. Further funding shortfalls would risk burdening taxpayers with additional financing expenses and costly delays.
- Any project of this scale faces significant funding and financial challenges. Design-build can put an even greater emphasis on these issues due to the accelerated pace of construction and the more limited opportunity to mitigate problems through changes to schedule, pace or scope of the contracts. While an accelerated construction schedule clearly saves time and associated expense, it also generates extremely high cash flow requirements.
- Of necessity, the pace of project construction typically far outstrips the availability of revenue. We estimate that SFO construction outpaces the funding stream by roughly four years, which requires the use of debt financing. Since public agencies are constrained when it comes to issuing high value debt, due to the impact on the agencies' financial base, it is all the more important that revenue streams become available in a timely manner. This in turn will minimize unplanned financing costs or the risk of exceeding available borrowing capacity.

Commercial Paper Program

- BART has implemented an innovative commercial paper program to serve as a form of “bridge financing” to the federal funding schedule that extends roughly four years beyond the completion of project construction. A \$300 million Letter of Credit (LOC) for a commercial paper program administered by Morgan Guaranty Trust Company of New York has been secured, backed by future federal appropriations, as documented in the FFGA. The LOC, secured only by future federal funds, is the first of its kind in the country and can serve as a model for other major transit capital projects.
- Commercial paper is “drawn down” in tranches and rolled over as needed to finance the project’s cash shortfalls. The money is repaid as the District receives federal appropriations. Reductions and delays in federal appropriations, therefore, have a direct impact not only on project financing costs, but also on the District’s ability to repay outstanding commercial paper. When financing costs increase, project costs increase. Thus far, the District has “drawn” \$200 million of the LOC and will issue and spend the remaining \$100 million beginning on March 1, 2000.

Design-Build

- The BART project is one of four public infrastructure projects nationwide that was selected to participate in a Federal Transit Administration (FTA) demonstration program on the cost-effectiveness of design-build construction contracting.
- After extensive efforts to reduce project costs by nearly \$200 million in response to Congressional concerns in the early- to mid-1990s, it would be entirely counter-productive to these earlier efforts to experience cost increases now as a result of slower than budgeted federal appropriations.

BART SFO Extension Project Funding Status

- Last year, the project budget increased by \$316 million to reflect increases in project costs, primarily in the areas of construction and real estate acquisition. Since the construction contracts were awarded, however, cost growth in the project budget has been minimal, less than 1.25 percent on the Line contract and less than one percent on the Millbrae contract, both well within the revised budget.
- The budget increase was funded entirely with state and local funds. No additional federal assistance was requested. The contribution of state and local funds has increased from \$417 million in the Full Funding Grant Agreement (FFGA) to \$733 million in the revised project budget.
- The federal share of project costs has been reduced from 64 percent to 51 percent.
- There are several reasons for the budget increase. First, construction bids were opened on the project during the hottest Bay Area construction market in 25 years, which was a huge turnaround from the previous few years. The construction industry boom reduced competition for major public sector construction projects and caused the BART project and others to experience significantly increased costs.
- Another factor was the explosive growth in the real estate market in San Mateo County where the project is located. This resulted in increased property acquisition and relocation costs.
- Other line items such as third party contracts and project and construction management costs were increased to more accurately reflect the needs of supporting such a large and complex project. Finally, the Contingency Line item was almost fully replenished to the FFGA amount, in keeping with the Project Management Oversight Contractor (PMOC) recommendations.
- As soon as the cost escalation was identified, all of the projects costs, every line item, were re-examined in detail and project costs re-estimated. Upon completion of that activity, BART quickly notified all of its funding partners involved with the project at all levels. We worked diligently with our state and local partners to resolve the problem without any additional federal assistance.

BART SFO Extension FY 2000 Committee Report Language

The conference report to accompany the FY 2000 Department of Transportation and Related Agencies Appropriations bill includes language that withholds FY 2000 funding for the project until:

- BART prepares a finance plan that “clearly delineates the full costs-to-complete” and “the manner in which” BART “expects to pay those costs” for the airport extension project;
- The Federal Transit Administration (FTA) accepts and certifies the SFO Extension Finance Plan;
- The General Accounting Office (GAO) and Office of Inspector General (OIG) have conducted an independent analysis of the Finance Plan and provided that analysis to the House and Senate Appropriations Committees; and,
- The House and Senate Appropriations Committees have reviewed the analysis within 60 days of its transmittal.

In accordance with the conference report language:

- On November 30, 1999, BART submitted to FTA Region 9 a revised Finance Plan for the project.
- FTA Region 9 has approved the Finance Plan and forwarded it to FTA headquarters in Washington.
- The FTA’s Financial Management Oversight Contractor (FMOC) has reviewed the Finance Plan and produced *Spot Report # 1*, dated December 16, 1999. This report concluded that BART has the financial capacity to implement the project and that the capital financing plan is sound.
- Although FTA has not formally certified the plan, both OIG and GAO are nearing conclusion of their review processes. From discussions with these agencies, it appears that all three agencies intend to send a simultaneous report to Congress.

BART to SFO Extension

Updated Schedule of Federal and Local Funds

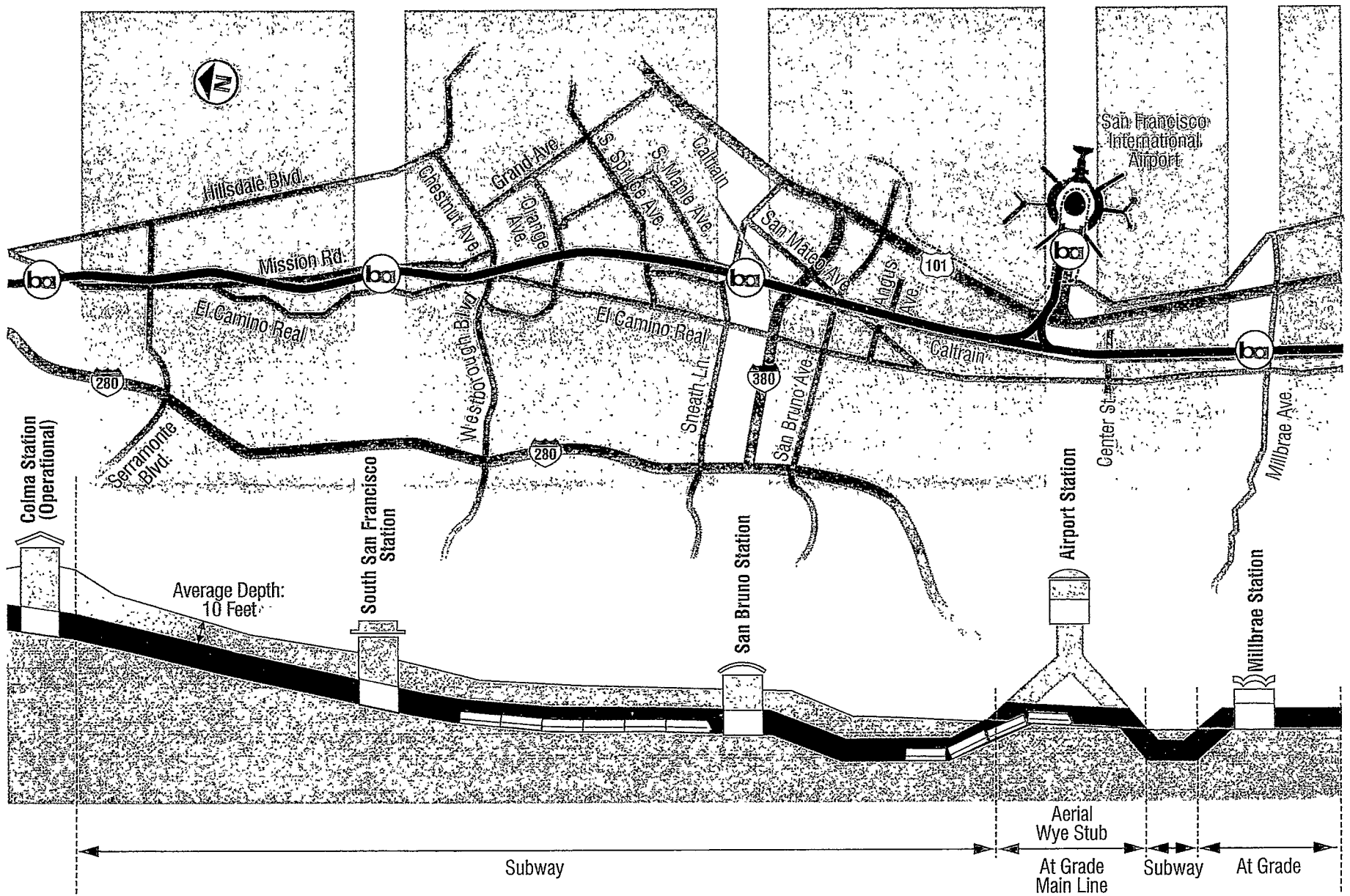
Fiscal Year	Federal New Starts § 5309		California	Local	BART	Revised FFGA Project Total
	I Original FFGA Schedule			MTC, SamTrans, SFIA, Other Local	General Funds, Capital Reserve, Other BART	
1992	\$ 22,500,000	\$ 22,500,000	\$ -	\$ -	\$ -	\$ 22,500,000
1993	\$ -	\$ -	\$ 14,561,000	\$ 9,250,000	\$ -	\$ 23,811,000
1994	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1995	\$ 33,000,000	\$ 33,000,000	\$ -	\$ -	\$ -	\$ 33,000,000
1996	\$ -	\$ -	\$ 5,058,000	\$ 1,000,000	\$ -	\$ 6,058,000
1997	\$ 28,423,180	\$ 28,423,180	\$ 12,300,000	\$ 3,375,000	\$ 4,650,000	\$ 48,748,180
1998	\$ 56,394,669	\$ 29,803,294	\$ 118,081,000	\$ 3,919,000	\$ 13,150,000	\$ 164,953,294
1999	\$ 74,000,000	\$ 39,702,110	\$ 2,000,000	\$ 105,220,000	\$ 50,250,000	\$ 197,172,110
2000	\$ 84,000,000	\$ 63,770,116	\$ -	\$ 92,827,000	\$ 64,590,000	\$ 221,187,116
2001	\$ 80,000,000	\$ 80,000,000	\$ -	\$ 24,000,000	\$ 1,960,000	\$ 105,960,000
2002	\$ 80,605,331	\$ 80,605,331	\$ -	\$ 24,000,000	\$ 47,100,000	\$ 151,705,331
2003	\$ 100,000,000	\$ 100,000,000	\$ -	\$ 12,909,000	\$ -	\$ 112,909,000
2004	\$ 100,000,000	\$ 100,000,000	\$ -	\$ -	\$ -	\$ 100,000,000
2005	\$ 91,076,820	\$ 100,000,000	\$ -	\$ -	\$ -	\$ 100,000,000
2006	\$ -	\$ 72,195,969	\$ -	\$ -	\$ -	\$ 72,195,969
Totals	\$ 750,000,000	\$ 750,000,000	\$ 152,000,000	\$ 276,500,000	\$ 181,700,000	\$ 1,360,200,000

Airport
Interrelated Activities \$ 123,000,000

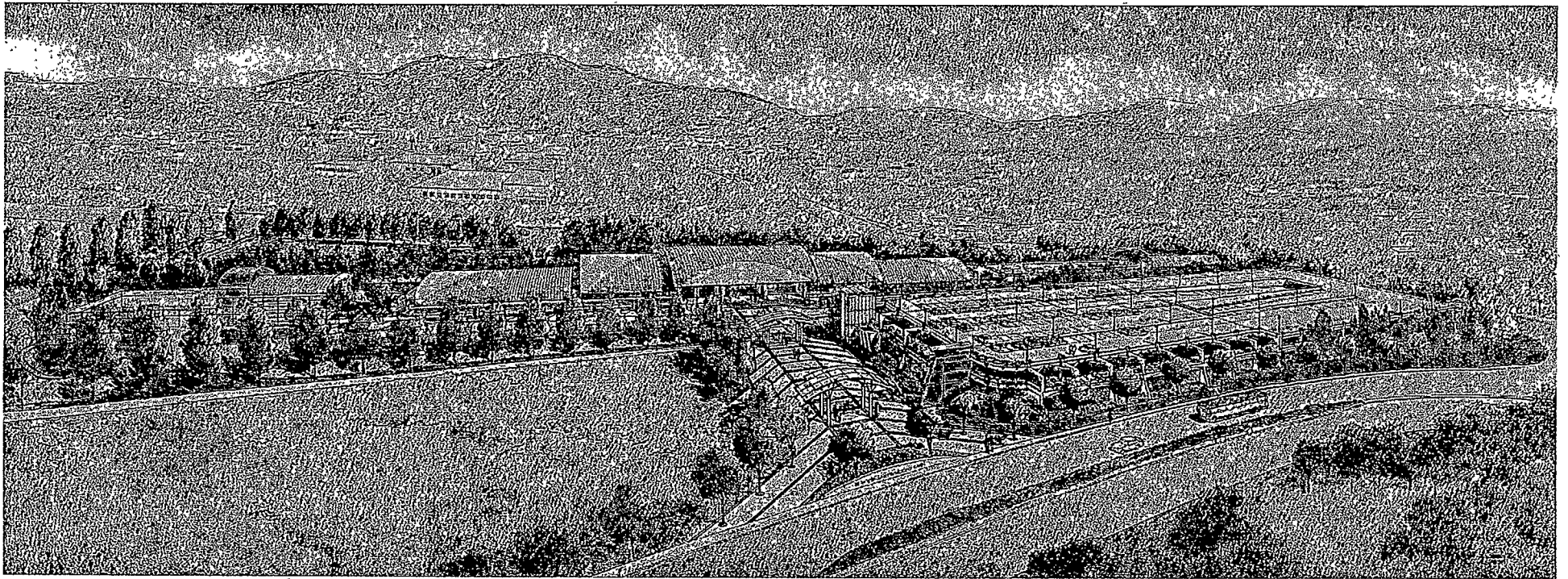
Grand Total \$ 1,483,200,000

BART SFO Extension Project Benefits

- Providing reliable and convenient rapid rail transit service to the San Francisco International Airport, the fifth busiest airport nationwide and an international destination for business travel and tourism, is critically important to the Bay Area, which is experiencing one of the fastest growing, strongest regional economies in the United States.
- Ridership is projected to reach nearly 70,000 passenger trips per day by the year 2010, which would make it the most heavily used line in the BART system.
- Travel time from downtown San Francisco to the airport will be 30 minutes. At least half of all air travelers using BART to reach the airport will disembark within a five-minute walk of their airline ticket counter. Other passengers will be able to board the airport's automated guideway people mover system, Air Train, to reach more distant airport destinations.
- The BART SFO Extension is a key component of the airport's \$2.5 billion expansion program, which includes a new International Terminal, twice the size of the existing facility. Air travel at SFO is expected to rise from the current level of 40 million passengers annually to 51 million passengers by the year 2006.
- A recent transportation study by the San Mateo County City/County Area of Governments identified the BART SFO Extension as the most important congestion-reducing project in the county.
- The project will link two regional rail systems by providing the first direct connection between BART and the 77-mile Caltrain commuter rail system at the Millbrae intermodal terminus station. This will create a vastly expanded regional rail network serving five Bay Area counties with a total of 180.7 miles of rail transit mobility.
- The BART SFO Extension is a good model for federal New Rail Starts investments. The project is the cornerstone of the BART's overall \$3.3 billion rail extension program, 73 percent of which is paid for by state and local funds. The federal commitment to the SFO Extension was successfully leveraged to secure state and local funds for other rail extensions in the East Bay.
- The BART SFO Extension has captured the enthusiastic support of the traveling public, business leaders, civic groups and elected officials. Cities impacted by the project have passed resolutions of support, voters in San Mateo County have twice approved ballot measures directing local funds to be used for the project, every major daily newspaper in the BART service area has given editorial support, and surveys of Bay Area residents and voters consistently express strong support for BART and the airport extension.



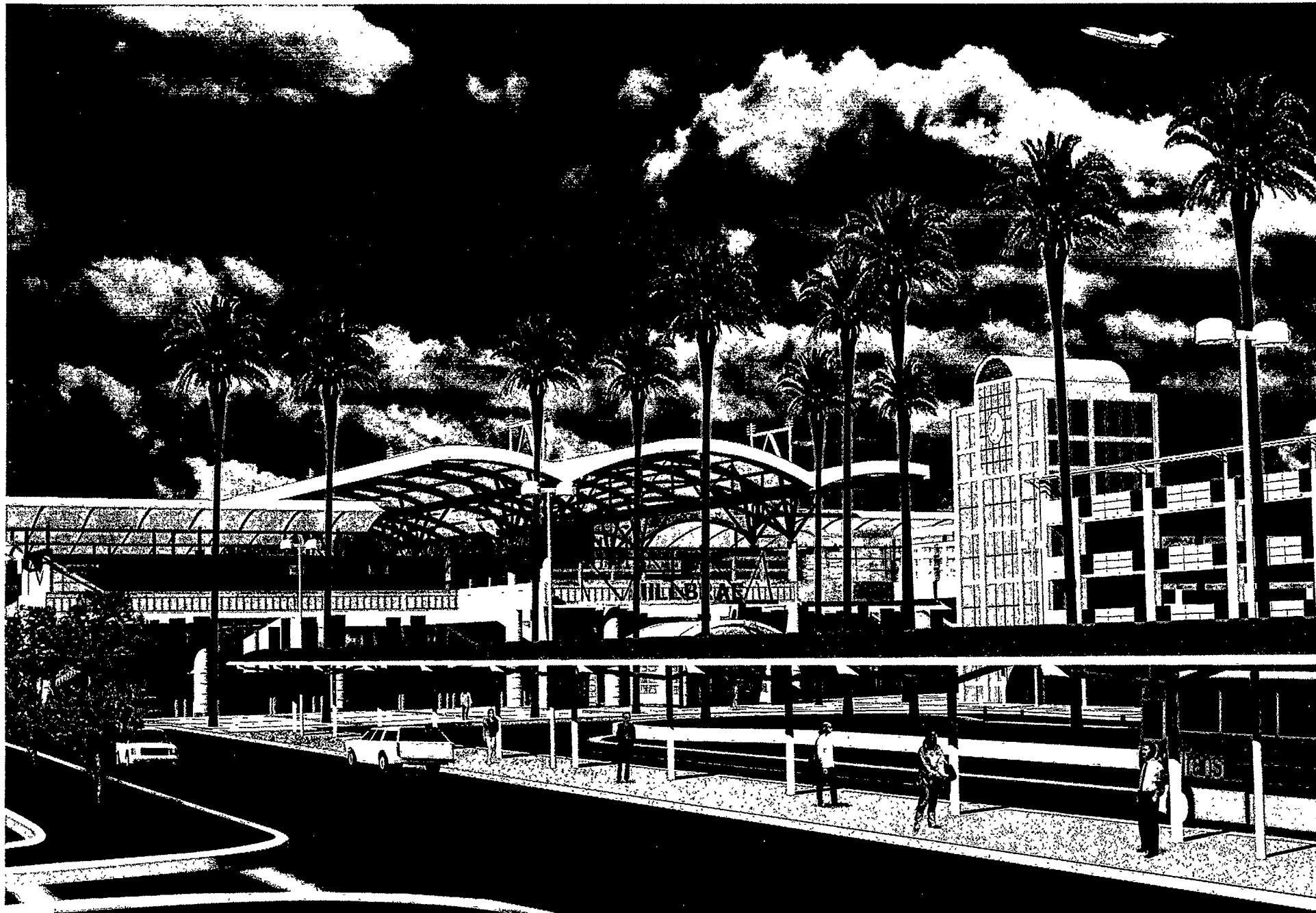
**BART SAN FRANCISCO AIRPORT EXTENSION
LINE ALIGNMENT AND PROFILE**



**BART SAN FRANCISCO AIRPORT EXTENSION
SOUTH SAN FRANCISCO STATION AND PARKING STRUCTURE
Bird's Eye Perspective of Conceptual Site Development Looking East**



**BART SAN FRANCISCO-AIRPORT EXTENSION
SAN BRUNO STATION, PARKING STRUCTURE
AND BART / CITY OF SAN BRUNO JOINT POLICE STATION
Bird's Eye Perspective of Conceptual Site Development**



**BART SAN FRANCISCO AIRPORT EXTENSION
MILLBRAE INTERMODAL STATION
PERSPECTIVE OF EAST ENTRY PLAZA LOOKING NORTHWEST**

BART Oakland International Airport Connector Project

The Port of Oakland, the City of Oakland and BART have made significant progress toward construction of the BART Oakland International Airport Connector Project, a proposed three-mile, grade-separated automated guideway system between the Oakland International Airport and the BART Coliseum Station. BART and the Port have committed to a significant portion of the capital funds needed to build the Connector. The intermodal rail transit project promises to offer millions of air passengers and employees convenient and reliable access to the Oakland International Airport.

The project partners have begun the planning phase of the Connector Project which will be paid for with \$6 million in federal Surface Transportation Program (STP) funds and \$1 million in state funds. Of the \$7 million total, \$4 million has been awarded by the California Transportation Commission and \$3 million was recently approved by the Alameda County Congestion Management Agency. The scope of the project will include a technology assessment, environmental review, preliminary engineering, design/build specifications and cost estimates. The environmental review process will include further analysis of a "quality bus" alternative to carry the increased passenger and airport employee traffic.

BART's planning for the Connector will be synchronized with the Airport's design for a new terminal and a City of Oakland-BART station area plan at the Coliseum BART Station. The project will be implemented using a design/build technique under which the successful contractor will be responsible for final engineering and construction of the system according to BART specifications.

In prior work, BART contacted potential systems suppliers and initiated a review of appropriate technologies. An important feasibility study was completed in 1993 under the auspices of the Federal Transit Administration's (FTA) Suspended Light Rail Technology (SLRT) Demonstration Program.

A fixed guideway connection between the Oakland International Airport and the 95-mile, four-county BART system has been considered a key link in the regional transportation system for over 25 years. Air traffic at the Oakland International Airport has and will continue to grow dramatically, increasing from 9.8 million passengers in 1995 to an estimated 22.4 million in the year 2010. An improved transit link is a critical component to maintaining sufficient ground access to the Oakland International Airport.

II. Transit Oriented Development

Transit Oriented Development Overview

The BART District's newly-adopted Strategic Plan envisions a partnership with local communities that will encourage, support and enhance access to transit through development of transit oriented communities. The goal is to promote transit ridership and enhance the region's quality of life by improving access to transit through communities centered around transit stations. BART has invigorated its efforts to explore new opportunities to encourage transit oriented development (TOD) projects at existing stations and to include TOD considerations in the planning process for possible future expansions.

Affirming a national trend toward TOD planning, the Transportation Equity Act for the 21st Century (TEA 21) includes the Transportation and Community and System Preservation (TCSP) Pilot Program. This program provides funding for planning, implementation, and research grants to investigate and address the relationship between transportation investments, land development patterns and environmental protection.

In our region, the Metropolitan Transportation (MTC) has placed additional emphasis on linking land use and transportation planning. MTC has created the Transportation for Livable Communities (TLC) program, which targets federal "flexible" funds to community-oriented transportation projects in the nine-county Bay Area.

BART is working collaboratively with local communities and planning agencies in pursuing both TCSP and TLC funding for selected planning and capital TOD projects. Projects under consideration include plans to revitalize and improve San Francisco's Mission District Corridor (16th Street and 24th Street BART stations), resolve transportation and land use issues in the area near the Oakland Coliseum BART station, and examine access improvements at the West Oakland BART station.

The Fruitvale Transit Village Project at the BART Fruitvale Station in Oakland and the 16th and Mission BART Station revitalization project in San Francisco are two notable examples of TOD projects already underway, thanks in part to support from the federal government. The Fruitvale project, sponsored by the Spanish Speaking Unity Council, the City of Oakland and BART, has received strong support from the Federal Transit Administration, while the 16th and Mission project is the recipient of a \$1.7 million TLC grant from MTC. BART is also embarking upon an historic public-private partnership with Jones Lang LaSalle to build the new West Dublin/Pleasanton BART Station and a transit village on BART property with housing, retail and office development, along with a new hotel.

We appreciate Congress' leadership in encouraging TOD projects by creating the TCSP program. There is much more that can and should be done to create "livable communities" that reflect intelligent land use decisions and maximize the full value of our transit investments. Looking ahead to the transportation reauthorization bill, we urge Congress to continue the commitment of resources to these activities so that communities have a real opportunity to implement sustainable, transit-oriented development projects.

TOD Station Projects

The following is a survey of TOD projects currently being undertaken at BART stations.

Alameda County



Fruitvale BART Transit Village

Fruitvale: BART entered the “livable communities” movement as a key participant in transforming the area surrounding the Fruitvale BART Station into the Fruitvale Transit Village. After completing an intermodal improvement project for bus links last year, the project sponsors broke ground on the rest of the project, which will include child care and health care facilities, a senior center, library, housing, retail and office space. The Fruitvale Transit Village is situated in the heart of Oakland’s Latino community, with many community-based organizations involved in this project, led by the Spanish Speaking Unity Council.

West Dublin/Pleasanton: BART is now in exclusive negotiations with Jones Lang LaSalle to build a \$100 million public/private development near the I580/I680 interchange. The proposed project is anchored by the new West Dublin/Pleasanton BART Station, with parking, intermodal facilities and a pedestrian walkway to the transit village. The private mixed-use development proposes 160 residential units and a 240-room hotel in Dublin, and approximately 175,000 square feet of office development in Pleasanton.

Dublin/Pleasanton: BART and Alameda County are developing a plan for high-density housing and a Transit-Oriented Office Park.

West Oakland: BART and the City of Oakland are jointly sponsoring a Transit Village Study set for completion in spring 2000, and will coordinate affordable housing (through a Hope VI Grant) with other housing types and community services. One major benefit to the community will be a landscaped Boulevard (Mandela Parkway) and redesigned side streets to make them safer and more usable by pedestrians and bicyclists.

Oakland Coliseum/Arena: A Station Area Plan is underway to balance neighborhood needs with two unique international facilities, the Oakland Coliseum/Arena and the Oakland International Airport. An airport connector project to link the Coliseum BART station via a fixed-guideway transit system to the Oakland International Airport is under environmental review.

Hayward: BART is working with the City of Hayward to exchange properties and secure development processes for four high-density housing projects adjacent to the station, new garage structures and pedestrian-oriented walkways, and landscaping that complement the new City Hall (directly east of the Station) and historic downtown Hayward.

Fremont: BART is an active participant in the Downtown Policy Advisory Committee that is defining the location and mix of land uses to intensify and make more attractive a Downtown hub in the City of Fremont in the vicinity of the Fremont BART Station.

San Leandro: BART is an active participant in the Downtown Policy Advisory Committee and the General Plan Advisory Committee to make the BART station area more active and pedestrian-friendly, and streamline the property exchanges to bring new housing and commercial development into the area.

Bayfair: BART is partnering with the City of San Leandro and the County of Alameda to build an attractive and convenient pedestrian link and new bridge over a creek that will connect the Station with the expanding Bayfair Shopping complex.

Ashby: BART, the City of Berkeley and the Ed Roberts Campus are developing a campus site directly on the Ashby east parking lot. The project also includes sidewalk connections to the surrounding neighborhood.

Contra Costa County

Pleasant Hill: BART and Contra Costa County are sponsoring cooperative planning with extensive community involvement for TOD projects on large parcels of BART property.

Richmond: BART, the City of Richmond and its consultants are developing TOD projects with housing and commercial projects to surround the existing "intermodal" Amtrak/BART station.

Concord: John F. Kennedy University is building a college campus adjacent to the Concord BART station, and the station area will undergo a major remodeling to strengthen pedestrian links from the BART station to the campus and beyond to downtown Concord.

El Cerrito Plaza/El Cerrito Del Norte: BART and the City of El Cerrito are working together to build a parking garage, and to consolidate and replace surface parking as a catalyst for TOD in the City of El Cerrito.

San Francisco

16th Street/Mission: BART, the Mission Housing and Development Authority and the City of San Francisco are completing final design to rebuild and revitalize the Southwest Plaza at the 16th Street BART Station to enhance pedestrian and transit access. Through an extensive community planning

process, the plaza project includes removing barriers to improve visibility, creating a place for community events, public art and vendors, and encouraging pedestrian-oriented development near the station. The project is supported by a \$1.7 million Transportation for Livable Communities grant from the Metropolitan Transportation Commission, and matching funds from BART and the City. The 16th Street BART community design plan is the first piece of a larger Mission Street Corridor Revitalization Project, where the City of San Francisco will encourage multifamily housing along this important transit corridor.

24th Street/Mission: Like the plaza at 16th Street, the two plazas above the 24th Street BART Station will be redesigned to improve and integrate the renovation into the larger Mission Street Corridor Revitalization Project. Planning is now underway for this project that is drawing heavily on community involvement.

Balboa Park: BART and the San Francisco Municipal Railway are teaming up with the San Francisco Planning Department to create the Balboa Park Station Area Plan. This project enjoys strong community support, including San Francisco City College and a preservation component (an historic railroad office building) led by San Francisco Beautiful.

Downtown San Francisco (Civic Center-Powell-Montgomery-Embarcadero):
TOD at these four subway stations focuses on better linkages to existing buildings and attractions downtown, on enhanced pedestrian and connecting transit links, and on leased use of BART facilities, including pedestrian tunnels. In particular, the project features the imminent opening of the Yerba Buena Center pedestrian tunnel, and planned improvements to Civic Center Plaza by the City of San Francisco.

III. New Technologies

Employing New Technologies for Greater Efficiency and Effectiveness

Advanced Automatic Train Control

In 1994, BART teamed up with the Hughes Aircraft Company to develop an advanced train control system that will allow trains to operate at closer intervals and at higher speeds while using less energy. Operational efficiencies and capacity increases made possible by the AATC system are needed to maintain and improve levels of service on the existing BART system as well as to accommodate the increased ridership and service demands associated with operating the extensions.

In order to transport greater numbers of passengers more quickly, BART must run more trains at closer intervals. This need is especially great in the Transbay Tube, which connects the East Bay and San Francisco. Currently, BART can only operate 24 trains per hour through the Tube. With AATC in place, however, we could run up to 30 trains per hour – a 25 percent increase in passenger capacity.

The \$44.3 million AATC project, for Phases 1 and 2, is funded in part by a \$19.5 million military dual-use grant awarded in 1994 as part of the federal Defense Advanced Research Project Agency's (DARPA) Technology Reinvestment Program (TRP). Phase 1, development and testing of prototype hardware and software, was successfully completed in April 1996. Initial prototype testing of the new system produced flawless results at BART's 2.5-mile test track in Hayward. Phase 2 activities are now underway and are scheduled for completion in late 2000. During this phase, BART has installed production hardware at the Lake Merritt and Fruitvale stations and on 10 revenue cars. A major goal of the program is to obtain the California Public Utilities Commission safety certification which will enable BART to operate the design in revenue service.

During this Phase 2 program, Harmon Industries Inc., a major commercial U.S. supplier of rail signaling equipment, replaced Hughes as the principal private-sector member of the Regional Technology Alliance. Hughes, now Raytheon, remains a participant in the program and will complete the development of key software elements of the AATC system.

As a defense conversion project, AATC utilizes radios developed for the Army's Enhanced Position Location and Reporting System (EPLRS), which currently has a prohibitively high unit cost. By developing the technology commercially for transit systems, AATC would help lower the unit cost of EPLRS equipment by as much as 35 to 50 percent.

High Temperature Superconducting Technologies for Traction Power Support

BART has initiated two FTA funded projects to study the applicability of high temperature superconducting (HTS) materials in transit applications. One is with American Superconductor Corporation to model the application of superconducting traction power feeder cables and to evaluate the economic benefits of this application of superconductivity. The second project, with Pirelli Cable Corporation, will produce a conceptual design for an HTS feeder cable system for traction power transmission. Through these projects, BART and the transit community will gain an understanding of the applicability, potential economic benefits, and operating requirements of HTS systems for traction power support and transmission.

The need to increase the third rail power capacity will become more critical as trains are added to the BART system and operated at closer headways. Inadequate capacity causes voltage sags at the trains and degrades system performance. One approach to maintain the required voltage level is to increase the number of power substations, but this requires large capital expenditures for the installation of additional substations and feeders. Also, due to topographical constraints (e.g. Transbay Tube at BART) electrical substations cannot be added at some desired locations. A goal of these studies is to find lower-cost alternative approaches to improve traction power capacity.

Automatic Fare Collection (AFC) Equipment

The automatic fare collection (AFC) equipment modernization/Translink implementation project is supported by federal Section 5309, Section 5307, Surface Transportation Program (STP) and Congestion Mitigation and Air Quality Improvement (CMAQ) funds programmed by the Metropolitan Transportation Commission.

BART awarded a \$30.7 million contract in 1999 to replace all ticket vending equipment and some faregates in the original 34 stations. This includes \$8 million for new equipment in the four stations on the SFO Extension project and \$22 million to replace equipment in the other stations. The entire project is slated for completion by the end of 2003.

The new generation of ticket vending machines will use full-color, menu-driven screens, similar to bank automatic teller machines (ATMs). They will meet all ADA requirements, and be easier to use. The machines will use credit/debit card payment and have the capability to accept and process "smart cards." Smart cards are embedded with a tiny computer chip capable of holding a large amount of information. Now under development in an effort led by the Metropolitan Transportation Commission (MTC), transit riders throughout the Bay Area will be able to use a single fare card to travel on many different transit systems – bus, ferry boat or rail – to reach their destinations.

IV. System Renovation Program

System Renovation Program: Maintaining Service Reliability and Quality

BART is now in its fifth year of a critical 10-year, \$1.5 billion System Renovation Program to overhaul the entire 30-year-old transit system infrastructure and the original fleet of 439 rail cars. The renovation program is one of BART's top priorities because it will enable us to keep pace with increasing demands for service while maintaining reliability and quality. The improvements being made to the core BART system will translate into fewer train delays, reduced queuing at faregates and ticket vendor machines, more reliable escalators and elevators, and safer, more comfortable station facilities.

To date, 70 percent of the work is underway, thanks in large part to the federal programs that fund a substantial portion of this essential renovation effort, along with a total of \$480 million in BART's own resources. Under a 1994 agreement with the Metropolitan Transportation Commission, federal Section 5309 Fixed Guideway, Surface Transportation Program (STP) and Congestion Mitigation and Air Quality Improvement (CMAQ) programs will help fund, through the year 2003, the largest component of our renovation effort: the rebuilding of 439 aging rail cars. The Section 5309 program also funds critical traction power renovation, while the Section 5307 program provides funding for the replacement of rail and general station and train control equipment renovation. The automatic fare collection (AFC) equipment modernization/Translink implementation project (discussed on page 32) is programmed to receive Section 5309, Section 5307, Surface Transportation Program (STP) and CMAQ funds.

Among projects completed or underway in 1999:

- 75 original BART cars were renovated and returned to service extending their useful life by 20 years.
- 23 new "transit duty" escalators were operating in San Francisco stations.
- A total of 31 escalators were renovated in 1999, while 89 more will undergo renovation in the next two years.
- Overhaul of 35 elevators in 20 key stations and 24 elevators in 14 non-key stations. Since work commenced on this program in 1997, 17 elevators have been renovated and one elevator replaced.
- New swing gates were installed at 20 key stations to make entry easier for bicycles and customers with mobility impairments.
- Platform improvements at West Oakland, San Leandro, Hayward and Walnut Creek stations.
- A total of 16 stations have been renovated. Awarded contracts in 1999 to renovate four more stations.
- Completed intermodal improvements at the Richmond and El Cerrito Plaza stations to make bus links more convenient for BART bus customers.

In addition, contracts were let in 1999 to:

- Replace the car and upgrade the hoistway for one San Francisco station elevator.
- Modernize BART's Automatic Fare Collection system, including 182 ticket vending machines, 106 addfare machines and 67 fare gates.

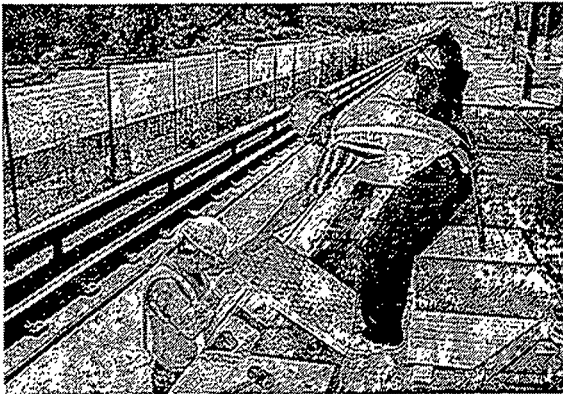
Rail Cars



- The cornerstone of BART's system renovation program is the rehabilitation of the 439 original A and B cars. These cars have logged roughly two million miles of service prior to rehabilitation, which will add 20 years of serviceable life to each rail car. Under a \$330 million contract, Adtranz is replacing the interior and exterior undercar equipment on each vehicle at a rate of about 10 cars a month. About 36 cars are out of service for rehabilitation at any given time, and it is expected to take until the end of 2002 to renovate the entire fleet. New microprocessor controls and diagnostics mean less time required to troubleshoot, thereby speeding up maintenance to get rolling stock back into revenue

service faster. The rail car renovation means more trains in service and more reliable cars. The restoration costs less than one half the cost to purchase a new rail car, meaning that BART is keeping an eye on affordability while improving service for BART customers.

Stations



- BART's 34 original stations are undergoing renovation to improve safety, access for disabled customers, and convenience for all customers. By mid-1999, 16 stations had undergone cleaning, painting, improved lighting, repairs to equipment and structures and new landscaping. In addition, bicycle lockers, maps and signs are being replaced at stations and new lighting and 225 emergency call boxes are being installed in BART parking lots. Contracts have been let for four more stations, leaving 14 stations still to renovate.

Traction Power

- A 1000-volt DC power system on the Third Rail delivers traction power to run BART trains. Reliability of this traction power is fundamental to service. BART's current system is being rehabilitated under a series of contracts to ensure continued service reliability and passenger safety, and to reduce maintenance. Segments of the traction power renovation project completed in 1999 included the coverboards (over the electric third rail) to strengthen them and guard against wind damage. Protection of the transformer rectifiers was replaced at 37 sites along the system. To address overloads, new DC circuit breakers were installed at 12 locations and cables for 29 circuits were upgraded. A new, \$2.6 million project to replace all 34.5kv circuit breakers was put out for bid in late 1999 and will be completed in phases over the next five years.

Train Controls and Communications

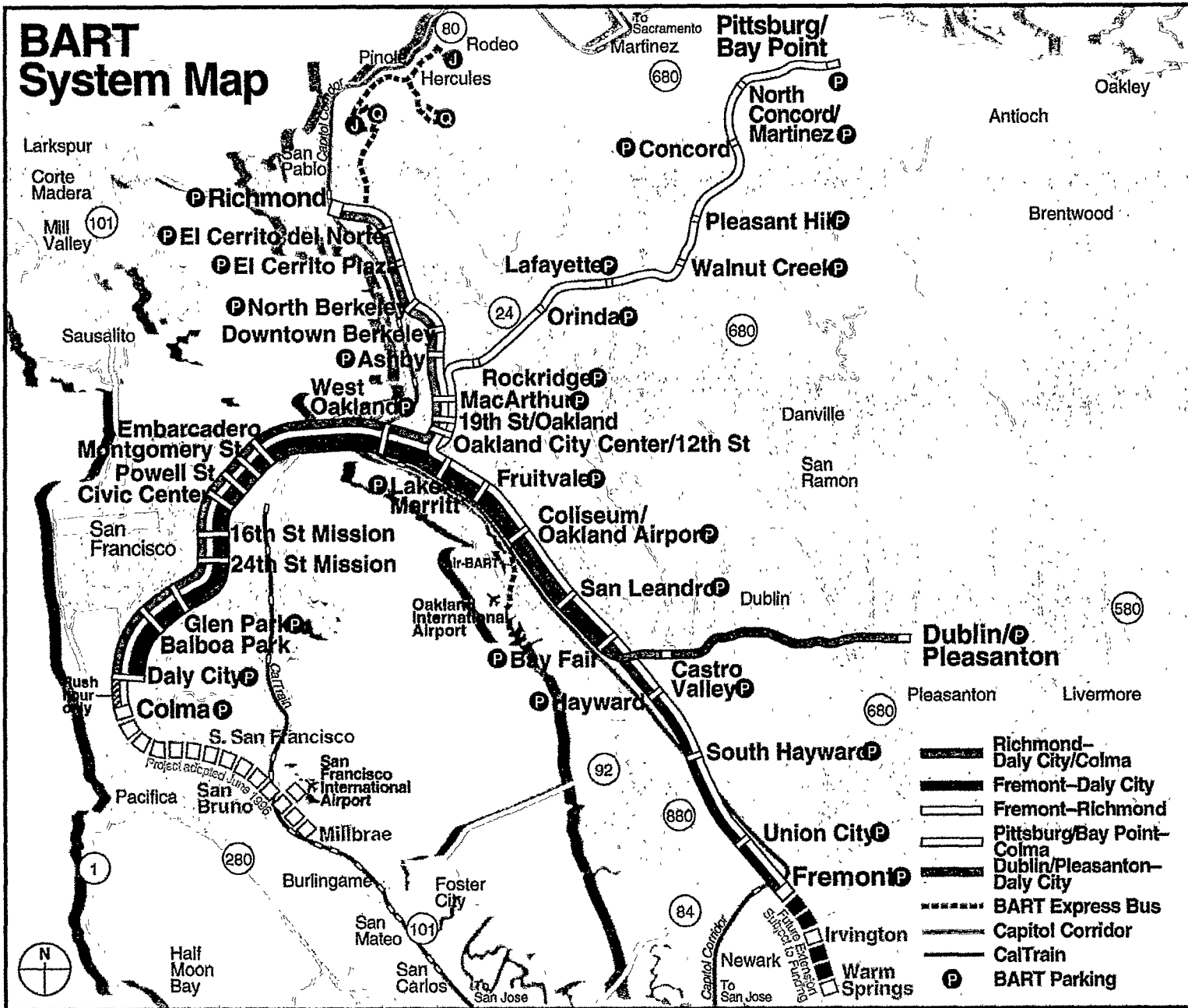
- At its grand opening in 1972, BART inaugurated the world's first fully automated train control system. BART's computerized system is still firmly in the mainstream of transit technology, but renovation is periodically required to maintain its cutting-edge status. The function of the relay

plant is to safely move trains and control movement of switch machines that align track at divergent points, thereby allowing trains to go one direction or the other, and to ensure that trains are safely spaced apart.

- In 1999, BART replaced the old interlocking relay system with a new microprocessor-based system at selected sites. Installing the new Harmon Vital Logic Controller cabinet replaces four to five relay cabinets and thousands of wire connections. By dramatically reducing the number of wire connections, BART reduces the potential for failure and improves system reliability. In 1999, the new Harmon microprocessor system was installed at the Hayward Test Track, Fruitvale Station and Lake Merritt Station to eliminate 18,000 wires.
- Obsolete computer control systems have been replaced with platform destination sign system software, a data acquisition system, a train information monitor system and the central computer system. Old work stations give way to new technology in the Operations Control Center, including a second work station to facilitate improved communications between the OCC, train operators and maintenance crews.
- Updated computer equipment means service improvements, including faster recovery from service disruptions in the Transbay Tube and a new maintenance tracking and scheduling system.

Mainline and Transbay Tube

- Renovating BART's tracks, traction power systems, tunnel and aerial structures and subway ventilation systems are part of the systemwide program. In 1999, 36 of the system's emergency ventilation fans were rehabilitated and a contract for the other 44 will be issued during 2000, including the ventilation system in the Transbay Tube. Sump pumps were replaced in all underground sections. This is an important infrastructure repair as the pumps help remove water from storm drains and help keep the system dry.
- The latest contract in the ongoing series will be awarded in 2000 for approximately \$600,000. At 100 feet under the San Francisco Bay, the outer steel liner of the Transbay Tube must be protected from the constant contact of corrosive seawater. Cables delivering current to the protective anodes are also at risk from being dragged and damaged by ships dropping anchor in the bay.



**BART SAN FRANCISCO AIRPORT EXTENSION
BART SYSTEM MAP**