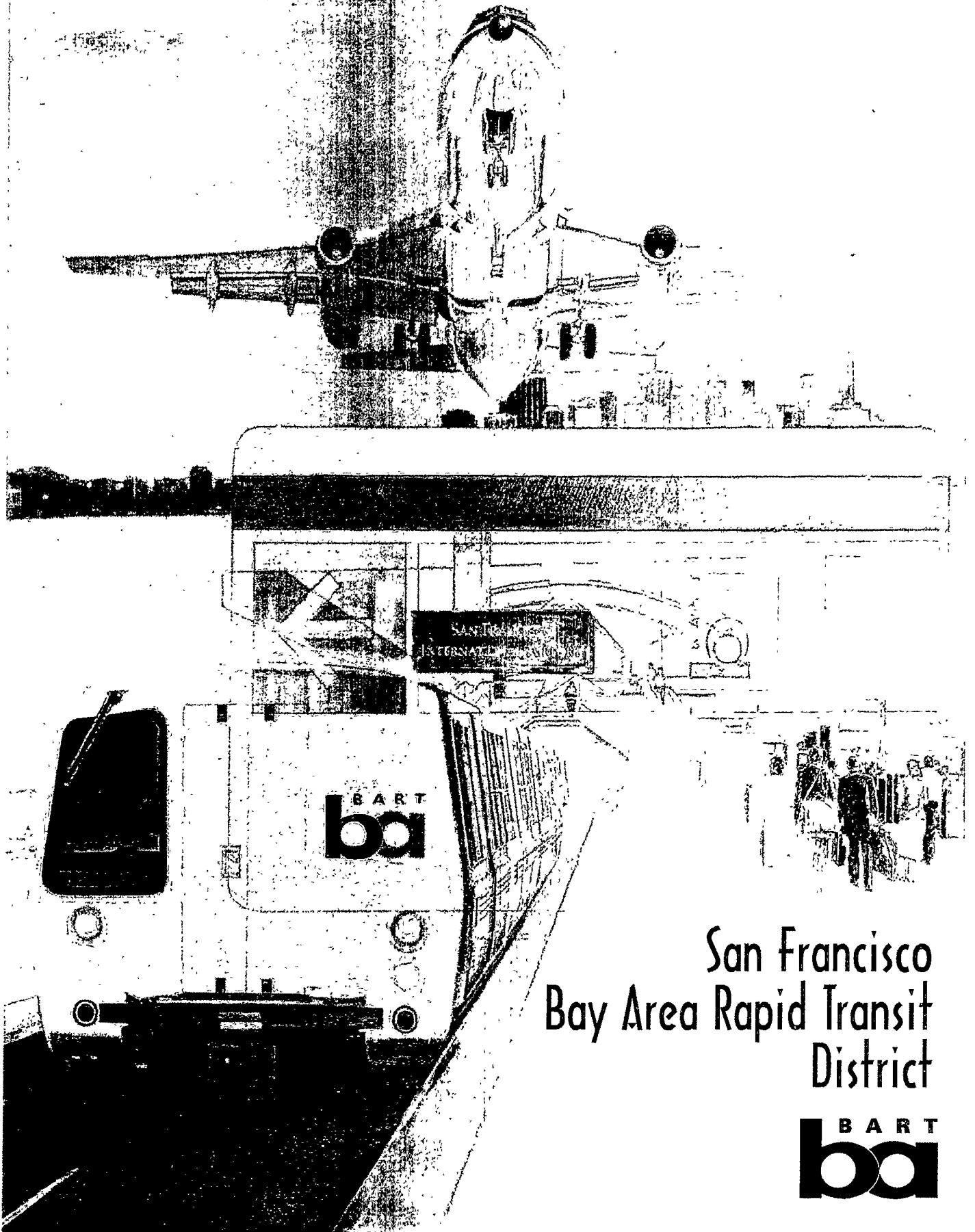


1999 REPORT TO CONGRESS



San Francisco
Bay Area Rapid Transit
District





SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
 800 Madison Street - Lake Merritt Station
 P O Box 12688
 Oakland, CA 94604-2688
 Telephone (510) 464-6000

March, 1999

Dear Member of Congress:

Last year, the San Francisco Bay Area Rapid Transit (BART) District began construction of its last major expansion project of this century, the San Francisco Airport (SFO) Extension. Work on the long-awaited 8.7-mile, four-station project is now progressing at a rate of 50 feet per day and is slated for completion in late 2001. Once complete, the project will provide a direct rapid rail transit link to one of the busiest airports in the world - an international destination for travel, tourism and commerce.

Progress on the BART SFO Extension would not have been possible without the unified support of the San Francisco Bay Area Congressional delegation whose energetic advocacy has been instrumental in securing key federal funding commitments. Thanks to their support, BART service to SFO is finally becoming a reality - a crowning achievement for our region and an invaluable legacy to future generations.

The center piece of our 1999 Report to Congress concerns the status of the BART SFO Extension and the need for federal New Rail Starts appropriations to match the levels identified in the project's Full Funding Grant Agreement (FFGA) appropriations funding plan. Adhering to the FFGA funding plan, which calls for \$84 million in FY 2000, will minimize unplanned financing costs and ensure that the project is delivered as scheduled.

This report also describes progress on other important initiatives funded in part with federal dollars including a 10-year, comprehensive System Wide Renovation Program and the Oakland Airport Intermodal Connector Project.

On your next visit to the Bay Area, we would welcome the opportunity to show you first hand progress on the BART SFO Extension made possible by the commitment of federal funds. As Congress determines transportation appropriations for FY 2000, we look forward to working with you to secure \$84 million for the BART SFO Extension.

Sincerely,

Dan Richard
 President



DAN RICHARD
 PRESIDENT

THOMAS M. BLALOCK
 VICE-PRESIDENT

THOMAS E. MARGRO
 GENERAL MANAGER

DIRECTORS

DAN RICHARD
 1ST DISTRICT

JOEL KELLER
 2ND DISTRICT

ROY NAKAPEGAWA
 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

San Francisco Bay Area Rapid Transit District

1999 REPORT to CONGRESS

Table of Contents

Message from General Manager Thomas E. Margro..... 1

FY 2000 Appropriations Request for the BART SFO Extension..... 3

BART SFO Extension FFGA Appropriations Schedule..... 6

BART SFO Extension/Bay Area Map..... 7

Illustration of future BART Station at SFIA..... 8

BART SFO Extension Takes Off – Project Overview/Construction Update..... 9

Summary of Construction Activities..... 13

BART SFO Extension Photographs of Construction..... 14

BART SFO Extension Transportation for the 21st Century – Project Benefits..... 20

BART SFO Extension Supplemental Financial Plan..... 21

BART SFO Extension Project Funding Profile..... 22

Financing of the Overall BART Extensions Program.....23

Systemwide Renovation Program Produces Results..... 24

BART Oakland International Airport Connector Project..... 26

Federal Grants Support Investments in Leading Edge Technologies..... 27

Transit-Oriented Development 29

BART Extension to the San Francisco International Airport Building Today for 2001

Message from General Manager Thomas E. Margro

As the 106th Congress gets underway, I am pleased to have this opportunity to update you on the tremendous progress being made on construction of the BART San Francisco Airport (SFO) Extension and other strategic investments in our core system. Thanks to our Congressional representatives' support for the federal transit programs that have made these critical initiatives possible, we are hard at work preparing to meet the growing demands for expanded and improved BART service in the 21st century.

To achieve our shared vision of building the BART SFO Extension requires the full support and participation of our federal partners in the project. More than ever before, it is crucial that we secure federal New Rail Starts appropriations consistent with the timeline and amounts established under the project's Full Funding Grant Agreement (FFGA). Accordingly, BART's principal legislative objective for 1999 is to secure \$84 million in FY 2000 appropriations for the BART SFO Extension. We look forward to working with our outstanding team of Congressional leaders from the Bay Area to ensure that we reach that goal.

For more than 26 years, BART has been dedicated to providing safe, reliable and convenient rapid rail transit service to the people of the San Francisco Bay Area. Today, BART is an integral part of the region's complex transportation network, posting record ridership levels with an average of 275,000 weekday riders in four Bay Area counties. With 22 miles of new, locally-funded rail extensions up and running, including four new stations, and Phase 1a of the federally-funded extension to the San Francisco International Airport (SFIA) operating to the Colma station, BART is now a 95-mile system with a total of 39 stations. Once complete, in late 2001, the long-awaited BART extension to SFIA and three cities on the San Francisco Peninsula will add 8.7 miles of track and four new stations to the BART system. Average daily ridership on the new line is expected to reach 70,000 passenger trips by the year 2010 and will be the most heavily used line in the BART system.

Construction of the BART SFO Extension is now moving full steam ahead after many years of planning, consensus building and funding negotiations. Photographs included in this report vividly illustrate the impressive headway being made by the combined energies of three major contractors. Tutor-Saliba/Slattery, JV is responsible for the massive Line, Trackwork and Systems contract, Sverdrup-Conco is building the Millbrae Intermodal Station, and Homer J. Olsen is conducting Site Preparation and Utilities Relocation/Restoration. Work on the BART SFO station is also well advanced under separate contracts awarded by SFIA.

On the financial front, higher than anticipated costs and slower than expected federal appropriations have compelled BART to develop a supplemental funding plan for the project. While the federal share of project costs remains unchanged at \$750 million, BART and two local funding partners have agreed to provide additional funding totaling \$138.5 million in order to resolve a budget shortfall, and \$60 million to address a short-term cash flow deficit. Several factors related to the strong Bay Area

economy were chiefly responsible for growth in the project budget, including soaring construction and real-estate costs during the period that BART was awaiting execution the FFGA in late 1996 and the first half of 1997. A \$60 million shortfall in federal appropriations over the last two fiscal years exacerbated the need for a short-term loan in order to meet construction-related cash flow requirements.

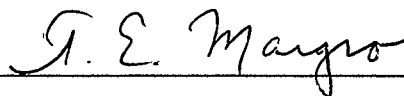
In light of the recently adopted supplemental funding plan for the BART SFO Extension, it is *absolutely imperative* that annual federal New Rail Starts appropriations adhere to the levels identified under the FFGA funding plan. This is our top legislative priority. A stable, predictable funding stream from our federal partners will enable BART to manage the project judiciously, avoid unplanned financing costs and deliver the project as promised. Consistent with the FFGA funding plan, BART is seeking \$84 million for the airport extension in FY 2000.

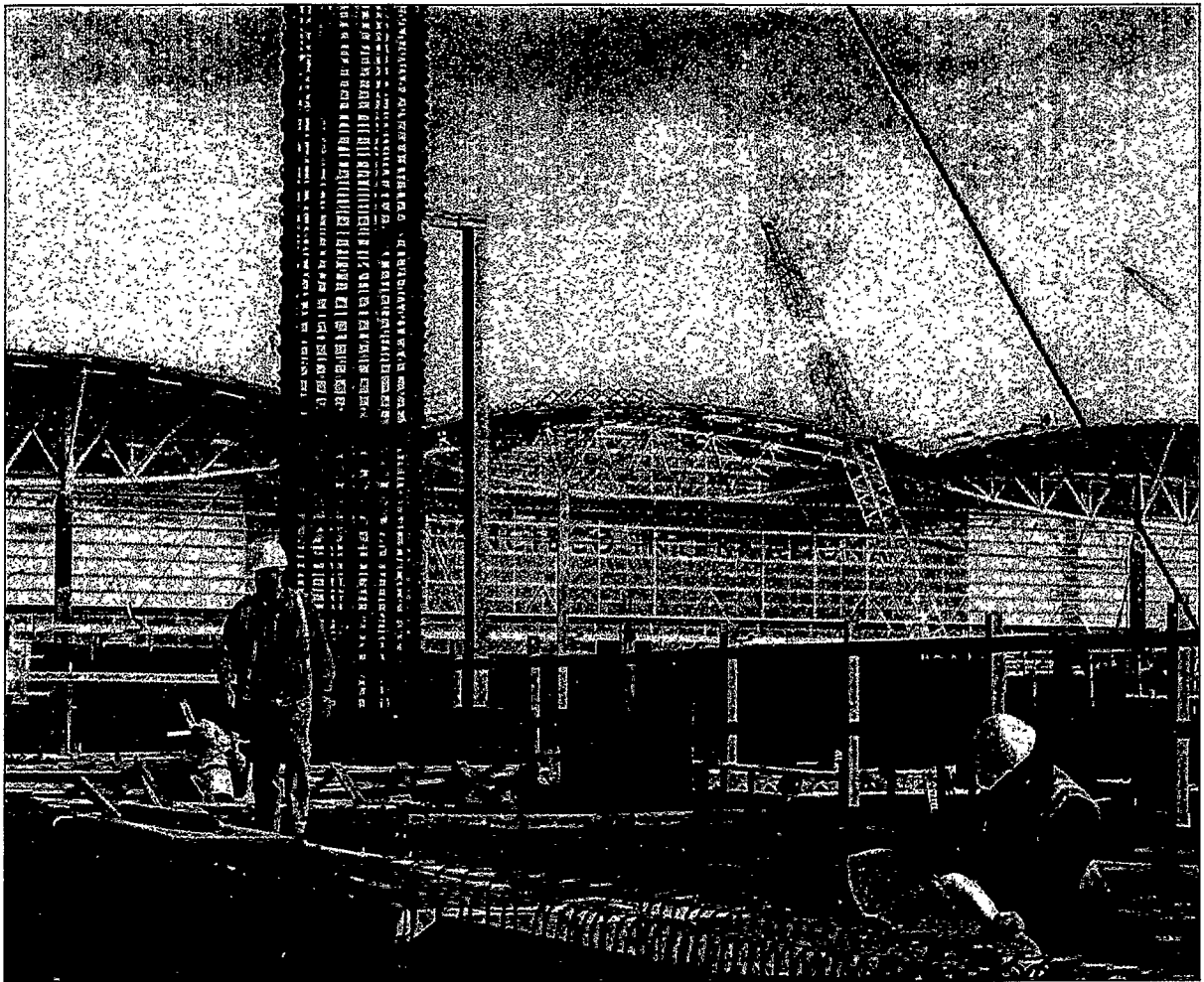
In other areas, BART is making great strides on its comprehensive, \$1.2 billion Systemwide Renovation Program which is designed to ensure that overall operations perform at optimum levels well into the future. The program involves the renovation, from top to bottom, of both the system infrastructure and the original fleet of 439 transit cars. Funded with a mix of federal, state and local monies, including a total BART contribution of \$660 million, the project returns tangible benefits to customers through sustained on-time performance, safe and comfortable station and train environments, and enhanced system accessibility.

Throughout all of the expansion and renovation efforts, fiscal and operational efficiency continues to be a top priority. BART's 61 percent operating ratio (calculated by dividing total operating revenues by total operating expenses) is among the highest in the nation. Our average daily on-time performance rate is regularly above 95 percent. Growth in BART's operating costs per passenger mile has been held below the rate of inflation for the past decade.

As BART moves ahead with the SFO Extension and other strategic system investments described in this report, we wish to thank Congress for enacting the Transportation Equity Act for the 21st Century (TEA 21) last year. The bill provides significant increases in transit program spending and retains the core transit program structure established under the prior authorization bill. We especially appreciate the 50 percent increase in New Rail Starts funding and language that directs 92 percent of such funds to projects in final design or construction. This gives the BART SFO Extension the authorization necessary to seek annual appropriations to satisfy the balance of the \$750 million federal share of project costs.

As Congress develops the FY 2000 Department of Transportation Appropriations bill, we hope that we can count on your support for \$84 million for the BART SFO Extension. The project holds great promise for our region and for our nation. We thank you for working in partnership with us to achieve that goal.





Construction of the BART station at San Francisco International Airport

FY 2000 Appropriations Request for the BART SFO Extension

- BART *strongly urges* the House and Senate Appropriations Committees to include **\$84 million** in Section 3 New Rail Starts for the BART SFO Extension in the FY 2000 Department of Transportation and Related Agencies Appropriations Act.
- The amount requested, **\$84 million**, is consistent with the amount identified for FY 2000 under the project's Full Funding Grant Agreement (FFGA) schedule for annual federal appropriations (see page 5) and with the President's FY 2000 budget request.
- Federal support for the BART SFO Extension at the amount requested will enable BART to meet construction-related cash flow needs and minimize unplanned financing costs.

Federal Funds Advance Project Construction

- The federal funds will be used to pay for substantial, on-going project construction activities on three existing contracts, plus the two final design-build construction contracts for the San Bruno and South San Francisco Stations which are expected to be awarded later in 1999.
- To date, three major construction contracts have been awarded which together comprise approximately 85 percent of the total estimated value of all five BART SFO construction contracts. These are:
 1. A \$10 million contract for Site Preparation and Utilities Relocation, awarded to Homer J. Olsen and initiated on August 4, 1997.
 2. A \$526 million contract for the Line, Trackwork and Systems, awarded to Tutor Saliba/Slattery, which got underway on May 4, 1998. And,
 3. A \$70.5 million contract, awarded to Sverdrup-Conco, for the Millbrae Station and Parking contract, which began on June 8, 1998.
- Two remaining design-build construction contracts - one for the San Bruno Station and Parking, the other for the South San Francisco Station and Parking - are scheduled to be awarded later this year.
- Construction of the BART Airport Station is progressing under separate contracts awarded and managed by the San Francisco International Airport.

FY 2000 Appropriations Request for the BART SFO Extension

Past Federal Appropriations

- To date, the BART SFO Extension has received a total of \$154 million in federal New Rail Starts appropriations as follows:

Through FY '98	\$114 million
FY '99	<u>\$ 40 million</u>
TOTAL:	\$154 million

Federal Funding Shortfalls Threaten Project Budget and Delivery

- Federal appropriations for the last two fiscal years have fallen **\$60 million below amounts budgeted** in the FFGA appropriations schedule. This appropriations shortfall has required the project to seek higher-than-planned financing to support construction now underway.
- With construction in full swing, the project budget can not absorb further funding shortfalls without further burdening taxpayers with additional financing expenses and risking costly delays.
- Failure to stay on schedule would defeat not only the benefits of the project's innovative design/build strategy, but would increase costs beyond budget. 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.
- Our goal of bringing state-of-the-art rapid rail transit service to the "front door" of our nation's fifth busiest airport is finally within reach. As reflected in a February 23, 1999 Wall Street Journal article, this key design element, i.e., "front-door service," in combination with frequently scheduled service are the major factors in the success of airport rail links — as evidenced most recently by the success of the new Washington Area Metropolitan Transit Authority (WAMTA) service to Ronald Reagan Airport.
- BART is committed to delivering the project as promised, but doing so requires the full support and cooperation of our key funding partner - the U.S. Congress.

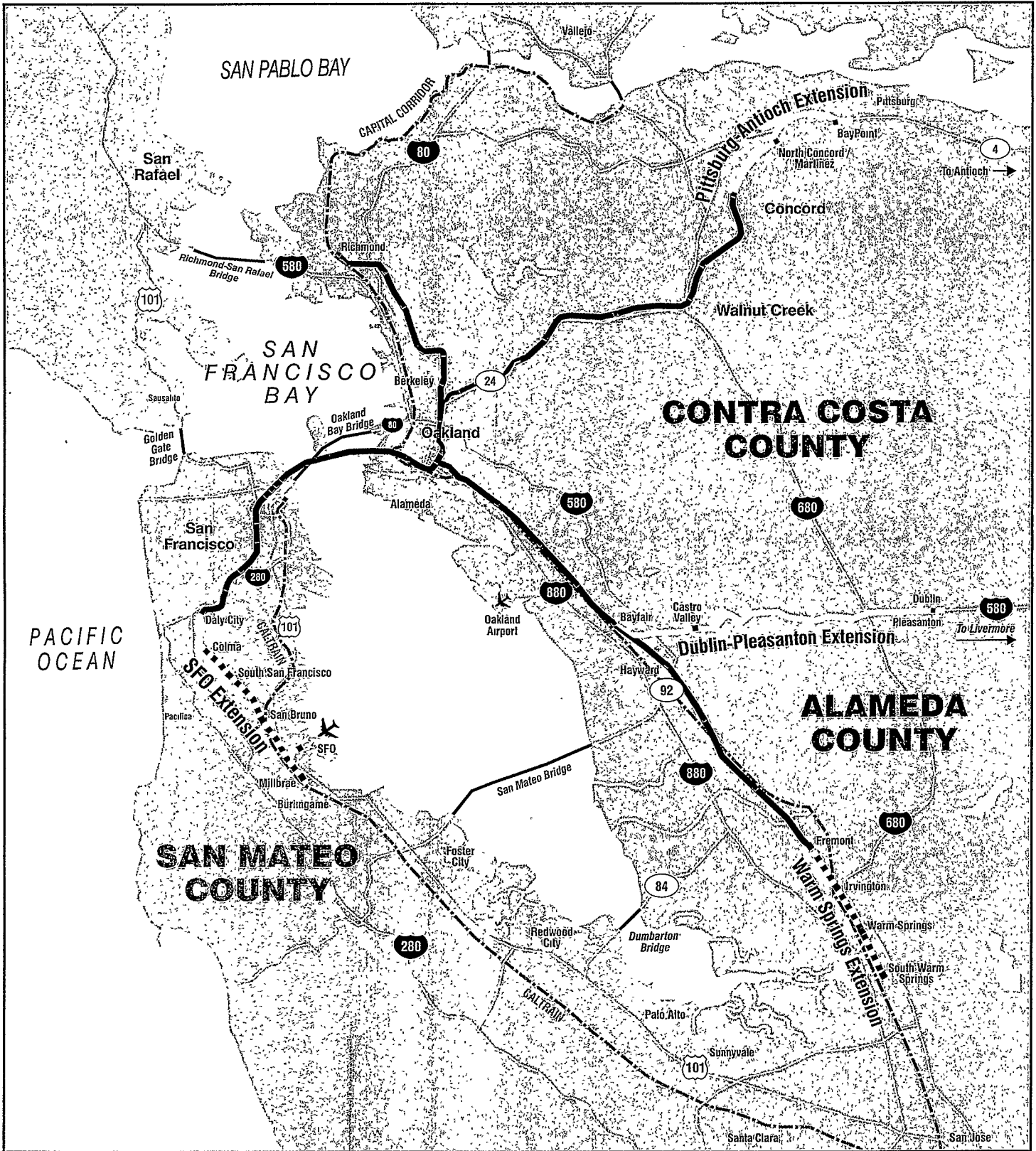
FY 2000 Appropriations Request for the BART SFO Extension

Bay Area Congressional Delegation a Key Ally

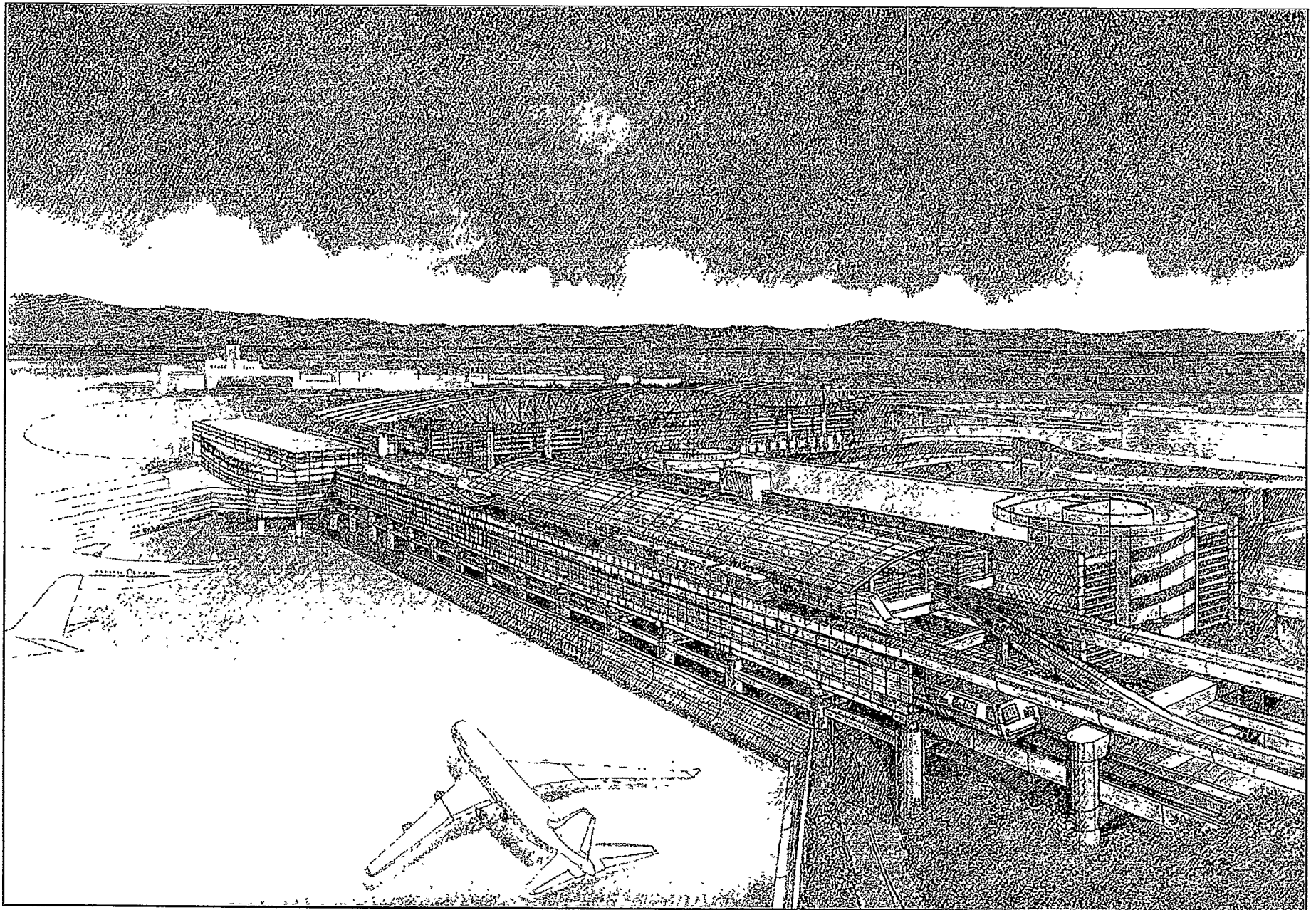
- BART appreciates the Bay Area Congressional delegation's unified support for the BART SFO Extension, particularly its successful efforts to secure a pivotal \$750 million FFGA and past appropriations totaling \$154 million. The delegation's effective advocacy has been instrumental in moving the project forward every step of the way.
- We recognize that the annual appropriations process is highly competitive and we thank our delegation for all of its efforts to achieve our FY 2000 funding goal of \$84 million.

BART SFO Extension
Full Funding Grant Agreement (FFGA)
Appropriations Schedule

<i>Year</i>	<i>FFGA Funding Plan</i>	<i>Appropriated to Date</i>	<i>Shortfall</i>
Through '98	\$140 million	\$114 million	\$26 million
FY '99	\$ 74 million	\$ 40 million	\$34 million
FY '00	\$ 84 million		
FY '01	\$ 80 million		
FY '02	\$ 81 million		
FY '03	\$100 million		
FY '04	\$100 million		
FY '05	\$ 91 million		
TOTAL:	\$750 million	\$154 million	\$60 million



BART SFO EXTENSION/BAY AREA MAP



SOURCE: ED2/MBT

**BART STATION AT SAN FRANCISCO INTERNATIONAL AIRPORT
(AERIAL PERSPECTIVE LOOKING SOUTHEAST)**

BART SFO Extension Takes Off

Project Overview

The BART SFO Extension will add a total of 8.7 miles of new passenger track to the existing 95-mile, four-county BART rapid rail transit system to provide direct service to the San Francisco International Airport (SFIA). The project will also link two regional rail systems by providing the first direct connection between BART and Caltrain in Millbrae. BART is the largest regional rail system in Northern California; SFO is the seventh busiest airport worldwide. The project alignment includes:

- 7.5 miles of mainline track extending south from the Colma BART station in northern San Mateo County to an intermodal terminus station in Millbrae that will provide direct connections between BART and Caltrain, the 77-mile Peninsula commuter rail service;
- A 1.2-mile aerial “wye” shaped segment running perpendicular to the mainline track, which will connect BART to SFO’s new International Terminal and AirTrain, a people-mover system for on-airport travel; and,
- Four new stations located in South San Francisco, San Bruno, the airport, and Millbrae.

BART SFO Extension Facilitates Airport Growth

- The BART SFO Extension is a key component of the airport’s own \$2.4 billion expansion program which includes a new International Terminal, double the size of the existing facility. The expansion is designed to accommodate the projected growth in air travel at SFO, which is expected to rise from 40 million passengers annually to 51 million passengers by the year 2006. The ensuing impact on traffic congestion along adjacent Bay Area freeways would be staggering if not for the BART SFO Extension. More than half of SFO’s perimeter is bounded by the San Francisco Bay, the other half by a major freeway, U.S. Highway 101. Opportunities to increase highway capacity are constrained by right-of-way and environmental obstacles. BART will provide air travelers, other visitors and airport workers with convenient, reliable and environmentally-friendly access to SFO. In a recent transportation study by the San Mateo County City/County Area of Governments, this project was identified as the most important congestion reducing project in the county.

Project Partners

Six separate transportation agencies are collaborating to build the BART SFO Extension:

- San Francisco Bay Area Rapid Transit (BART) District
- Federal Transit Administration (FTA)
- San Francisco International Airport (SFIA)
- California Transportation Commission (CTC)
- San Mateo County Transit District (SamTrans)
- Metropolitan Transportation Commission (MTC)

BART SFO Extension Takes Off

Construction Activities

Construction of the 8.7-mile BART Extension to the San Francisco International Airport is occurring all along the alignment, most notably in South San Francisco, where a trench stretching almost one-mile long and averaging 30 feet deep and 40 feet wide has been completed for the BART subway. From this location, subway construction is advancing both north and south at a rate approaching 50 feet per day. It will reach Colma at the end of March and extend into San Bruno by the end of the year. In Millbrae, the design of the BART-Caltrain intermodal station is nearly complete and excavation work for the station foundation has begun. By late summer, the station's surface-level boarding platforms will begin taking shape.

Three of five major construction contracts are currently under way. Together, these comprise over 85 percent of the total estimated value of the BART SFO construction contracts. Construction activities from each contract are summarized below.

1. Site Preparation and Utilities Relocation

Value: \$10 million. Notice to Proceed given on August 4, 1997

- ◆ Contractor Homer J. Olsen has finished relocating a city street (Huntington Avenue) near the future San Bruno BART station, complete with the installation of landscaping, irrigation and sewer systems, storm drain and water lines, street signs and pavement markings.
- ◆ A parking lot, lighting and platform fencing have been installed at the San Bruno Caltrain Station. A new Pacific Gas & Electric Company electrical substation has been installed in South San Francisco.
- ◆ A fiber optic cable relocation project, which involves trenching and installing 3.3 miles of new conduit between San Bruno and Burlingame, is complete. Fourteen buildings have been demolished to make way for construction of the BART Millbrae station. Relocation benefits provided by the project have enabled many former tenants to purchase homes for the first time. Other site preparation activities include the removal of hazardous materials.

2. Line, Trackwork & Systems

Value: \$526 million. Notice to Proceed given on May 4, 1998.

- ◆ This design/build contract involves the construction of the entire BART main line from Colma to Burlingame and will supply the trackwork, traction power, and train control and communications systems for the entire 8.7-mile extension, including BART facilities at SFO.

BART SFO Extension Takes Off

- BART's contractor, Tutor-Saliba/Slattery, JV, has been working in South San Francisco and is about to begin work in Colma and San Bruno. Construction activities are occurring simultaneously at different locations along the alignment, including the installation of piles, trench excavation and shoring and concrete pours for the subway floor, walls and roof. These activities stretch over 3,000 feet of the alignment and are advancing at a rate of 50 feet per day. A trench stretching almost one mile long averaging 30 feet deep and 40 feet wide has been completed for the BART subway in South San Francisco.
 - ◆ 1,000 feet of subway has been completed immediately north of the South San Francisco station site. South of the station, more than 600 feet of subway has been completed.
 - ◆ The contractor has also completed seismic liquefaction mitigation at three locations along the subway alignment. The process involves drilling holes, which are filled with compacted stone. These so-called "stone columns" stabilize the surrounding soil, protecting against liquefaction in an earthquake.
3. Millbrae Station and Parking
Value: \$70.5 million. Notice to Proceed given on June 8, 1998.
- ◆ Contractor Sverdruo-Conco has completed 80 percent of the design work and begun excavation for the station foundation.
 - ◆ Prior to excavation, the contractor installed subterranean shoring alongside the east side of the Caltrain commuter rail line to prevent undermining of the railroad tracks.

BART is preparing to award two remaining design/build construction contracts later this year.

4. San Bruno Station and Parking
Bid opening scheduled for spring 1999.
- ◆ This contract is for the design and construction of BART facilities on 12 acres adjacent to a regional shopping center. It includes the subway station, a parking structure for 1,000 vehicles and off-street bus facilities. The station features a center platform with at-grade concourse for fare collection.
5. South San Francisco Station and Parking
Bid documents issued February 1999. Bid opening scheduled for summer 1999.
- ◆ This contract is for the design and construction of BART facilities on 15 acres between two major arterial streets in an area of mixed commercial and residential uses. It includes parking for 1,331 vehicles, off-street bus facilities and two new streets. The station features a center platform with an at-grade concourse fare collection and ancillary facilities.

BART SFO Extension Takes Off

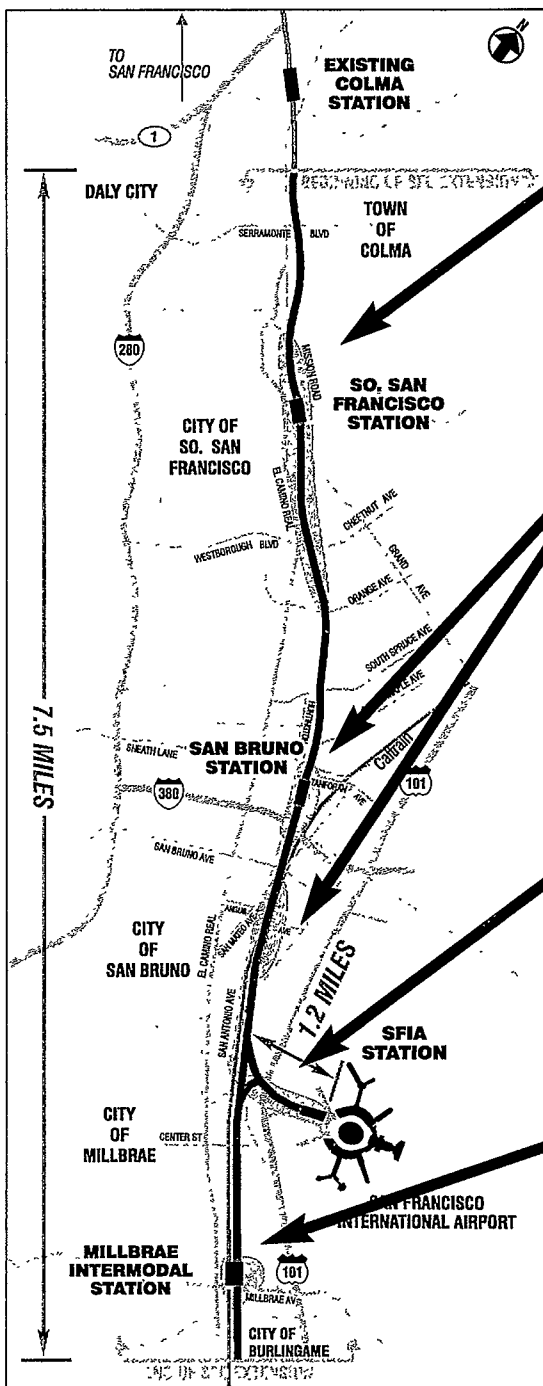
BART Airport Facilities Taking Shape

Construction of the BART Airport station, also begun last year under contracts awarded separately by SFIA, is well advanced. The foundation for the elevated station is complete and work is advancing on the superstructure. At the BART platform level, falsework has been erected, reinforcing steel placed and concrete poured. Most of the columns that will support the BART aerial guideways over and east of the Highway 101 overcrossing are complete. Road widening work has been completed and detours placed to facilitate construction of the overcrossing column in the freeway median. Column construction for the BART/AirTrain guideway has also advanced and is now 25 percent complete.

When SFIA has finished the structural work, later this year or early next year, BART will begin building the tracks and installing the train control system.



CONSTRUCTION ACTIVITIES



Contract 12YC-120: Line, Trackwork and Systems

- Subway Excavation
- Subway Construction
- Station Excavation

Contract 12YU-110: Site Prep./Utilities Relocation

- Huntington Avenue
- Caltrain shoofly (partial)
- Gas/Electric Relocation
- Lawndale Substation (So. San Francisco)
- Site Preparation (Millbrae station area)

San Francisco Airport

- Concourse H Foundation
- Concourse H Superstructure
- US Hwy.. 101 Overcrossing Support Columns
- BART/ART Guideway Columns

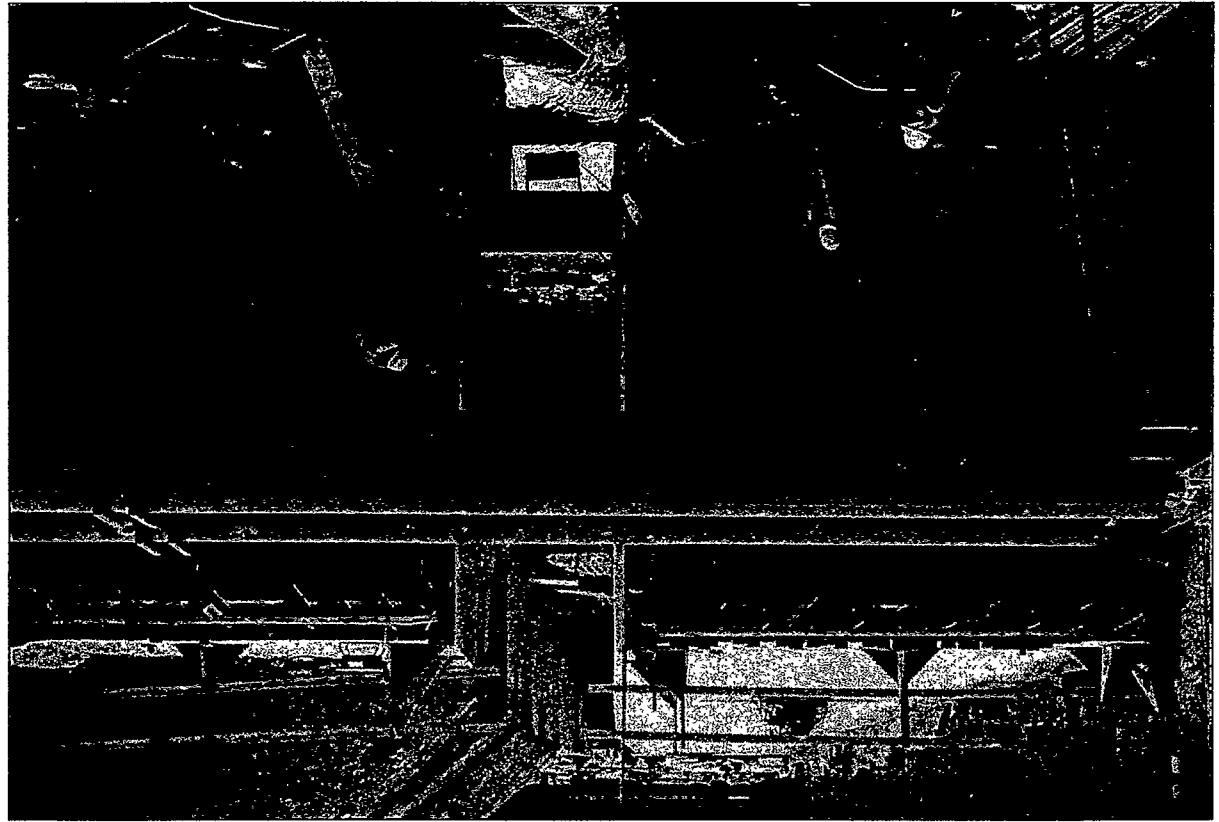
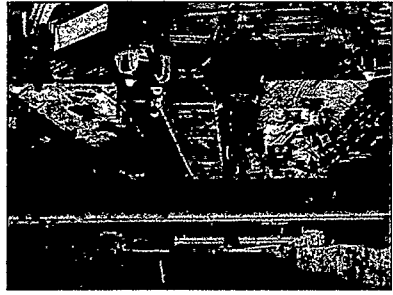
Contract 12YS-140: Millbrae Station and Parking

- Design Work
- Shoring of Caltrain tracks
- Foundation Excavation

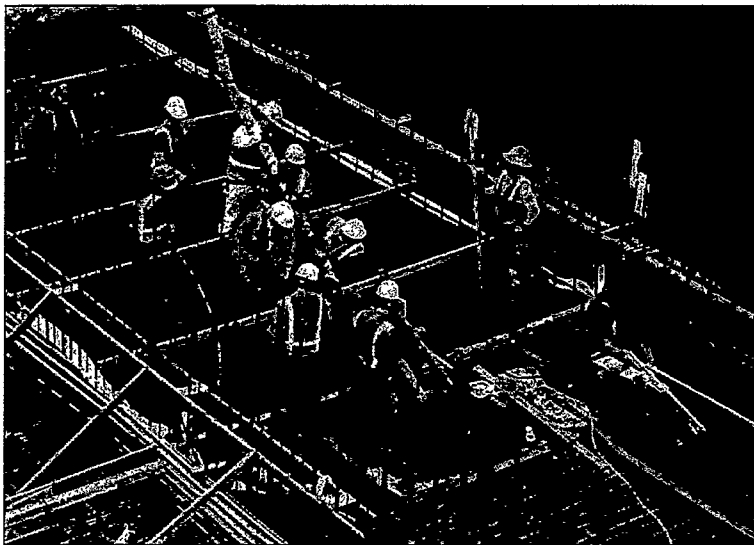
Other Activities

- Fiber Optic Cable Relocation (San Bruno to Burlingame)

Contractor Tutor-Saliba/Slatery, JV, has completed a 1,000-foot-long subway segment (above) north of the South San Francisco Station site. The same location as it appeared in December 1998 (right).

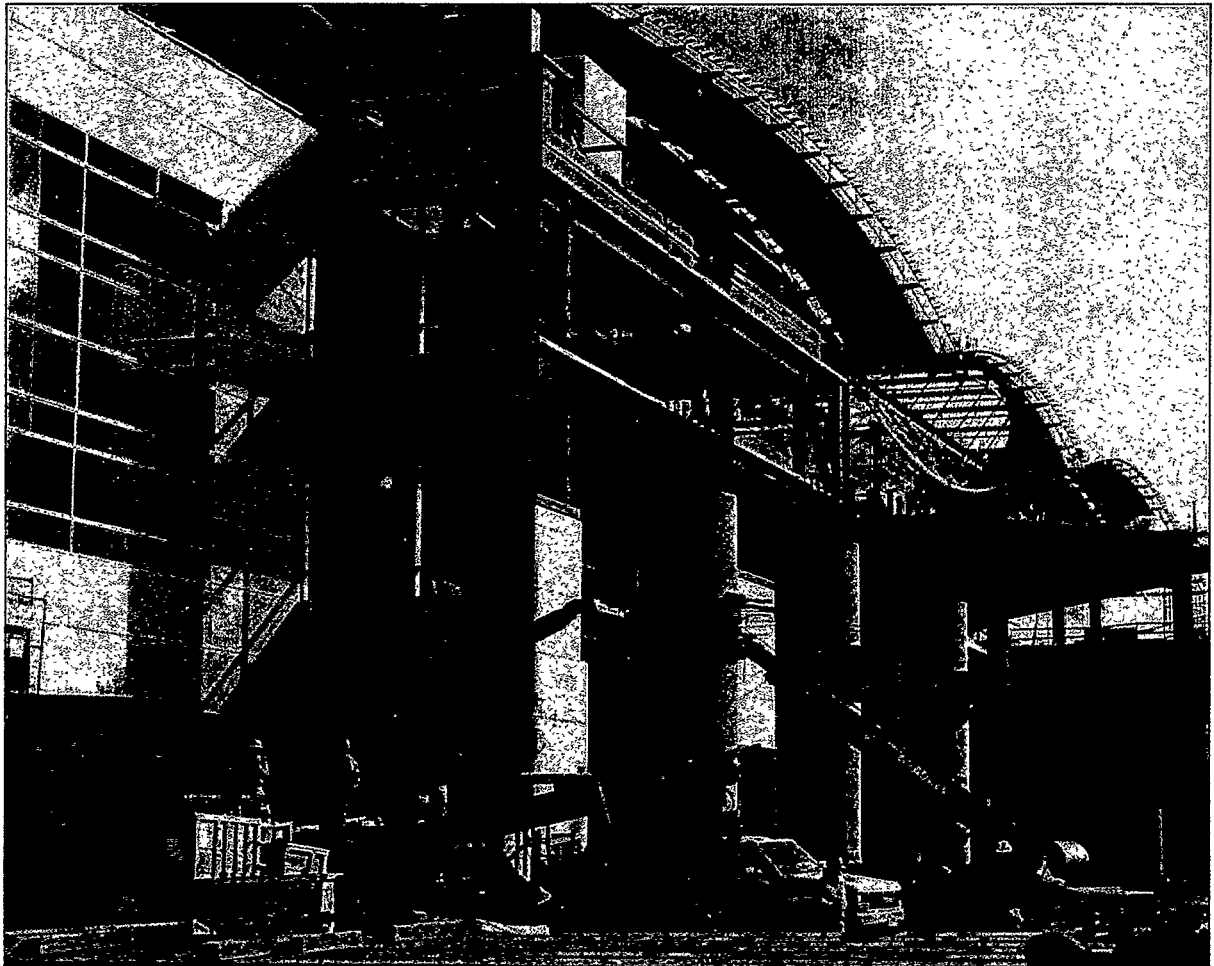


LINE, TRACKWORK AND SYSTEMS

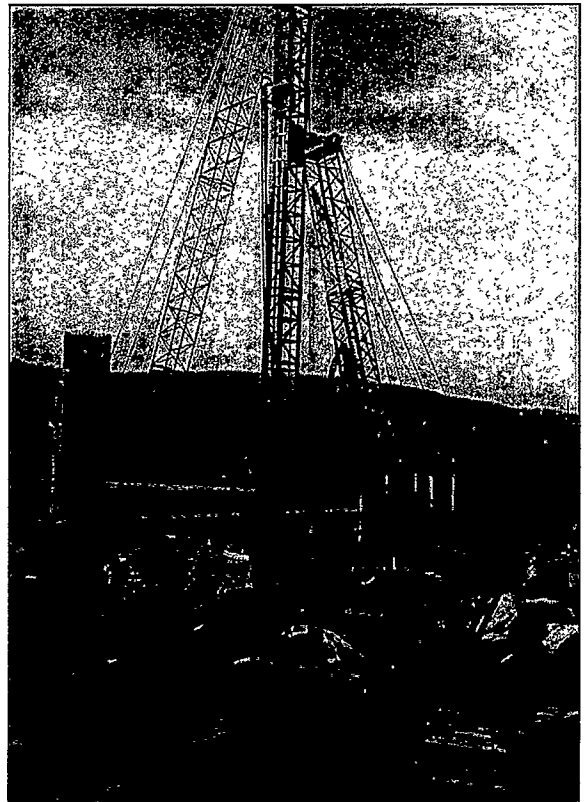
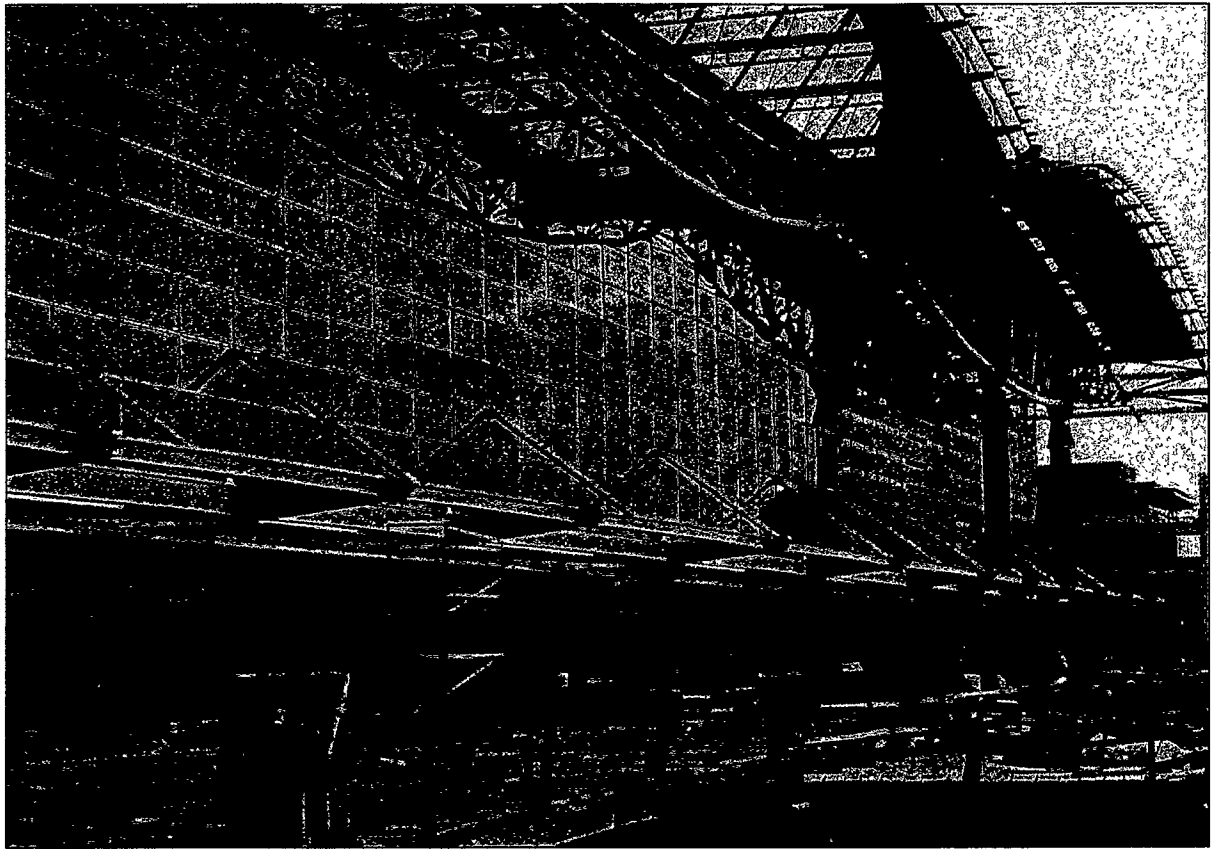


After completing a segment to the north, the contractor began work on the subway south of the South San Francisco station (above). The floor of the subway is being formed and concrete placed in 100-foot-long segments (left).

SAN FRANCISCO AIRPORT



Construction of the Link Building (above), which connects Concourse H to the Airport's New International Terminal, is well advanced. An AirTrain stop is located on the roof of the Link Building, while the BART platform is located one level below. Another view of the Link Building (left) from the superstructure of Concourse H.



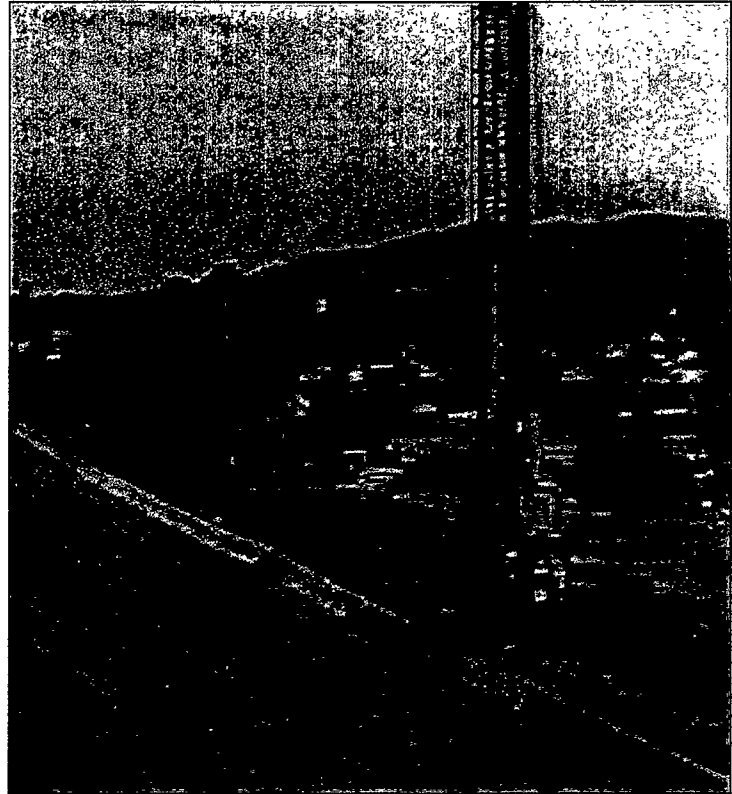
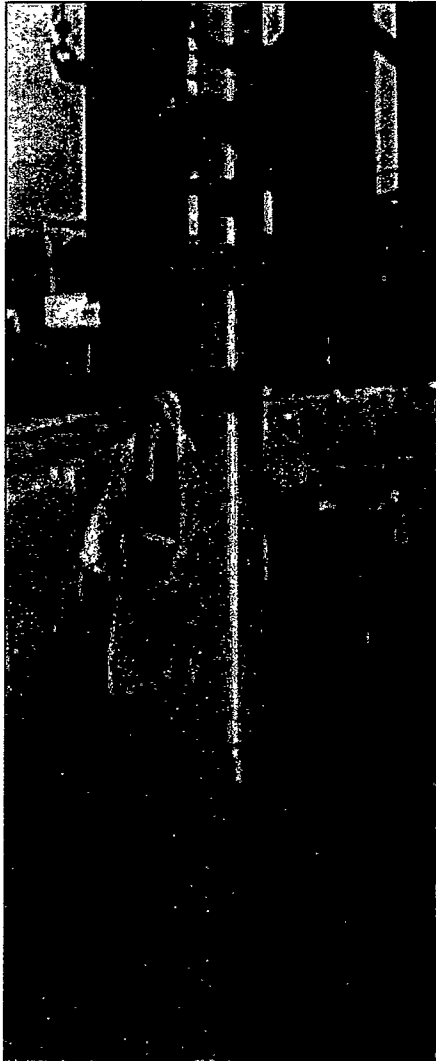
The exterior (top) and interior (above) of the Airport's new International Terminal. BART passengers will disembark within walking distance of airline ticket counters in the International Terminal and North Terminal. Drill and injector rigs (right) are being used to install cement-soil mix piles for a support column for the combined BART/AirTrain guideway.

SITE PREPARATION/ UTILITIES RELOCATION



Homer J. Olsen completed the Huntington Avenue relocation project, clearing the way for excavation of the station site at Tanforan Parking Shopping Center. Street lighting, median strip landscaping, signage and lane striping were installed and the street opened for service on February 11, 1999.

MILLBRAE STATION



Sverdrup/Conco, JV, contractor for the BART Millbrae Station, used drilling and injector rigs to install a 450-foot-long, cement-soil mix wall along the east side of the Caltrain right of way. The soil-mix wall serves as shoring to protect against undermining of the railroad tracks during excavation for the station foundation.

BART SFO Extension: Transportation for the 21st Century

Project Benefits

- A state-of-the-art rapid rail transit and airport connection, the BART SFO Extension will provide fast and convenient connections between the growing San Francisco International Airport - an international destination for trade, business, and tourism - and cities and towns on both sides of San Francisco Bay.
- 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.
- By providing an easy, reliable alternate to driving to the airport, the project will reduce regional traffic congestion, fuel consumption and air pollution. In a recent transportation study by the San Mateo County City/County Area of Governments, this project was identified as the most important congestion reducing project in the county.
- Once complete, the BART SFO Extension is expected to be the most heavily used extension in the entire regional system, carrying an estimated 70,000 passengers a day.
- The project will serve as an extraordinary economic catalyst, strengthening the region's long-range economic health by facilitating the explosion in worldwide travel and trade, employing thousands of people during construction, and fostering vast new business opportunities.
- The BART SFO Extension is a good model for advancing transit investments of national significance. The project is the cornerstone of BART's overall \$3.3 billion rail extension program, 73 percent of which is paid for by state and local funds. These funds have been leveraged by the federal commitment to the BART SFO Extension, which covers approximately 50 percent of project costs.
- Once the project is complete, the newly expanded 103.7-mile BART system will, for the first time, provide seamless, cross-platform transfers at the Millbrae intermodal terminus station for BART and Caltrain riders. 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 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 SFO Extension Supplemental Financial Plan

Construction of the BART Extension to the San Francisco International Airport is well advanced and the project is rapidly taking shape. On the financial front higher than anticipated costs and lower than expected federal appropriations have compelled the BART Board of Directors to develop a supplemental funding plan for the project. Additional funding is needed to resolve an estimated budget shortfall of \$138.5 million and an anticipated cash flow deficit of \$60 million.

To address this situation, in February, the Board approved a \$198.5 million Memorandum of Understanding (MOU) between BART and two local funding partners - the San Mateo County Transit District (SamTrans) and the Metropolitan Transportation Commission (MTC). Under the terms of the MOU, to fund the budget shortfall, BART will contribute \$50 million, SamTrans \$72 million and MTC \$16.5 million. The supplemental funding sources will be repaid using the net operating surplus expected to be generated by operating the BART SFO Extension. The \$60 million short-term cash flow loan will be advanced by MTC and repaid when all federal funds are received.

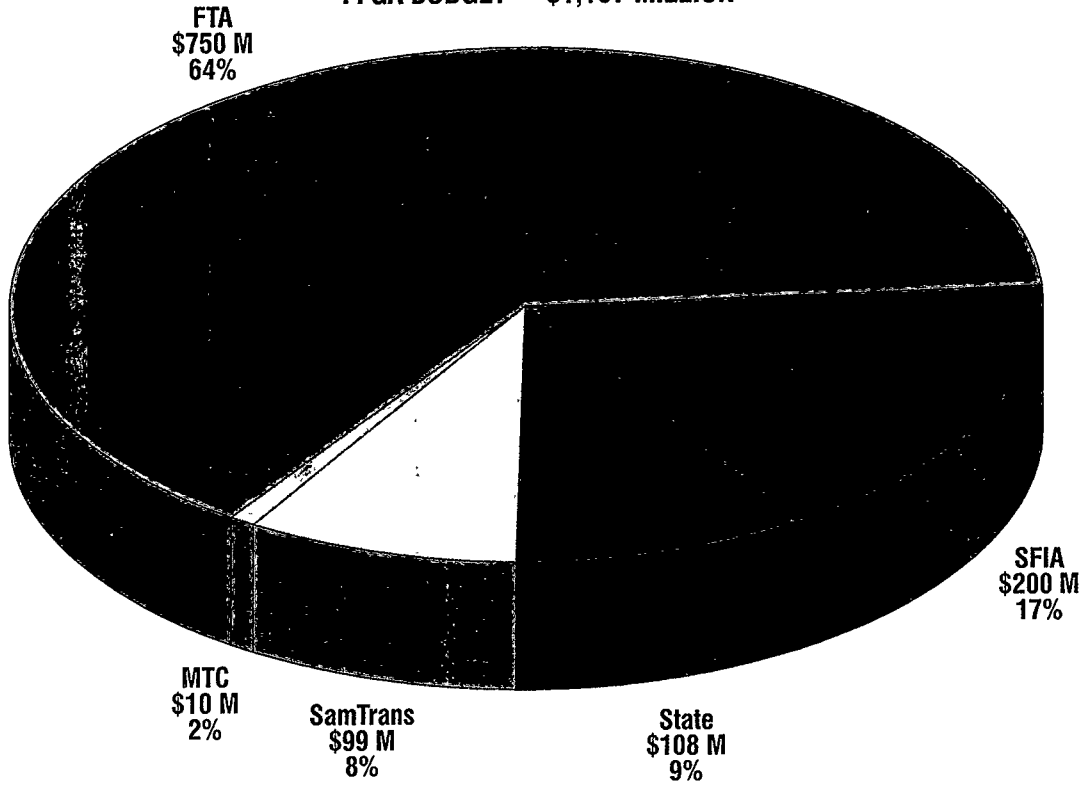
The budget for the BART SFO Extension is now estimated to be \$1.513 billion upon completion. The federal share for the project remains unchanged at \$750 million. All additional funding needs have been met using state and local funds.

Several factors related to the strong Bay Area economy contributed to the cost escalation in the project budget. Construction and real estate costs have risen, particularly during the period that BART was awaiting execution of a federal Full Funding Grant Agreement (FFGA) in late 1996 and the first half of 1997. As a result, when BART awarded the project's two major construction contracts last year - one for the Line, Trackway and Systems and another for the Millbrae Intermodal Station - we were faced with a very competitive construction market, the hottest in 25 years. The delay in receiving the FFGA during a period of record economic expansion contributed to higher than anticipated bids on construction contracts and escalated right-of-way costs.

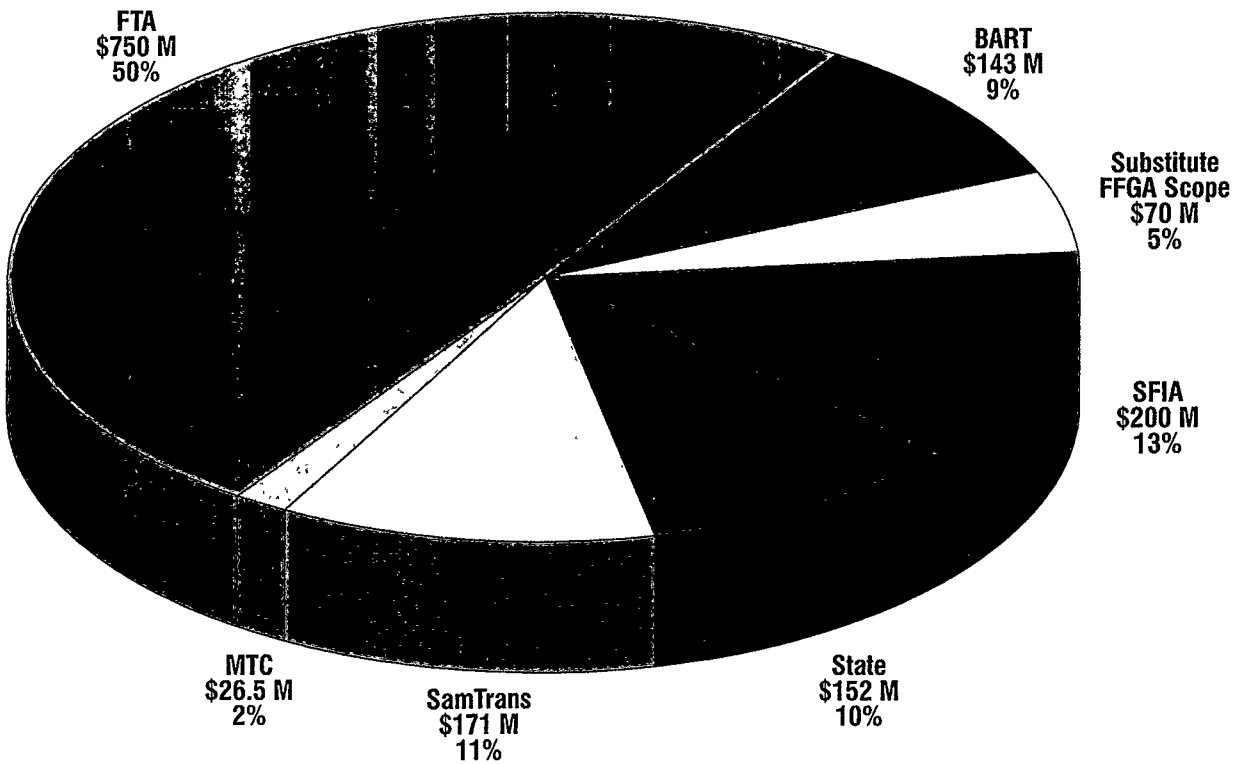
In addition, federal appropriations for the last two fiscal years have fallen \$60 million below the levels identified under the FFGA funding plan. This trend is very serious given the project's substantial cash flow needs related to a fast-paced construction schedule. The project can no longer afford to absorb such shortfalls. BART is committed to working with our Congressional delegation and our funding partners to ensure that appropriations stay on track, thereby allowing us to deliver the project as promised.

BART-SFO EXTENSION PROJECT FUNDING PROFILE

FFGA BUDGET = \$1,167 MILLION



BUDGET FORECAST = \$1,513 MILLION



Financing of the Overall BART Extensions Program

- The original 71.5-mile, three-county BART system was constructed almost entirely with state and local funds - a testament to the Bay Area's commitment to and support of investments in transit. Out of the entire BART system, the BART SFO Extension is the only construction project to receive federal funds. The federal share of the SFO project is now estimated at 50 percent of total project costs.
- Since BART's inception, there have always been plans to expand the original system to provide greater mobility throughout the San Francisco Bay Area. But despite plans, for almost two decades such activity was stalled. Too many Bay Area transit projects were competing for too little money.
- In 1988, the Bay Area reached agreement on an ambitious financing plan for extending BART and building other regional rail projects. The 1988 agreement that initiated this ambitious extensions program was created by the Metropolitan Transportation Commission (MTC) which acts as the Bay Area's metropolitan planning organization. MTC negotiated a regional agreement, known as MTC Resolution 1876, under which the region's representatives agreed to support the full program of rail projects until all were achieved. This, in turn, enabled the region to gain the support of the Bay Area Congressional delegation for the federal funding component of the program.
- Four major extensions make up the \$3.3 billion BART component of the region's rail extensions program - the cornerstone of which is the extension to San Francisco International Airport - the only federally-funded BART extension project.
- Thus, roughly 73 percent of the overall BART Extensions Program - essentially three extension projects in the East Bay - is funded by state and local sources, with approximately 27 percent derived from federal funds.
- Two of the BART East Bay extensions - funded entirely with state and local funds - are already complete and in revenue service. The final phase of the eight-mile, two-station Pittsburg/Antioch Extension in eastern Contra Costa County opened in December 1996, while the 14-mile, two-station Dublin/Pleasanton Extension in Alameda County was operational in May of 1997. A third project in southern Alameda County, the Warm Springs Extension, has been delayed by an environmental issue and a funding shortfall, but plans continue to extend BART to this region.
- Like the core system, all of the operating costs on each extension, including the BART SFO Extension, are being funded locally.

Systemwide Renovation Program Produces Results

The Systemwide Renovation Program is a comprehensive program of projects to overhaul the hardware and operational systems of the core BART system to facilitate its continued reliability at increasingly higher levels of service and to address the Americans with Disabilities Act (ADA) mandates. This 10-year, \$1.2 billion renovation program has been under way for five years now and already great strides have been made in restoring the system. Implementation of the Systemwide Renovation Program is one of BART's top priorities and as such, the District has committed a total of \$660 million toward the cost of this crucial work.

To date, 65 percent of the work is under contract and under way. Such progress would not have been possible if not for the federal programs that fund a substantial portion of this essential renovation effort, along with BART resources. Under a 1994 agreement with the Metropolitan Transportation Commission, the federal Section 5309 Fixed Guideway and the 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 federal Section 5307 Fixed Guideway program provides funding for the replacement of rail, general station and train control equipment renovation. The automatic fare collection (AFC) equipment modernization/Translink implementation project is programmed to receive Section 5309, Section 5307, Surface Transportation Program (STP) and CMAQ funds.

These important renovation programs put federal dollars to work in ways that return tangible benefits to taxpayers. 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.

The following are highlights of key components of the work in progress, supported by federal funds:

Rail Car Renovation

- The largest and most complex project is the complete restoration of the original fleet of 439 cars. Each car has logged more than one million miles - some more than two million miles. While the integrity of the car shells remains intact, the mechanical components are ready for replacement or overhaul.
- Remanufacturing extends the useful life of the cars by 20 years at less than 50 percent of the cost of purchasing new vehicles.
- Restoration of the cars is being done in nearby Pittsburg, California in what used to be an old steel plant. The project employs about 250 local residents.

Systemwide Renovation Program Produces Results

- The cars are being stripped to the shell. The interiors are being completely redone with new window glass, seating, carpets, upholstery and grab bars. Mechanical and electrical components are either completely overhauled or replaced. These components include new heating and air-conditioning systems, propulsion and brake systems, gearboxes, and shocks. The cars are also being upgraded to address ADA requirements.
- BART has already accepted 12 renovated cars and returned them to revenue service. Nine more are currently undergoing acceptance testing, while 28 cars are in various stages of renovation at the Pittsburg facility. The contractor expects to be at full production (10 cars/month) before September 1999.

Automatic Fare Collection (AFC) Equipment Modernization/Translink Implementation

- The combined effects of substantially increased usage and age have taken their toll on the original AFC equipment which now must be replaced or renovated. All ticket vendor and addfare machines will be replaced with new units with advanced functions such as credit/debit payment and Smart Card capabilities. BART has recently awarded a negotiated procurement contract that will provide the equipment necessary to replace some of the faregates and ticket vending machines. Further equipment and site preparation contracts will be advertised and awarded within the next two fiscal years.

Rail Replacement

- As train wheels grind against rail, especially on curves, the rail gradually wears away and must be replaced. This is a major, on-going effort estimated to cost \$37 million between 1997 and 2006.

Wayside Train Control System Renovation

- The electronic components and circuitry that control the speed and switching of trains was state-of-the-art when the system opened for service. But many of these critical parts are now worn, unreliable, obsolete and very costly to maintain. This project will replace components and subsystems as necessary to keep BART train control safe and reliable.

Traction Power System Renovation

- This long-term program is rehabilitating a wide range of traction power components and subsystems that are aging and deteriorating, leading to lower reliability and higher potential for service disruption. The next phase of renovation will continue to replace equipment that has reached the end of its service life and address the increasing power requirements of closer train headways.

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 three-mile, grade-separated fixed 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 fastest growing airport in California.

The project partners have begun the planning phase of the Connector Project which will be paid for with a \$3.5 million commitment of federal Surface Transportation Program (STP) funds and \$.5 million in state funds. The scope 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 an innovative design/build/operate/maintain (DBOM) technique under which the successful contractor will be responsible for final engineering, construction, operation and management 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 and 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.

Federal Grants Support Investments in Leading Edge Technologies

Advanced Automatic Train Control

In 1994, BART teamed up with the Hughes Aircraft Company to form a Regional Technology Alliance to develop an advanced train control system that will allow trains to operate at closer intervals and at higher speeds while using less energy. The \$44.3 million 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). Operational efficiencies made possible by the AATC system are needed to maintain levels of service on the existing BART system as well as to facilitate the increased ridership and service demands associated with operating the extensions.

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 early 2000. During this phase, BART will install 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.

Federal Grants Support Investments In Leading Edge Technologies

The need to increase the third rail power capacity will become more severe 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 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.

Transit-Oriented Development

Building on the success of the Fruitvale BART Transit Village Project, a federally-funded Livable Communities Initiative project in Oakland, BART continues to explore new opportunities to work in partnership with local communities on transit-oriented development (TOD) projects. TOD projects serve multiple community interests by supporting development and redevelopment activities, enhancing a community's identity and quality of life, encouraging alternatives to driving alone, increasing transit ridership, stimulating economic development and making better use of existing transportation infrastructure.

Affirming a national trend toward TOD planning, the Transportation Equity Act for the 21st Century (TEA 21) passed by Congress last year included the newly-created 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 Commission has created the Transportation for Livable Communities (TLC) program to fund community-oriented transportation projects in the nine-county Bay Area.

BART is currently expanding its station area planning efforts and is working collaboratively with several 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.

We appreciate Congress' leadership in encouraging TOD projects by creating the TCSP program. We will keep you apprised as BART moves forward in these new endeavors.

