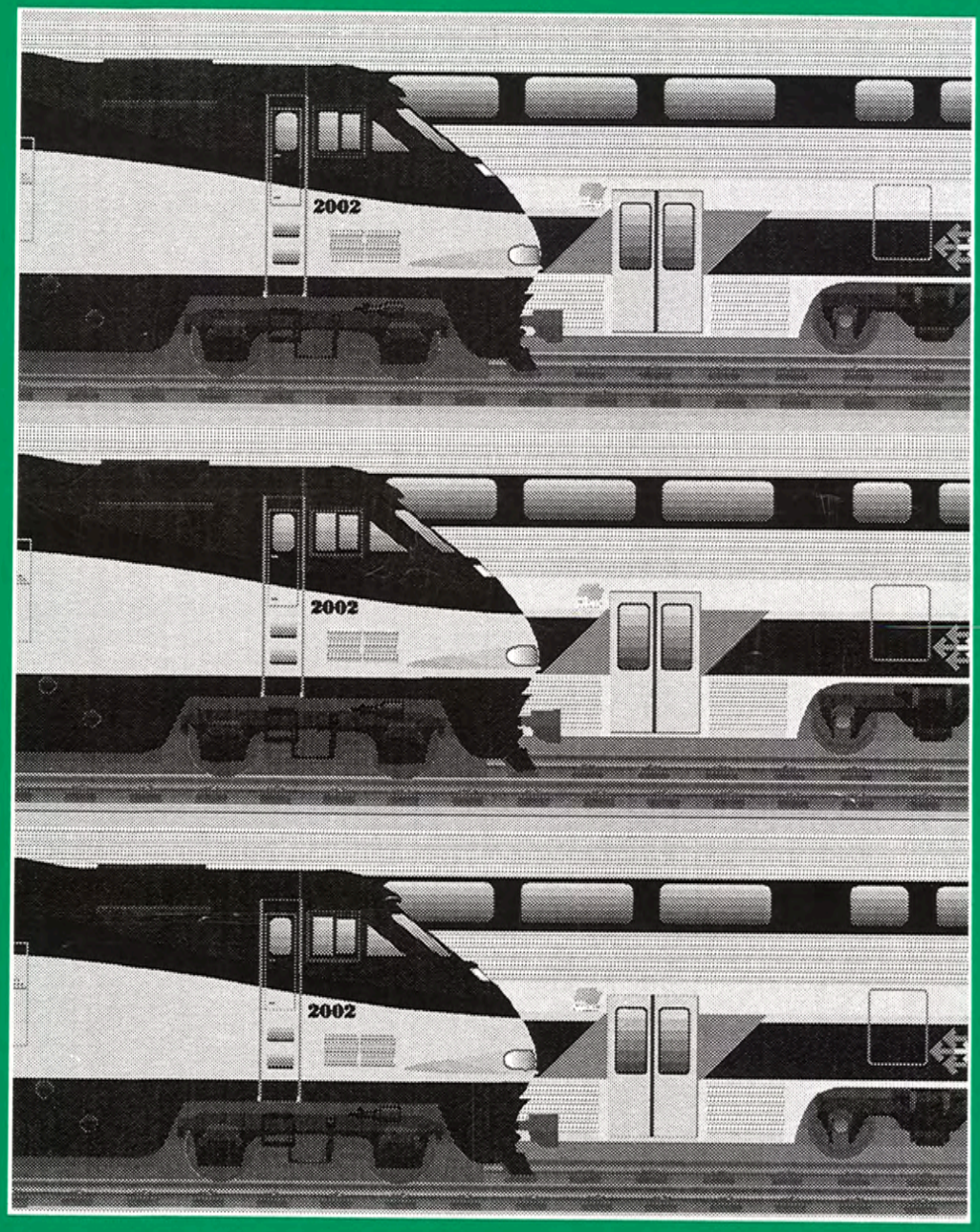
California Rail Passenger Program Report 1993/94 - 2002/03



State of California
Department of Transportation

December 1993

Caltrans

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March 1, 1994

Members, California Legislature
State Capitol
Sacramento, CA 95814

Dear Members:

This transmits the California Rail Passenger Program Report 1993/94 - 2002/03. Section 14036 of the Government Code requires the Department to produce a five-year Rail Passenger Development Plan every other year. Caltrans is producing this ten-year California Rail Passenger Program Report, which includes all of the information required by Section 14036 for the five-year plan, in order to provide an extended planning horizon for rail passenger service in California.

The Report examines passenger rail transportation in California. The Report reviews the current operations of State-supported intercity rail passenger service and outlines the Department's ten-year plan for intercity service for the period 1993/94 through 2002/03 for capital improvements and service expansions. Also, for the first time the State's rail report includes a summary of current operations and expansion programs for all forms of passenger rail: intercity, commuter and urban.

Chapter V - The State Intercity Rail Capital Program displays a ten-year program of capital improvement projects to upgrade and expand the three State-supported intercity routes. The program totals $1.2 billion, of which 77 percent has identified funding sources. Chapters XII - Commuter Rail Services and XIII - Urban Guideway Services provide detailed operations and capital program information on existing and proposed commuter and urban rail systems.

Draft copies of the Report were distributed to a number of State agencies, local public agencies - including regional transportation planning agencies, businesses - including railroads, non-profit organizations, and rail corridor agencies for review and comment. The Department responded to all comment letters received from organizations. These comment letters and the Department's responses are included in their entirety in the Report.

As required by Section 14036, this Report was presented to the California Transportation Commission for its advice and consent. In January the Commission provided advice on the Report and the upcoming 1995/96 - 2004/05 Report in a Commission Resolution. In February 1994 the Commission adopted a Resolution giving its consent to the Report. Enclosed are copies of the Resolutions.

Sincerely,

JAMES W. VAN LOBEN SELS
Director

Enclosure

OCTAVIA DIENER, Chairman
JERRY B. EPSTEIN, Vice Chairman
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February 23, 1994

Honorable Quentin Kopp, Chairman
Senate Transportation Committee
State Capitol, Room 2195
Sacramento, CA 95814

Honorable Richard Katz, Chairman
Assembly Transportation Committee
State Capitol, Room 3132
Sacramento, CA 95814

Dear Senator Kopp and Assemblyman Katz:

The California Transportation Commission is transmitting to the Legislature the 1993 Ten-Year Rail Passenger Development Program Report with the Commission's resolutions giving advice (#G-94-01) and consent (#G-94-04) (enclosures), as required by Section 14036 of the Government Code.

The ten-year report discusses intercity, commuter, and urban rail service in California, explains the California rail network and service, describes the rail and connecting bus service on various individual routes, and presents the Department's ten-year recommendations concerning the level of state-supported service on a specific route and the amount of state funding required to support this service. It also discusses rail planning, programming, and funding processes for operations and capital improvements, intercity rail feasibility studies, and high speed ground transportation and other technology improvements.

The Commission's advice resolution (#G-94-01) noted that Caltrans should include in its 1993 ten-year report explicit ten-year goals and policy objectives for the state's intercity service and similar goals for assisting the commuter and urban rail systems; explain the impact of funding shortfalls; and address the need for rehabilitation of rolling stock and capital assets.

Further, the Commission advised Caltrans to address in its upcoming 1995 ten-year report the following:

- Explain the impact on California's rail systems, if the 1994 AB 973 rail bond measure does not pass.
- Study and quantify the issue of rehabilitation of rolling stock and capital assets and examine legislative, planning, and financing mechanisms for adequate rehabilitation.
- Inventory the anticipated aggregate demand for rolling stock in California over the coming decade and beyond and the potential demand for enhancing California's economic base.
- Inventory the anticipated aggregate demand for use of railroad rights-of-way and agreements with private railroads for increased passenger rail service.
- Propose legislative and policy changes that would enable the State to financially and effectively operate and expand its intercity rail service and facilitate the development of high-speed rail service, providing those changes support the SCR 6 20-year High-Speed Intercity Ground Transportation Plan.
- Identify federal policies that need to be changed or established to develop California's high speed rail (San Diego-Los Angeles-San Francisco Bay Area-Sacramento) corridor in a manner similar to the Northeast corridor (Washington, D.C.-New York-Boston).

We appreciate the opportunity to give advice and consent on Caltrans' 1993 Ten-Year Rail Passenger Development Program Report. We intend our comments to be constructive in producing a document that identifies and addresses current and potential future issues for the Administration and the Legislature. We hope to continue, in cooperation with Caltrans and local agencies, the implementation and expansion of intercity and commuter rail service in California.

Sincerely,

OCTAVIA DIENER
Chair

Enclosures

RPASSLTR:RC:cj

CALIFORNIA TRANSPORTATION COMMISSION

Commission Advice on the Department's
10-Year Rail Passenger Program Report

Resolution G-94-01

1.1 WHEREAS the California Transportation Commission is required by Government Code Section 14036 to give its advice and consent on the Department's Rail Passenger Development Plan; and

1.2 WHEREAS the Rail Passenger Development Plan which was due in 1993 on a biennial basis was suspended by AB 2824 (Speier, 1992), as a cost saving measure, during the 1992 budget process; and

1.3 WHEREAS Caltrans has prepared the California Rail Passenger Program Report in order to update its five-year planning efforts as part of a more comprehensive 10-year report; and

1.4 WHEREAS the 10-Year Rail Passenger Program Report is complementary to the Department's 20-Year California Transportation Plan; and

1.5 WHEREAS the Commission has reviewed the Caltrans draft 1993 Rail Passenger Program Report at its August 1993 meeting, and the revised draft 1993 Rail Passenger Program Report at its December 1993 and January 1994 meetings;

2.1 NOW THEREFORE BE IT RESOLVED that the California Transportation Commission has reviewed the Department's draft 1993 10-Year Rail Passenger Program Report and under Section 14036 of the Government Code gives its advice below.

2.2 BE IT FURTHER RESOLVED that the final 1993 Rail Passenger Program Report include:

a. Explicit 10-year goals and policy objectives for the state's intercity rail service and similar goals for assisting the commuter and urban rail systems.

b. Explain how the report is interlinked and complementary to the California State Transportation Plan.

c. For state intercity rail services show all necessary resources, including local and federal contributions, for a 10-year period of operations and capital improvements and identify the potential need that Caltrans has by five-year period, rather than showing a cumulative 10-year total. Further, Caltrans should prioritize elements of the 10-year program if sufficient funds are not available.

d. Explain the impact caused by the failure of Proposition 156 on California's rail systems.

e. When proposing new or any enhanced rail services, Caltrans should develop a funding plan which identifies all financial resources necessary to fund capital improvements, rolling stock and operations of the service, as well as any estimated shortfalls from existing revenue sources.

f. Address the need to rehabilitate rolling stock and capital assets (rolling stock, tracks, stations, signals, etc.) both for urban/commuter and for intercity rail services, over the next 10 years due to life-cycle requirements and the estimated costs, as well as potential funding services.

g. All charts and sections in the plan should reflect the entire 10-year period.

2.3 BE IT FURTHER RESOLVED that the 1995 10-year (1995/96-2004/05) report make the following changes:

a. Explain how the report implements and is complementary to the 1993 California State Transportation Plan.

b. If the 1994 AB 973 rail bond measure does not pass, explain the impact on California's rail systems, including but not limited to the Intercity Rail program.

c. Explain the interrelationship of freight and people movement on the routes that have intercity service and how Caltrans/Amtrak coordinates its intercity service with rail operators to enhance train schedules, reduced transit times, and increased sources.

d. Study further and quantify the issue of rehabilitation of rolling stock and capital assets (tracks, stations, signals, etc.) and further examine legislative, planning and financing mechanisms for adequate rehabilitation.

e. Inventory the anticipated aggregate demand for rolling stock in California over the coming decade and beyond and the potential of that demand for enhancing California's economic base (e.g., design, manufacturing, and assembly).

f. Discuss the need to obtain greater efficiencies/productivity to meet increased demand, the development of more accurate productivity measurements, in addition to "farebox return," and possible means of increasing "farebox return" (e.g., new, higher-cost first class services with more amenities).

g. Inventory the anticipated aggregate demand for use of railroad rights-of-way and agreements with private railroads for increased passenger rail service.

2.4 BE IT FURTHER RESOLVED that the 1995 10-year (1995/96/2004/05) report include recommendations by Caltrans:

a. Proposing how to link the various rail systems together and the other parts of the transportation system to form a "seamless" intermodal transportation system.

b. Proposing legislative and policy changes that would enable the state to financially and effectively operate and expand its intercity rail service and facilitate the development of high-speed rail service, providing those changes support the SCR 6 20-year High-Speed Intercity Ground Transportation Plan to be completed by July 1, 1995.

c. Identifying federal policies that need to be changed or established to develop California's high speed rail corridor in a manner similar to the Northeast corridor.

2.5 BE IT FURTHER RESOLVED that Resolution G-94-01 will be transmitted to the Legislature, the Governor, and the Public Utilities Commission in connection with the 1993 10-Year Rail Passenger Program Report and is included in the final report that is transmitted to all parties.

RC-18/cv

CALIFORNIA TRANSPORTATION COMMISSION

Commission Consent on the Department's
10-Year Rail Passenger Program Report

Resolution G-94-04

1.1 WHEREAS the California Transportation Commission is required by Government Code Section 14036 to give its consent on the Department's Rail Passenger Development Plan; and

1.2 WHEREAS the Rail Passenger Development Plan which was due in 1993 on a biennial basis was suspended by AB 2824 (Speier, 1992), as a cost saving measure, during the 1992 budget process; and

1.3 WHEREAS Caltrans has prepared the California Rail Passenger Program Report in order to update its five-year planning efforts as part of a more comprehensive 10-year report; and

1.4 WHEREAS the 10-Year Rail Passenger Program Report is complementary to the Department's 20-Year California Transportation Plan; and

1.5 WHEREAS the Commission has reviewed the Caltrans draft 1993 Rail Passenger Program Report at its September 1993 meeting, and the revised draft 1993 Rail Passenger Program Report at its December 1993 and January 1994 meetings; and

1.6 WHEREAS the Commission has reviewed the Department's draft 1993 10-Year Rail Passenger Program Report and in January 1994 provided its advice (G-94-01) to the Department as specified under Section 14036 of the Government Code; and

1.7 WHEREAS the Commission identified, prior to giving its consent, that the draft 1993 10-Year Rail Passenger Program Report should include an evaluation and identification of the number of daily feeder bus runs, if any, that failed to carry even one passenger.

2.1 NOW THEREFORE BE IT RESOLVED that the Commission's advice in Resolution G-94-01 be incorporated and responded to, as agreed to by the Department, in the Department's final 1993 10-Year Rail Passenger Program Report or, if more time is needed to address the Commission's advice, in the upcoming 1995 10-Year Rail Passenger Program Report; and

2.2 BE IT FURTHER RESOLVED that Commission's advice also includes that the draft 1993 10- Year Rail Passenger Program Report shall evaluate and identify the number of daily feeder bus runs, if any, that failed to carry even one passenger; and

2.3 BE IT FURTHER RESOLVED that Resolution G-94-04 be transmitted to the Legislature, the Governor, and the Public Utilities Commission in connection with the 1993 10-Year Rail Passenger Program Report and is included in the final report that is transmitted to all parties; and

2.4 BE IT FURTHER RESOLVED that the California Transportation Commission has reviewed the Department's draft 1993 10-Year Rail Passenger Program Report and under Section 14036 of the Government Code gives its consent, and.

2.5 BE IT FURTHER RESOLVED that the Commission supports in the final 1993 10-year report, providing funding is available and the service is justified:

a. For existing LOSSAN (San Diegan) service and over the 10-year period:

-- adding five additional round trips between Los Angeles and San Diego, thereby increasing service from nine to 14 trains;

-- adding two additional round trips between Los Angeles and Santa Barbara, thereby increasing service from two to four trains;

-- increasing maximum speeds up to 110 mph where allowable; and

-- extending one daily round trip from San Diego-Los Angeles to San Luis Obispo.

b. For the existing San Joaquin intercity service and over the 10-year period:

-- increasing service from four to six round trips;

-- increasing maximum speeds up to 110 mph where allowable;

-- extending train service to Sacramento, San Jose, and to Los Angeles; and

-- providing additional amenities, such as checked baggage service and custom class service.

c. For the Auburn-Sacramento-San Jose Capitol intercity service and over the 10-year period:

-- increasing service from three to ten trains per day with some additional trips potentially being extended beyond Sacramento to Placer County (Colfax) with the necessary capital improvements; and

-- increasing maximum speeds up to 110 mph where allowable.

California

Rail Passenger Program Report

1993/94 Through 2002/03

December 1993

State of California

Department of Transportation

Division of Rail

DOR 2

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Executive Summary

CHAPTER ONE - INTRODUCTION

This "California Rail Passenger Program Report" is an examination of passenger rail transportation in California. The Report reviews the current operations of State-supported intercity rail passenger service and outlines ten-year plans for the period 1993/1994 through 2002/2003 for capital improvements and service expansions. For the first time, the State's rail report includes a summary of current operations and expansion programs for all forms of passenger rail: intercity, commuter and urban.

This Chapter discusses the transportation revolution, the California Department of Transportation (Caltrans) transportation vision and the California Transportation Plan. The Chapter then presents major issues, policies and strategies Caltrans has developed for the State passenger rail system. Issues are presented for the following areas: adequate funding, coordination of rail systems, passenger acceptance of rail, high-speed rail, rail's role in revitalizing the California economy, cost of clean air requirements, cost of access for the disabled and rail right-of-way purchases. Policies and strategies address major issues facing the State passenger rail system. Finally, the public review process of the Report and State and local rail planning documents are discussed.

CHAPTER TWO - THE CALIFORNIA RAIL NETWORK

California's intercity rail passenger services include six Amtrak basic system routes and three Amtrak State-supported routes. There are two commuter rail systems in the State, one in the Los Angeles area and one in the San Francisco Bay Area. There are eight urban rail systems in four different metropolitan areas of the State: San Diego, Los Angeles, San Francisco Bay Area (including San Jose) and Sacramento.

Intercity rail passenger service is planned and administered at the State level, while urban and commuter rail services are planned and administered by local and regional agencies. Freight services are primarily the responsibility of private railroads.

CHAPTER THREE - RAIL PLANNING, PROGRAMMING AND FUNDING PROCESS

Rail planning is done at the State, regional and federal levels. The principal document that includes regional rail planning is the Regional Transportation Plan (RTP). The principal federal document is the Long Range Transportation Plan (LRTP). At the State level, Caltrans produces this Rail Passenger Program Report.

Rail programming is also done at the State, regional and federal levels. Regional agencies develop Regional Transportation Improvement Programs (RTIP). The State has three principal programming documents that include rail: the Proposed State

Transportation Improvement Program (PSTIP), the State Transportation Improvement Program (STIP) and the Transit Capital Improvement (TCI) Program. The Federal Statewide Transportation Improvement Program (FSTIP) is prepared by Caltrans.

A number of State, local and federal funding sources exist for rail. State sources include State rail bonds (such as Propositions 108 and 116), the Transportation, Planning & Development Account and the State Highway Account. The primary local sources are the Local Transportation Fund and local sales taxes. Federal sources include Amtrak funds, Intermodal Surface Transportation Efficiency Act of 1991 funds and Federal Transit Administration grants.

CHAPTER FOUR - THE STATE INTERCITY RAIL OPERATIONS PROGRAM

Through the provisions of Section 403(b) of the Amtrak Act, Caltrans contracts with Amtrak for intercity rail passenger services in three corridors: Santa Barbara-Los Angeles-San Diego, Oakland-Bakersfield and Roseville/Sacramento-San Jose. These are the *San Diegan, San Joaquin* and *Capitol* Routes. Caltrans and Amtrak share in the operating responsibilities of the State-supported services. Caltrans pays approximately two-thirds of the net operating costs.

For planning purposes, Caltrans has projected the year of the following train service expansions for its three routes. The year is the first full year of service, although actual startup date may occur during the prior year.

(1994/95) Extension of a third *San Diegan* to Santa Barbara.

(1994/95) Extension of *San Joaquin* Route to Sacramento.

(1995/96) Fifth State-supported *San Diegan* between Los Angeles and San Diego.

(1995/96) Extension of one *San Diegan* to San Luis Obispo (incorporates extension of the fourth *San Diegan* to Santa Barbara).

(1995/96) Fifth and sixth *San Joaquins* between Oakland and Bakersfield.

(1995/96) Fourth through sixth *Capitols* between San Jose and Sacramento.

(1995/96) Extension of additional *Capitol* Route service to Colfax.

(1996/97) Extension of *San Joaquin* Route to Los Angeles.

(1998/99) Seventh through tenth *Capitols* between San Jose and Sacramento.

(1999/00) Sixth State-supported *San Diegan* from San Diego to Los Angeles.

(2002/03) Seventh State-supported *San Diegan* between Los Angeles and San Diego.

CHAPTER FIVE - THE STATE INTERCITY RAIL CAPITAL PROGRAM

The Intercity Rail Capital Program (IRCP) is a 10-year program of capital improvement projects to upgrade the three State-supported intercity routes. The program totals $1.2 billion, of which 77 percent has identified funding sources.

Projects totaling $289 million are listed for the *San Diegan* Route, projects totaling $320 million are listed for the *San Joaquin* Route and projects for $180 million are listed for the *Capitol* Route. Additionally, $408 million in rolling stock and maintenance facilities are listed. The summary of the IRCP lists costs by project improvement category and route. The project categories are track, signals, stations and rolling stock, including maintenance facilities.

On February 20, 1992, a $153.6 million contract for the California Car was awarded for the manufacture of 41 intercity cars to be used on State-supported Amtrak services and 47 commuter cars to be used in Southern California and on the Peninsula Commute Service in the San Francisco Bay Area. Additionally, in November 1993, the CTC approved an allocation of $87.9 million to fund an additional 25 intercity cars and other California Car related project elements. Caltrans was responsible for overseeing the design of the cars in accordance with requirements in Proposition 116 and is monitoring the cars' construction. Delivery of the cars is scheduled to begin in Fall 1994.

CHAPTER SIX - THE *SAN DIEGANS*

The *San Diegan* Route presently extends 232 rail miles between Santa Barbara, Los Angeles and San Diego. It is served by nine round trips per day between San Diego and Los Angeles with two trains extending to Santa Barbara. (Extension of service to San Luis Obispo is planned to begin in 1995.) Five round trips between Los Angeles and San Diego are Amtrak basic system trains. The remaining trains are State-supported.

The revenue/cost (farebox) ratio for all State-supported trains on the route has increased from 50.8 percent in 1978/79 (the first full year with State-supported trains) to 103.3 percent in 1992/93. Ridership for the whole route increased from 967,316 in 1978/79 to 1,795,114 in 1992/93.

Following is a summary of Caltrans *San Diegan* Route train service continuance and improvement recommendations for implementation over the ten-year period of this Report. Demonstrated ridership demand, institutional barriers, availability of funding and equipment and technical problems outside the control of Caltrans will affect when each of the improvements can be implemented.

- The State should continue to provide funding for the operation of the four existing State-supported *San Diegan* round trips between Los Angeles and San Diego and two round trips between Los Angeles and Santa Barbara, including their feeder bus network.
- Five additional *San Diegan* Route round trips should be added between Los Angeles and San Diego, thereby increasing service from nine to fourteen trains. (Three of these five round trips would be State-supported.)

- Two additional *San Diegan* Route trains should be added between Los Angeles and Santa Barbara, thereby increasing service from two to four trains.
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- One *San Diegan* round trip should be extended to San Luis Obispo (this extension incorporates one of the additional frequencies between Los Angeles and Santa Barbara referred to above).

CHAPTER SEVEN - THE *SAN JOAQUINS*

The *San Joaquin* Route presently extends 312 rail miles between Bakersfield and Oakland and is served by four round trips per day. All four of the trains are State-supported.

The revenue/cost (farebox) ratio has improved from 29.5 percent in 1979/80 to 56.8 percent in 1992/93. Ridership has nearly quadrupled, reaching a total of 516,112 in 1992/93.

Following is a summary of Caltrans *San Joaquin* Route train service continuance and improvement recommendations for implementation over the ten-year period of this Report. Demonstrated ridership demand, institutional barriers, availability of funding and equipment and technical problems outside the control of Caltrans will affect when each of the improvements can be implemented.

- The State should continue to provide funding support for the operation of the four existing *San Joaquin* train round trips, including their feeder bus network.
- Two additional *San Joaquin* round trip trains should be added when new California Cars become available, thereby increasing service from four to six trains. Frequencies above six will depend upon demonstrated ridership response to increased service, availability of funds and the potential for new high speed service to the Valley.
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- *San Joaquin* train service should be extended to Sacramento.
- Direct *San Joaquin* train service should be provided to Southern California by extending Trains 710 and 711 overnight between Bakersfield and Los Angeles.
- *San Joaquin* train service should be extended to San Jose in conjunction with the opening of a new maintenance facility in the South Bay.

- Checked baggage service will be provided once necessary station modifications are made and baggage handling equipment is provided.
- Custom class service should be provided once new California Car equipment is available.

CHAPTER EIGHT - THE *CAPITOLS*

The *Capitol* Route, extending 152 rail miles from San Jose to Roseville, is served by three round trips per day between San Jose and Sacramento, with one train extending to Roseville. All three of the trains are State-supported.

The revenue/cost (farebox) ratio for the *Capitols* was 35.6 percent in 1992/93 and ridership was 238,785.

Following is a summary of the Caltrans *Capitol* Route train service continuance and improvement recommendations for implementation over the ten-year period of this Report. Demonstrated ridership demand, institutional barriers, availability of funding and equipment, or technical problems outside the control of Caltrans will affect when each of the improvements can be implemented.

- The State should continue to provide funding support for the operation of the three existing Capitol round trips between Sacramento and San Jose (and the one existing round trip extended to Roseville) including their feeder bus network.
- Seven additional *Capitol* Route round trips should be added between Sacramento and San Jose, thereby increasing service from three to ten trains (certain additional trips may be extended beyond Sacramento to Placer County points).
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- *Capitol* Route service should be extended to Colfax, subject to the availability of funding to implement necessary capital improvements.

CHAPTER NINE - CONNECTING BUS SERVICES

Since 1980, Caltrans has developed an extensive network of connecting bus routes to increase the accessibility of the State supported train services. Caltrans contracts with Amtrak for the provision of these bus services and Amtrak then contracts with bus operators. In some cases the buses restore service to markets that had been served prior to Amtrak's formation; in other cases, the buses tap entirely new markets. Also, bus routes serve as a test of potential ridership for proposed rail services.

This Chapter includes an economic evaluation of the feeder bus network on all routes for 1991/92 and 1992/93. In 1992/93 net generated revenue was $3.1 million and 390,000 passengers used the feeder bus service.

CHAPTER TEN - INTERCITY RAIL FEASIBILITY STUDIES

This Chapter describes five intercity rail feasibility studies that are currently in progress or recently completed. The studies are:

- Los Angeles-Coachella Valley-Calexico Route.
- San Francisco-Los Angeles Coast Route.
- San Francisco-Monterey Corridor.
- Sacramento-Tahoe-Reno Intercity Rail Study.
- San Francisco Bay Area-Eureka Corridor.

This Chapter discusses two other potential studies.

CHAPTER ELEVEN - COMMUTER AND URBAN RAIL FINANCIAL ISSUES

Urban and commuter rail agencies are facing and will continue to face a number of long range financial challenges over the ten-year period of this Report. These challenges revolve around coping with decreased revenues and increased costs. Transit agencies have four main sources of revenues: (1) sales tax dedicated to transportation, including Local Transportation Fund revenues generated by a statewide 1/4 percent sales tax and locally enacted sales tax, (2) passenger fares, (3) other local funds, including general funds and (4) federal funds. In general, all of these sources, except for passenger fares, are not increasing at the rate previously expected or are decreasing.

On the other hand, operating costs are increasing. Three reasons for these increases are: (1) the expansion of transit systems and the rail component of the transit system in particular, in large part due to capital funding for expansions from State Propositions 108 and 116, (2) costs of complying with State and federal Clean Air Acts and (3) costs of complying with the federal Americans with Disabilities Act.

In the 1990's California transit agencies and their funding partners face critical challenges in balancing decreasing revenues and increasing costs so that transit service is not adversely affected and expansion of the transit system can continue.

To ensure effective solutions, these challenges must be examined in the context of statewide transportation funding strategies. Caltrans has addressed this issue in the California Transportation Plan submitted to the Governor in December 1993.

CHAPTER TWELVE - COMMUTER RAIL SERVICES

This Chapter provides factual information on existing commuter rail systems and a status report on proposed new systems. This information is included in this Report to provide comprehensive coverage of all rail passenger services in California.

Currently two commuter rail services are in operation in California: Metrolink (including Orange County Commuter Rail) which currently operates five routes between Los Angeles and outlying areas and the Peninsula Commute Service which runs between San Francisco, San Jose and Gilroy.

Other proposed commuter rail services are the subject of feasibility studies which are in progress or completed or are in later stages of planning. These services listed from south to north, are:

- Oceanside-San Diego/Escondido Commuter Rail
- Altamont Pass Commuter Rail
- San Francisco Bay Area Proposed Commuter Rail Lines
- Davis-Woodland Rail Study
- Placer County-Sacramento-Davis

CHAPTER THIRTEEN - URBAN GUIDEWAY SERVICES

This Chapter provides factual information on existing urban rail systems and a status report on proposed new systems. This information is included in this Report to provide comprehensive coverage of all rail passenger services in California.

Currently the following urban guideway services are in operation. These services listed from south to north are:

- San Diego Trolley
- Los Angeles Area Urban Rail
- Santa Clara County Light Rail
- San Francisco Municipal Railway (Muni) - including Muni Metro, cable car and trolley bus
- Bay Area Rapid Transit (BART)
- Sacramento Light Rail

Additionally, the Alameda-Contra Costa Transit District is currently studying light rail and electric trolley bus alignments. The Santa Cruz County Regional Transportation Commission is studying the Watsonville Junction-Santa Cruz-UC Santa Cruz corridor.

CHAPTER FOURTEEN - HIGH SPEED GROUND TRANSPORTATION AND OTHER TECHNOLOGY IMPROVEMENTS

High speed rail, where trains are operated at speeds up to 150 mph, is distinguished from ultra high speed rail and magnetic levitation, with train speeds greater than 150 mph. In the United States, only Amtrak's electrified trains in the Northeast Corridor reach speeds as high as 125 mph. Ultra high speed rail systems are operated in Japan, France, Germany and Spain.

Electrification can be an important consideration in reaching speeds greater than 125 mph and reducing locomotive emissions. Consequently, the Southern California Regional Rail Authority and Caltrans have studied rail electrification for the Los Angeles Basin and the Peninsula Commute Service. Additionally, natural gas as an alternative fuel and improvements in diesel locomotive technology show promise as a cost-effective means of reducing locomotive emissions. Caltrans has conducted research on natural gas powered locomotives.

Caltrans high speed ground transportation program, currently under development, includes increasing speeds on its existing State-supported routes to up to 110 mph, where the track configuration and operational constraints allow.

SCR 6, passed by the Legislature in July 1993, requires preparation of a 20-year High-Speed Intercity Ground Transportation Plan. The Plan will be prepared by Caltrans under the direction of the Intercity High-Speed Ground Transportation Commission, created by SCR 6. The Commission's first meeting was held on December 10, 1993. The 20-year Plan, to be issued by December 31, 1995, will include both financing and operations plans and will concentrate on the Los Angeles to San Francisco Bay Area corridor. The Budget Act of 1993 provides $4.275 million to implement the provisions of SCR 6.

Proposition 116 provided up to $5 million for a preliminary engineering and feasibility study of high speed ground transportation service between Los Angeles and Bakersfield. This Study is underway, with completion due by October 1994.

Chapter I - Introduction

This "California Rail Passenger Program Report" is an examination of passenger rail transportation in California. The Report reviews the current operations of State-supported intercity rail passenger service and outlines ten-year plans for the period 1993/1994 through 2002/2003 for capital improvements and service expansions. For the first time the State's rail report includes a summary of current operations and expansion programs for all forms of passenger rail: intercity, commuter and urban.

This Report emphasizes the coordination of passenger rail in California. By publishing information on current operations and ten-year expansion programs for intercity, commuter and urban rail, State and local entities will have comprehensive information in one document to aid in the planning and coordination of systems. Additionally, this Report is intended to serve as a statewide resource guide on rail passenger services. For example, Chapter III - Rail Planning, Programming and Funding Process provides a summary of State, local and federal components of the rail planning and programming process and all available funding sources for passenger rail in California. Similarly, Chapter XIV - High Speed Ground Transportation and Other Technology Improvements provides a summary of statewide high speed ground transportation efforts.

This Chapter discusses the transportation revolution, the California Department of Transportation (Caltrans) transportation vision and the California Transportation Plan. Then follows a discussion on major issues facing the State passenger rail system and Caltrans rail policies and strategies. Finally, the public review process and State and local rail planning documents are discussed.

TRANSPORTATION REVOLUTION

Over the last decade a revolution has taken place at the State, local and federal levels in the areas of transportation planning, programming and funding. It is now generally recognized that a number of integrated modes are necessary for an effective transportation system and that the transportation system has a significant impact on air quality, energy and land use issues. The greatly increased interest in rail in California is an indication of this revolution.

The State's 1989 transportation "Blueprint Legislation", a five-bill package, establishes a 10-year plan for providing an additional $18.5 billion in revenues for transportation projects. This legislation stresses intermodal flexibility in transportation planning, programming and funding and encourages better coordination between land use and transportation decisions. At the federal level, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) introduces a similar flexibility to federal transportation programming and funding and stresses the inter-agency cooperation of transportation system planners and operators.

The 1990 amendments to the federal Clean Air Act stress that transportation systems have significant impact on air quality. In general terms, the Act requires the transportation system in a region to "conform" to federal air quality requirements. This means State, local and federal transportation planners must work together to ensure air quality standards are met.

Greatly expanded funding for rail is provided by the "Blueprint Legislation". It includes $3 billion in general obligation rail bonds subject to approval by the voters, $1 billion at a time, in 1990, 1992 and 1994. In 1990, the first $1 billion in rail bonds (Proposition 108) was approved by the voters indicating public support for rail. However, Proposition 156, the second $1 billion in rail bonds, was narrowly rejected by the voters in 1992, possibly more a reflection of the public's response to a recessionary economy than diminished public support for rail. In 1994 the voters will decide on the final $1 billion in rail bonds.

Additional funding for rail was provided in 1990 from Proposition 116, a rail bond measure that was brought to the voters through the initiative process, rather than through the Legislative process. This measure contains almost $2 billion in general obligation rail bonds.

CALTRANS TRANSPORTATION VISION

Even before the recent State and federal transportation legislation was enacted, Caltrans and the transportation community commenced early in 1989 to develop a visionary policy to address transportation mobility in 2010. These goals and strategies were published in January 1991 in "California Transportation Directions - Mobility for 2010". This document "presents a challenge to Californians to seize the opportunity to improve air quality, conserve energy and upgrade our quality of life through better mobility".

Caltrans further refined this work with the December 1992 publication of "Caltrans Transportation Vision for California". Caltrans worked with the transportation community including local transportation agencies in developing the "Caltrans Transportation Vision for California" by sponsoring policy conferences on the development of Caltrans Directions Statements. These Direction Statements formed the basis of the vision publication.

This document cites Caltrans purpose, mission, vision, goals and values. Caltrans vision is to accommodate California's increased population "in terms of its mobility needs, while reducing congestion, improving air quality and conserving energy. The State's transportation system is a balanced, integrated, multimodal network". Streets, roads and highways are to be complemented "...by a fully developed rail service serving urban, commuter, and intercity passenger needs, including high speed rail links among major urban centers, as well as a healthy freight rail industry."

CALIFORNIA TRANSPORTATION PLAN

Caltrans vision for transportation in California is further enhanced in the California Transportation Plan (CTP). The final draft CTP was submitted to the Governor in December 1993 for review and approval. Caltrans expects the Plan to be returned in early March 1994. At that time another opportunity will be given for comments from the public. Subsequently, it will be revised and transmitted to the U.S. Department of Transportation by January 1, 1995. The CTP is required by ISTEA and State statutes. The Governor's Executive Order W-36-92 asks Caltrans to prepare the Plan in cooperation with other State and local agencies.

The CTP includes a review of California and its transportation system, three policies and related objectives, strategies and actions for California's future transportation system and recommendations for major State initiatives. The introduction to the CTP states "the CTP envisions a 'road map to the future' that includes many types of transportation, from roadway lanes to sea lanes, from trains to transit, walkways to bike paths."

The three CTP policies are as follows:

(1) "Transportation decisions will promote the economic vitality of California by providing for flexibility in choice and mobility of people, goods, services and information."
(2) "Transportation decisions will provide all Californians with a safe, convenient, reliable transportation system."
(3) "Transportation decisions will protect the environment and promote energy efficiency while improving mobility."

Following each policy are a number of actions. Many actions apply specifically to rail and mass transit.

This Report is interlinked and complementary to the CTP. Caltrans rail policies discussed below in this Chapter support the three CTP policies. Additionally, this Report describes the implementation of CTP actions related to rail. Below are the CTP actions that most specifically relate to rail and references to pages in this Report where the implementation of these actions is discussed.

"**Expand and Enhance California Intercity Rail Services:** In cooperation with Amtrak, the railroads and regional transportation agencies, Caltrans should expand and enhance the number of State-sponsored intercity rail services. A 10-year rail passenger service development plan should be prepared biennially by Caltrans, in cooperation with regional transportation agencies and the State's railroads."

Page 75 - The State Intercity Rail Capital Program (Chapter V)

Page 117 - The *San Diegans* - Proposed Train Service Improvements (Chapter VI)

Page 145 - The *San Joaquins* - Proposed Train Service Improvements (Chapter VII)

Page 172 - The *Capitols* - Proposed Train Service Improvements (Chapter VIII)

Page 209 - Intercity Rail Feasibility Studies (Chapter X)

"Improve Intercity Rail Service Reliability: To enhance service reliability, Caltrans, Amtrak and freight railroads should continue to expand frequency of service and agree on performance standards for State-supported trains. At a minimum, these should address on-time performance and on-board service amenities. These standards should apply both to direct rail services and to bus connections."

Page 58 - No Smoking Policy on State-Supported Routes (Chapter IV)

Page 59 - Food Service Improvements on State-Supported Routes (Chapter IV)

"Expand Interstate Rail Services: Caltrans, in concert with neighboring state, regional and local agencies, freight railroads and Amtrak, should evaluate the feasibility of increasing service, such as instituting a second tri-state train as a supplement to current 'Coast Starlight' service."

Page 214 - Sacramento-Tahoe-Reno Intercity Rail Study (Chapter X)

Page 217 - Sacramento-Oregon Border Route (Chapter X)

"Expand Station Passenger Support Services: Caltrans, Amtrak, regional transportation agencies and local districts should develop enhanced passenger support services at rail stations to improve rail connectivity to the rest of the transportation system. This includes improved transit services to link the stations to nearby business centers, restaurant facilities at stations, information boards and other transportation services."

Page 59 - Services Facilitating Intermodal Connections (Chapter IV)

"Ensure Intercity Rail Passenger Security: Caltrans, the California Public Utilities Commission, Amtrak, the major railroads, regional rail service providers, the California Highway Patrol and associated local law enforcement organizations will develop cooperative strategies to ensure the security of the public on regional and interregional rail services."

Page 67 - Passenger Security (Chapter IV)

"Develop High Speed Ground Transportation: Under the direction of Governor Wilson and consistent with Statutes of 1993, Resolution Chapter 56, the Intercity High-Speed Rail Commission was established. The Commission

will work with Caltrans to immediately proceed with the development of a 20-year High Speed Intercity Ground Transportation (HSGT) Plan. This plan will identify corridors to be served, analyze financing alternatives, analyze social and environmental impacts, make recommendations regarding HSGT system operation and maintenance, and address the coordination of the system with other transportation services."

Page 329 - SCR 6 (Chapter XIV)

"Develop Low-Emission Locomotives: Caltrans, California Air Resources Board (CARB), California Transportation Commission (CTC) and California Energy Commission (CEC) should continue to work with the railroads, Amtrak, the Southern California Regional Rail Authority and private industry to test, demonstrate, and place into operation low-emission and zero emission locomotives."

Page 330 - Caltrans High-Speed Rolling Stock Procurement Program (Chapter XIV)

MAJOR ISSUES FACING THE STATE PASSENGER RAIL SYSTEM

A number of major issues face the State's intercity, commuter and urban passenger rail system. Many of these issues relate to the "transportation revolution" discussed above as well as the current economic climate in California. These major issues are discussed below.

Adequate Funding for the Passenger Rail System

As State and local agencies respond to the mandate for increased passenger rail service, these systems are being expanded. Of course, expansion of rail systems increase both capital and operating costs. Additionally, in the long term there will be increased rehabilitation costs for the expanded systems. Thus, more public funds than ever before are needed to build, operate and eventually rehabilitate the expanded rail systems.

At the same time, many transportation fund sources, like most public funding sources, are not increasing as fast as inflation or are even decreasing. For example, most State, federal and local transportation funding sources are derived from sales tax and gas tax. These sources have not fared well during the recession. An additional example is the failure of Proposition 156 rail bonds to be approved by the voters in 1992.

Coordination of Rail Systems with the Transportation System

An important part of the "transportation revolution" is the recognition that coordination of all transportation modes is necessary for a successful transportation system. Unfortunately there are many barriers to this coordination. In the recent past, transportation systems have not been well coordinated, but instead planned as separate and independent systems. Thus, the existing systems are not well coordinated. There are many institutional barriers to coordination because transportation systems, including rail systems,

are built and run by both State and local entities that do not have extensive experience in coordinating planning and operations with one another. Finally, transportation program requirements often have differing goals which hinder coordination.

Passenger Acceptance of the Rail Mode

It is commonly believed that Californians are particularly attached to the freedom, independence and safety the private auto provides. Additionally, our current land use patterns which favor dispersed suburban development rather than dense urban areas limits the efficiency and cost-effectiveness of rail and other public transportation systems. Consequently, it is very difficult to change individual reliance on the private auto. State and local agencies face great challenges changing land use patterns and in achieving widespread acceptance and use of the rail mode.

High Speed Rail

In July 1993, Resolution Chapter 56/93, (SCR 6, Kopp) was passed by the Legislature. This concurrent resolution requests the Governor to establish an Intercity High-Speed Ground Transportation Commission. Under its direction, Caltrans will prepare a 20-year High-Speed Intercity Ground Transportation Plan to be issued by December 31, 1995. In this Plan many fundamental issues related to the feasibility of high speed rail (HSR) will need to be analyzed. Analysis will be necessary on a variety of administrative and organizational approaches, funding scenarios and options, technological and environmental issues, alignment options and the economic impact of HSR.

Relationship of an Expanded Passenger Rail System to Revitalization of the California Economy

State and local officials are very interested in providing opportunities for the expansion of the passenger rail system to revitalize the California economy. Expansion of the rail system necessitates the manufacture of rolling stock, signal systems, control systems and track. Direct benefits to the economy may be realized if some of the rail components were manufactured in California. In addition to the benefits of manufacturing, construction of rail facilities and systems as well as the subsequent operation of the systems may create employment significant to the economy.

There may be indirect benefits to an expanded rail system, also. Revitalization or development of areas may occur where new rail lines are built. An improved passenger rail system may encourage business to locate in California, improve Californians' quality of life and reduce personal transportation costs.

Increased Costs of Clean Air Requirements and Access for the Disabled

The 1990 federal Americans with Disabilities Act (ADA) and recent amendments to the State and federal Clean Air Acts will most certainly increase costs to passenger rail and mass transit operations. These landmark pieces of legislation will improve the environment and provide the disabled

needed access to transit, but none-the-less cause burdens to the rail and transit industry. The industry needs to find methods to meet these mandates.

Rail Right-of-Way Purchases

To expand the rail system, local agencies recently have bought many miles of right-of-way from private railroads at considerable cost. The right-of-way has been mostly used for commuter rail systems. Still more right-of-way may need to be purchased to further expand rail systems, particularly for new high speed lines. The most cost-effective way to accomplish and fund these purchases must be examined.

CALTRANS RAIL POLICIES

Caltrans has created specific rail policies to address major issues facing the State passenger rail system. These policies are listed below.

Integrated and Efficient Transportation System. *Caltrans will enhance the rail system's role in California's transportation system which is designed to efficiently move persons and goods. Passengers should be able to easily, comfortably, safely and quickly transfer between all modes. Caltrans will assure that the enhancement of the passenger rail system will directly benefit the California economy.*

Comprehensive and Coordinated Rail System. *Caltrans will promote a comprehensive, coordinated and safe passenger rail system which fully unifies urban, commuter and intercity rail systems. This system should provide congestion relief, improved air quality and improved transportation accessibility to all persons. Additionally, Caltrans will take a proactive role to achieve the increased coordination of local, regional, State and federal passenger rail programs by improving the State rail planning and funding process.*

Cost-Effective Intercity Rail Passenger System. *Caltrans will provide cost-effective, reliable, service oriented and energy efficient intercity rail passenger service, while working towards reducing public operating support. Caltrans will offer increased frequencies and consider adding new routes where the market potential exists. Caltrans will also work to increase the speed to at least 110 mph on existing routes where feasible.*

Additionally, Caltrans will foster the development and implementation of rail operations and technology which will improve service, energy efficiency and air quality, including consolidation of rail freight corridors.

High Speed Ground Transportation System. *Caltrans will lead in the development and implementation of a true high speed ground transportation system between the State's major urban centers that will be fully coordinated with the State's overall transportation system.*

Funding for Rail Passenger Services. *Caltrans is committed to developing flexible funding mechanisms that allow rail projects to effectively compete for*

transportation funds. These mechanisms should ensure continuing stable intercity rail funding so this program can be enhanced and expanded. Also, effective grant programs should ensure continuing funding for capital improvements for urban and commuter passenger rail systems. These programs will include provisions for the cost-effective purchase of right-of-way.

On the federal level, Caltrans will work to ensure federal programs provide truly flexible funding that allows rail projects to compete on an equal playing field with other transportation projects.

CALTRANS RAIL STRATEGIES

Caltrans has developed a number of strategies to further the policies listed above. Listed under each strategy are references to pages in this Report where initiatives to implement these strategies are discussed in more detail.

Rail Funding. Caltrans is pursuing flexible multi-modal transportation funding mechanisms that recognize the significance of all modes in the transportation network. These mechanisms should provide stable and adequate funding for the Caltrans intercity rail program and the most efficient use of available State transportation funds for urban and commuter rail services.

Page 43 - Flexible Congestion Relief Program (Chapter III)

Page 56 - Funding for Intercity Rail Service Operations (Chapter IV)

Caltrans is committed to participating in the ongoing federal high speed ground transportation funding and development process. Caltrans makes every effort to ensure California receives an appropriate share of federal assistance for the development and construction of high speed ground transportation systems.

Page 332 - Federal Funding for California's High speed Program (Chapter XIV)

Finally, the State provides significant funding to local rail systems in the form of grants. Caltrans has worked with the California Transportation Commission (CTC) and local agencies to streamline the grant administration process to improve and expedite the programming, grant approval, funding and reimbursement process. Caltrans will continue to further streamline the capital grant program.

Page 46 - Administration of State Grant Programs (Chapter III)

Rail System Coordination. ISTEA , the "Blueprint Legislation", and the 1990 amendments to the federal Clean Air Act require the coordination of transportation planning and projects at the State, local and federal levels. As a result, Caltrans and local agencies must learn to exchange information at an early stage in the planning and programming of rail and other transportation

projects, and devise methods to ensure full interconnectivity of projects. Caltrans is committed to developing a multi-modal transportation planning and programming process that is fully coordinated with local and regional agencies. To help facilitate this process, Caltrans has implemented training courses in multi-modal planning and is developing new courses.

Page 30 - Federal Air Quality Requirements (Chapter III)

Page 47 - Caltrans Certificate Program in Rail and Transit (Chapter III)

Page 62 - Airport Access (Chapter IV)

Page 63 - "California Pass" Report (Chapter IV)

Caltrans is in a unique position to provide information on how the State's rail systems connect to the rest of the transportation system. To this end, Caltrans will continue to improve its intercity rail system information on intermodal connections. Additionally, Caltrans is reviewing techniques for providing statewide information on intermodal connections and working to implement these techniques.

Page 59 - Services Facilitating Intermodal Connections (Chapter IV)

This Report is a first attempt at a comprehensive operations and planning document for intercity, commuter and urban rail in California. The inclusion of detailed information on commuter and urban rail services and the longer ten-year time frame of this Report (rather than the five-year time frame of previous Rail Passenger Development Plans) will allow for better coordination of California rail services.

Page 225 - Commuter and Urban Rail Financial Issues (Chapter XI)

Page 241 - Commuter Rail Services (Chapter XII)

Page 271 - Urban Guideway Services (Chapter XIII)

Intercity Rail Operations. Caltrans intercity rail operations program works to provide a cost-effective, service oriented and energy efficient intercity passenger service that is well marketed. For example, Caltrans often offers fare promotions, improves service with new amenities such as checked baggage on the *San Joaquin* route and is currently procuring new energy efficient locomotives. Additionally, Caltrans has an extensive marketing program for its intercity rail services.

Page 51 - The State Intercity Rail Operations Program (Chapter IV)

Page 85 - Rolling Stock - Locomotives (Chapter V)

Page 101 - The *San Diegans* (Chapter VI)

Page 131 - The *San Joaquins* (Chapter VII)

Page 161 - The *Capitols* (Chapter VIII)

Intercity Rail Planning and Capital Program. Caltrans is studying the feasibility of expanding conventional intercity rail services to new corridors. These studies involve local agencies, Amtrak and the private railroads to insure a complete high quality feasibility study and to determine if proposed new services will be cost-effective. To provide the highest quality ridership estimates, Caltrans and Amtrak are jointly developing an intercity rail ridership estimation model.

Page 67 - Amtrak/Caltrans Intercity Rail Ridership Model (Chapter IV)

Page 209 - Intercity Rail Feasibility Studies (Chapter X)

Caltrans capital program focuses on projects that incrementally upgrade the system by increasing frequencies, reducing running times and increasing speeds within the constraints of existing alignments.

Page 75 - The State Intercity Rail Capital Program (Chapter V)

Page 117 - The *San Diegans* - Proposed Train Service Improvements (Chapter VI)

Page 145 - The *San Joaquins* - Proposed Train Service Improvements (Chapter VII)

Page 172 - The *Capitols* - Proposed Train Service Improvements (Chapter VIII)

High Speed Ground Transportation. Caltrans will aggressively pursue the development of the San Francisco Bay Area/Sacramento-Los Angeles/San Diego high speed transportation corridor using a public/private partnership approach. Also, Caltrans is conducting a $5 million preliminary engineering and feasibility study on high speed ground transportation from Bakersfield to Los Angeles funded by Proposition 116.

The high speed ground transportation strategy developed in the SCR 6 Plan will be coordinated with Caltrans incremental upgrade program which is focused on increasing speeds up to 110 mph on existing intercity rail corridors, increasing frequencies and expanding routes. These corridors will feed into the high speed ground transportation system.

Page 327 - Caltrans High Speed Ground Transportation Program (Chapter XIV)

Economic Development. Caltrans is pursuing all possible opportunities for its rail program to aid in the revitalization of the California economy. For example, most of the California Cars will be fully assembled at a newly established Morrison Knudsen Corporation facility in Pittsburg, California.

Page 81 - Rolling Stock (Chapter V)

Disability Access. Caltrans is aggressively seeking compliance with the Americans with Disabilities Act (ADA). Thus, Caltrans has a program to upgrade intercity rail stations, provide access on Amtrak feeder buses and develop the California Car to provide access over and above the requirements of ADA. Also, this Report examines the impact of ADA on transit agencies.

Page 60 - Disability Access to State-Supported Rail Services (Chapter IV)

Page 83 - Rolling Stock-California Car Design (Chapter V)

Page 234 - Americans with Disability Act Compliance (Chapter XI)

Research and Development. Caltrans supports and participates in research and development to improve rail operations technologies and energy efficiency of rail services. This will include research and development of cost-effective, emission-reducing passenger rail locomotives and improved signaling and operational technology.

Page 325 - Electrification in California - Electrification Studies (Chapter XIV)

Page 330 - Caltrans High-Speed Rolling Stock Procurement Program (Chapter XIV)

Page 332- Transit Systems Research Program (Chapter XIV)

Equipment. Caltrans promotes the design and development of energy efficient intercity and commuter equipment specifically adapted for use in California. For example, Caltrans is acquiring new California Cars for use in intercity and commuter rail services. Additionally, Caltrans has contracted for state-of-the-art low emissions diesel locomotives.

Page 81 - Rolling Stock (Chapter V)

Page 330 - Caltrans High-Speed Rolling Stock Procurement Program (Chapter XIV)

Goods Movement. The area of goods movement is of increasing interest to Caltrans as it strives to meet all transportation needs through a variety of modal options. Thus, to encourage the development of goods movement via a well-planned multimodal goods transportation system, Caltrans has established an Office of Goods Movement and Commerce (in the Division of Transportation Planning).

Page 24 - Freight Rail Services (Chapter II)

Page 88 - Rail-Highway Grade Crossing Improvement Programs (Chapter V)

STATE AND LOCAL RAIL PLANNING DOCUMENTS

The State and local entities produce a number of rail planning documents on specific topics. These documents complement this Report. This section will briefly describe these documents and where they are discussed in more detail in this Report.

Intercity rail corridor studies are usually mandated by special legislation or initiated by Caltrans in response to a demonstrated need. Some studies determine the technical and economic feasibility of a new or extended route and identify needed capital improvements on the corridor under study. Others identify the incremental capital upgrade needs of existing State-supported routes. Study results generally form the basis of improvement projects listed in Caltrans Intercity Rail Capital Program (IRCP), the Proposed State Transportation Improvement Program (PSTIP) and State Transportation Improvement Program (STIP). These studies are described in Chapter V - The State Intercity Rail Capital Program.

There are a number of intercity rail studies of new proposed routes that are in progress or recently completed. These studies are described in Chapter X - Intercity Rail Feasibility Studies.

Over the past five years, at the direction of the Legislature, Caltrans has participated in two studies related to ultra high speed rail. Caltrans has funded significant research on high speed ground transportation (HSGT) done at the direction of the Legislature. These activities have primarily formed the basis of Caltrans current HSGT program. Additionally, Caltrans is currently involved in important high speed studies mandated by Proposition 116 and SCR 6. Finally, two studies have recently been done by public agencies in California on electrification of rail. These studies are described in Chapter XIV - High Speed Ground Transportation and Other Technology Improvements and form the basis of the Caltrans HSGT Program described in that Chapter.

Local transit agencies also conduct corridor studies to determine the feasibility and cost of new or expanded rail corridors. Additionally, local agencies conduct longer range, more general planning studies for their regions. These studies form the basis of projects included in Regional Transportation Improvement Programs (RTIPs) and then the STIP. These studies form the basis of the service expansion plans presented in Chapter XII - Commuter Rail Services and Chapter XIII - Urban Guideway Services.

PUBLIC PARTICIPATION IN THIS REPORT

Caltrans solicited and received comments from the public and the California Transportation Commission (CTC) prior to the publication of this Report. This section describes these efforts.

A draft Report was published in September 1993. Public meetings were held in October 1993 in Santa Ana, Oakland and Fresno to provide an opportunity for the public to discuss the contents of the draft Report with Caltrans staff. The meetings were advertised in 55 newspapers (including Hispanic language newspapers) throughout the State. In addition to publicizing the meetings, the advertisements provided information on obtaining a copy of the Executive Summary and how to comment on the Report by mail. Over 80 persons attended the three meetings.

The draft Report was distributed to the ACR 132 Policy Advisory Committee (*Capitol* Route) the Los Angeles-San Diego Rail Corridor Agency (*San Diegan* Route) and the Steering Committee of Caltrans Rail Task Force (*San Joaquin* Route) with a request for review and comment. All Metropolitan Planning Organizations, Regional Transportation Planning Agencies, Local County Transportation Commissions and selected State government entities were asked to review and comment on the draft Report. The Report was also mailed to over 30 government agencies, firms and individuals.

Twenty-four agencies responded with comments on the Report. Caltrans responded to these comment letters on a point by point basis. These comments are included in the Report. Where comments were associated with a particular chapter in the Report, the comments and Caltrans responses may be found in the "Public Review" section at the end of the appropriate chapter alphabetized according to agency name. Where comments are general, the comments and responses may be found in Appendix A. A matrix in Appendix A references each part of a comment letter to the chapter in which it is listed. The comments are printed in normal type and Caltrans responses in **bold** type.

A draft Report was presented to the CTC at its September 1993 meeting. At that time the CTC made certain suggestions. Caltrans, accordingly, revised the draft Report. Specifically Chapter XI - Commuter and Urban Rail Financial Issues was added, and changes were made to Chapter I to highlight Caltrans rail policies and actions to further these policies. Caltrans presented the revised draft Report to the Commission at its December meeting. At this time the CTC asked to review all comment letters and Caltrans responses to these letters. This information was supplied to the Commission at its January 1994 meeting and is included in the Report as described above.

At its January meeting, the CTC passed a resolution requesting certain issues to be included in the final Report, and that other changes and recommendations be made in the 1995/96 Report. The CTC provided consent to the Report at its February meeting. Caltrans made the relevant changes to the final Report, agreed to the advice for the 1995/96 Report and provided the CTC with a letter to this effect.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

There are several statements that should be checked for accuracy, including:
The California Transportation Plan (CTP) (page 2): Suggest verifying the respective roles of the Legislature and the Governor. Also, the draft CTP Recommendation Element contains a recommendation that the role and authority of Caltrans in relation to alternate modes of transportation be better defined. Reference to that issue may be appropriate.

In response to your comment, the Report was changed to accurately reflect the role of the Legislature and the Governor in the CTP.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Page 4 - Intercity Rail Operations: "To provide a cost-effective, service oriented..." The word "safe" should also be used in that sentence to describe another aspect of the service desired.

In response to your comment, we added the word "safe."

Page 5 - Last paragraph - Goods movement; Freight and Goods - the words are used interchangeably with no definition for each word.

The functions of the Office of Goods Movement and Commerce in the Division of Transportation Planning are not well delineated. On the passenger portions of the report there are bullets to show exactly how each Corridor should progress. There are no such bullets for goods movements.

This Report's focus is on passenger rail; as you noted, goods movement is only very briefly discussed. We believe, therefore, the level of detail in the Report on the functions of the Office of Goods Movement and Commerce is appropriate. We, therefore, deleted the word "freight" to avoid confusion between the words freight and goods movement. The area of freight and goods movement is being considered for further analysis in the next iteration of the Report.

METROPOLITAN TRANSIT DEVELOPMENT BOARD COMMENTS

In the Rail System Coordination section (Page 5), the wording should be more proactive to state that Caltrans and local agencies "must" work together to ensure full interconnectivity of projects.

Caltrans believes that interconnectivity of rail projects is essential. Thus, the second rail policy stated in Chapter I is a "Comprehensive and Coordinated Rail System." In this policy we state "Caltrans will promote a comprehensive and coordinated and safe passenger rail system which fully unifies urban, commuter and intercity rail systems." Additionally, in the strategy section which is referred to in your letter, Caltrans states "Caltrans and local agencies must learn to exchange information at an early stage in the planning and programming of rail and other transportation projects and devise methods to ensure full interconnectivity of projects." These statements indicate our total commitment to a proactive approach.

Figure 2A

RAIL PASSENGER SERVICES IN CALIFORNIA

(AS OF DECEMBER 31, 1993)

Type of Service	Mode	Operator	Service Name	Current Service Area	See Chapter
Intercity Rail	Railroad	Amtrak (Basic System)	*Coast Starlight*	Los Angeles-Oakland-Sacramento-Seattle	II
			California Zephyr	(San Francisco) Oakland-Denver-Chicago	
			Desert Wind	Los Angeles-Salt Lake City-Chicago	
			Southwest Chief	Los Angeles-Chicago	
			Sunset Limited	Los Angeles-New Orleans-Miami	
			San Diegans	Los Angeles-San Diego	II & VI
		Amtrak (State Supported)	*San Diegans*	Santa Barbara-Los Angeles-San Diego	VI
			San Joaquins	Oakland-Bakersfield	VII
			Capitols	Roseville/Sacramento-Oakland-San Jose	VIII
Commuter Rail	Railroad	Peninsula Corridor Joint Powers Board	**Peninsula Commute Service (CalTrain)**	San Francisco-San Jose-Gilroy	XII
		Southern California Regional Rail Authority	**Metrolink**	Los Angeles (Union Passenger Terminal)- •Moorpark •Santa Clarita •San Bernardino •Riverside •San Juan Capistrano (1)	
Urban Rail	Heavy Rail	Bay Area Rapid Transit District	**BART**	San Francisco - •Daly City •Richmond •Concord •Fremont	XIII
		Los Angeles County Metropolitan Transportation Authority	**Metro Red Line**	Los Angeles (Union Passenger Terminal)-Westlake	
	Light Rail	Sacramento Regional Transit District	**Sacramento Light Rail**	Sacramento - •Watt/I-80 •Butterfield	
		Municipal Railway of San Francisco (MUNI)	**MUNI Metro**	San Francisco - (2) •Church •Ingleside •Taraval •Ocean View •Judah	
		Santa Clara County Transit District	**Santa Clara County Light Rail**	San Jose - •Old Ironsides Drive-Great America Pkwy •Alameda Expressway	
		Los Angeles County Metropolitan Transportation Authority	**Metro Blue Line**	Los Angeles (7th Street) - Long Beach (Metro Center)	
		San Diego Trolley	**San Diego Trolley**	San Diego - •County Center-San Ysidro •Bayside-El Cajon	
	Cable Car	Municipal Railway of San Francisco (MUNI)	**Muni Cable Car**	San Francisco - •California Street •Powell-Mason/Hyde	

(1) Presently operated separately by Orange County Transportation Authority (to be incorporated in Metrolink in early 1994 with service extended to Oceanside).
(2) Via Market Street Subway.

Chapter II - The California Rail Network

PASSENGER RAIL SERVICES

This Chapter describes and defines the California Rail Network and the States' responsibility vis-a-vis this network. Because this Report concerns passenger rail, the Chapter concentrates primarily on passenger service, but also includes a small section on freight service. Specifically, the Chapter includes sections on: passenger rail services, the State's role in passenger service, the definition of commuter versus intercity rail services, Amtrak basic system services, other passenger rail services and freight rail services.

The State of California is served by a varied and extensive network of intercity, commuter and urban rail passenger services. Figure **2A** summarizes these services and refers to the section of this Report which provides further information on each service. There are three general types of services, as follows:

- **Intercity Rail** - operates largely between several regions of the State, using the "Railroad" mode (see description below). "Basic System" trains are funded exclusively by Amtrak. "State-supported" trains are funded in part by the State of California.
- **Commuter Rail** - operates primarily within a single region of the State, serving regional and local transportation needs, using the "Railroad" mode (see description below).
- **Urban Rail** - operates locally within an urban region of the State, serving local transportation needs, using either the "Heavy Rail", "Light Rail", or "Cable Car" modes (see descriptions below).

> **Note:** See "Definition of Commuter versus Intercity Rail Service" below for legal definitions in State and federal law.

The three types of services use four modes. These modes are, as follows:

- **Railroad** - Rail passenger service using tracks owned by a freight railroad (or purchased or leased by a public entity from such a railroad). Generally, rail freight service uses the same tracks. In California, all such rail passenger service is presently diesel-powered, except for certain steam-powered trains on tourist rail services. In the Midwest and Northeast, certain intercity and commuter rail services are electric-powered.
- **Heavy Rail** - Transit service using rail cars with motive capability, driven by electric power usually drawn from a third rail, configured for passenger traffic and usually operated on exclusive rights-of-way. Utilizes generally longer trains and consists of longer station spacing

than light rail. Formerly "rail rapid transit." (Federal Transit Administration definition)

- **Light Rail** - A fixed-guideway mode of urban transportation utilizing predominantly reserved but not necessarily grade-separated rights-of-way. It uses primarily electrically-propelled rail vehicles, operated singularly or in trains. A raised platform is not necessarily required for passenger access. (In generic usage, light rail includes streetcars, [vintage] trolley cars and tramways. In specific usage, light rail refers to very modern and more sophisticated developments of these older rail modes.) (Federal Transit Administration definition)
- **Cable Car** - A streetcar type of vehicle which is propelled by means of an attachment to a moving cable located below the street surface and powered by engines or motors at a central location not on board the vehicle. (Federal Transit Administration definition)

THE STATE'S ROLE IN RAIL PASSENGER SERVICE

Intercity Rail Services

Intercity train routes operate largely between several regions of the State. State-supported services for these routes are planned and administered at the State level. The State encourages local and regional planning agencies to share their ideas and concerns regarding service to their respective areas. In California, all State-supported intercity rail service is currently operated by Amtrak under the provisions of Section 403(b) of the federal Rail Passenger Service Act.

Caltrans intercity services are components of the State's overall transportation system. Services intended to meet primarily local needs are developed as commuter and urban rail services rather than intercity.

State law (Section 14031.8 (a) and (b) of the Government Code) provides that new intercity services must recover at least 55 percent of their operating cost from farebox revenues within their third year of operation to be eligible for continued State funding; existing services must meet this standard in the previous year of operation.

The State and Amtrak each pay a portion of the operating costs of State-supported intercity rail services. The State pays for capital improvements to intercity rail services, primarily through its State rail bond programs and Transit Capital Improvement (TCI) Program. Under these programs, the State will pay 100 percent of the project costs of intercity rail capital improvements. However, in certain cases, local agencies have contributed some funding.

Commuter and Urban Rail Services

Because commuter and urban rail services primarily serve local and regional transportation needs, they are planned and administered by local and regional transportation agencies.

Federal Transit Administration (FTA) operating and capital funds are available for commuter and urban rail services. Commuter and urban rail services may receive State Transit Assistance (STA) funds and are eligible for available State capital funding through the TCI, Flexible Congestion Relief (FCR) and State/Local Transportation Partnership Programs. In most cases, they are also eligible for State rail bond funds for capital projects. Generally, these State grant programs for commuter and urban rail capital improvements require a local match which, for the most part, is 50 percent of project costs. Caltrans is primarily responsible for administering the State grant programs for commuter and urban rail services.

DEFINITION OF COMMUTER VERSUS INTERCITY RAIL SERVICE

California State law defines "commuter passenger rail" and "intercity rail" in the following Streets and Highways Code sections:

- Section 164.50(d): *"Commuter passenger rail" has the same meaning as the term "commuter service" as defined in the Rail Passenger Service Act (45 U.S.C. Sec. 502(9)), and as described in Penn Central Transp. Co. Discontinuance, 338 ICC 318.*
  - The federal Rail Passenger Service Act section cited states that: *"Commuter service" means short-haul rail passenger service operated in metropolitan and suburban areas...usually characterized by reduced fare, multiple-ride and commutation tickets and by morning and evening peak period operations.*
  - The Penn Central Transportation Company Discontinuance decision cited was issued by the Interstate Commerce Commission (ICC) after a 1971 investigation held to determine whether certain trains constituted commuter service, thus placing them outside the jurisdiction of Amtrak, which at the time had just been created. Specifically, the ICC concluded that a commuter service:

    would likely include some or all of the following features...:

    (1) The passenger service is primarily being used by patrons traveling on a regular basis either within a metropolitan area or between a metropolitan area and its suburbs;
    (2) The service is usually characterized by operations performed at morning and evening peak periods of travel;
    (3) The service usually honors commutation or multiple-ride tickets at a fare reduced below the ordinary coach fare and carries the majority of its patrons on such a reduced fare basis;
    (4) The service makes several stops at short intervals either within a zone or along the entire route;

(5) *The equipment used may consist of little more than ordinary coaches;*
(6) *The service should not extend more than 100 miles at the most, except in rare instances; although service over shorter distances may not be commuter or short haul within the meaning of the exclusion.*

Any service not meeting these criteria would be considered intercity in nature.

- Section 164.55(d): *"Intercity rail" has the same meaning as the term "intercity rail passenger service" as defined in the federal Rail Passenger Service Act (45 U.S.C. Sec. 502(11)).*
  - The Rail Passenger Service Act section cited states that: *Intercity rail passenger service means all rail passenger service other than commuter service.*
  - Thus, both the Rail Passenger Service Act and the ICC specifically defined commuter rail service in the manner detailed above and stated that intercity rail service is all other service not falling within the commuter rail definition.

AMTRAK BASIC SYSTEM SERVICES

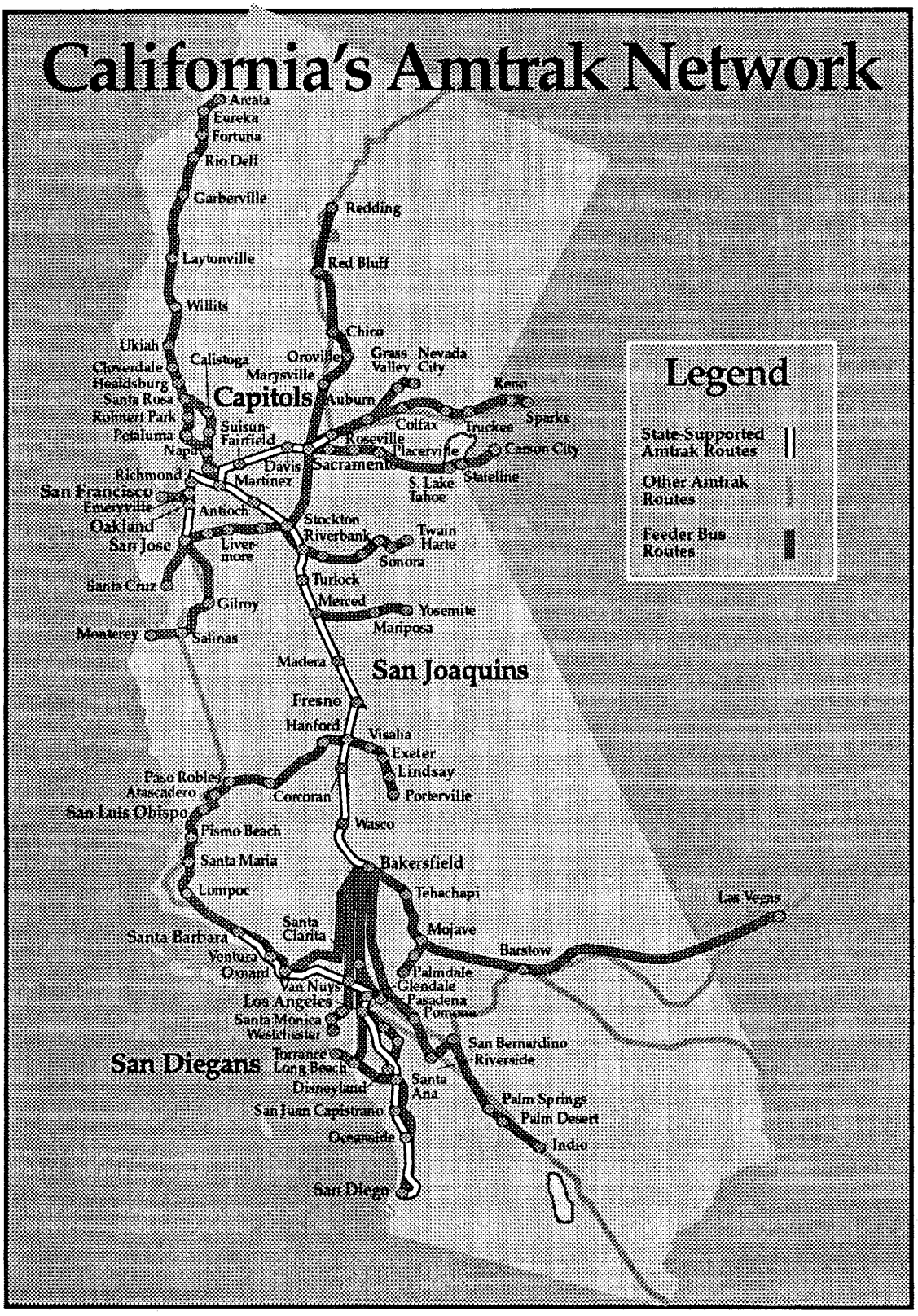
At present, Amtrak operates "basic system" trains over six routes in California. The *San Diegan* Route between Santa Barbara and San Diego is wholly within the State and is supplemented with State-supported service. The other five are interstate routes which provide varying levels of intrastate service in California. Figure **2B** is a map illustrating California's portion of the Amtrak system.

The following paragraphs briefly describe the various "basic system" trains in California and their significance to the State's transportation needs. (California's State-supported trains are the subject of Chapters VI, VII and VIII of this Report.) Ridership figures are for Amtrak's 1992/93 fiscal year ending September 30, 1993 and include all riders on the trains, not just those in California.

The *Coast Starlight* (Los Angeles-Oakland-Sacramento-Seattle)

The *Coast Starlight* is the most popular long distance train in the Amtrak system. For many years demand has often exceeded capacity during summer and holiday travel periods. Ridership in 1992/93 totaled 464,297 (which is 13.0 percent less than the previous year). In peak months, the *Coast Starlight's* one daily round trip averages over 1,000 passengers per train. Amtrak's new order of Superliner cars will allow a modest capacity increase on Amtrak's long distance routes, such as the *Coast Starlight.*

Figure 2B


California's Amtrak Network
Arcata
Eureka
Fortuna
Rio Dell
Garberville
Redding
Laytonville
Red Bluff
Willits
Chico
Ukiah
Oroville
Grass Valley
Nevada City
Cloverdale
Calistoga
Marysville
Healdsburg
Capitols
Auburn
Reno
Santa Rosa
Rohnert Park
Colfax
Truckee
Sparks
Suisun-Fairfield
Petaluma
Roseville
Napa
Placerville
Carson City
Davis
Sacramento
Richmond
Martinez
S. Lake Tahoe
Stateline
San Francisco
Emeryville
Antioch
Stockton
Oakland
Riverbank
Twain Harte
San Jose
Liver-more
Sonora
Turlock
Santa Cruz
Merced
Yosemite
Gilroy
Mariposa
Monterey
Salinas
Madera
San Joaquins
Fresno
Hanford
Visalia
Exeter
Lindsay
Paso Robles
Atascadero
Corcoran
Porterville
San Luis Obispo
Wasco
Pismo Beach
Santa Maria
Bakersfield
Lompoc
Tehachapi
Las Vegas
Santa Clarita
Santa Barbara
Mojave
Ventura
Barstow
Oxnard
Palmdale
Van Nuys
Glendale
Los Angeles
Pasadena
Santa Monica
Pomona
Westchester
San Bernardino
Riverside
San Diegans
Torrance
Long Beach
Santa Ana
Disneyland
Palm Springs
San Juan Capistrano
Palm Desert
Oceanside
Indio
San Diego
Legend
State-Supported Amtrak Routes
Other Amtrak Routes
Feeder Bus Routes

The *Coast Starlight* serves many major urban areas in California and the Pacific Northwest and a substantial portion of its ridership is generated by intrastate California travel. Direct connections with the *San Diegans* at Los Angeles effectively extend the route south to San Diego. A connection with the *San Joaquins* at Martinez provides Valley access for travelers to and from the north. State-funded intermodal facilities have been developed at several stops along its route.

As required by the Amtrak Reauthorization and Improvement Act of 1990, in June 1992, Amtrak published "An Evaluation of Service to Areas Not Presently Served". Amtrak's Report evaluated a number of new routes and route expansions, including a second *Coast Starlight* between Los Angeles and Seattle and its extension from Seattle to Vancouver. The Report concluded an additional 10 locomotives and 40 cars would be required for the service at a cost of approximately $100 million. Cost estimates for track and facilities were not developed. The Report estimated the initial annual federal subsidy at between $8.2 million and $12.8 million. Amtrak concluded that given its scarcity of capital for both rolling stock and track and facility improvements and the operating subsidies initially required, it cannot presently consider implementing the route expansions in the Report on its own.

The *California Zephyr* (San Francisco-Denver-Chicago)

The *California Zephyr* provides local service in the San Francisco-Sacramento-Reno corridor and extra coaches are often carried on this portion of the route to handle heavy loads to and from Reno. A stop in Truckee serves Lake Tahoe and nearby Sierra ski areas. The portion of the trip from Oakland to San Francisco is served by dedicated feeder buses.

Ridership on the one daily round-trip *California Zephyr* was 402,400 in 1992/93, down 1.4 percent from 1991/92. These figures do not include passengers in Chicago-Seattle and Chicago-Los Angeles through cars carried in the train east of Salt Lake City.

The *Desert Wind* (Los Angeles-Salt Lake City-Chicago)

The *Desert Wind* serves Las Vegas and provides an alternate transcontinental routing between Los Angeles and Chicago, via a connection with the *California Zephyr* in Utah. *Desert Wind* ridership totaled 146,100 in 1992/93 on its one daily round trip including through passengers to and from points east of Salt Lake City, a 3.6 percent increase from the previous year.

The *Southwest Chief* (Los Angeles-Chicago)

The *Southwest Chief* provides access to the Grand Canyon at Flagstaff, as well as the only direct rail service from California to Kansas City. In California, the *Southwest Chief* and the *Desert Wind* together provide local service between Los Angeles, San Bernardino and Barstow. Ridership on the one daily round-

trip *Southwest Chief* in 1992/93 totaled 264,801, a decrease of 5.2 percent over the prior year.

The *Sunset Limited* (Los Angeles-New Orleans-Miami)

The *Sunset Limited* operates three days a week in each direction and connects California to major cities of the Sun Belt, the Gulf Coast and Florida. On April 2, 1993, the route was extended beyond New Orleans to Miami, Florida, with stops including Gulfport and Biloxi, Mississippi; Mobile, Alabama; and Tallahassee, Jacksonville, and Orlando in Florida. The *Sunset Limited* thus becomes the first transcontinental passenger train ever operated in the United States. The States of Alabama, Florida, Louisiana, and Mississippi provided important financial assistance for the capital projects needed to implement this new service. Caltrans congratulates Amtrak and these States on making this major service improvement which connects California with the Gulf Coast and Florida by rail. The extended route fills a major gap in Amtrak's nationwide system and provides a direct rail link between the important California and Florida tourist markets.

The *Sunset Limited* also provides service to Dallas, St. Louis and Chicago via a connection with the *Texas Eagle* at San Antonio. A through sleeping car is operated between Los Angeles and Chicago via this route. Ridership in 1992/93 totaled 148,387, up 48.3 percent from the previous year. This large increase results from the extension of the *Sunset Limited* to Florida in April 1993.

To complement the extended service, Caltrans looks forward to seeing the tri-weekly frequency of the *Sunset Limited* upgraded to daily service. However, Amtrak's position is that a daily operation of the *Sunset Limited* has been studied and every indication is that it would substantially increase Amtrak's deficit.

The *San Diegans* (Los Angeles-San Diego)

The *San Diegan* Route has become one of the most successful rail passenger corridors in the United States. Five of the nine daily round trips between Los Angeles and San Diego are operated by Amtrak as basic system trains. The other four are supported by California under the provisions of Section 403(b) of the federal Rail Passenger Service Act. The ninth round trip was added by Amtrak as a basic system train on October 25, 1992. Two round trips are extended north between Los Angeles and Santa Barbara as State-supported trains. Chapter VI of this Report discusses this Route in detail.

OTHER PASSENGER RAIL SERVICES

Other railroads in California offer more limited rail passenger service, which is generally tourist oriented. These non-Amtrak intercity rail passenger services remain subject to the regulatory jurisdiction of the California Public Utilities Commission (CPUC), Federal Railroad Administration (FRA) and the

Interstate Commerce Commission (ICC), as was the case before Amtrak was formed.

The California Western Railroad (CWR) between Fort Bragg and Willits in Mendocino County and the Napa Valley Wine Train operating between Napa and St. Helena in Napa County are the only privately-owned railroads in California offering daily rail passenger service. Excursion related passenger traffic on the CWR's 40 mile route is its primary business, with almost 80,000 passenger handled in 1991. Two round trips are operated daily in the summer and one in the winter, with some additional summer and weekend service between Fort Bragg and Northspur.

The Napa Valley Wine Train offers a 36-mile, three-hour round trip excursion train which includes either a gourmet brunch, lunch or dinner. One lunch train per day runs during the week. On weekends and holidays, three brunch, lunch and dinner trains operate. In 1993 the train carried 92,000 passengers.

Other railroads offer rail passenger tourist service on less than a year-round, daily basis, usually daily and/or weekends during the summer and holidays. For example, round trips ranging from six to 22 miles are offered by the San Diego Railroad Museum at Campo, Roaring Camp & Big Trees Narrow Gauge Railroad at Santa Cruz, Santa Cruz & Pacific Railway at Santa Cruz, Sacramento Southern Railroad at Sacramento, the Sierra Railroad at Jamestown, the Yolo Shortline Railroad at Woodland and West Sacramento, the Yreka Western Railroad at Yreka and the North Coast Railroad, a publicly-owned railroad serving Northwestern California.

Some of the railroads offering tourist service are also freight short line railroads. Examples are the Yolo Shortline Railroad and the North Coast Railroad. Others operate tourist service exclusively, such as the Sacramento Southern Railroad.

FREIGHT RAIL SERVICES

Most rail lines in California are owned and operated by private railroad companies, such as the Atchison, Topeka and Santa Fe Railway (ATSF), the Southern Pacific Transportation Company (SP), the Burlington Northern Railroad (BN), and the Union Pacific Railroad (UP). The primary function of private railroads in California is to provide rail freight service to shippers within California, and between California and other points in the United States, Canada and Mexico. Upon request of Amtrak (for intercity rail passenger service) and local or regional entities (for commuter rail passenger service), these freight railroads enter into contracts to permit operation of rail passenger services on their lines. Under such contracts the railroads typically provide use of their tracks, signal and dispatching systems, and certain station and yard facilities. They are compensated by Amtrak and other public entities under the provisions of the applicable operating contracts. (Contracts with Amtrak for provision of intercity service are entered into pursuant to Section 402(a) of the federal Rail Passenger Service Act.)

In order to facilitate introduction of new intercity and commuter rail passenger services on main line tracks of the private freight railroads, Caltrans and other public entities will often fund capital improvement projects needed to provide sufficient capacity to allow both the new rail passenger service and the existing freight service to operate efficiently. Thus, these projects while serving to facilitate commuter or intercity rail operations, will often benefit the freight railroads. The actual improvements are usually constructed by the railroad.

Recently, ATSF, SP and UP have begun to sell their secondary routes in California, prompting new short line railroads to provide freight services on track once owned by ATSF, SP and UP. Within the past two years, six new short lines have begun freight service. Most of these short lines are privately owned. The San Joaquin Valley and Tulare Valley Railroads serve the San Joaquin Valley; the Arizona & California serves the Palos Verdes Valley; the California Northern serves the northern Region of the Bay Area and the San Joaquin Valley; the Yolo Shortline Railroad serves Yolo County; and the North Coast Railroad, a publicly-owned railroad, serves Northwestern California.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

AMTRAK COMMENTS

Chapter II Pg. 12 The Sunset Limited: This refers to paragraph two concerning daily operation....

The new Superliner cars on order are to replace Heritage equipment on the Auto Train, the City of New Orleans and Capitol Limited. In addition, a number of sleeping cars have been purchased to increase capacity on existing western trains. There have been no cars purchased to make the Sunset daily. A daily operation of the Sunset has been studied and every indication is that it would substantially increase our deficit.

Chapter II was revised to reflect Amtrak's stated position on daily operation of the *Sunset* Route.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Executive Summary: Chapter II - The California Rail Network;

Last sentence - Freight services are the responsibility of private railroads. It should be noted that one public railroad also exist in CA - the North Coast RR. The sentence would be more accurate if it read, "Freight services are primarily the responsibility private railroads."

In response to your comment, this sentence was modified. Chapter II was also modified to mention the North Coast Railroad.

Page 13 - Under California Western Railroad: "Non-Amtrak rail passenger service remains subject to the regulatory jurisdiction of the CPUC and or the ICC. At the present time there is only one such service in CA..."

It should be noted that in a safety context Amtrak and all other rail passenger services in CA are under the jurisdiction of the CPUC and the Federal Railroad Administration. It should be further noted that the CPUC has economic jurisdiction concerns on such lines as well. While the CWRR is a regulated daily service the CPUC also regulates rail passenger excursion services on many railroads in the State. These carriers are granted permission to operate such trips by PUC Resolutions. Carriers that have requested to operate such services with the CPUC include: North Coast RR, Sierra RR, Yolo Shortline, Yreka Western, and Santa Cruz, Big Trees & Pacific.

The "Intercity Rail Safety" section in Chapter IV was enhanced with a reference to the CPUC's and the Federal Railroad Administration's safety jurisdictions. Also, in response to your comment, the section on the "California Western Railroad" was expanded to mention the existence of other rail passenger excursion railroads regulated by the CPUC.

Page 13 - Freight Rail Services: The paragraph on private rail companies and the big lines providing service to shippers within CA and between CA and other points in the United

States needs some clarification as to what is currently happening in the rail freight industry in CA and nationwide.

While ATSF, SP and UP provide core route services in CA they no longer serve secondary rail routes in CA. Private short lines now provide rail freight services on many miles of former track once served by the Class I carriers. Some of these new lines and regions of CA they serve include:

San Joaquin Valley RR - San Joaquin Valley

Arizona & California - Palo Verde Valley

California Northern - Northern Region of the Bay Area/San Joaquin Valley

North Coast Railroad - Northwestern CA

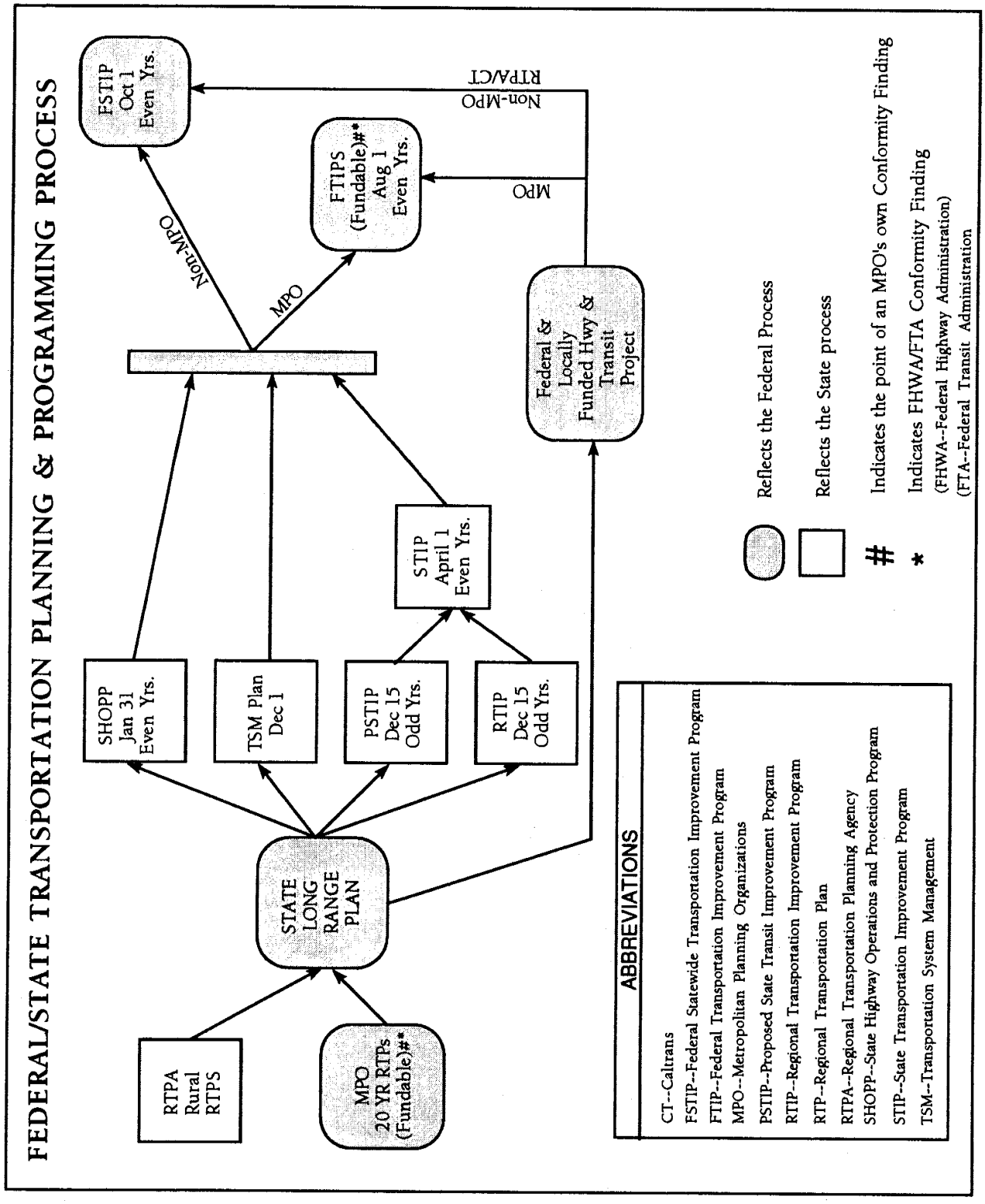
In response to your comment, information was added to the "Freight Rail Services" section to reflect the recent trend you cite of short lines being established to purchase or lease and operate secondary and branch lines formerly run by Class I railroads.

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION COMMENTS

Page 13 - This general description of rail services in California other than intercity services should make mention of short-line, regional, and tourism-oriented rail services that dot the entire state. These kinds of railroad businesses are not only prolific in California, but they represent the growing trend in the industry towards bifurcating the Class I railroads and creating these types of businesses.

General mention of short line, regional, and tourism-oriented rail services was added to the Report to acknowledge the importance of these services.

Figure 3A


FEDERAL/STATE TRANSPORTATION PLANNING & PROGRAMMING PROCESS
RTPA Rural RTPS
MPO 20 YR RTPs (Fundable)#*
STATE LONG RANGE PLAN
SHOPP Jan 31 Even Yrs.
TSM Plan Dec 1
PSTIP Dec 15 Odd Yrs.
RTIP Dec 15 Odd Yrs.
STIP April 1 Even Yrs.
Non-MPO
MPO
FSTIP Oct 1 Even Yrs.
FTIPS (Fundable)#* Aug 1 Even Yrs.
Non-MPO
RTPA/CT
MPO
Federal & Locally Funded Hwy & Transit Project
ABBREVIATIONS
CT--Caltrans
FSTIP--Federal Statewide Transportation Improvement Program
FTIP--Federal Transportation Improvement Program
MPO--Metropolitan Planning Organizations
PSTIP--Proposed State Transit Improvement Program
RTIP--Regional Transportation Improvement Program
RTP--Regional Transportation Plan
RTPA--Regional Transportation Planning Agency
SHOPP--State Highway Operations and Protection Program
STIP--State Transportation Improvement Program
TSM--Transportation System Management
Reflects the Federal Process
Reflects the State process
# Indicates the point of an MPO's own Conformity Finding
* Indicates FHWA/FTA Conformity Finding
(FHWA--Federal Highway Administration)
(FTA--Federal Transit Administration

Chapter III
Rail Planning, Programming and Funding Process

This Chapter includes four sections: Rail Planning, Rail Programming, Rail Funding and the Administration of State Grant Programs.

RAIL PLANNING

Both State and federal law require local transportation agencies to complete a comprehensive transportation planning process. This process has broadened in scope due to the implementation of California's Transportation "Blueprint Legislation" in 1989 and the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). Additionally, the 1990 amendments to the federal Clean Air Act require transportation planning to comply with air quality attainment plans in regions not meeting federal air quality standards. Figure **3A** illustrates the federal/State transportation planning and programming process.

This section describes regional and federal transportation planning for commuter and urban rail, including federal air quality requirements. State intercity rail planning is also described.

Regional Transportation Planning for Commuter and Urban Rail

Under State law, Regional Transportation Planning Agencies (RTPA) are responsible for regional transportation planning, including planning for commuter and urban rail. An RTPA can be a local transportation commission, a council of governments or a statutorily created agency. All areas are represented by one of the 43 RTPAs in California.

RTPAs are required to prepare 20-year Regional Transportation Plans (RTP), and update them for submittal to the California Transportation Commission (CTC) by December 1 of every even numbered year. Section 65080(a) of the Government Code states the RTP is required to be "directed at the achievement of a coordinated and balanced regional transportation system, including but not limited to mass transportation, highway, railroad, maritime, and aviation facilities and services." The same Government Code section states the RTP is required to "present clear, concise policy guidance to local and State officials." The RTP must include policy, action and financial elements. The RTP forms the basis of a Regional Transportation Improvement Program (RTIP), which is a project programming document.

The RTP includes plan alternatives developed and evaluated on a corridor, sub-regional or regional basis. Within each corridor sub-region or region alternative modes and combinations of modes should be evaluated as an integrated system. This evaluation should include the consideration of local General Plans; county level Congestion Management Programs (CMP); air quality and other environmental factors; transportation demand and system management strategies; land use and community impacts; energy consumption; specialized transportation needs; system performance criteria;

and investment in complementary roadway, transit, and intermodal transfer facilities.

The RTP's Action Element should include a Mass Transportation Action Plan which is the implementation program for regional mass transportation improvements, including commuter and urban rail improvements. This program must be consistent with the RTP's financial element, with county level CMPs, air quality plans and the federal Americans with Disabilities Act. The Action Plan must also consider coordination and integration with other transportation modes, including intercity rail.

Federal Transportation Planning for Commuter and Urban Rail

The federal government has a transportation planning process. This process is characterized by the "3-Cs" - continuing, cooperative and comprehensive planning. Within urbanized areas defined by boundaries established by ISTEA, Metropolitan Planning Organizations (MPO) are responsible for federal transportation planning. In non-urbanized areas Caltrans coordinates transportation planning with RTPAs. MPOs are designated by the Governor for urbanized areas with populations over 50,000. An MPO may be a Council of Governments or a statutorily created agency. There are 15 MPOs, all but one of which are RTPAs.

MPOs are required to develop a unified planning work program which describes the transportation planning activities to be conducted during a given period of time. The work program is essentially a calendar and funding program for planning activities.

MPOs are required to develop a multimodal long range transportation plan (LRTP) which forecasts the future transportation needs of an urban area and identifies potential facilities and services to meet these needs. Previously the LRTP only included federally funded projects.

Now, as a result of ISTEA and the Clean Air Act amendments, LRTPs will be required to include all transportation projects. This means the requirements for LRTPs have become similar enough to RTPs that MPOs are producing one document to satisfy both requirements. This document is usually called an RTP. Additionally, under ISTEA, LRTPs are required to be financially constrained or reasonably deliverable. Therefore, the most recent RTPs conform to this requirement.

Federal Air Quality Requirements

The federal Clean Air Act establishes criteria for attaining and maintaining National Ambient Air Quality Standards (NAAQS). These federal standards set allowable concentrations and exposure limits for various air pollutants, such as ozone, carbon monoxide and PM 10 (particulate matter 10 microns or less). A geographic region is in non-attainment when it does not meet NAAQS. For example, in California, there are nine classified ozone non-attainment areas. One of these areas is the Los Angeles-South Coast Air Basin,

which is the only area in the country that has a rating of "extreme". Another of the areas is the Bay Area, whose air quality management district has recently applied for designation that the area has met federal ozone attainment standards. There are also twelve classified carbon monoxide non-attainment areas in California.

If a region is a non-attainment area, regional air quality management districts must develop a federal air quality conformity plan for each NAAQS not attained. Each plan must be approved by the California Air Resources Board (ARB), and incorporated into the State Implementation Plan (SIP). The SIP describes specific actions and time frames for reducing emissions and attaining NAAQS. The SIP must be approved by the U. S. Environmental Protection Agency (EPA).

A region's RTP, RTIP and transportation projects must conform to the region's air quality plans that are in the approved SIP. MPOs perform air quality modeling to analyze the effects of transportation plans and projects on air quality, and then make conformity findings, in consultation with air quality management districts, ARB and Caltrans. If the plans and projects do not conform, the regions modify the transportation plans and projects. The Federal Highway Administration and the Federal Transit Administration must approve the conformity findings, in consultation with the EPA. Without this federal approval, the region will not receive necessary project approvals and federal funding will not be granted.

The Act's amendments clearly require that the air quality effect of each region's transportation projects be examined as a system. However, because the Act's amendments are recent and final rules on conformity were just published in November 1993, questions remain regarding the implementation of this mandate. Caltrans, to hasten the process of examining a region's transportation projects as a system, and specifically to coordinate intercity rail projects with local rail and transportation projects, will provide all RTPAs a current copy of Caltrans Intercity Rail Capital Program (IRCP) which is a listing of State intercity rail capital projects. (For a further explanation of the IRCP see the Section titled Intercity Rail Capital Program in this Chapter.) Additionally, Caltrans will continue to monitor air quality conformity issues and further refine procedures to incorporate intercity rail projects into the air quality review process.

State Transportation Planning for Intercity Rail

Caltrans is responsible for planning intercity passenger rail services. Under law, Caltrans is not required to produce a long term planning document similar to the RTP. However, Caltrans is required by Section 14036 of the Government Code to produce a shorter term planning document called the five-year Rail Passenger Development Plan every odd-numbered year. Caltrans has decided to produce this ten-year (1993/94 through 2002/03) Rail Passenger Program Report, which includes all of the information required by Section

14036 for the five-year plan, in order to provide an extended planning horizon for rail passenger service in California.

The provisions of Section 14036 are as follows:

> *The department shall prepare a rail passenger development plan biennially for submission to the Legislature, the Governor, the Public Utilities Commission, and the California Transportation Commission. The plan shall be submitted to the commission by April 1, 1991, and each odd-numbered year thereafter, for its advice and consent, and to the Legislature, the Governor, and the Public Utilities Commission by the following July 1. The plan shall consist of all of the following:*
>
> *(a) For capital and operating subsidies and costs, all actual encumbrances for the prior two fiscal years; and for state operations, all actual expenditures for the prior two fiscal years. All revenues shall be identified by source.*
>
> *(b) For capital and operating subsidies, estimated encumbrances and revenues for the current year; and for state operations, estimated expenditures for the current year. The department shall use the same format as is required for prior year expenditures pursuant to subdivision (a).*
>
> *(c) For the budget year and the four following fiscal years, proposed encumbrances for capital and operating subsidies and costs shall be reported in the same format as is required for prior year's expenditures. For state operations, proposed expenditures for the budget year shall be reported.*
>
> *(d) The identification and cost of capital facilities necessary to enhance competitiveness of rail passenger services, including, for each intercity route, a list of at least the three highest priority capital improvement projects, with cost estimates and a funding plan.*
>
> *(e) A performance evaluation of all services in operation for the two prior years, including performance trends, potential for efficiency and effectiveness, possible improvements, and strategies to achieve that potential. This shall include an evaluation of all feeder bus services, using, among other things, criteria based on ridership levels, break-even points, and levels of growth in service utilization. The number of daily feeder bus runs, if any, that failed to carry even one passenger shall be identified.*
>
> *(f) A recommendation of a level of and program for services over a five-year period, including a list of service enhancements on existing and additional routes, with funding and priority recommendations. This shall include identification of feeder bus service improvements and a management and operating plan for achieving these improvements.*

(g) An evaluation of reports by regional planning agencies and county transportation commissions on commuter service alternatives in their regions, including presentation of their recommendations.

(h) A map showing all existing intercity and commuter passenger rail routes and services, all proposed intercity and commuter passenger rail routes and services, and all intercity and commuter passenger rail routes and services that are the subject of feasibility studies.

(i) A report on the expenditure of marketing activities funds for purchases of media advertising of rail passenger services.

This report shall be prepared in consultation with the Public Utilities Commission and the National Rail Passenger Corporation. The department may consult with other agencies, organizations, and persons with expertise. The department shall employ realistic assumptions, using Public Utilities Commission cost data whenever possible, with respect to the level of services it can provide and the cost of these services when developing the plan.

(j) A discussion of the department's overall marketing strategy as it relates to the intercity rail passenger service, including feeder bus service, and a report on the expenditure of marketing activities funds for purchases of media advertising of rail services.

(k) A discussion of fare policies and practices, including all of the following:

(1) The relationship of fare policies to ridership and yield, including the impact of (A) a variety of regular fares, including fares such as midweek and other off-peak discounts, (B) discount fare blackouts during certain holiday travel periods on yield and ridership, and (C) discount fares for small groups traveling together.

(2) Lightly traveled route segments where current fares are too high for the demand, and where ridership or yield, or both, would increase with lower fares.

(3) A potential fare policy that would maximize both ridership and yield.

(4) A summary of discussions with Amtrak on the subject of fares.

RAIL PROGRAMMING

This section will discuss the regional, State and federal programming process. Figure **3A** illustrates the State's transportation planning and programming process and documents.

Regional Transportation Programming for Commuter and Urban Rail

RTPAs are required to prepare RTIPs that are based on RTPs. The RTIP is a seven-year capital improvement program which must be submitted to the CTC by December 1 of every odd-numbered year. County level CMPs are required to be incorporated into RTIPs. All projects that will receive State capital funding are required to be in RTIPs.

Local rail projects that will be subsequently programmed in the State Transportation Improvement Program (STIP) must be programmed in the RTIP under the Commuter and Urban Rail Program or the Flexible Congestion Relief (FCR) Program. Projects funded under the Commuter and Urban Rail Program must be on one of 11 commuter rail corridors or part of one of the 37 urban rail projects named in statute. These programs require a 50 percent local match. To date, the State's share of these projects has been entirely funded from the Passenger Rail Bond Fund. (All bond proceeds from Proposition 108-the Passenger Rail and Clean Air Bond Act of 1990 - and the 1994 bond measure, if approved by voters, are deposited in the Passenger Rail Bond Fund.)

Rail projects may also be programmed through the FCR program which is funded from the State Highway Account (SHA). These projects must reduce congestion on existing routes by increasing the capacity of the transportation system. Because all available and anticipated Passenger Rail Bond Fund revenues have already been programmed, generally new commuter and urban rail projects are being nominated under the FCR Program in the RTIPs.

State Transportation Programming for Intercity, Urban and Commuter Rail

The State programming process governs State transportation funds that are appropriated for capital projects and are allocated to individual projects by the CTC. These include funds from the SHA, the Passenger Rail Bond Fund, the Clean Air and Transportation Improvement Fund (from Proposition 116 - the Clean Air and Transportation Improvement Act of 1990) and the Transportation Planning and Development (TP&D) Account.

The three primary State programming documents for rail capital projects are the Proposed State Transportation Improvement Program (PSTIP), State Transportation Improvement Program (STIP) and Transit Capital Improvement (TCI) Program. Additionally, the Intercity Rail Capital Program (IRCP) is a list of intercity rail projects. (The RTIP is a programming document which is initiated by the RTPAs.)

Proposed State Transportation Improvement Program

Caltrans seven-year PSTIP is a parallel programming document to the RTIP for State-sponsored projects. State-sponsored projects must be in the PSTIP to be included in the STIP. The intercity rail projects that are funded under the Intercity Rail Program must be included in the PSTIP. The Intercity Rail Program was established under the "Blueprint Legislation". The Intercity Rail Program is a funding program. It is not the same as the IRCP, which is a list of

intercity rail projects. To date, this Program has been solely funded by the Passenger Rail Bond Fund.

State law specifies six intercity rail corridors as eligible for funding under the Intercity Rail Program:

- San Diego-Los Angeles
- Los Angeles-Santa Barbara
- Los Angeles-Fresno-San Francisco Bay Area and Sacramento
- San Francisco Bay Area-Sacramento-Auburn
- San Francisco-Santa Rosa-Eureka
- Santa Barbara-San Luis Obispo County-San Jose

By law, at least 15 percent of the Passenger Rail Bond Fund must be programmed and expended for intercity rail projects and divided among the intercity rail corridors in proportion to the populations served by the corridors. The Santa Barbara-San Luis Obispo County-San Jose corridor was added by the Legislature in 1992 as an eligible corridor [Ch 1310/92 (SB 1691, Hart)]. This bill specifies that funds for the original five corridors need not be reprogrammed in order to provide funding for this new corridor. The CTC has programmed 15 percent of the Passenger Rail Bond Fund revenues for the Intercity Rail Program.

State Transportation Improvement Program

The STIP is a seven-year program adopted biennially by the CTC. Projects to be included in the STIP must be in one of five categories: intercity rail, commuter and urban rail, flexible congestion relief, interregional roads system and retrofit soundwalls. Urban and commuter rail projects may be funded under that category or the flexible congestion relief category. Intercity rail projects may be funded under the intercity rail or the flexible congestion relief category. Funds from the SHA and the Passenger Rail Bond Fund are programmed in the STIP. Under State law, the CTC may include in the STIP only projects that have been nominated either by a regional agency in its RTIP or by Caltrans in its PSTIP. (However, both Proposition 116 and Transit Capital Improvement projects are amended into the STIP after they are approved by the CTC. This is primarily for record keeping purposes.)

Statutes require that the CTC, in adopting the STIP, determine that it is in compliance with the statutory north/south split and county minimums. These requirements are applied to separate four-year periods (quadrenniums). The requirements apply to funds programmed from the SHA and from the Passenger Rail Bond Fund, with the exception of projects funded in the Intercity Rail Program.

The north/south split requires that 60 percent of all funds be programmed and expended in the southern portion of the State, which is defined as 13 specific southern counties. The remaining 40 percent must be programmed and expended in the 45 counties in the northern portion of the State. Within each of these two

county groups, north and south, 70 percent of the funds are distributed as county minimums and the remaining 30 percent is discretionary in that it may be programmed and expended anywhere within the county group. The distribution to counties is based 75 percent on population and 25 percent on State highway miles.

Each biennial STIP programming cycle begins with the Fund Estimate, which is adopted by the CTC by August 15 of each odd-numbered year. The Fund Estimate provides an estimate of the revenues available for the coming STIP period, the amounts already committed from the prior STIP, and the amounts available for new programming in specific categories. It includes estimates of the north/south and county minimum balances for each quadrennium.

The RTIPs and the PSTIP are submitted to the CTC no later than December 15. After at least two public hearings, one in the north and one in the south, the Commission staff prepares its recommendations and releases them at least 20 days prior to the STIP adoption. By statute, the STIP is adopted by April 1 of each even-numbered year.

The Clean Air and Transportation Improvement Act of 1990

Programming for Clean Air and Transportation Improvement Act of 1990 (Proposition 116) bond funds originates outside the STIP process. Proposition 116, approved by the voters in June 1990, provides $1.99 billion for rail and other transit projects. It specifies the amount of funds available to Caltrans, RTPAs and transit agencies - generally for specific corridors and projects. The CTC reviews and approves project applications based on the bond measure and guidelines adopted by the CTC in 1990. Projects are amended into the STIP once an application is approved. The CTC does not allocate Proposition 116 funds until a specific allocation request is submitted by the project applicant and approved by the CTC.

Transit Capital Improvement Program

The TCI program is an annual priority list of projects to be funded in each State fiscal year from two sources: the TP&D Account and SHA "guideway" funds. Each year's Budget Act appropriates a specific amount from each of these fund sources to the TCI Program for that year. The 1993-94 budget appropriates $87.5 million from the TP&D Account and $34.3 million from SHA "guideway" funds for the TCI Program. TP&D Account revenues are available for specific types of projects, while SHA funds are available for a slightly different set of projects. In addition, all TCI funds are subject to a specific distribution formula.

TP&D Account revenues are available for all passenger rail capital projects, including rolling stock, anywhere in the State. Also they are available for any of several other transit capital project categories: railroad right-of-way acquisition; bus rehabilitation; grade separations; intermodal transfer stations; ferry vessels and terminals and short-line railroad rehabilitation projects. SHA "guideway" funds made available through the TCI program are available only for fixed

guideway projects, subject to the restrictions of Article XIX of the California Constitution.

TCI program funds are distributed based upon a "guideway" county minimum formula. (A separate county minimum formula applies to the STIP.) Fifty percent of all funds appropriated each year for the TCI program (from both the TP&D Account and the SHA) are distributed as "guideway" county minimums to the thirty-two counties that have voted to approve the use of State motor vehicle revenues for "guideway" purposes pursuant to Article XIX of the California Constitution (a list of the thirty-two counties is shown later in this Chapter). Intercity rail TCI projects are not exempt from this distribution as they are from the regular STIP north/south and county minimum formulas. The remaining TCI funds are discretionary. In addition, any SHA funds appropriated for the TCI program are subject to both the annual TCI "guideway" county minimums and the regular STIP four-year north/south and county minimum formulas.

The annual TCI process begins with the submission of applications, from either Caltrans or local agencies, to Caltrans. Caltrans receives and evaluates these applications in accordance with procedures and criteria adopted by the CTC. Except for intercity rail projects proposed by Caltrans, these projects must be included in the RTPA's annual "Guideway Financial Plan" submitted to the CTC. Caltrans recommendations are submitted to the Commission no later than February 1 of each year. No later than March 1, the Commission holds a public hearing on the applications and, no later than April 1, adopts the annual TCI program priority list. Projects on the TCI list are then amended into the STIP.

Intercity Rail Capital Program

The Intercity Rail Capital Program (IRCP) is Caltrans overall intercity rail capital project listing. It includes all planned intercity rail projects. Generally these projects are funded by (1) the Intercity Rail Program from the Passenger Rail Bond Fund, (2) the Proposition 116 Rail Bond Program from the Clean Air and Transportation Improvement Fund, (3) the TCI program from the TP&D Account and the SHA, or (4) the Minor Capital Improvement Program from the TP&D Account. The first IRCP was published in the 1991/96 Rail Passenger Development Plan, and revisions have been issued subsequently as updates to the Plan. All projects programmed in the PSTIP and STIP are first included in the IRCP.

The IRCP has particular significance for the TCI program. Section 99318.1 of the Public Utilities Code specifies that in order for an intercity rail project proposed by Caltrans to be considered for the TCI program it must be recommended in the Rail Passenger Development Plan or an update to the Plan.

Federal Programming

All transit and highway projects proposed for federal capital assistance under ISTEA or requiring federal action (such as a federal permit) must be included and prioritized in the Transportation Improvement Program (TIP), after first being subject to the analysis process contained in the 3-C planning process. The TIP must also include a financial plan that demonstrates how the program will be implemented. The TIP must be approved by the MPO and the Director of Caltrans and updated by September 1 of even-numbered years. Under ISTEA, the TIP has become a more comprehensive document than it was previously. It will most probably contain all transportation projects in a region regardless of funding source.

All TIPs are then included in the Federal Statewide Transportation Improvement Program (FSTIP). The FSTIP is prepared by Caltrans and includes projects listed in the TIPs as well as projects in areas not covered by the MPOs. Like the TIPs, the FSTIP is now a more comprehensive document and will probably contain all transportation projects statewide. The FSTIP must conform to the SIP.

RAIL FUNDING

Funding for rail systems in the State comes from a variety of State, local and federal funding sources. The current funding picture includes established and ongoing funding programs as well as significant one-time bond financing for new rail capital projects. Additionally, in recent years several State and federal programs which formerly funded only highway projects have been expanded to include rail and other transit projects. Below is an overview of the various State, local and federal funding sources which currently fund rail systems in California.

State Funding For Rail Systems

Currently State capital funding for rail systems comes primarily from State rail bonds, while operating and administrative funds and a limited amount of capital funding comes from the TP&D Account for rail. Additionally, the SHA can provide funding for rail under the provisions of Article XIX of the State Constitution.

"Blueprint Legislation" and Resulting Bond Measures

The 1989 "Blueprint Legislation" is a five-bill package [(Ch 105/89 (SB 300, Kopp), Ch 106/89 (AB 471, Katz), Ch 107/89 (AB 680, Baker), Ch 108/89 (AB 973, Costa), and Ch 109/89 (AB 2218, Ferguson)] that received wide support. It established a ten-year plan for providing an additional $18.5 billion in revenues for transportation projects. The legislation called for $3 billion in rail bonds to be used on rail projects and $500 million for transit operations and capital improvements from the TP&D Account. Also, the legislation provided funding for new flexible programs that can fund certain rail projects (such as the Flexible Congestion Relief Program).

In order to provide funding for the planned transportation projects, the legislation increased fuel taxes and weight fees, and authorized three $1 billion rail bond measures to be placed on the ballot in 1990, 1992 and 1994. In 1990 the voters approved the first $1 billion rail bond measure - The Passenger Rail and Clean Air Bond Act of 1990 (Proposition 108). To date, a significant portion of these bond proceeds has already been used to fund new rail projects and improvements to existing systems.

In 1992, the second bond measure (Proposition 156) was not approved by the voters. As a result, there will be $1 billion less in total "Blueprint Legislation" rail bond funds than originally proposed. In November 1994, an additional $1 billion rail bond measure will go before the voters. If this measure is not approved, there will be a total shortfall of $2 billion in rail bond funds than originally proposed. If the shortfall from Proposition 156 and the potential shortfall of the 1994 measure are not covered by alternative funding sources, there will be major negative implications for the expansion programs of intercity, urban and commuter rail systems in California.

The "Blueprint Legislation" established the Intercity Rail Program and the Commuter and Urban Rail Program discussed above. Thus far these Programs have been only funded from the Passenger Rail Bond Fund. The law specifies that at least 15 percent of the Fund should be used for intercity rail projects and up to 85 percent for urban and commuter rail projects.

Clean Air and Transportation Improvement Act of 1990

Proposition 116 provided a $1.99 billion one-time source of funding for rail and transit projects. It is described above under the Rail Programming section. Proposition 116 contains about $382 million for intercity rail, $1,373 million for urban and commuter rail projects, and $235 million for other transit and transit related projects.

Transportation Planning and Development Account

The TP&D Account is the primary ongoing source of State funds for rail and transit projects. Proposition 116 designated the TP&D Account as a trust fund to be used only for transportation planning and mass transportation purposes.

The Account receives most of its revenue from the sales tax on diesel fuel, but receives a portion of the sales tax on gasoline. Revenues to the Account vary from year to year depending on levels of fuel prices, fuel consumption and changes in the overall economy. In general, the Account revenues are projected to increase over time. In 1992/93 total Account resources were $248 million.

The TP&D Account funds are appropriated annually by the Legislature. State law provides the Account funds are divided in the following manner:

(1) First, funding is provided for Caltrans program support costs for its mass transportation activities, some Caltrans planning activities,

some assistance for regional transportation planning, CTC support costs, Public Utilities Commission support for its passenger rail safety program and Institute of Transportation Studies (University of California) support.

(2) Of the remaining funds in the Account, 50 percent goes to Caltrans for rail and feeder bus operating costs, the TCI Program and to promote ridesharing. (However, generally the Account has not been used for ridesharing programs.) Available operations funds may be used for the Minor Capital Improvement Program.

(3) The remaining 50 percent goes to the State Transit Assistance (STA) Program.

Figure **3B**, Extended Fund Forecast for the TP&D Account, compares estimated account revenues with estimated expenditures for the period of this Report.

Rail and Feeder Bus Operations Costs

The TP&D Account funds the operating costs of State-supported intercity rail passenger services operated by Amtrak and the feeder bus network which is connected to those services. Chapter IV includes a chart showing these allocations and projected costs from 1991/92 through 2002/03.

Through 1992/93, the TP&D Account paid a portion of the operating costs for the Peninsula Commute Service (PCS), a commuter rail line between San Francisco and San Jose. In 1980, at the direction of the Legislature, Caltrans assumed the lead role with the support of local transit agencies, for the operation of the service. Under legislation enacted in October 1989, the State was authorized to provide operating funds until July 1, 1993. As of this date, Caltrans ceased direct funding of PCS operations. (The PCS remains eligible for State capital assistance programs, such as rail bonds and TCI.)

Minor Capital Improvement Program

State law (Section 14037 of the Government Code) allows funds available to Caltrans for rail and bus operations to be used for maintenance of capital facilities and minor capital improvement projects related to Caltrans rail and bus services. These projects must be within the same cost limits as those set by the CTC for minor highway projects. Currently this cost limit is $300,000. Caltrans identifies projects for this program as funds are available.

State Transit Assistance

The STA program provides capital and operating funds on a formula basis to RTPAs for use in their area. The RTPA distributes the funds to transit and rail agencies under its jurisdiction. As more local and regional rail agencies are formed, such as the Peninsula Corridor Joint Powers Board and the Southern California Regional Rail Agency, rail agencies will receive a higher

Figure 3B

EXTENDED FUND FORECAST

TRANSPORTATION PLANNING AND DEVELOPMENT ACCOUNT

BASED ON TRENDS AND EXISTING LAW

($ in 1,000)

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	TOTAL
RESOURCES											
Beginning Reserve	62,384	-	-	-	-	-	-	-	-	-	-
Sales Tax On Gasoline-Spillover (1)	47,000	-	-	-	-	-	-	-	-	-	-
Sales Tax On Gasoline-Per Blueprint Legislation	50,000	57,000	55,600	57,200	57,800	58,300	58,700	59,600	60,800	62,000	527,000
Sales Tax On Diesel	100,000	102,000	100,700	103,900	108,900	123,400	129,800	134,200	136,900	139,600	1,079,400
Surplus Money Investment Fund (SMIF)	9,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	45,000
Transfer of SMIF to the General Fund (2)	-9,000	-	-	-	-	-	-	-	-	-	-
Transfer to the General Fund (3)	-91,500	-	-	-	-	-	-	-	-	-	-
Transfer to the State Highway Account (4)	-38,500	-	-	-	-	-	-	-	-	-	-
Board of Equalization Audit	-255	-254	-	-	-	-	-	-	-	-	-254
Debt Service Repayment-General Fund	6,340	-	-	-	-	-	-	-	-	-	-
Annual State Highway Account Transfer (5)	16,563	17,000	17,000	18,000	19,000	19,000	20,000	21,000	21,700	22,500	175,200
Total Resources	152,032	180,746	178,300	184,100	190,700	205,700	213,500	219,800	224,400	229,100	1,826,346
SUPPORT COSTS											
Rail & Mass Trans Staff Support & Ops	16,662	19,018	19,700	20,400	21,100	21,800	22,600	23,400	24,200	25,000	197,218
Planning Staff & Support	12,790	13,452	13,900	14,400	14,900	15,400	15,900	16,500	17,100	17,700	139,252
Local Planning	4,032	4,032	4,200	4,300	4,500	4,700	4,900	5,100	5,300	5,500	42,532
California Transportation Commission	1,125	1,160	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	10,760
Public Utilities Commission	1,526	1,581	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	17,181
Institute of Transportation Studies	956	956	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	8,956
Budget ChangeProposal (BCP) Reservation	0	0	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	72,000
Total Support	37,091	40,199	43,600	47,000	50,500	54,000	57,600	61,300	65,000	68,700	487,899
Available Funding	114,941	140,547	134,700	137,100	140,200	151,700	155,900	158,500	159,400	160,400	1,338,447
State Transit Assistance	54,300	61,650	64,850	66,050	67,600	73,350	75,450	76,750	77,200	77,700	640,600
COMMITTED PROGRAM	60,641	78,897	69,850	71,050	72,600	78,350	80,450	81,750	82,200	82,700	697,847
Cash Commitment Against Prior Years TCI Programming (6)	9,849	31,723	20,804	16,881	11,970	8,970	-	-	-	-	90,348
Transit Capital Improvements (TCI)	28,308	13,694	-	-	-	-	-	-	-	-	13,694
Rail Services & Bus Operations	**22,484**	**33,480**	**49,046**	**42,911**	**43,494**	**48,657**	**44,818**	**41,924**	**40,151**	**38,169**	**382,650**
State Funding Available for the TCI Program	$0	$0	$0	$11,258	$17,136	$20,723	$35,632	$39,826	$42,049	$44,531	$211,155

Notes:

(1) The gasoline and diesel sales tax revenue shown in FY 93/94 and 94/95 are Department of Finance revised estimates.

(2) The amount shown in FY 93/94 represents transfer of SMIF to the General Fund.

(3) The amount shown in FY 93/94 represents transfer to the General Fund for Rail Bond Debt Service.

(4) The amount shown in FY 93/94 represents a transfer to the State Highway Account for Article XIX (Guideway) funding.

(5) The State Highway Account Transfer includes $30,000 transferred to TP&D annually from the Aeronautics Account.

(6) The amount shown in FY 93/94 is the 1988 STIP (TCI) commitment. The remaining years reflect the FY 93/94 ($87.5 million) and FY 94/95 ($44.9 million) TCI cash commitment.

proportion of State STA funds. In 1993-94 the Budget Act appropriates $54.3 million to the STA Program .

State Highway Account Funding for Rail Programs

The bulk of the SHA supports the State's highway system, but a portion of the Account supports rail projects under the Article XIX Guideway Program, the Flexible Congestion Relief (FCR) Program and the State/Local Partnership Program. Additionally, under Chapter 1095, Statutes of 1993 (AB 1153, Costa) effective January 1, 1994, the Intercity Rail Program is now eligible for SHA funds.

The Account receives its funds from State gasoline taxes and diesel fuel taxes, State vehicle weight fees and federal funds made available to the State under Title 23, U. S. Code, Highways. Use of the State-generated portion of the SHA is governed by Article XIX of the State Constitution which allows the funds to be used for research, planning, construction, improvement, maintenance and operation of public streets and highways. Additionally, the SHA can be used for the research, planning, construction, and improvement of public mass transit guideways (which includes intercity, commuter and urban rail, and electric trolleybus services) and their fixed facilities. The SHA cannot be used for vehicle acquisition or maintenance and operating costs. SHA funds can only be used for guideway purposes in regions or counties whose voters have approved the use of funds for such purposes. The thirty-two"guideway" counties are:

Alameda	Marin	San Joaquin
Butte	Mendocino	San Luis Obispo
Contra Costa	Merced	San Mateo
El Dorado	Nevada	Santa Barbara
Fresno	Orange	Santa Clara
Humboldt	Placer	Santa Cruz
Imperial	Riverside	Solano
Kern	Sacramento	Sonoma
Kings	San Bernardino	Stanislaus
Los Angeles	San Diego	Yolo
Madera	San Francisco	

Since 1991, the federally-funded portion of the SHA has generally been more flexible than the State-funded portion. Federal funds are generally available for rail facilities, including rolling stock, anywhere in the State.

Article XIX Guideway Funds

The Article XIX "guideway" funds are one of two funding components for the TCI Program (See the discussion above on the TCI Program.) In 1993/94 the Budget Act provided $34.3 million in "guideway" funds for the TCI Program. State law specifies that it is the intent of the Legislature that the CTC continue

to allocate SHA funds for guideway purposes notwithstanding the current availability of rail bond funds for rail projects.

Flexible Congestion Relief Program

The FCR program, which is entirely funded from the SHA, was initiated in 1989 under the "Blueprint Legislation". It was an attempt to provide a more flexible funding source that could be used for various modes of transportation. The program provides funds for local transportation projects which will help reduce congestion. By statute, the funds can be used both for highway and urban and commuter rail projects.

Under Chapter 1095, Statutes of 1993 (AB 1153, Costa), effective January 1, 1994, FCR funds can be used for the Intercity Rail Program. This is a potential new source of funding for intercity rail projects.

The 1992 STIP for the seven years from 1992/93 through 1998/99 includes $4.1 billion for FCR projects. (This does not include Article XIX Guideway SHA funds appropriated through the TCI Program.) Of this amount, only $104 million has been programmed for rail. Thus, the FCR program has been somewhat of an untapped resource for rail and other transit projects. This is true primarily because the rail-related bond measures under the "Blueprint Legislation" and Proposition 116 have been the primary source of State funds for rail projects. In the future, the FCR Program may become a more important part of the funding package for intercity, commuter and urban rail because the bond measures are a one-time source of funding for rail capital projects, while rail programs around the State will have ongoing capital needs.

State and Local Transportation Partnership Program

This SHA-funded program was established in 1989 under the "Blueprint Legislation" which envisioned $200 million annually be used as matching funds for locally funded and constructed highway and public mass transit guideway projects. Urban and Commuter Rail projects may compete for funds under this program. From 1990/91 through 1992/93, $652 million was appropriated for this program. Of this amount, $60 million, or nine percent has been used for Urban and Commuter Rail capital projects.

Local Funding for Rail Systems

Local funding for rail projects includes the Local Transportation Fund, local sales taxes raised specifically for transportation purposes, and other sources such as property taxes and local general funds.

Local Transportation Fund

The Local Transportation Fund (LTF) is the principal source of local funding for mass transportation programs in California. Created by the Transportation Development Act (TDA), Ch 1400/71 (SB 325, Mills/Deddeh), the LTF has become the financial backbone of local transit funding. The LTF revenues are generated by

one-fourth percent sales tax collected by the State for transportation purposes. In 1992/1993, LTF allocations to local entities based on the amount of tax collected in each county totaled $690 million statewide.

Statute establishes nine priorities for the expenditure of LTF revenues. The primary use of the LTF is to support public mass transit, while a smaller portion of the revenues support local and regional transportation planning entities, and under certain conditions streets and roads. Each county receives the amount of sales tax that was collected in its county. RTPAs apportion the LTF revenues based on population in areas of the county. The RTPAs then allocate the revenues based on apportionment requirements and specific claims by transit operators under the provisions of TDA.

Intercity and commuter rail operations and capital improvements were established in 1988 as the fourth priority for the use of LTF. As yet, LTF has not been widely tapped for these purposes. For example, in 1991/1992 only approximately $2 million of LTF funds were used for intercity or commuter rail.

Local Sales Taxes

There are two kinds of local transportation sales taxes. Four statutorily created transit districts directly impose a one-half percent sales tax on their district; these districts are the Bay Area Rapid Transit District, San Mateo County Transit District, Santa Clara County Transit District and Santa Cruz Metropolitan Transit District. In 1991/1992 these four transit districts raised $277 million in revenues.

Seventeen counties in California have enacted additional one-half percent sales taxes for transportation purposes. (Los Angeles county has two one-half percent measures.) A local governmental agency (often the RTPA) is responsible for administering the sales tax revenues. Depending upon the specific sales tax measure approved by voters in each county, the tax revenues may be used for public transit, for highways or for a combination of both. Each individual sales tax has different restrictions and different revenue distribution requirements, including whether the funds can be used for operating or capital purposes. Often the measures specify a level of funding for specific capital projects. In 1991/92, total transportation sales tax revenues totaled $1.4 billion; this amount includes funds for highway, rail and public transit.

Other Local Funds

Mechanisms exist to use other local funds, such as general funds and property taxes for rail purposes. For example, 47 percent of the San Francisco Municipal Railway's operating revenues were from the City General Fund in 1990/1991.

Redevelopment funds and contributions from other private sources have been used by local governments in the LOSSAN Corridor to finance the construction of stations and related parking facilities. The major restriction on redevelopment funds is that they must be used in an area which qualifies for redevelopment.

Federal Funding for Rail Systems

Federal funding for rail projects includes direct funding for Amtrak, ISTEA funds and Federal Transit Administration funds.

Amtrak Funds

Amtrak funds the entire operating costs of basic system Amtrak service and a portion of State-supported intercity 403(b) service. In Federal Fiscal Year 1993, Congress appropriated $351 million, including a supplemental appropriation of $20 million approved in July 1993, for Amtrak operating support nationally. This federal support supplements Amtrak's other revenues, estimated to be $1.53 billion in Federal Fiscal Year 1993. These revenues are derived from ticket sales, food and beverage sales, mail handling, State 403(b) payments, contracted commuter service payments and real estate income.

In addition to providing operating funds, Congress also provides Amtrak with capital funds. In Federal Fiscal Year 1993, this appropriation totaled $186 million, including a $21 million supplemental appropriation. In addition, $208 million were appropriated for Northeast Corridor related improvements.

The Federal Fiscal Year 1994 Budget was approved in October 1993. Congress approved $352 million for operating support, $195 million for capital projects, and $225 million for improvements to the Northeast Corridor. Because this is lower than Amtrak's anticipated needs, Amtrak has cut service on some routes outside of California in order to avoid a deficit.

Amtrak is also pursuing legislation to establish a capital fund to be financed by one cent of the current two and one-half cent federal fuel tax now allocated to deficit reduction. The establishment of this stable source of capital funding would allow Amtrak to upgrade and expand its existing system and support the development of new high speed rail corridors.

This Report assumes the Amtrak system will continue to be funded at the federal level as Congressional and public support for rail passenger service has remained strong.

Federal Transit Administration

The Federal Government provides funding for urban and commuter rail projects in California and other states through the Federal Transit Administration (FTA), formerly the Urban Mass Transit Administration. The FTA has a number of programs that provide funds for rail and transit related research, planning, operations and capital projects. The two programs that provide operating and capital funds for rail services are the Section 3 Discretionary and Formula Capital Program and the Section 9 Urbanized Area Formula Grant Program.

The Section 3 Discretionary and Formula Capital Program provides funds for the establishment of new rail projects, the improvement and maintenance of existing rail and guideway systems, and the rehabilitation of bus systems. New

rail projects and bus rehabilitation are funded on a discretionary basis, while guideway funds are allocated on a formula basis. Generally, the federal grant will provide up to 80 percent of the project cost. Public transit agencies apply directly to FTA for these grants. In California, Section 3 grants have provided significant funding for certain systems such as the Metrorail in Los Angeles. In Federal Fiscal Year 1993, transit agencies in California are estimated to receive $200.3 million in Section 3 funds.

The Section 9 Urbanized Area Formula Grant program is a formula-apportioned grant for capital and operating assistance for transit agencies in urbanized areas with populations of over 50,000. Section 9 funds both rail and transit services. In Federal Fiscal Year 1993, it is estimated that transit agencies in California will receive $237.3 million in Section 9 funds.

Intermodal Surface Transportation Efficiency Act of 1991

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) provides significant new funds for transportation, establishes new flexible programs, and provides increased flexibility in existing Federal Highway Administration (FHWA) and FTA programs. These changes will make it possible for rail and transit programs to access a higher percentage of federal transportation funds than was previously possible. The new multimodal program is the Surface Transportation Program (STP). Basically, any transit project which is eligible for funding under the FTA's capital grant programs, should be eligible for capital funding under STP. (FTA has stated that intercity rail projects are not eligible for STP, or CMAQ funds, which are described below.)

ISTEA also includes the Congestion Management and Air Quality (CMAQ) program which funds primarily capital projects in federal air quality non-attainment areas. As discussed above, California has a number of non-attainment areas; thus the State will receive a high percentage of funds under this program. Additionally, there are existing FHWA programs in which states may now choose to use a portion of program funds for STP purposes. Thus, in many cases a state may now use traditional highway funds for mass transit purposes.

ADMINISTRATION OF STATE GRANT PROGRAMS

Caltrans is responsible for part or all of the administration of a number of grant programs for State funded local guideway systems. These Programs are the TCI Program and the rail bond fund programs. Administration may include all stages from review of the initial application through close-out and final audit.

Caltrans reviews the TCI applications, and prioritizes the projects in accordance with CTC program guidelines and regional priorities. The prioritized project list is sent to the CTC for review and approval. Funds for the program are appropriated by the Legislature.

Before the CTC allocates funds for a project, Caltrans must ensure that an agency-level management "SB 580" review has been successfully completed and perform a project-specific "SB 580" review. This process was established under Ch 1139/75 (SB 580, Mills). The SB 580 agency-level review is a management audit of the agency involved with the project. It ensures the agency has the capabilities to complete the project. The project-specific SB 580 review makes sure the management plan, schedule of development and financial plan for the project are up-to-date and accurate. After an allocation is made, Caltrans monitors the progress of the project, reviews invoices and approves reimbursement payments. Caltrans also conducts final project audits.

As discussed above, Proposition 108 projects must be included in the STIP. Agencies may then submit allocation requests to the CTC. Before allocations can be granted, Caltrans performs the SB 580 reviews described above. Once allocation requests are granted, Caltrans takes on the same responsibilities as for a TCI project.

Caltrans does not review Proposition 116 applications prior to project allocation, as these applications are made directly by local agencies to the CTC. However, Caltrans performs SB 580 reviews, and once the CTC approves a project allocation, Caltrans is then responsible for monitoring the project and administering the grant.

Caltrans and the CTC have worked together to streamline a number of grant processes in an effort to improve project delivery and grant administration. For example, Caltrans, in cooperation with the CTC and local agencies, has developed a "universal application" for all funding sources and a streamlined allocation process.

CALTRANS CERTIFICATE PROGRAM IN RAIL AND TRANSIT

Caltrans, since March 1993, has been developing a Certificate Program in Rail and Transit. The first pilot course is planned to begin in the Fall of 1994. The purpose of the Certificate Program is to provide transportation professionals with training aimed at developing their expertise in transit and rail planning and operations. The Certificate Program will focus on the intermodal planning approach mandated by ISTEA and on forging partnerships both internally and externally with transit related organizations.

Although the initial course or series of courses will be piloted to only Caltrans employees, subsequent courses will be available in the Fall of 1995 to other State agencies, such as the State Air Resources Board, RTPAs, and transit operators. The inclusion of non-Caltrans transportation professionals in the Certificate Program will aid in the development of cooperation and understanding between State and local transportation related agencies.

Additionally, Caltrans has contracted with the University of California, Institute of Transportation Studies Extension Program, to develop a new training program in multimodal transportation planning to meet

requirements in ISTEA. A two and one-half day course was developed, and four different sessions were presented in the Fall of 1993. The seminar focuses on the multimodal planning aspects of ISTEA and related legislation. Additional sessions may be given.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

Air Quality Planning and The Conformity Process

There are several apparent errors, or oversimplifications, in Chapter III on transportation planning, programming and funding process. We are commenting here only on those directly involving air quality planning and the conformity process.

Please revise the discussion of federal nonattainment areas (page 16) to indicate the current number of areas classified as federal ozone nonattainment areas is nine, and the number of urbanized areas classified as federal carbon monoxide nonattainment areas is twelve. You may wish to add that the Bay Area Air Quality Management District (BAAQMD) has applied for a federal ozone attainment designation.

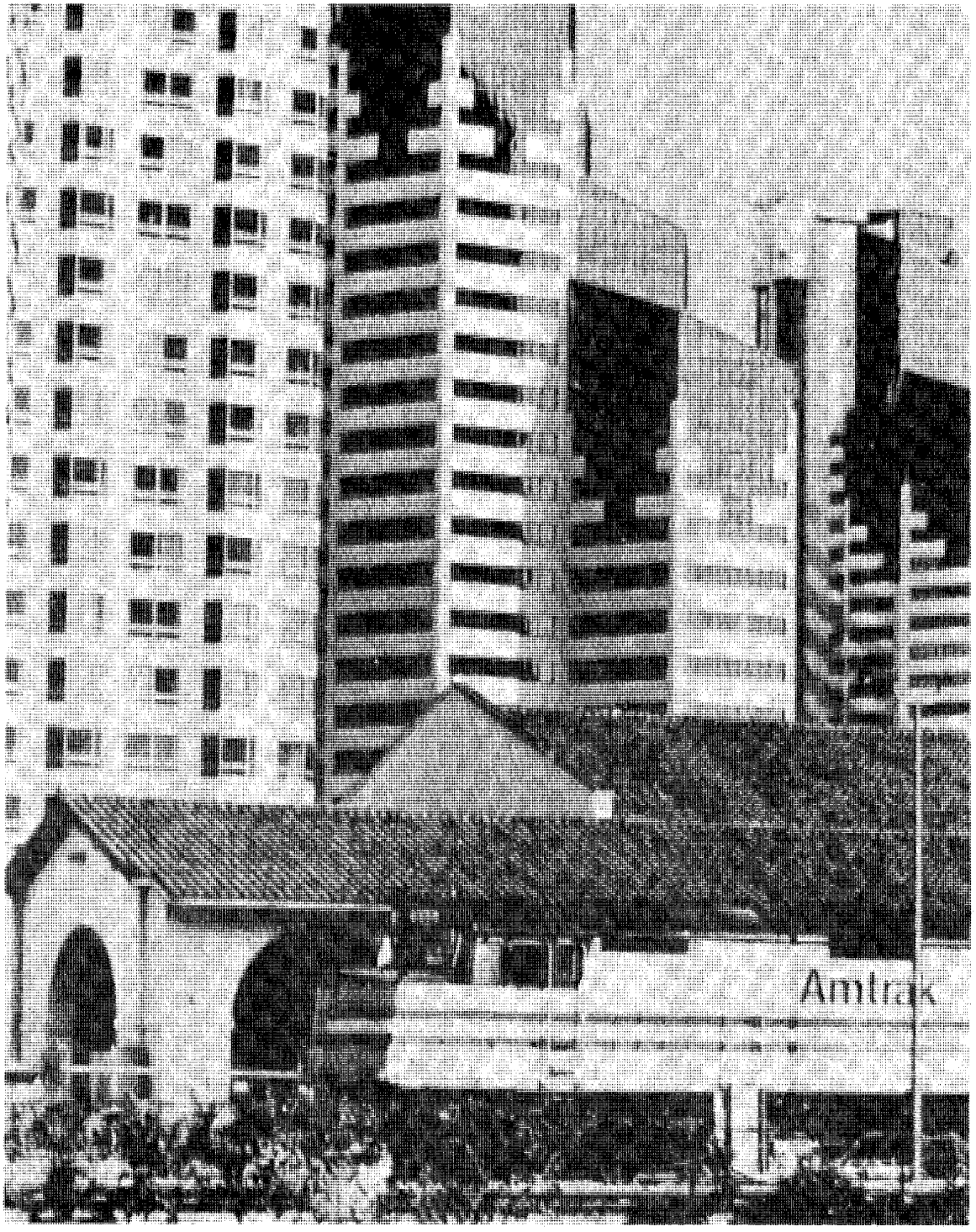
In the next paragraph, the description of the role of the regional air quality agencies is incorrect. Regional air quality management districts develop and adopt regional air quality plans which they forward to the Air Resources Board (ARB) for approval and incorporation into the SIP, and the plans are then forwarded to the U.S. Environmental Protection Agency (EPA) for final approval. As noted, the SIP describes specific actions and time frames for reducing emissions and attaining NAAQS.

The further description in this paragraph of the role of the Metropolitan Planning Organizations (MPOs) is accurate. It should be added that MPOs perform the transportation conformity analyses in consultation with air districts, Caltrans and the ARB; their findings of conformity must be approved by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), in consultation with the U.S. EPA.

In response to your comments, these changes have been made in the Report.

Federal programming (page 22): Suggest clarification of the role of the Director of Caltrans, as defined in ISTEA, in "consulting on", rather than approving, regional CMAQ and STP projects in the TIP.

The final Report does not reflect this comment, as this discussion is beyond the scope of the Report.



San Diegan Route Train at San Diego

Chapter IV
The State Intercity Rail Operations Program

This Chapter will cover the State Intercity Rail Operations Program. First, Caltrans relationship with Amtrak in administering the three State-supported 403(b) routes in California will be discussed. Then Caltrans funding for intercity rail services operations will be reviewed. Finally, Caltrans activities in administering the intercity operations program will be reviewed, including a number of specific programs, reports and activities relating to all three routes. Any Caltrans activities related specifically to only one route are included in the route-specific chapter (Chapter VI - The *San Diegans*, VII - The *San Joaquins* or VIII - The *Capitols*).

CALTRANS RELATIONSHIP WITH AMTRAK

In this Section both Caltrans financial and operational relationship with Amtrak will be discussed.

Financial Relationship

Section 403(b) of the federal Rail Passenger Service Act authorizes Amtrak to operate intercity rail passenger service beyond its basic system services when requested to do so by a state or group of states or a regional or local agency, provided the requesting party agrees to repay Amtrak for a specified portion of the cost of the service and providing that Amtrak has its share of resources available. The Act states the requesting party must pay at least 45 percent of the short-term avoidable loss in a train's first year of operation and at least 65 percent of the loss in subsequent years, plus at least 50 percent of associated capital costs (including equipment depreciation and interest charges). The remaining costs are covered by Amtrak.

Amtrak has advised Caltrans that severe budget constraints have limited their ability to fund its share of the costs of new 403(b) services. Therefore, in October, 1991, Amtrak implemented the following cost sharing policy: first, Amtrak considers the specified state share of loss in Section 403(b) to be a minimum level of charge; and second, a state must pay at least 70 percent of long-term avoidable loss on new 403(b) services. Trains and services implemented prior to the 1991 policy change continue to operate under their original cost sharing basis. Figure **4A** shows the present operating cost sharing arrangements for each route and train in the California State-supported 403(b) system.

The Act stipulates Amtrak will establish the basis for determining avoidable loss. Avoidable loss is equal to total revenue minus avoidable costs. Thus, to define avoidable loss, Amtrak must first define avoidable costs. Amtrak defines **short term avoidable costs** as "the costs of activities which will be stopped upon discontinuance of a route or a train, or conversely started-up

upon the introduction of a new service." These costs include: train and engine crews, fuel and power, services provided directly by railroads, passenger inconvenience payments, routine maintenance of equipment, maintenance of way, on-board service crews and supplies, station services, sales and marketing, purchased insurance and a portion of general support.

"**Long-term avoidable costs** are those costs which vary with additions or deletions of service but not necessarily in the initial year of change." These costs include all of the short-term avoidable costs listed above plus additional costs. These additional costs include: heavy repairs (overhaul of equipment and replacement of failed components); the costs of claims from passengers, employees and third parties (self insurance); and additional general support of the State's share of long-term avoidable costs for revenue accounting, information services, common facilities, stations, commissaries, crew bases and field and corporate overhead costs. Long-term avoidable costs in California are about 20 percent higher than short-term avoidable costs.

Figure 4A

CALIFORNIA 403(b) SERVICE
AMTRAK/CALTRANS COST SHARING ARRANGEMENTS

Route and Train	State Share of Loss
***San Diegan* Route**	
• San Diego-Los Angeles: all four State-supported trains	65% of short term loss
• Los Angeles-Santa Barbara: first train	65% of short term loss
• Los Angeles-Santa Barbara: second train	65% of **long** term loss
***San Joaquin* Route**	
• First, second and third trains	65% of short term loss
• Fourth train	70% of **long** term loss
***Capitol* Route**	
• All trains	65% of **long** term loss

Figure 4A illustrates both the *San Diegans* and *San Joaquins* have some trains operating under both short-term and others under long-term avoidable loss policies, while the *Capitols* operate entirely under long-term avoidable loss policies. Thus, it is difficult to compare the operating performance of each route using the same standards because revenue/cost (farebox) ratio (the major operating performance standard) is based on the relationship of costs to revenues. For example, the second Santa Barbara train (which is assessed long-term avoidable costs) would have a lower farebox ratio than the first Santa Barbara train which is assessed short-term avoidable costs (if ridership and revenue were the same).

Caltrans pays any net operating loss of the feeder buses that serve the State-supported 403(b) routes. The operating loss consists of the entire bus

operating costs (as billed by the contract bus operator) minus the feeder bus revenue credits. The bus revenue credits represent a proportional share of the passenger's entire rail-bus fare assigned to the bus portion of the trip.

Operational Relationship

Amtrak, in operating 403(b) service in California, performs many functions. Amtrak employees staff and maintain trains and staff stations with ticket offices. The equipment is maintained by Amtrak at Amtrak operated facilities. Many Amtrak national functions provide service to California's 403(b) trains. For example, California trains benefit from national Amtrak marketing and the national reservation, ticketing and information systems, as well as Amtrak's accounting, purchasing, public information and general support activities. Amtrak employs about 3,000 persons in California. Employee annualized earnings total about $66 million. In 1991/92 Amtrak expended over $18 million in California for goods and services.

Amtrak owns and operates two separate facilities in Los Angeles, the 8th Street Car Maintenance Facility and the Redondo Junction Locomotive Maintenance Facility. The combined labor force is about 380 employees. About 50 locomotives and 225 passenger cars are maintained and serviced at this complex, including the equipment for the *San Diegan* route and Amtrak's interstate routes serving Southern California. Amtrak advises that both the 8th Street and Redondo Junction Maintenance Facilities are badly deteriorated and need major capital improvements to meet Amtrak's operational and efficiency goals.

A smaller maintenance facility in Oakland used by Amtrak is part of the Southern Pacific Transportation Company (SP) Oakland yards. The Amtrak passenger cars are maintained at a portion of the facility operated by Amtrak, while SP, under contract with Amtrak, maintains the locomotives. Amtrak also services equipment at four smaller facilities in San Diego, Bakersfield, Santa Barbara and Roseville. All turnaround facilities are operated by Amtrak; the work at San Diego is done by Amtrak employees and the balance by contractors.

Amtrak maintains control over many operational functions related to State-supported service. Amtrak administers fare policy in accordance with its national goal to maximize revenues and reduce its need for federal operating support funds. However, Caltrans works with Amtrak to develop special California or route specific promotions. Amtrak has national service requirements and standards that it maintains. For example, Amtrak controls food service and smoking policies on all trains. Caltrans has been successful in working with Amtrak to adapt some of these policies to specific California conditions. A no-smoking policy has been instituted on all California 403(b) trains and basic system *San Diegans* and food services are being adapted to the tastes of the California market.

Figure **4B** shows ridership at each Amtrak train and bus station in California in federal Fiscal Year 1992/1993. This table includes ridership on 403(b) routes (including feeder bus routes) as well as Amtrak's basic system routes. The table shows the availability of a ticket agent or checked baggage service.

Figure **4B**

AMTRAK TRAIN AND BUS RIDERSHIP BY STATION
FEDERAL FISCAL YEAR 1992-1993 (See Note)

Rank	Station	County	1992-1993 Ridership	Routes Serving Station (a)								Ticket Agent	Checked Baggage
				SD	SJ	C	CS	CZ	DW	SC	SL		
1	L. A. Union Station	Los Angeles	1,139,038	●	✘		●		●	●	●	✔	✔
2	San Diego	San Diego	628,335	●	✘							✔	✔
3	Sacramento	Sacramento	325,856		✘	●	●	●				✔	✔
4	Fullerton	Orange	283,433	●	✘				●			✔	✔
5	Oceanside	San Diego	261,308	●	✘							✔	✔
6	Del Mar	San Diego	249,455	●								✔	✔
7	Oakland	Alameda	242,720		●	●	●	●				✔	✔
8	San Juan Capistrano	Orange	238,146	●	✘							✔	
9	Martinez	Contra Costa	203,683		●	●	●	●				✔	✔
10	Santa Ana	Orange	201,526	●	✘							✔	✔
11	Anaheim	Orange	197,848	●								✔	✔
12	Santa Barbara	Santa Barbara	168,140	●	✘		●					✔	✔
13	Fresno	Fresno	163,875		●							✔	
14	San Francisco	San Francisco	158,759		✘	✘	✘	✘				✔	
15	Bakersfield	Kern	135,743	✘	●							✔	✔
16	San Jose	Santa Clara	126,586		✘	●	●					✔	✔
17	Stockton	San Joaquin	124,922		●							✔	✔
18	Hanford	Kings	98,747		●							✔	✔
19	Glendale	Los Angeles	64,805	●	✘		●					✔	✔
20	Merced	Merced	59,537		●							✔	
21	Davis	Yolo	58,390		✘	●	●	●				✔	✔
22	Richmond	Contra Costa	54,287		●	●	●	●				✔	
23	Oxnard	Ventura	54,245	●	✘		●					✔	✔
24	San Luis Obispo	San Luis Obispo	51,547	✘	✘		●					✔	✔
25	Irvine	Orange	48,311	●								✔	
26	Riverbank	Stanislaus	43,196		●							✔	
27	San Bernardino	San Bernardino	39,525		✘				●	●		✔	✔
28	Van Nuys	Los Angeles	29,666	●	✘								
29	Simi Valley	Ventura	25,852	●			●						
30	Berkeley	Alameda	24,918		●	●							
31	Chatsworth	Los Angeles	23,754	●									
32	Salinas	Monterey	21,630		✘	✘	●					✔	✔
33	Pasadena	Los Angeles	21,240	✘	✘					●		✔	✔
34	Pomona (2 stations)	Los Angeles	20,425		✘					●	●	✔	✔
35	Roseville	Placer	19,471		✘	●		●					
36	Suisun-Fairfield	Solano	19,252			●		●					
37	Corcoran	Kings	16,524		●								
38	Ventura	Los Angeles	15,572	●	✘								
39	Wasco	Kern	15,170		●								
40	Chico	Butte	13,651		✘	✘	●						
41	Antioch-Pittsburg	Contra Costa	13,141		●								
42	Turlock-Denair	Stanislas	12,544		●								
43	San Clemente	Orange	11,710	●									
44	Redding	Shasta	11,438		✘	✘	●						
45	Madera	Madera	10,216		●								
46	Truckee	Nevada	9,777		✘	✘		●					
47	Vallejo-Marine World	Solano	8,123		✘	✘							
48	Barstow	San Bernardino	7,843		✘				●	●			
49	Santa Rosa	Sonoma	6,155		✘	✘							
50	Fremont (2 stations)	Alameda	5,633		✘	●							
51	Riverside	Riverside	5,464		✘								
52	Colfax	Placer	5,352		✘	✘		●					
53	Long Beach	Los Angeles	5,276	✘	✘								
54	Santa Cruz	Santa Cruz	5,022		✘	✘							
55	Marysville	Yuba	4,872		✘	✘							
56	Visalia	Tulare	4,509		✘								
57	Monterey	Monterey	4,341		✘	✘							
58	Santa Maria	Santa Barbara	4,222	✘									
59	Moorpark	Ventura	4,043	●									
60	Lompoc	Santa Barbara	3,903	✘									
61	Victorville	San Bernardino	3,761						●				
62	Dunsmuir	Siskiyou	3,468				●						
63	Indio	Riverside	3,079		✘						●		
64	Napa	Napa	2,835		✘	✘							
65	Grass Valley	Nevada	2,657		✘	✘							

Figure 4B (Continued)

Rank	Station	County	1992-1993 Ridership	Routes Serving Station (a) SD	SJ	C	CS	CZ	DW	SC	SL	Ticket Agent	Checked Baggage
66	Great America	Santa Clara	2,476			●							
67	Santa Clarita-Saugus	Los Angeles	2,341	✘	✘								
68	Needles	San Bernardino	2,312							●			
69	Pismo Beach	San Luis Obispo	2,230	✘									
70	Auburn	Placer	2,195		✘	✘							
71	Torrance	Los Angeles	2,156	✘	✘							✔	
72	Lancaster	Los Angeles	1,894	✘	✘								
73	Thousand Oaks	Ventura	1,548	✘									
74	Nevada City	Nevada	1,453		✘	✘							
75	Disneyland	Orange	1,289		✘								
76	Santa Monica	Los Angeles	1,278		✘								
77	Oroville	Butte	1,246		✘	✘							
78	West Los Angeles	Los Angeles	1,243		✘								
79	Palm Springs	Riverside	1,226		✘								
80	Palmdale	Los Angeles	1,204	✘	✘								
81	Petaluma	Sonoma	1,177		✘								
82	Burbank Airport	Los Angeles	1,004		✘								
83	Rohnert Park	Sonoma	1,002		✘								
84	Tehachapi	Kern	1,002		✘								
85	El Monte	Los Angeles	902		✘								
86	Livermore	Alameda	836		✘								
87	Red Bluff	Tehama	817		✘	✘							
88	Mojave	Kern	633		✘								
89	Whittier	Los Angeles	625		✘								
90	Paso Robles	San Luis Obispo	600	✘	✘								
91	Ukiah	Mendocino	596		✘								
92	Willits	Mendocino	527		✘								
93	Gilroy	Santa Clara	470		✘	✘							
94	Tracy	San Joaquin	450		✘								
95	Calistoga	Napa	450		✘	✘							
96	Atascadero	San Luis Obispo	408	✘	✘								
97	Porterville	Tulare	381		✘								
98	California City	Kern	312		✘								
99	St. Helena	Napa	156		✘	✘							
100	Palm Desert	Riverside	139		✘								
101	Cloverdale	Sonoma	85		✘								
102	Yosemite Natl. Park	Mariposa	73		✘								
103	Woodland	Yolo	54		✘								

(a) Route and Symbol Key:

SD *San Diegan* (San Diego-Santa Barbara)
SJ *San Joaquin* (Oakland-Bakersfield)
C *Capitol* (San Jose-Roseville)
CS *Coast Starlight* (Los Angeles-Seattle)
● Train at this location
✘ Bus only at this location

CZ *California Zephyr* (Oakland-Chicago)
SW *Desert Wind* (Los Angeles-Salt Lake City)
SC *Southwest Chief* (Los Angeles-Chicago)
SL *Sunset Limited* (Los Angeles-New Orleans-Miami)
✔ Ticket Agent and/or checked baggage at this location

Note: Official Amtrak ridership data for Federal Fiscal Year (October 1992 through September 1993). Includes all passengers originating or terminating at each station on all routes shown above. (Does not include passengers transferring between train and bus within a single route.) Santa Cruz data reflects only through tickets sold by Amtrak, not local tickets.

FUNDING FOR INTERCITY RAIL SERVICES OPERATIONS

Caltrans has projected start-up dates for new State-supported service extensions. The start-up date projections are for planning purposes only. Demonstrated ridership demand, institutional barriers, availability of funding and equipment and technical problems outside the control of Caltrans will affect when each of the service improvements can be implemented.

Extensions and new routes discussed in Chapter X - Intercity Rail Feasibility Studies are not projected because these services have not yet been recommended by Caltrans for implementation. If any of these services are recommended for implementation, adjustments to funding projections will be made.

Figure **4C** shows State and Amtrak funding for intercity rail and feeder bus operations from 1991/92 through 2002/03. State amounts from 1991/92 through 1993/94 reflect actual allocations. Costs for the remaining period reflect proposed budget amounts for 1994/95 and projections thereafter. State amounts include all feeder bus costs as Amtrak does not share in feeder bus operating support costs. Amtrak amounts represent their estimated contribution to train operations. No local operating support has been received. State support costs are also provided for years 1991/92 through 1993/94, covering marketing and administration which are primarily Caltrans staff costs.

For planning purposes, all existing services are presumed to continue for the period of this Report, supplemented by the following train service expansions. The year of expansion is the first full year of service, although actual start-up date may occur during the prior year.

(1994/95) Extension of a third *San Diegan* to Santa Barbara.

(1994/95) Extension of *San Joaquin* Route to Sacramento.

(1995/96) Fifth State-supported *San Diegan* between Los Angeles and San Diego.

(1995/96) Extension of one *San Diegan* to San Luis Obispo (incorporates extension of the fourth *San Diegan* to Santa Barbara).

(1995/96) Fifth and sixth *San Joaquins* between Oakland and Bakersfield.

(1995/96) Fourth through sixth *Capitols* between San Jose and Sacramento.

(1995/96) Extension of additional *Capitol* Route service to Colfax.

(1996/97) Extension of *San Joaquin* Route to Los Angeles.

(1998/99) Seventh through tenth *Capitols* between San Jose and Sacramento.

(1999/00) Sixth State-supported *San Diegan* from San Diego to Los Angeles.

(2002/03) Seventh State-supported *San Diegan* between Los Angeles and San Diego.

Figure 4C

PROJECTED FUNDING FOR INTERCITY RAIL SERVICES OPERATIONS
(Dollars in Millions)

	Allocation			Budget	Projected							
	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
OPERATIONS												
San Diegans												
State	$1.20	$3.10	$1.87	$4.56	$6.4	$5.5	$4.8	$3.9	$3.2	$1.7	$1.6	$1.6
Amtrak	0.41	1.06	0.53	0.51	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
TOTALS	1.61	4.16	2.40	5.07	6.9	6.0	5.3	4.4	3.7	2.2	2.1	2.1
San Joaquins												
State	4.61	9.00	12.72	19.30	28.3	26.9	28.4	27.3	26.7	25.8	24.8	23.6
Amtrak	1.52	2.97	3.69	3.69	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
TOTALS	6.13	11.97	16.41	22.99	32.0	30.6	32.1	31.0	30.3	29.5	28.5	27.3
Capitols												
State	4.47	7.71	6.18	9.62	14.3	10.5	10.3	17.4	15.0	14.4	13.8	13.0
Amtrak	1.27	2.18	1.54	1.54	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
TOTALS	5.74	9.89	7.72	11.16	15.8	12.0	11.8	18.9	16.5	15.9	15.3	14.5
TOTALS												
State	10.28	19.81	20.77	33.48	49.0	42.9	43.5	48.6	44.9	41.9	40.2	38.2
Amtrak	3.20	6.21	5.76	5.74	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
TOTALS	$13.48	$26.02	$26.53	$39.22	$54.7	$48.6	$49.3	$54.4	$50.6	$47.6	$45.9	$43.9
STATE SUPPORT												
San Diegans												
Administration	$0.96	$1.62	$1.61									
Marketing	1.05	1.08	1.24									
TOTALS	2.01	2.70	2.85									
San Joaquins												
Administration	1.06	1.22	1.21									
Marketing	1.59	1.58	1.81									
TOTALS	2.65	2.80	3.02									
Capitols												
Administration	0.36	1.22	1.21									
Marketing	1.03	1.69	1.93									
TOTALS	1.39	2.91	3.14									
TOTALS												
Administration	2.38	4.06	4.03									
Marketing	3.67	4.35	4.98									
TOTALS	$6.05	$8.41	$9.01									

CALTRANS INTERCITY RAIL OPERATIONS PROGRAM

In addition to paying the major portion of the train operating costs, Caltrans pays any operating deficit of the feeder bus services, marketing costs and costs for Caltrans staff to administer the State's intercity rail program.

Under State law, State operated intercity rail service must meet certain financial requirements. New services must meet a ratio of fare revenues to avoidable cost of at least 55 percent within its third year in operation in order to continue to be funded. Existing services must meet the 55 percent revenue/cost (farebox) ratio during the previous year in operation to continue to be funded. If the farebox ratio is not met, the California Transportation Commission can grant a waiver for up to three years.

Caltrans staff monitors the intercity rail train service operations by performing such tasks as monitoring on-board service, reviewing schedules and Amtrak procedures and administering the Amtrak contract. Caltrans staff operates the feeder bus program, including route development, schedule development, administration of the Amtrak bus contract and system monitoring. Caltrans administers a specific marketing program for the three routes including production of the California Amtrak Timetable, an in-house marketing campaign and newsletter, administration of sizable advertising and public relations consultant contracts and the administration of the Operation Lifesaver Campaign.

Caltrans plans for new frequencies and routes. Staff conduct route feasibility studies for new routes and expansions of existing service. The Intercity Rail Capital Program document is also prepared. Caltrans staff develops specific capital projects for improvements to existing routes and for route extensions. Staff then manage these projects during the implementation phase.

Finally, Caltrans staff is doing planning work for a new high-speed rail system. Staff will be working with the new Intercity High-Speed Ground Transportation Commission to produce the 20-year High-Speed Intercity Ground Transportation Plan.

Below is a description of a number of different programs, reports and activities that relate to all three State-supported routes.

No Smoking Policy on State-Supported Routes

Caltrans requested Amtrak to authorize a no smoking demonstration on the *Capitols* because of the changing attitudes toward smoking by the traveling public in California and the relatively short route length and travel time. Amtrak agreed and the *Capitol* demonstration project began on July 1, 1992.

The public appears supportive of the no smoking policy and ridership has not been negatively affected. After evaluation of the results of the demonstration project, Amtrak and Caltrans decided to begin a no smoking policy on all State

supported 403(b) trains and basic system *San Diegans* in California. The new policy began with the May 5, 1993, schedule change.

The elimination of cars previously designated for smoking permits better utilization of equipment by increasing seating for the non-smoking majority of passengers, reduces maintenance costs by improving cleanliness and provides a healthier environment for all passengers and Amtrak staff.

Food Service Improvements on State-Supported Routes

In the 1991 Rail Passenger Development Plan, it was reported that the cost of providing full dining service, such as had previously existed on high-level equipment on the *San Joaquins*, was prohibitive and could not reasonably be undertaken. Nevertheless, to address concerns about the variety and attractiveness of food service on intercity trains, Caltrans and Amtrak undertook to improve the food service aboard the *San Joaquins* using the existing Horizon food service cars. Caltrans decided changes to the Amtrak menu should be considered on the new *Capitol* trains as well because the Amtrak Commissary in Oakland services and stocks trains on both routes.

In early 1992, Caltrans arranged a meeting between national Amtrak staff responsible for menu selection and California-based food vendors. The purpose of the meeting was to demonstrate numerous regional food products and to allow Amtrak staff to meet and discuss the products with the vendors. As a result of the meeting, Amtrak introduced popular entrees on the *San Joaquins* dining service in early 1993 and included such additional amenities as fresh flowers, table linens and complementary wine with dinner.

Caltrans long range goal is to establish distinctive food service on intercity trains with menu items that reflect regional California taste and products. These long range changes will come with the design, construction and use of Caltrans new California Car food service cars. (See Chapter V for a description of the California Car acquisition process.) The food service car is being designed to be state-of-the-art and capable of providing snacks and full meals. Caltrans plans to hire a consultant to develop a business plan for the new California food service car which will feature California Cuisine.

Services Facilitating Intermodal Connections

Caltrans recognizes the importance of intermodal transfers between State-supported intercity rail services and all other local and regional transit services in California. Therefore, Caltrans provides information about selected transit options in its California Amtrak Timetable. Included in the timetable are station connections, general information and phone numbers for more than a dozen light rail, commuter rail and bus systems in California, including the San Diego Trolley, Sacramento Regional Transit, the Bay Area Rapid Transit system and Los Angeles area Metrolink commuter rail. A schedule for selected Peninsula Commute Service (PCS) trains and bus connections is included in the Amtrak Timetable, allowing passengers to make convenient transfers from

Amtrak to the PCS at San Jose and San Francisco. Additionally, maps of selected systems, such as the San Diego Trolley, are included in the schedule.

As discussed below, Caltrans has been working to provide rail connections to airports. With the reopening of the Burbank Airport Station, Amtrak passengers on the *San Diegan* route will have excellent train/plane access to destinations throughout the State and nation. Caltrans continues to encourage local transit providers to extend service to intercity rail and feeder bus station stops. For example, Sacramento Regional Transit has recently extended bus service on a key route directly to trainside at the Amtrak station.

Caltrans has developed a proposal to sell BART tickets aboard the *Capitols* and *San Joaquins* for BART trips commencing at the Richmond BART station. The BART tickets would be sold from the Amtrak food service car. This ticket sale service would facilitate a passenger's ease in making connections between the *Capitols* or *San Joaquins* and BART at the Richmond Multimodal Terminal. BART has approved the proposal and Amtrak has agreed to a demonstration project aboard the *Capitols* starting in the Spring of 1994.

Disability Access to State-Supported Rail Services

Both State and federal laws govern the accessibility of rail stations and rail and bus vehicles. This section covers the application of these laws to intercity services.

Federal and State Laws

The federal Americans With Disabilities Act (ADA) of 1990, is a comprehensive civil rights measure prohibiting discrimination against the disabled in employment, housing and transportation. The intent of the law is to ensure equal access for persons with disabilities to public accommodations, public services, telecommunications and transportation.

The ADA applies to intercity rail facilities and operations, most significantly stations and rail and feeder bus vehicles. All new intercity rail stations are required to be accessible according to specific ADA standards. Intercity rail stations are considered to be new if construction begins or notice to proceed is issued after October 7, 1991. All existing Amtrak stations are required to be accessible according to ADA standards by July 26, 2010. All stations serving 403(b) State-supported routes are considered to be Amtrak stations.

The ADA requires that all existing intercity rail cars must have one accessible car per consist (entire train) by July 26, 1995. Additionally, all new rail cars ordered after August 26, 1990, must be accessible according to specific ADA standards. The ADA allowed a three year study period for intercity bus service to determine specific regulations for intercity bus service. This study is currently being done by the federal government, to be completed later by the end of 1993.

A civil rights law for the disabled was passed in California in 1968. Based on this law specific standards for accessible buildings were developed. These standards are contained in Title 24 of the California Building Code. Title 24 was recently revised to include all ADA requirements.

Title 24 requires all new buildings to meet specific accessibility requirements. All building additions must also comply with Title 24. When an addition is made to a building, the existing structure must be retrofitted to meet minimum accessibility standards less stringent than for new buildings. If additions are made to a building that is designated as an historical structure, the accessibility standards that must be met take into consideration the historic nature of the facility.

Access to rail and feeder bus vehicles is regulated under the California Civil Code. This code requires full and equal access for physically disabled persons to all facilities and services enjoyed by the non-disabled public on all public conveyances. The Civil Code does not define the method to be used to provide access to rail vehicles and feeder buses; thus the provider must develop specific means to provide access.

Caltrans Implementation Program

All new stations, station additions or station renovations on State-supported intercity rail routes have been designed and constructed to comply with Title 24. In addition, in response to the passage of ADA, Caltrans in the Fall of 1992 surveyed all stations serving 403(b) State-supported routes to determine if these stations meet ADA requirements for accessibility. Caltrans is currently developing a plan to fund and implement improvements on all stations that do not meet ADA standards.

Amtrak 403(b) service in California currently complies with ADA requirements for intercity rail cars because all 403(b) trains have at least one accessible car. Currently, there are wheelchair lifts at all staffed stations served by 403(b) trains and at most unstaffed stations. Caltrans is working to provide wheelchair lifts at all stations.

In early 1992, Caltrans awarded a contract for the design and manufacture of 41 intercity California Cars. The car will be a state-of-the-art, bi-level passenger car which will exceed ADA standards. It has been conceived, specified and designed with accessibility as an inherent quality, not as an afterthought. Accessibility features include on-board lifts for easy boarding and alighting, wide aisles to maximize on board circulation and large lavatories. Caltrans goal has remained to provide all passengers convenient access to all amenities, regardless of individual mobility abilities.

Caltrans is requiring all new feeder bus routes be served by buses equipped with wheelchair lifts. As contracts for existing routes are renewed or rebid, Caltrans is requiring buses to be equipped with wheelchair lifts. Caltrans expects all regularly assigned buses in the feeder bus system which serve the State-supported 403(b) routes will be equipped with lifts by July 1994.

Airport Access

Chapter 599/92 (AB 2095, Costa) added Section 14036.7 to the Government Code. This section says:

> *The department shall include in the rail passenger development plan prepared pursuant to Section 14036, a report on the status of all existing intercity rail station facilities that serve airports directly and indirectly and on the department's activities in improving other linkages between rail service and airports.*

Caltrans has worked to provide rail access to the Burbank-Glendale-Pasadena Airport. A *San Diegan* stop adjacent to the airline terminal was inaugurated in 1990. At this time the Airport expanded its shuttle bus route to include the rail station. This station was then temporarily closed to allow a second main track to be added to accommodate additional Metrolink and Amtrak passenger rail service. The station is scheduled to be reopened in 1994. One site will then integrate the Airport shuttle, Amtrak train and feeder bus service and local transit service. The two *San Diegan* trains operating north of Los Angeles will serve the Burbank Airport station. This stop will be the closest rail-air interface in the Western United States.

San Diego Transit offers direct bus service from the San Diego Amtrak Station to the San Diego Airport. Bus service connects all of the *San Diegans* and with the airport in a 10 minute trip.

Caltrans is currently developing access to the Oakland International Airport. A new Oakland Coliseum station on the *Capitol* Route is being planned. The station would be close to the BART Coliseum/Oakland Airport Station which is linked by shuttle bus to the Airport.

Fare Policies and Practices on State-Supported Routes

Fares on intercity rail services in the United States are set by Amtrak to maximize revenue, not ridership, to achieve their national goal of operating self-sufficiency. This is unlike many public transit systems that seek to maximize ridership by using a low fare structure. In contrast, State-operated intercity rail service must meet or exceed a statutory minimum standard of a 55 percent ratio of fare revenues to avoidable cost in order to continue to receive State funds.

To choose a fare structure that raises the most revenue for each city pair segment, Amtrak makes an assessment of market demand, competition from other mass transportation carriers and parallel highways, and the level of train service being offered. It combines this assessment with forecasts of future economic activity in the affected corridor and uses the results to set fares that will maximize revenue. While Caltrans contributes its knowledge of State travel markets to this fare-setting process, Amtrak retains final decision-making authority under operating contracts entered into pursuant to Section 403(b) of the Amtrak Act.

Caltrans shares Amtrak's desire to maximize revenues and to improve cost effectiveness of the State-supported 403(b) services. However, Caltrans believes discounted fares and promotions can increase both revenues and ridership, while Amtrak remains concerned about potential dilution of revenue from this approach.

In the case of California-sponsored services, Amtrak has been open to experimenting with discount fares implemented on both a permanent and promotional basis. For example, the $7 and $1 return fares on round-trip tickets were first suggested on a promotional basis by Caltrans and later became permanent fixtures when the special fares were found to raise both revenue and ridership.

A successful example of such fare experimentation occurred just after introduction of the *Capitol* Route service, when a two-for-one promotional fare was offered for two months in the Spring of 1992. Farebox return then achieved the 55 percent statutory minimum level for the only period in the service's short history. This result was significant because: (1) the higher ridership that can be expected as a result of any reduction in fares was, in this case, accompanied by an increase in total revenue and (2) a farebox return of this level is highly unusual on a new intercity service.

In the Spring of 1993, another two-for-one promotional fare became available on the *San Joaquins* and the *Capitols*. Amtrak implemented the May-through-August promotion for travel on a Monday through Thursday basis only. It is coupled with promotion of the $1 and $7 return fares on round-trip tickets, good at all other times. This promotion produced favorable ridership and revenue results, particularly on the *Capitols*. For example, ridership in July on the *Capitols* was 120 percent above July 1992 ridership. However, this promotion did not produce as dramatic increases in farebox return as the Spring 1992 promotion.

Finally, Amtrak announced another two-for-one fare valid from November 1, 1993 to March 30, 1994 on the *San Diegans, San Joaquins, Capitols* and connecting buses.

Among future fare experiments Caltrans has discussed with Amtrak are lower fares for underutilized segments of routes. One such segment is the San Jose-Oakland portion of the *Capitols* where fares are high and ridership is relatively low. Amtrak has shown a willingness to experiment with this concept.

Caltrans will continue to work with Amtrak in order to identify the most effective fare structure in the corridors the State supports. Caltrans will, with Amtrak's cooperation, continue to experiment with special fares designed to attract riders from new markets.

"California Pass" Report

Considerable travel demand in California is generated by out-of-state tourists and by occasional travelers from in-state on trips over 100 miles. In response to

this market, Assemblyman Costa authored AB 963 (Chapter 357/91). The bill required Caltrans to investigate the feasibility of implementing a "California Pass" allowing travelers to ride state-funded intercity and commuter rail lines and their feeder buses for one ticket price. To the extent feasible, the Legislation intended access to local transit be included in the Pass.

Rail passes are marketed in many foreign countries and by many local and regional transit agencies in the United States. To determine the feasibility of a similar pass for California, Caltrans reviewed over 20 different passes and interviewed transit operators in the state's major metropolitan areas, along with representatives of 17 regional planning agencies. While support for the pass concept is nearly universal, the study process revealed unanticipated implementation problems which must be addressed before a pass can be implemented. Caltrans summarized its findings in a report titled "The California Rail Pass - A Feasibility Study" released in November 1992.

Caltrans is currently working on implementing the "California Pass". Major outstanding issues include price, term, honoring conditions and, if local transit operators are to be included, replacement for "lost" revenue. The price of the pass must be low enough to attract new customers to train services, but high enough to assure that the required 55 percent farebox ratio is not jeopardized if customers switch from existing fare instruments. The price must be relevant to both short and long distance users of the system, neither too expensive for the former, nor a giveaway for the latter. A variety of terms of validity might be used, but if the pass is good for a month, it must be priced so that it doesn't compete with passes or tickets offered by any of the local commuter rail or transit systems on which it might be honored.

Unfortunately, Amtrak's present accounting and ticketing systems will not allow a true pass as proposed above. However, Amtrak is exploring other alternatives, including discount rail cards as found in many European countries. Perhaps the most difficult unresolved issue is inclusion of local and regional transit services. This is because transit systems view each pass rider as someone who, without the pass, would be depositing revenue in fareboxes. The overwhelming sentiment, expressed by virtually all operators consulted, is that without reimbursement for these "lost" revenues, a pass program is not desirable. Caltrans will seek a variety of ways for securing local participation, with reimbursement methodologies ranging from direct payment to a customer surcharge.

Operation Lifesaver

Operation Lifesaver is a national, non-profit public education and information program started in Idaho in 1972. California became involved in Operation Lifesaver in 1979. Caltrans Division of Rail has participated in Operation Lifesaver activities since 1991. Caltrans participates on the Operation Lifesaver Executive and Regional Boards and coordinates a speakers' bureau.

Operation Lifesaver's goals are to achieve a continued reduction in highway-rail grade crossing accidents and resulting injuries and deaths; to promote good safety habits for motorists, cyclists and pedestrians driving, riding or walking across or along railroad lines; and to develop public support for grade crossing safety and crossing improvement programs.

Operation Lifesaver focuses on the three E's: Education, Engineering and Enforcement. Education to promote awareness of crossing dangers; Engineering for improved warning signs and signals; and Enforcement of traffic regulations at grade crossings. The three E's are aimed at informing the public how to be safer at highway-rail grade crossings.

Operation Lifesaver is endorsed by the nation's railroads, railroad suppliers, the Federal Highway Administration, the Federal Railroad Administration (FRA), the National Transportation Safety Board, state and national organizations and various groups interested in highway-rail safety. The ultimate goal of Operation Lifesaver is to make highway-rail collisions obsolete by encouraging every motorist to:

"Look==Listen==Live"

Caltrans chairs an annual combined event recognizing "California Rail Safety Awareness Week" and "California Operation Lifesaver Awareness Day". For 1993, the Governor proclaimed May 17-23, as California Rail Safety Awareness Week and May 19, as California Operation Lifesaver Awareness Day. Caltrans organized numerous events to take place throughout that week.

In July 1993, Channel 58-KSCH-TV aired on its "FOCUS" public affairs weekly program two separate one-half hour programs completely devoted to Operation Lifesaver and rail safety.

Rail Safety; Hispanic Outreach

After receiving a $200,000 grant from the Office of Traffic Safety, Caltrans contracted with a private public relations firm to develop a "Rail Safety: Hispanic Outreach" statewide campaign. This effort has produced English and Spanish language brochures, bilingual tapes used for radio spots and two bilingual videotapes. One of the videotapes is for Public Service Announcements and the other is an eight-minute educational videotape featuring Ricardo Montalban. The videotapes have run on television statewide and are being well received nationwide. Caltrans is uniting efforts concerning this program with the California Highway Patrol's program of "El Protector" officers.

Intercity Rail Safety

As the operator of 403(b) intercity rail service in California, Amtrak is responsible for ensuring all railroad and contract operations are conducted within federal, State and local safety requirements, as well as within Amtrak's own safety rules and regulations. Amtrak conducts its operations in

compliance with Federal Rail Safety Laws contained in Title 49 of the Code of Federal Regulations (CFR). Those laws are enforced by the FRA in conjunction with State Rail Safety General Orders of the California Public Utilities Commission (CPUC). The State Constitution makes the CPUC responsible for enforcing rail safety laws in California and the CPUC staff is certified to enforce rail safety laws of Title 49 of the CFR as well. Amtrak has a number of safety-related procedures and programs.

Amtrak requires that all employees governed by applicable operating rules be trained and examined annually on these rules. Engineers must be licensed by the FRA. The Operating Rules Examination is given annually to all operating employees. Further, Amtrak employees are continuously observed and tested on the job to ensure rule compliance and understanding. Each engineer must be checked at least once a month for compliance of at least one safety critical operating rule and each conductor must be checked every sixty days. A speed check, by radar, of every engineer is performed at least once every 90 days.

Amtrak has developed a System Safety Program for its own operations, as well as for all contracted work it undertakes. All Amtrak employees are instructed in, and trained to abide by, the guidelines of Amtrak's System Safety Program, the safety rules and instructions pertaining to the work operations of their craft or department. The purpose of the System Safety Program is to establish standard safety program guidelines for the prevention of accidents, injuries and illnesses and to provide for the safe operation of the railroad.

Amtrak's Corporate Safety Program includes complete understanding and compliance with the Safety Training Observation Program (STOP). STOP is a comprehensive safety training program that systematically trains personnel to observe, correct, prevent and report unsafe working conditions or actions. This program includes periodic classroom training for all employees. In addition the safety rules of the Transportation and Mechanical Department are made known to all employees through an eight-hour class as well as reinforced daily in the field by supervisory and fellow employees.

Amtrak has developed comprehensive emergency evacuation procedures to ensure maximum protection of passenger and crew safety and well-being. In the event of earthquakes or other disruptions, Amtrak works closely with all the railroads, who have their own procedures in place.

Amtrak offers emergency evacuation training to police, fire departments and rescue personnel that operate in the regions through which Amtrak trains pass. It provides instructors and equipment to demonstrate and teach rescue personnel the proper methods of evacuation in the event of an emergency situation such as a derailment. This training includes a mechanical awareness segment as well as hazards to avoid during emergency situations. Amtrak organizes these demonstration classes for area rescue agencies.

Finally, Amtrak has a fully-certified staff of in-house environmental safety experts, familiar with all relevant EPA and FRA regulations.

Passenger Security

Caltrans and Amtrak both realize that maintaining and increasing passenger security on 403(b) intercity trains and in stations is an important component of a successful service. Thus both entities have taken measures to ensure passenger security and explore new options for increased security.

All trains and buses have telephone or radio access to local emergency and law enforcement agencies if an emergency arises. In addition, all trains and buses have access to a dispatcher, who can contact emergency personnel. On-board and station staff are specially trained to handle emergency situations.

Amtrak has its own police force to patrol stations, yards and trains. Additionally, it is the responsibility of local law enforcement agencies to patrol and police station areas. If Caltrans or Amtrak station personnel identify a recurring security problem at a station, the local law enforcement agency is contacted and asked to increase its routine patrol of the station. Station personnel also request local law enforcement to respond to specific security problems.

Caltrans has been paying special attention to security issues in the design of new stations. Generally, new stations are owned and constructed by local agencies and receive construction grants from Caltrans. Thus Caltrans monitors the design of stations through its grant program. Caltrans has made security provisions a condition of funding at certain new stations. For example at the new Jack London Station in Oakland, in response to Caltrans concerns, the Port of Oakland offered to provide 24-hour security.

Caltrans assesses potential station sites for numerous security issues such as visibility and convenience to local enforcement patrols. In overseeing the design of new stations, Caltrans strives to increase passenger and station personnel security through: a physical layout that allows station personnel to monitor all passenger areas; use of building materials, such as bullet proof glass around the ticketing area; security systems; and enhanced lighting at platforms, waiting and parking areas.

Amtrak/Caltrans Intercity Rail Ridership Model

In an effort to improve planning for 403(b) services in California, Caltrans and Amtrak are engaged in a joint project to develop an intercity rail model to forecast ridership on existing and planned services in California. The model is currently under development and is planned to be ready for use in 1994.

The model will project total travel in California intercity rail corridors and the amount of travel likely to use intercity rail service under various fare and frequency scenarios. The model development included an extensive data collection phase. Two origin/destination studies were completed for auto travelers on I-80 and State Route 99. The purpose of these studies was to determine the travel patterns in the auto corridors that correspond to the *Capitol* and *San Joaquin* corridors. (Caltrans plans to do a similar survey on

the *San Diegan* corridor.) Additionally, extensive on-board surveys were done on the *Capitols* and *San Joaquins*. A similar survey was also conducted on the *San Diegans* by the San Diego Association of Governments (SANDAG).

The final model will be applicable to all three of the State-supported 403(b) routes and will be used primarily for long range planning purposes to assess the feasibility of additional frequencies, service extensions and new routes. It will have more limited use for assessing service variations, such as fare promotions or scheduling variations.

Intermodal Station Inspection Program

Chapter 1490/90 (AB3736, Costa) added Section 99317.8 to the Public Utilities Code as follows:

> *(a) A public agency which has received an allocation for funding of an intermodal transfer station pursuant to paragraph (3) of subdivision (a) of Section 99317 shall provide for maintaining the station and its appurtenances, including, but not limited to, restroom facilities, in good condition and repair, and in accordance with high standards of cleanliness. As part of its duties in monitoring state-funded rail and bus services, the department shall, at least annually, conduct an unannounced inspection of each facility and make recommendations, if any, to the operating agency. Results of the department's inspections shall be included in the rail passenger development plan required pursuant to section 14036 of the Government Code. If appropriate remedial action is not taken, the department may recommend to the commission that future applications for transit capital funding be denied.*
>
> *(b) The Legislature finds and declares that regular inspections of intermodal stations are necessary to protect the state's capital investments in these essential transportation facilities and to avoid the problems resulting from deferred maintenance.*

In compliance with this section, Caltrans conducted unannounced inspections of all intermodal stations in Fall 1992 to determine their current conditions, including cleanliness. Inspection results were satisfactory except for two stations. The owners of these two stations were notified of some problem clean-up and repair issues and these problems have since been remedied.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

AMTRAK COMMENTS

Chapter IV - Pg. 33 Operational Relationships

The last sentence in the 2nd paragraph.... the comments about improvements at our maintenance facilities in Los Angeles imply more progress than in truth there really is. Both 8th Street and Redondo Junction Maintenance facilities are badly deteriorated and need major capital improvements to meet Amtrak's operational and efficiency goals.

Chapter IV was revised to reflect this comment on the status of the Los Angeles maintenance facilities.

Chapter IV - Pg. 43 California Pass Report

Amtrak's present accounting and ticketing systems will not allow a true pass as proposed. Amtrak is exploring other alternatives, including discount rail cards as found in many European countries.

Amtrak's comment on a potential California Pass was included in the "California Pass Report" section of Chapter IV.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

Customer Service

We suggest a section that lists plans of the Division of Rail for improving passenger service be included in your report, possibly in the section on Caltrans Intercity Rail Operations Program (Page 37).

We agree improved passenger service is an important issue. Discussion on this topic is found in a number of sections of the Report. The three Chapters on the State-supported intercity rail routes (Chapters VI - The San Diegans, VII - The San Joaquins, and VIII - The Capitols) each include a section on "Operational and Service Improvements". Chapter IV - The State Intercity Rail Operations Program includes a number of sections on service related issues: "Food Service Improvements on State-supported Routes", "Services Facilitating Intermodal Connections", "Airport Access" and "Intercity Rail Safety". In the next version of the Report, we will explore presenting passenger service information in a more easily accessible format.

Studies have shown that to attract riders to mass transportation, the system must be competitive in price to auto operation costs, competitive in travel time, reliable, comfortable and safe, as well as have easy access to scheduling information. In your report, fare prices are discussed in sections on fare pricing strategies; travel time improvements are covered in sections on improving maximum speeds and efforts to introduce high speed rail; and the comfort issue is addressed in the sections on the "California Car" and custom class service. However, two aspects of customer service are barely touched upon, reliability and security. Also, while access to real time information may be planned for the future, there is no discussion on improving that service in the short term.

Our comments on reliability, security, and real-time information follow your paragraphs below on these topics.

Reliability is a major factor in choosing to take an alternative travel mode, and it is an issue that needs to be addressed in the report. Increased reliability, or better performance, should be included as a policy (page 3), and, where applicable, included as a recommendation, not just listed as a strategy under Intercity Rail Operations (page 4) in the Introduction.

In response to your comment, in the final Report the policy on "Cost-effective Intercity Rail Passenger System" includes reference to a reliable system. As discussed above, the three State-supported intercity route Chapters include an objective related to improved reliability. As indicated above, this objective is discussed in more detail in the final Report.

Although statistics are cited for system-wide Amtrak on-time performance (page 94), there is no intent expressed to monitor train station arrivals or departures in an effort to determine on-time statistics per route, as the airlines do, so Caltrans and Amtrak can pinpoint repetitive problems and solve them. Favorable statistics can be used as a marketing tool, and good on-time experiences can keep existing passengers. We note that in choosing the train route between Fresno and Stockton (page 94), the number of opportunities to avoid delay was a consideration.

In discussion of the Capitol trains, common delays in meeting that schedule are cited (page 102), particularly delayed arrivals at the San Jose rail station. Currently Santa Clara Transit schedules bus stops at the station to mesh with train schedules. When the trains do not meet published schedules, this defeats attempts by local transit agencies to provide the intermodal service advocated in the report, and causes long waits by transferring riders.

Although improving reliability or on-time performance of Capitol trains is cited as an objective (page 101), there are no specific short term implementing recommendations (page 111), such as increasing speed on the causeway or changing published schedules to reflect typical arrival times.

On the subject of reliability, each of the three State intercity route Chapters (Chapters VI - VII) includes the objective to "improve reliability (on-time performance) of trains." In response to your comment, the final Report includes sections in each of these Chapters under Performance on actual on-time performance results and efforts underway to improve reliability and on-time performance of trains.

Provision of real time train arrival and departure times to customers and people meeting trains is an important customer service, one generally provided by the airlines. Currently there is minimum information available when trains are expected to be very late due to accidents or mechanical breakdowns. Local station personnel, although connected by computer to other locations, seem to have little information about delayed train arrival times or departure/arrival times of substitute bus service. The same is true of personnel with Amtrak national information services. This leads to nonproductive speculation by passengers and those waiting at stations and general dissatisfaction.

The "smart station" system recommended in the report (page 54) can be designed to solve this problem, but some interim real time information system should be recommended as well.

On the subject of real-time information, passengers currently have access to real time information. Station personal (at staffed stations) have access to real time information via the Amtrak computerized information system and can advise passengers of changes from established schedules. Conductors on the train are responsible for keeping passengers appraised of delays to train schedules. The

availability of phones on all trains now allows passengers to report delays to persons meeting them at the station.

Our monitoring program of the State-supported intercity routes includes monitoring station personnel and conductors to ensure accurate information is provided to passengers. Through this program, Caltrans will continue to work to ensure the provision of quality real time information on the State-supported services.

Finally, we suggest that Caltrans express their intent to undertake passenger satisfaction surveys. Taken yearly, surveys can measure passenger response to schedule changes and service improvements. To reiterate, our interest is to improve air quality and mobility by attracting customers to mass transportation- to do so, meeting customer- needs is vital, and not one adequately addressed in this report.

Caltrans, Amtrak and local and regional entities often undertake surveys of passengers on State-supported routes. This information is shared with all interested parties and published in our "Making Tracks" publication.

Customer Security

Customer security is not addressed in the report. Methods of providing some level of security of individuals and vehicles should be recommended, in place of the current "use at your own risk" situation. This lack of security discourages riding trains with night arrival times, or leaving a car at the station while on a weekend train trip. The expanded parking at stations cited in your report should include security provisions such as fencing and good lighting. Provision of security guards is common at bus transit park-and-ride lots and transfer stations, and should be recommended as well.

In siting of new stations, there are several considerations that should be spelled out, as station location can result in a reduction in vehicle trips and provide passengers with additional security. This includes siting stations on transportation corridors with easy access for bus and shuttle riders to increase the opportunities for intermodal transfers, and siting stations in multi-use areas that will be populated day and night.

On the subject of security, the Report discussed the related issue of safety in Chapter IV - The State Intercity Rail Operations Program in a section on "Intercity Rail Safety." In response to your comment the final Report includes a section in Chapter IV on passenger security which discusses station and parking design as they relate to security and security measures on the trains.

EPA (page 45): The reference to Amtrak and their familiarity with the U.S. EPA environmental safety regulations is unclear. Would reference to the Federal Railroad Administration also be appropriate?

In response to your comment, this sentence in the Report was revised to read "Amtrak also has a fully-certified staff of in-house environmental safety experts, familiar with all *relevant* EPA *and Federal Railroad Administration* regulations.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Page 33: Under description of SP yards in Oakland, delete the word "large." The yards are being greatly downsized in conjunction with the Cypress Freeway Replacement project.

In response to your comment, we deleted the word "large."

Page 39- Disability Access to State Supported Rail Services: Last paragraph - sentence reading - The ADA requires that all existing intercity rail cars must have one accessible car per train by July 26, 1995. This sentence is not clear. Does it mean that an intercity train must have one car accessible by the date noted or that all cars in an intercity train must be accessible by that time. I think what you mean to say is that any train by that date must have at least one car in the consist that complies with the requirements of ADA.

In response to your comment, the section was clarified to indicate that under ADA one car per entire train (or consist) must be accessible, not every car on a train.

Page 41 - Airport access: About the middle of the page - sentence reading - Both the San Joaquins and the Capitols access the Transbay Terminal via dedicated feeder buses. As Amtrak no longer uses the Transbay Terminal should this not now read they access the Ferry Building in San Francisco where Amtrak is directing such buses.

All references in the Report to feeder bus service to the Transbay Terminal have been revised to reflect current service to the Ferry building.

Page 45 - Intercity Rail Safety - First Paragraph: It should be noted that Amtrak conducts its operations so as to be in compliance with Federal Rail Safety Laws contained in Title 49 of the Code of Federal Regulations (CFR). Those laws are enforced by the Federal Railroad Administration in conjunction with State Rail Safety General Orders of the California Public Utilities Commission. It should be noted that by State Constitution the CPUC has the responsibility for enforcing rail safety laws in the State of CA. The CPUC staff is also certified to enforce rail safety laws contained in Title 49 of the CFR.

The section on "Intercity Rail Safety" was augmented to reflect your comments.

CATHOLIC CHARITIES OF ORANGE COUNTY COMMENTS

My name is Connie Wild, Program Director of Catholic Charities' Deaf Outreach Services. I recently requested and received a copy of the 1993/94 California Rail Passenger Program Report. For some time now I have been concern over the lack of accessibility of AMTRAK to the Deaf and Hard of Hearing Communities. The report I received, while discussing consumer services, says nothing about improving accessibility for the aforementioned populations. Furthermore, having used AMTRAK myself and having clients who have used AMTRAK, I am greatly concerned over the lack of services available to us.

For example, in August my program sponsored a Deaf Conference which was attended by individuals from out of town. On Saturday (8/21/93) one of these attendees needed to return home and we called AMTRAK to get the schedule and traveling information needed. This young man, who is both Deaf and CP, was to travel home alone. Another Deaf man, Randy, volunteered to drive him to the AMTRAK station in Fullerton. By writing to the agent at the ticket center Randy explained that the young man needed to return home and that he was Deaf and CP. He requested help from the agent to be sure the young man got on the right train safely and would have help getting off at the right place. The train agent said he was working alone, could not leave the ticket booth or help the passenger in any way. This is not an isolated incident. I have yet to travel on AMTRAK from Orange County area and find any assistance in boarding the appropriate train and help in being sure I get off at the right place - since all announcements are over PA systems only.

Station and on-board staff are all Amtrak employees. We will convey your report of this situation to Amtrak.

In addition, I am not aware of any special fares offered for the Deaf and HOH who use AMTRAK, such as we find with bus travel.

Amtrak offers discounted fares to persons with physical or mental impairment which substantially limits one or more life activities. This includes hearing impaired persons. The adult discount fare is approximately 25 percent off the one-way unreserved coach fare.

Although you do have a TDD number available I was told I need to use a voice number (800) to make my reservations and cannot use the TDD number.

Hearing impaired persons with access to a teletypewriter may call the following toll-free 800-number 24 hours a day, seven days a week, to communicate with Amtrak's special teletypewriter service to receive information and make reservations for travel: Nationwide.....1-800-523-6590

We shall include this number on all future California timetables and appropriate advertising.

If in fact there is assistance and accessibility for the disabled by Caltrans the information is not getting out to those of us who can benefit.

In your "5 year plan" report, regarding consumer services, there is a need to address the changes which you plan and do implement that make your services accessible to the Deaf and HOH (actually for all Disabled) as per the ADA (Americans with Disabilities Act, 1990) guidelines. Among the suggestions I have are the installation of TDD public phones at the train stations, "silent radio" type of message boards to indicate what trains are arriving/departing and their destination, as well as using the silent radio boards to explain delays. These "silent radios" should be placed both inside and outside the train stations, as well as in the passenger train cars.

Public TTD phones at stations: This suggestion is appreciated. Caltrans will investigate the feasibility of installing TTD phones at all staffed stations.

All new stations are being designed with message boards inside the station buildings. The station at Emeryville is equipped and the stations at Bakersfield and Jack London Square in Oakland will also be equipped when opened. As funds are available, existing staffed stations will be supplied with message boards. Due to potential vandalism, there are no plans to install message boards at unstaffed stations or on the exteriors of stations. The new California Cars will be equipped message boards both inside and outside each coach. In addition, a blinking light on the exterior of each coach will indicate where to board. We believe these new station and car message boards wil greatly improve information service to hearing impaired persons.

You must certainly have many elderly people traveling who have problems understanding PA announcements as this is a problem especially in noisy places. Currently, you offer movies on a number of travel routes, which is great, and these movies could also be made available in open and/or closed caption that could benefit us when we travel.

Movies are only offered by Amtrak on long-distance interstate routes. They are not shown on State-supported trains. There are no plans for such an amenity in the near future on such short-distance corridor trains in view of the limited viewing time available.

Provisions should also be considered to facilitate face-to-face communication with train agents, ie. use of agents/attendants who are fluent in sign language and/or who have received regularly scheduled in-service on Deafness, hearing impairments and the various communication modes used by this population.

On board staff are all Amtrak employees, however, your suggestion will be forwarded to Amtrak with our recommendation for their consideration.

Your public relations and/or marketing departments can also assist us by finding ways to keep us updated as to the accessibility changes you make available.

Improvements to accessibility arrangements will be regularly announced in press releases.

These are but a few of the ways in which your services can truly become accessible to us the Deaf and Hard of Hearing. I would very much appreciate being updated as to how I can use AMTRAK's services without fear of getting lost or grounded and also able to complete public phone calls for transportation from within your train stations. I feel that AMTRAK can be a most relaxing and enjoyable way of traveling if only it were accessible to us.

Our responses above also cover this comment.

COUNTIES OF FRESNO AND MADERA

The Steering Committee requests that the top priorities the CRPPR lists in Chapter IV service expansion plans be rearranged as follows:

(1) Direct train service between Stockton and Sacramento and the elimination of the bus now required.

(2) Extension of one San Joaquin through from Bakersfield to Los Angeles to replace some inconveniently timed bus services.

(3) At least one train a day to reestablish the historic service on Southern Pacific to Valley cities that are currently unserved.

We support passenger, and freight, rail expansion throughout the State, but agree with the Legislature's assertion in AB 971 that the Los Angeles-Fresno-Bay Area/Sacramento line is an urgent priority.

The Steering Committee's first priority is the same as Caltrans' and is listed in Chapter IV.

While the availability of equipment and opposition from Southern Pacific are reasons that Bakersfield to Los Angeles service is not listed for implementation until FY 1996/97, Caltrans tries to provide service in areas where ridership and revenues are maximized. Under present funding conditions it will be difficult to implement the service before the 96/97 time frame. If additional funds become available, we could implement service at an earlier date.

We agree to the desirability of reestablishing service to "Southern Pacific cities" and are looking at options for provision of service to the intermodal terminals on the Southern Pacific (SP) tracks. Such options include bus links between such terminals and *San Joaquin* rail stations.

We agree that the development of the *San Joaquin* Route is of great importance.

Chapter V - The State Intercity Rail Capital Program

Caltrans Intercity Rail Capital Program (IRCP) describes a ten-year program of capital improvement projects necessary to incrementally upgrade the three State-supported intercity rail corridors to achieve Caltrans general rail passenger service objectives of:

- Increasing frequency of service
- Increasing speeds and reducing running times
- Improve reliability (on-time performance) of trains
- Extending existing routes as needed

This Chapter will examine the process of creating and managing an intercity rail capital program, display the ten-year capital program summary and report on Caltrans rolling stock acquisition program and other capital project related special programs. See Chapter III for a discussion of the relationship of the IRCP to the planning, programming and funding process.

THE PROCESS

Rail corridor studies are the principal source of projects listed in the IRCP. Other projects are listed in response to Amtrak, public, local and regional suggestions. Rail corridor studies are usually either mandated by special legislation or initiated by Caltrans in response to a demonstrated need. Generally these studies analyze corridors which have rail lines in usable condition. Figure **5A** is a listing of recent studies which have influenced the development of the list of intercity rail projects included in the IRCP.

Figure **5A**

INTERCITY RAIL CORRIDOR UPGRADE STUDIES

STUDY NAME	DATE ISSUED	PREPARED BY
San Diegans		
Los Angeles-San Diego State Rail Corridor Study (LOSSAN I) (SB 1095)	June 1987	Los Angeles-San Diego State Rail Corridor Study Group
Los Angeles-Santa Barbara Rail Corridor Study (LOSSAN II) (SB 2446)	June 1989	Southern California Regional Intercity State Rail Corridor Study Group
Los Angeles-Union Station Passenger Terminal Access and On-Site Improvements Study	March 1991	Los Angeles County Transportation Commission and Caltrans
San Joaquins		
Los Angeles-Fresno-Bay Area/ Sacramento High Speed Rail Corridor Study (AB 971)	June 1990	Los Angeles-Fresno-Bay Area/ Sacramento High-Speed Rail Corridor Study Group
Capitols		
ACR 132 Intercity Rail Corridor Upgrade Study	Nov. 1990	Metropolitan Transportation Commission

A study estimates whether service improvements are potentially cost-effective and if the legally mandated 55 percent revenue/cost (farebox) ratio can be met. The studies generally examine the needs related to several proposed service scenarios and capital investment alternatives. A study may examine improvements to an existing passenger service, including route extensions, or the proposed introduction of new service in a corridor.

Corridor studies are initial assessments of improvements for service expansion; they identify potential projects for incrementally upgrading a corridor. Usually, both short and long-term improvements are proposed. The purpose of the improvements are to add frequencies, increase speeds, reduce running times, improve safety and increase the reliability of service.

To identify potential corridor improvements, analysis in three principal subject areas is done.

- Right-of-Way (ROW) Infrastructure Analyses - Improvements to incrementally upgrade the rail ROW (which is generally used for both passenger and freight service) are identified by analyzing such factors as the frequency and scheduling of passenger and freight trains, condition and configuration of tracks, type of signal systems and number and type of grade crossing protections.
- Rolling Stock and Operational Analyses - Necessary rolling stock and operation characteristics at each potential service level are evaluated. The following are analyzed: proposed schedules, operational needs for cars and locomotives, and maintenance needs.
- Station Location Analyses - Potential new station locations are identified and/or evaluated, and if necessary, modifications to existing stations are suggested. The aspects that are examined include: site availability and cost, local support, land use and environmental concerns, relative development costs, transit interface, street and road accessibility, ridership and expansion potential.

Representatives of local agencies, regional agencies, Amtrak, railroads and other interested parties are encouraged to participate in the studies. Working papers are produced at several stages of a study. Usually advisory or steering committees are formed to review the documents, provide guidance and feedback.

Subsequent to completion of the study, discussions with affected railroads and Amtrak are initiated to develop, review and refine projects outlined in the study to ensure they meet incremental upgrade needs. Generally when an agreement has been reached on project definition, the railroad makes an initial cost estimate for design and construction of the proposed projects.

Once a project is determined to be ready for implementation, funding applications and allocation requests must be submitted to and approved by the CTC. Caltrans has an important role in project management, regardless of the

type (commuter, urban or intercity) of project. Caltrans negotiates an agreement (executed contract) with the implementing agency, monitors the progress and makes monthly payments, withholding a portion of the payment until the project is completed. The agency could be a railroad, Amtrak or a local public entity, such as a city or county. The same process is followed whether the agency hires a contractor to do the work or, as is often the case with a railroad, does the work with its own forces.

As stations are often owned by local agencies, major station improvements are usually done by the agency through a contractor and monitored by Caltrans. Under certain circumstances, Amtrak will make maintenance improvements, such as painting, to a station. Track and signal improvements are done by the owning railroad's forces or by contractors employed by the railroad owning the ROW. Caltrans monitors this work closely.

Equipment availability is often a major obstacle to incrementally upgrading a corridor. Because of Amtrak budget constraints, it cannot fund equipment for new State-supported services at present. Accordingly, Caltrans has designed and purchased new equipment in its effort to increase intercity rail service in California. (See "Rolling Stock" below.)

THE PROGRAM

A summary of the proposed ten-year capital program for improved service on State-supported corridors is shown on Figure **5B**. The estimated costs are shown for the *San Diegan, San Joaquin* and *Capitol* Routes by selected segments of each Route. For each Route segment, the cost categories are Track, Signals and Stations. Since Rolling Stock and Maintenance Facilities are generally not identified by route, this category is also listed separately. Where projects include both intercity and commuter rail components, only the intercity share of the project is shown. Costs are divided between two five-year periods: 1993/94 - 1997/98 and 1998/99 - 2002/03.

The portions of the estimated costs that are funded and unfunded are shown by Route segment. The funded portion includes Propositions 108 and 116 rail bond funding, Transit Capital Improvement (TCI) project funding through 1993/94 and the amounts programmed in the STIP for the 1992 bond measure (which did not pass) and the pending 1994 bond measure. (This assumes the 1992 bond amounts will be funded from other sources. See Chapter III.)

The following listing describes the types of projects in each category:

- **Track** projects typically involve new segments or extensions of double track and sidings, curve realignments, increased super elevation on curves, new power switches and rail, tie and ballast upgrading.

Figure 5B

SUMMARY OF CALTRANS 1994 INTERCITY RAIL CAPITAL PROGRAM

(Dollars in Thousands)

Routes	Track	Signals		Stations	Rolling Stock & Maint Facil	Grand Totals	1993/94-1997/98				1998/99-2002/03	
							Funded Portion		Unfunded Portion		Unfunded Portion	
		Basic	Supplemental				Amount	%	Amount	%	Amount	%
San Diegan Route												
San Luis Obispo-Santa Barbara				$5,428		$5,428	$5,428	100%		0%		0%
Santa Barbara-Los Angeles	$57,998	$8,241		16,747		82,986	82,986	100%		0%		0%
Los Angeles-Fullerton	33,482	5,454		2,363		41,299	41,299	100%		0%		0%
Fullerton-Oceanside	60,529	2,358	$12,618	9,525		85,030	72,412	85%		0%	$12,618	15%
Oceanside-San Diego	58,577	2,358	12,617	903		74,455	61,838	83%		0%	12,617	17%
San Diegan Route Total	**$210,586**	**$18,411**	**$25,235**	**$34,966**	**$0**	**$289,198**	**$263,963**	**91%**	**$0**	**0%**	**$25,235**	**9%**
San Joaquin Route (1)												
San Jose-Oakland-Martinez (1)						$0						
Martinez-Bakersfield	$189,145	$941	$60,295	$20,712		271,093	$210,798	78%		0%	$60,295	22%
Sacramento-Stockton Extension	22,062			256		22,318	22,318	100%		0%		0%
Bakersfield-Los Angeles Extension (2)	5,000			1,953		6,953	6,953	100%		0%		0%
Rolling Stock					$19,246	19,246	19,246	100%		0%		0%
San Joaquin Route Total	**$216,207**	**$941**	**$60,295**	**$22,921**	**$19,246**	**$319,610**	**$259,315**	**81%**	**$0**	**0%**	**$60,295**	**19%**
Capitol Route												
San Jose-Oakland	$14,900			$10,870		$25,770	$25,770	100%		0%		0%
Oakland-Martinez				9,222		9,222	9,222	100%		0%		0%
Martinez-Roseville	113,379			7,113		120,492	63,334	53%		0%	$57,158	47%
Placer County Extension				1,850		1,850	1,850	100%		0%		0%
Rolling Stock					$23,000	23,000	23,000	100%		0%		0%
Capitol Route Total	**$128,279**	**$0**	**$0**	**$29,055**	**$23,000**	**$180,334**	**$123,176**	**68%**	**$0**	**0%**	**$57,158**	**32%**
San Francisco-Santa Rosa-Eureka Route												
Larkspur-Eureka	$6,520					$6,520	$6,520	100%		0%		0%
San Francisco-Eureka Total	**$6,520**	**$0**	**$0**	**$0**	**$0**	**$6,520**	**$6,520**	**100%**	**$0**	**0%**	**$0**	**0%**
Rolling Stock and Maintenance Facilities												
Passenger Cars					$283,349	$283,349	$171,911	61%	$111,438	39%		0%
Locomotives					82,463	82,463	54,338	66%	28,125	34%		0%
Bay Area Maintenance Facility					30,570	30,570	30,570	100%		0%		0%
Los Angeles Maintenance Facility					12,040	12,040	12,040	100%		0%		0%
Rolling Stock and Maint. Facil. Total					**$408,422**	**$408,422**	**$268,859**	**66%**	**$139,563**	**34%**	**$0**	**0%**
Grand Total	**$561,592**	**$19,352**	**$85,530**	**$86,942**	**$450,668**	**$1,204,084**	**$921,833**	**77%**	**$139,563**	**12%**	**$142,688**	**12%**

(1) - San Jose-Oakland-Martinez segment included in the Capitol Route

(2) - The $5,000 track component shown is for a feasibility study and preliminary engineering for a high-speed route between Bakersfield and Los Angeles through the Tehachapi Mountains

- **Signal projects:**

  Basic Signal projects include upgrading, or the installation of Centralized Traffic Control, and train protection signals (block signals).
  Supplemental Signal projects include the installation of cab signals and automatic train control to permit speeds above 79 mph. Also, grade crossing protection systems are upgraded to accommodate higher speed operations and provide constant warning time for the motorists at the grade crossing.

- **Station** projects may vary from new construction to the improvement of an existing station through upgraded parking, a new or extended platform, additional lighting, installation of a shelter and/or improved vehicle and pedestrian access to the station.
- **Rolling Stock and Maintenance Facilities** include passenger cars and locomotives and the facilities needed to maintain this equipment.

Rehabilitation

The ten-year capital program addresses identified rehabilitation needs on State-supported intercity routes as is described below. These projects are not included in a separate rehabilitation category, but as part of the three categories listed below.

- **Track and Signal** - Needs will be met where required on all major route segments not presently equipped by upgrading to new continuous welded rail and a modern centralized traffic control system.
- **Stations** - All stations, staffed or unstaffed, will be upgraded to modern facilities, as appropriate to the specific station, with new eight-inch above top of the rail platforms (where physically possible), station buildings (as appropriate), adequate parking, lighting and access facilities for the handicapped.
- **Rolling Stock and Maintenance** - New State-owned California Cars and new locomotives will replace older Amtrak equipment as the new rolling stock is placed in service. The present Amtrak Bay Area Maintenance Facility will be replaced by a new facility and a major modernization program will upgrade the Los Angeles facility.

110 MPH Program

Caltrans has begun the process of developing a capital program to allow operation on all routes of speeds up to 110 mph where the route configuration permits. Existing signal systems, line curvature, gradients, grade crossings and protection improvements, and the constraints of operation in congested and urban areas impact where such speeds can be obtained.

Caltrans 110 mph capital upgrade program will be developed through joint studies with the freight railroads and Amtrak. The studies will look at alignment profiles (curvature and gradient), signal and train control systems, grade crossings and impact on freight operations. The first study began in Summer, 1993 and looks at the Santa Fe Railway tracks used by the *San Joaquin* trains between Port Chicago and Bakersfield. Preliminary study results indicate a cost of between $200 and $300 million to upgrade this line to 110 mph operation. Final study results are expected in mid-1994.

In addition, Caltrans 110 mph capital improvement program will help upgrade corridors to standards needed to allow their consideration as candidates for eventual electrification. Track, signals, tunnel and grade crossings must be improved to allow the high speeds possible with electrification. A railroad with upgraded track allowing substantial 110 mph operating segments and a modern signaling and grade crossing system will be a stronger candidate for electrification.

At present, the upper limit for passenger train speeds (aside from rail alignment, signal and track constraints) is 110 mph for two reasons. First, the current practical limit for diesel locomotive technology in North America is 110 mph. Secondly, under existing Federal Railroad Administration track classifications, 110 mph is the maximum speed allowed without a special waiver. Tilt-train technology, such as the X-2000, offers the potential for higher speed on lines with considerable track curvature. (Chapter XIV discusses the effort being undertaken by Amtrak to develop higher speed diesel operation to 125 mph.)

Capital improvements that allow for increased speeds are not the only factor that affect the achievement of higher speeds. Operational issues such as the number of stops, dwell time, acceleration and deceleration time at stops and interaction with freight service are also important factors. For example, on the Los Angeles-San Diego portion of the *San Diegan* Route maximum speeds of 79 mph and 90 mph are allowed on most of the track, yet the average speed on the Route is only about 45 mph. (The maximum speed is lowered at curves, certain rail and road crossings and by speed restrictions for track construction.) Clearly, the average speed on this Route is heavily influenced by factors other than the track speed limits alone. Consequently, Caltrans will assess the operational issues listed above when working to identify opportunites to increase speeds.

In addition, an increase in speed at the lower end of the range produces a greater time savings than the same increase at higher speeds. For example, a 30 mph increase in speed from 50 mph to 80 mph results in a time savings of 27 seconds per mile. A 30 mph increase from 80 mph to 110 mph saves only 12.3 seconds per mile. On a 100 mile non-stop trip, the 50 mph to 80 mph increase would save 45 minutes, more than double the 20 minutes saved by increasing speed from 80 mph to 110 mph. In addition, the costs of capital projects to achieve speed increases at the lower end of the speed range are often much less than at the higher end.

ROLLING STOCK

This section includes a discussion on passenger cars and locomotives.

Passenger Cars

Proposition 116 recognized the current shortage of rolling stock would delay the planned implementation of additional intercity and commuter rail services in California. Therefore, it contained $100 million to design and acquire new intercity and commuter California Cars especially adapted to the needs of California rail passenger service. Recognizing these needs, Caltrans moved quickly to design and acquire equipment.

California Car Development Process

As mandated by Proposition 116, Caltrans formed a Rolling Stock Advisory Committee (RSAC). All agencies eligible to receive commuter and intercity funds for rolling stock from Proposition 116 were invited to participate. The RSAC was charged with investigating "...the feasibility of a uniform design of a rail car shell which could be deployed in both intercity and commuter rail applications, with car interiors to be appropriately outfitted for either intercity or commuter service." (Section 99603 (d) of the Public Utilities Code.)

A questionnaire was used by the RSAC to determine the end-users needs. The following information was requested from all RSAC operating agencies and Amtrak:

- Applicable regulatory requirements
- Individual operational constraints and structural requirements
- Amenities and flexibility
- Anticipated number of vehicles needed during the next ten years

Caltrans hired a consultant, Booz-Allen & Hamilton Inc. (Booz-Allen), to assist in the development of the performance specification. Booz-Allen interviewed all RSAC operating agencies and Amtrak to review the questionnaire responses and to ensure every agency had adequate input into establishing the baseline needs for the performance specification. The consultant then recommended that a multipurpose vehicle to be operated in sets of two would provide maximum interchangeability of commuter

and intercity rail equipment. The Southern California members of RSAC questioned the operational viability of the married-pair, multi-purpose car design and suggested that the concept be reworded to allow for three car types:

1. A bi-level car with end doors at 51 inches above top of rail
2. A bi-level car with door heights at 104.5 inches above top of rail
3. A multi-purpose car with one end door at 51 inches and the other at 104.5 inches

However, when it was determined that no operator was interested in the multi-purpose car, it was dropped from further consideration.

The performance specification adopted by the RSAC provided that the same basic carbody with different end doors for commuter and intercity rail was feasible for all RSAC agencies (a possible exception in Santa Cruz County was related to a long-term proposal to establish a new rail corridor). The Caltrans consultant estimated the intercity and commuter car could share from 60 to 80 percent of the same design features. The instructions of the Request for Proposals (RFP) stated "To the extent that it is technically and economically feasible, the same carbody shell, major systems, subsystems and components will be used for all services and car types." Local agencies were also interested in maximizing compatibility with existing commuter equipment. Thus, the performance specification included a requirement for many of the same features as for existing commuter rail equipment.

The performance specifications required end doors at 51 inches above top of rail for the commuter cars and end doors with a straight walk through at 104.5 inches above top of rail for the intercity cars. Four manufacturers submitted proposals for a vehicle with end doors at 51 inches above top of rail, but only one was responsive to the requirement to provide an intercity vehicle with end doors at 104.5 inches above top of rail. The three manufacturers who did not comply with the specification were deemed nonresponsive. Because only one bidder was responsive, the contract could not be awarded to that manufacturer until the costs and prices were audited. Adjustments and recommendations by the auditors were incorporated into the contract and a favorable price was achieved.

California Car Contract

On February 20, 1992, a $153.6 million contract for the California Car was awarded to Morrison Knudsen Corporation (MK) to manufacture 47 commuter and 41 intercity cars. An additional $5.9 million were required for project management, support costs and contingencies. All change orders to the contract are subject to audit. The California Transporation Commission (CTC) in early 1992 allocated funds for all 88 cars. A $100 million car allocation in Proposition 116 was supplemented by $23 million in *Capitol* Route funds from Proposition 116,

$31.5 million in Proposition 108 funds and $5 million in federal funds for Peninsula Commute Service (PCS) cars.

The intercity car order includes 21 coaches, 10 coaches with cab controls and 10 food service cars. The 41 intercity cars will be used on State-supported Amtrak services. Of the 47 commuter cars, 24 cars will be used in Southern California and 23 cars will be used on the PCS in the San Francisco Bay Area. Delivery of the cars is scheduled to begin in Fall 1994.

Additionally, in 1993, Caltrans submitted an allocation request to the CTC for 25 additional intercity cars and enhancements to all California Car food service cars on order. The order included 11 coaches, four coaches with cab controls, six coaches with baggage storage sections and four food service cars. The amount requested was $68.7 million in rail bonds authorized by AB 973 and $19.2 million in Proposition 116 funds. The total of $87.9 million, allocated by the CTC in November 1993, included funding for project elements such as spare parts, contingencies and sales tax.

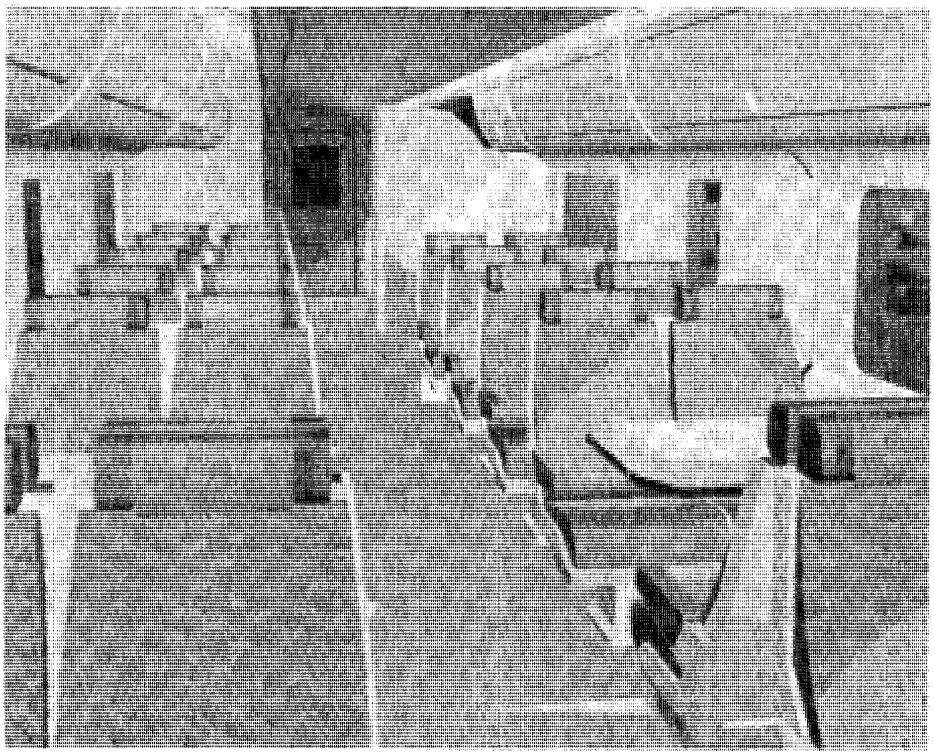
Construction of the California Car in California

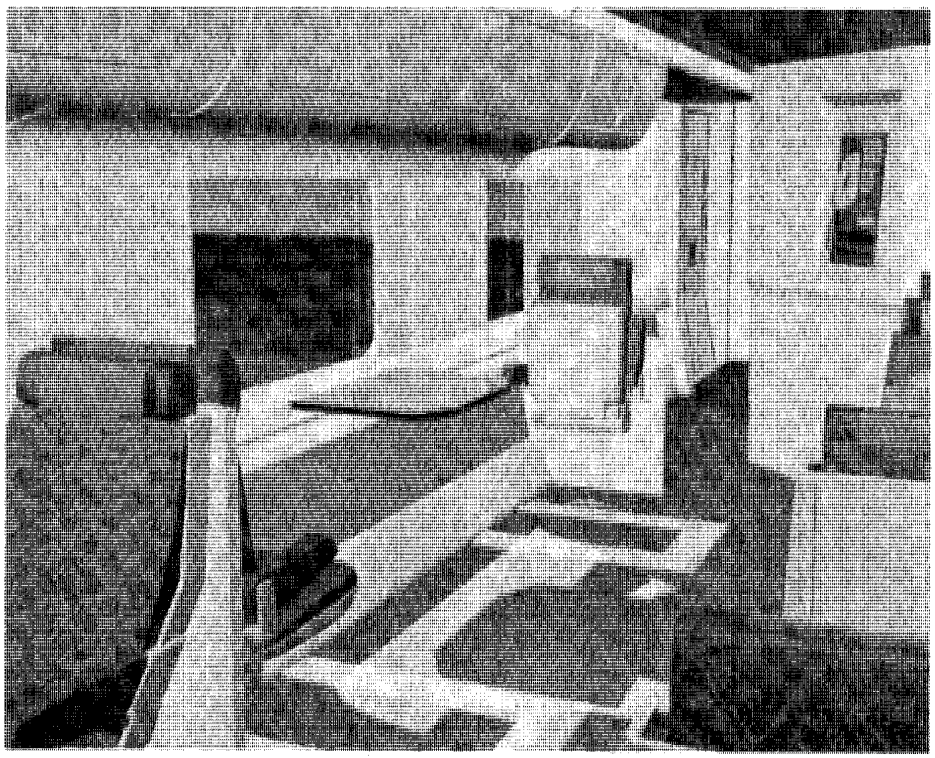
MK has agreed to perform 100 percent of the final assembly labor on 66 cars at a new facility to be established in Pittsburg, California. Caltrans and MK have continued to negotiate California content throughout the project. Recent figures from MK show a $67 million economic impact for California from this contract, which includes labor and materials as well as revenue generated from public dollars spent. The impact represents over 500 California jobs, including 300 direct contract-related jobs as estimated by MK, in addition to jobs created by California firms supplying materials to MK and other indirect jobs (using U.S. Chamber of Commerce standards).

California construction and trade workers have already benefited from job opportunities as the plant was converted from an old steel works to a rail car assembly plant. When the facility opens in early 1994, MK will begin hiring workers to assemble cars by tapping State employment and training resources with the intent of selecting a major portion of the workforce from the local community. MK plans to operate this plant as a permanent West Coast facility, assembling cars for other procurements (a large order for BART is already under contract). As the workforce builds, the demand for housing and support services will increase, creating more opportunities for jobs at local businesses such as restaurants, supermarkets, clothing stores, automotive repairs, building contractors, etc.

California Car Design

The design for the California Car reflects a fresh approach to passenger train design and rail travel. The designers of the Car carefully considered the most important of human factors - comfort and accessibility. The Car has generous seating accommodations, two lavatories, one with an infant changing





Drawings of the interior of the new California Car

table; and plenty of room for luggage in the overhead bins. Three bicycles per car may be locked to the "vertical restraint system". On those cars with special baggage storage sections, Caltrans is considering the feasibility of providing additional storage facilities for bicycles.

The Car is intended to easily accommodate a broad range of passengers: families with small children in strollers, business people with brief cases and lap top computers, and passengers in wheelchairs. The Car fully complies with the requirements of the Americans with Disabilities Act (ADA).

The California Car reflects a vision of train travel where the train ride itself is an important part of the trip. To achieve this goal, many amenities are being incorporated into the car, including: panoramic windows with curtains, closed overhead luggage bins, ergonomic seating, in-seat audio systems and face-to-face seating with tables. In addition, the cars are being designed to attain speeds up to 125 mph. Future plans for the car include other innovative features, such as, in-seat video entertainment, computer connections, and full office and conference facilities.

Locomotives

On January 27, 1993, Caltrans awarded a $20.7 million contract to the Electro-Motive Division of General Motors Corporation, to supply nine diesel-electric locomotives. An additional $1.7 million was required for project management, support costs and contingencies. The contract costs were funded from Proposition 108. These state-of-the-art locomotives will be distinguished by such features as a maximum operating speed of 110 mph, emission reduction technology, a turbocharged 12-cylinder 710G3A main engine rated at 3,000 horsepower for traction, an isolated operator's cab to reduce noise and vibration, an independent dynamic braking system, computer-controlled operation and separate head-end power. The locomotives are scheduled for delivery beginning in Fall 1994.

RAIL TECHNOLOGIES

Ch 847/90 (AB 3122, Costa) required a study of passenger rail technologies to determine availability, feasibility and approximate cost of signaling systems to enable passenger train speeds over 79 mph, ticket vending machines, onboard telephone and facsimile communication systems, train arrival and departure information systems and telephone information systems. This study, "New Technologies for California Passenger Rail Services", was issued October 1991. Based, in part, on the results of this study, telephones, facsimile machines, computer hookups and audio systems are being considered for intercity service using the California Car. Video systems are anticipated for custom-class service. The possibility of linking the California Car into "smart stations" to provide expanded information systems is being explored. Private funding may be used for demonstration projects for information systems and signaling systems.

NORTHERN CALIFORNIA MAINTENANCE FACILITY

The Peninsula Corridor Joint Powers Board (JPB) and Caltrans are currently negotiating the terms and operating procedures for a side-by-side Northern California maintenance facility to be located near Pullman Way in San Jose and presently called the Pullman Way Maintenance Facility. Key issues under discussion include: ownership of the facility, operating procedures and operating cost allocation methods. If Caltrans and the JPB do not reach agreement, Caltrans and Amtrak will assess other possible sites for an intercity rail maintenance facility.

If agreement is reached between the JPB and Caltrans, the Pullman Way Facility would provide a modern side-by-side facility for the JPB to perform Peninsula Commute Service (PCS) equipment maintenance. In a separate portion of the facility, Amtrak would perform the equipment maintenance for rolling stock (including new State-owned California Cars and locomotives) to be used in State-supported intercity rail service. Additionally, Amtrak would move its existing intercity rail maintenance operation from West Oakland to the Pullman Way facility. Amtrak's move from West Oakland gained impetus after the 1989 Loma Prieta earthquake and the resulting construction effort to replace the Cypress Freeway viaduct. This freeway construction effort will require replacement of Amtrak's West Oakland facility.

This new facility will enable the scattered maintenance work currently done in San Francisco, San Jose, Roseville and West Oakland to be done at one facility. The facility will include: a maintenance building with train-length pits, rolling stock maintenance and repair; car cleaning, sanding and fueling stations; and crew and administrative offices. To reduce costs, certain key elements of the facility will be shared by the JPB and Amtrak, such as the wheel-truing machine, the automatic train-car washer and drop table. The yard will include wayside power along with storage and yard control equipment. The current estimated costs of the proposed facility is $99 million. The facility will occupy approximately 40 acres.

Design and engineering work for the maintenance facility is about 30 percent complete. The mitigation plans for an endangered species are now being quantified. Those mitigation details and concluding negotiations with the JPB will allow design criteria to be finalized.

Tentative construction targets will enable the Pullman Way facility to be completed by 1996/97.

EMINENT DOMAIN POWER

Chapter 1095, Statues of 1993 (AB 1153, Costa) gave Caltrans the power to "acquire by purchase, lease or eminent domain, any property necessary for the development and implementation of the state's rail passenger program." This legislation will give Caltrans more flexibility in developing the State passenger rail system.

RIGHT-OF-WAY INVENTORIES

Caltrans recently conducted two railroad Right-of-Way (ROW) inventories. One of the inventories focused on existing intercity ROW or ROW with the potential for intercity passenger service. The other examined commuter rail, intercity and freight ROW. The first inventory was conducted pursuant to Ch 1039/89 (SB 1562, Pressley). Proposition 116 provided authority for the second. These inventories provide useful information to State and local agencies in their rail and transportation planning.

The SB 1562 Inventory

SB 1562 requires Caltrans to prepare, adopt and update (by submitting current data to the CTC in even numbered years) an Intercity Rail Right-of-Way Inventory. The Inventory must include a survey of plans, studies and other data available from governmental and private entities on potential intercity rail routes. The Inventory must also include a statewide survey of all potentially available and suitable ROW for intercity rail development including ROW which may or may not be for sale at the present time.

The "1992 Intercity Right-of-Way Inventory" evaluated the 12 corridors listed below:

1. Los Angeles-San Diego
2. Los Angeles-Santa Barbara
3. Los Angeles-Fresno-Bay Area/Sacramento
4. San Francisco Bay Area-Sacramento-Auburn
5. San Francisco-Santa Rosa-Eureka
6. San Francisco-Sacramento-Redding-Klamath Falls
7. Sacramento-Auburn-Tahoe/Reno
8. Los Angeles-Santa Barbara-San Francisco/Oakland
9. Los Angeles-Barstow-Las Vegas
10. Los Angeles-Barstow-Needles
11. Los Angeles-Palm Springs-Yuma
12. San Francisco-Monterey

State-supported Amtrak service is provided in Corridors 1 through 4. Amtrak basic system service is provided in all of the corridors listed above except Numbers 3, 5 and 12. Corridors 5, 8, 11 and 12 are currently the subject of route feasibility studies.

The inventory includes background information on each corridor. Background information for the primary corridors includes a general description of each corridor, the level of intercity service provided, communities served, intercity rail schedules, ridership totals and a map. Information on the remaining seven corridors is limited to general information. The inventory also includes track profiles in standardized format for all corridors. The profiles include the regions and counties in which the corridors are located, the communities served by

intercity stations, description of passenger rail stations, operating status of the line, railroad ownership and track features such as track quality, ROW width, grade crossing data and signalization.

Finally, the inventory includes summaries of recent rail reports completed for local and State agencies, as well as selected rail studies outside California, and a bibliography of articles concerning two European high speed rail systems.

The Proposition 116 Right-of-Way Inventory

Proposition 116 required Caltrans to prepare and adopt a survey of all railroad ROW in the State. This inventory is scheduled to be issued in 1994. The major purpose of the survey is the identification of the current status of all rail corridors in the State and an evaluation of their relative importance and potential for future rail passenger service.

The Proposition 116 survey includes a framework which describes rail corridor features, allowing for cross referencing by corridor or section of corridor. Background information contained in the profiles is similar to the data presented in the SB 1562 Inventory.

The survey incorporates information on Intercity ROW from the "1992 Intercity Right-of-Way Inventory". The chapter on commuter corridors identifies existing commute services in Southern and Northern California. Background information on the corridors and ROW is presented. Another chapter identifies rail rights-of-way and segments which have potential for passenger rail service. Finally, there is a chapter concerning other rail ROW which identifies lines without potential for passenger service.

RAIL-HIGHWAY GRADE CROSSING IMPROVEMENT PROGRAMS (STATE AND FEDERAL)

Sites where a railroad track and a street or road cross each other at the same grade are called rail-highway grade crossings. Grade crossings pose safety and operational considerations for both freight and passenger rail, as well as road traffic. Programs to improve or eliminate grade crossings benefit both passenger and freight operations.

Background

Figure 5C provides a summary of railroad-highway mainline public crossings on State-supported intercity routes in California. On all three routes there are a total of 296 crossings where the rail and the highway right-of-way are completely separated, and 546 non-separated grade crossings. There are an average of 0.7 non-separated grade crossings per route mile.

Figure 5C

RAILROAD-HIGHWAY MAINLINE PUBLIC CROSSINGS ON STATE-SUPPORTED INTERCITY ROUTES IN CALIFORNIA

Route Segment	Route Miles	Separated Crossings (1)	Non-Separated Crossings			
			Automatic (2)	Fixed (3)	Total	Average Per Route Mile
San Diegan						
San Luis Obispo-Santa Barbara	118.6	31	15	-	15	0.126
Santa Barbara-Los Angeles	103.0	55	83	2	85	0.825
Los Angeles-San Diego	128.0	97	84	-	84	0.656
Totals	**349.6**	**183**	**182**	**2**	**184**	**0.526**
San Joaquin						
Oakland-Martinez	29.2	12	18	4	22	0.753
Martinez-Fresno	171.7	28	153	10	163	0.949
Fresno-Bakersfield	110.4	10	95	-	95	0.861
Totals	**311.3**	**50**	**266**	**14**	**280**	**0.899**
Capitol						
San Jose-Oakland	40.5	32	49	2	51	1.259
Oakland-Martinez	29.2	12	18	4	22	0.753
Martinez-Sacramento/Roseville	74.9	31	30	1	31	0.414
Totals	**144.6**	**75**	**97**	**7**	**104**	**0.719**
(4) ***Grand Totals***	**776.3**	**296**	**527**	**19**	**546**	**0.703**

(1) **Separated**-Grade crossings which are completely separated from (above or below) vehicular or pedestrian traffic.
(2) **Automatic**-At-grade crossings with automatic warning devices (i.e. flashing lights, and/or gates, etc.).
(3) **Fixed**-At-grade crossings with fixed warning devices (i.e. stop signs, cross bucks).
(4) Includes only *Capitol* Route data for Oakland-Martinez segment, which is also used by *San Joaquin* Route.

Section 190 State Grade Separation Program

This Program provides $15 million each year in State funds to implement grade separation projects selected from the "Annual Grade Separation Priority List" developed by the California Public Utilities Commission (CPUC). The Priority List is created through project nominations by cities, counties, Caltrans and railroad companies. Each project request can be no more than $5 million. A project involving work to eliminate existing grade crossings and to alter existing grade separation may receive up to 80 percent State funding with 20 percent contributed by others. A project involving the construction of proposed grade separations may receive up to 50 percent State funding with the remaining 50 percent contributed by a local agency. The CTC delegates allocation authority to Caltrans for use in accordance with Caltrans administrative regulations for the Program.

Section 130 Federal Crossing Improvement Program

Chapter 1 (Section 14036.4) of the Government Code which provides:

14036.4 The department shall report in the rail passenger development plan prepared pursuant to Section 14036 on the amount of funds available to the state under the federal rail-highway crossing program (23 U.S.C. Sec. 130), including the cash balance, funds encumbered during the last year, and amounts anticipated to be received during the subsequent year. The plan shall also discuss any issues relating to the department's ability to spend these federal funds on a timely basis.

The Section 130 Program currently provides about $10 million per year in federal highway funds to fund improvements at eligible grade crossings. Improvements include the installation of flashers, gates, cantilevered flashing lights, surface improvements and the realignment of roads at crossings. Eligibility and recommended improvements are determined by the CPUC in consultation with the railroads and the appropriate State and local agencies. Eligible projects are then listed by the CPUC on their "Recommended List of Public Crossings in California for Improved Crossing Protection with Federal Funding". The Program funds 90 percent of the cost of the improvements. The other 10 percent is usually paid by the local entity responsible for the road or highway involved, generally a city or a county. On State highways, the State will pay the 10 percent non-federal share.

The Highway/Railroad Grade Crossing Safety Committee was formed by Caltrans to ensure the Section 130 Program is implemented on a timely basis. The Committee's membership includes representation from SP, UP, ATSF, the short line railroads in California, the Federal Highway Administration, the California Public Utilities Commission, two representatives from the Joint City/County/State Cooperation Committee, Caltrans Division of State and Local Project Development and others. The Committee's duties are to streamline the Section 130 process and develop procedures to prioritize grade crossings projects and ensure timely expenditures of Section 130 funds.

The Division of State and Local Project Development administers the Section 130 Program. A program manager oversees the program by: monitoring the expenditure of Section 130 funds, ensuring statewide policies are observed, providing follow-up on project delivery for grade crossing projects and publishing a multi-year plan for the expenditure of funds. Additionally, in January 1991, the Division issued a process guide for local agencies entitled, "Railroad Crossings: Procedures for Developing Federal Aid Railroad-Highway Grade Crossings Improvements on Local Streets and Roads".

Under ISTEA, all grade crossing improvement projects must be included in the Transportation Improvement Programs (TIPs) of the appropriate Metropolitan Planning Organizations prior to obligation of funding. This process requires that projects ready for obligation of federal funding in 1992/93 first be added as amendments to existing TIPs.

Figure **5D** shows the status of the Section 130 Program funds as of June 1993. (Currently, funds available under the 1987 Highway Act are reported separately

from ISTEA funds.) It is expected that $10.2 million in Section 130 funds will be available in 1993/94.

Figure 5D

SECTION 130 FEDERAL CROSSING IMPROVEMENTS PROGRAM FUNDING STATUS
($ in thousands)

	ROLLOVER FROM 1991/92	ALLOCATIONS IN 1992/93	OBLIGATIONS IN 1992/93	BALANCE ON JUNE 30, 1993
Rail-Highway Crossings-Local *	($783)	$1,884	($147)	$1,248
Rail-Highway Crossings *	$1,884	$0	($352)	$2,236
Rail-Highway Protective Devices	$47	$5,091	$1,458	$3,680
Rail-Highway Hazard Elimination	$219	$3,080	($141)	$3,440
TOTALS	$1,367	$10,055	$818	$10,604

* Funds from 1987 Highway Act

Section 1010 Federal Crossing Improvement Program in High-Speed Rail Corridors

Section 1010 of ISTEA established a new program to improve safety at grade crossings in five high-speed rail corridors. Under the guidelines of the Act, California applied for and received designation for a high-speed corridor. The corridor limits are San Diego and Los Angeles to the Bay Area and Sacramento through the Central Valley. California will receive $1.2 million during 1992/93 for this Program. It is expected that California will receive $5 million in federal funds over six years. The Program is 100 percent federally-funded; no local match is required. About 20 to 30 grade crossings are projected to be improved during the life of the Program.

As set forth in the Program guidelines, "the corridor grade crossing program will include a plan for physical crossing elimination and/or improvement levels at all public and private corridor crossings, with priority given to eliminating redundant crossings, and a public education and enforcement program. The Program must facilitate higher speed (reduced running time) rail passenger service directly, such as through removal of speed restrictions or indirectly by track circuitry changes necessary to accommodate the planned higher speeds. It must provide an adequate level of safety commensurate with the proposed passenger speeds."

During the first program year, 1992/93, projects will be implemented in the Los Angeles-San Diego segment of the federally designated high speed corridor. Projects will improve safety at current operating speeds by replacing and upgrading existing crossing warning devices and installing median barriers. In

the second year of the Program, projects will be implemented in the Bakersfield-Oakland corridor segment. These projects will have a primary emphasis on safety improvements so that passenger train speeds may be increased to 90 miles per hour.

Section 3035(g) Federal Grade Separation Program in the LOSSAN Corridor

Section 3035(g) of ISTEA provides $20 million in federal fiscal years 1992 through 1994 to the Los Angeles-San Diego Rail Corridor Agency (LOSSAN) for capital improvements in this corridor. The Agency intends to use these funds for three grade separation projects, one each in Los Angeles, Orange and San Diego counties. A 20 percent non-federal match is required for all projects.

DECREPIT STATIONS AND UPGRADED PARKING FACILITIES

Chapter 740/89 (AB 1582, Costa) added Section 14036.2 of the Government Code which provides:

The department shall identify in the rail passenger development plan prepared pursuant to Section 14036, the three most decrepit intercity rail passenger stations in the state used by trains operated by the National Railroad Passenger Corporation (Amtrak). The department shall also identify those rail passenger stations which require upgraded parking facilities to encourage automobile drivers to utilize available rail passenger service.

Stations

Webster's New World Dictionary, Third College Edition Copyright 1988, defines decrepit as "broken down or worn out by old age or long use". In the 1991 Rail Passenger Development Plan, Caltrans identified three intercity rail passenger stations which then most closely met this definition. These stations were:

Stockton Amtrak Station (735 S. San Joaquin Street): Caltrans, Amtrak, the City of Stockton, the County of San Joaquin and the ATSF agreed that development of an interim station at Stockton was premature in light of studies underway to determine the site and scope of a proposed new Stockton intermodal station to serve intercity and proposed new commuter service. Therefore, as the existing station needed immediate attention, a decision was made to repair it. The station was repainted inside and out, and the roof and gutters repaired during the Winter of 1992/93. Other cosmetic repairs were completed in 1993. Security improvements, such as fencing and warning signs, were also made. In addition, interior remodeling to permit checked baggage service will be completed in early 1994.

Barstow Amtrak Station (North First Street): The City of Barstow received State funds to renovate a portion of the previously abandoned Harvey House into a combination Greyhound depot/Amtrak station. In 1992, an earthquake

caused extensive damage to the station building. However, the damage was repaired and the renovation of the portion of the building that houses the Amtrak station has been completed.

Oakland Amtrak Station (1701 Wood Street): This station was severely damaged in the 1989 earthquake and passenger facilities were relocated to an adjacent Southern Pacific office building. Plans are complete and demolition has begun for a new Oakland station near Jack London Square developed by the Port of Oakland using its funds and Caltrans funds.

The repairs are essentially completed to the Stockton and Barstow stations. Thus, the following two additional stations are now identified as decrepit stations pursuant to Section 14036.2.

Needles (900 Front Street): This station serves Amtrak's *Southwest Chief.* The imposing facade is boarded up and fenced off from the adjacent park. The building has many broken windows; other windows are boarded up with unpainted plywood which is delaminating due to the weather. There is no marked Amtrak entrance, Amtrak parking, or waiting area for passengers. There is no information board, lighting, or telephone.

San Bernardino (1170 W. Third): This very large station building is the eastern terminal of a Metrolink line, as well as an Amtrak station for both long distance trains and Amtrak feeder buses from the San Joaquin Valley. It is staffed but heating and cooling are unavailable to waiting passengers. The building is overgrown with ivy which needs to be removed; the building interior is very dark; and restrooms need to be brought up to current Americans with Disabilities Act requirements. The parking lot needs to be enlarged and resurfaced.

In the "1991 Rail Passenger Development Plan", the following intercity rail passenger stations were noted to have deficient parking facilities: Bakersfield, Berkeley, Fresno, Hanford, Martinez, Merced, Riverbank, San Jose, Sacramento, Santa Barbara and Simi Valley.

Parking Facilities

The parking problems have since been addressed at three stations. Parking capacity is being increased at the Fresno station. Renovation of the existing Hanford Santa Fe station provided additional parking. Simi Valley has an entirely new station for Metrolink and Amtrak service with adequate parking spaces. Caltrans will continue to work with the local agencies to identify projects to alleviate the remaining deficient parking facilities.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

AMTRAK COMMENTS

Chapter V - Pg. 47 Objectives: Suggest first paragraph bullets should include improving reliability as another prime objective.

This comment was incorporated into the Report.

Chapter V - Pg. 49 The Process: First sentence, last paragraph should read in part... it cannot fund equipment for new State-supported services at present.

The Report was changed to reflect this comment.

Chapter V - Pg. 51 110 MPH Program: End of paragraph 1 - Virtually every route recommendation mentions increasing maximum speeds to 110 MPH. It would be more meaningful to establish running time goals which reflect higher top speeds, but more importantly improvements in line capacity and/or elimination of speed restrictions.

We agree with Amtrak on the importance of improvements that will increase line capacity and eliminate speed restrictions. Our stated objectives preceding each intercity route chapter include increasing speeds and reduction of running times. The 110 MPH Program section in Chapter V, states that "speed increases of the lower end of the spectrum can produce major time savings". Our capital program for each route emphasizes capital improvements that will achieve such changes.

Chapter V - Pg. 54 Northern California Maintenance Facility: This is a very complex issue and essentially the report synopsis is correct. However, recent events have now altered plans so that any new maintenance site will be a side-by-side facility with a separate ingress and egress, which can be managed independently, as opposed to a truly joint facility.

The side-by-side nature of the Pullman Way maintenance facility has been noted in the Report.

Second paragraph should be revised to read: "If agreement is reached between the JPB and Caltrans, the Pullman Way Maintenance Facility would provide a modern up to date facility for the JPB to perform Peninsula Commute Service(PCS) equipment maintenance and Amtrak to perform the equipment maintenance for all intercity rail cars and locomotives including the new "California Car"s to be used in the State-supported intercity rail service. Additionally, Amtrak would move its current intercity rail maintenance operation from West Oakland to the Pullman Way facility".

This paragraph was revised to provide more detail. The intercity portion of the facility will be used to maintain rolling stock used on State-supported trains and to continue the existing level of turn-around maintenance on the California *Zephyr*.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Page 47 - The Process: The statement reading, "Generally, studies only examine corridors which have rail lines in usable condition" is not clear. Please note the report indicates that corridor studies are going on for Lake Tahoe, which has no rail at all, to the Monterey area, which has no current rail line below the Sand City area of the Monterey Peninsula.

The statement "Generally, studies only examine corridors which have rail lines in usable condition" is accurate. The two studies you mention are the exception. Also, it should be noted the Tahoe study has been renamed the Sacramento-Tahoe-Reno intercity rail study to clarify the fact most of the study is concerned with the existing rail route from Sacramento to Reno.

Page 48 - Upper third of page - Right-of-Way Analyses: The report does not indicate whether Caltrans makes such determinations on its own or in conjunction with other agencies on such subjects as configuration of tracks, type of signal systems and type of grade crossing protection.

The two paragraphs in the Report which follow the bullets on Right-of-Way Analysis, Rolling Stock and Operational Analysis, and Station Location Analysis provide a response to your question. These paragraphs state the studies are done in conjunction with local agencies, regional agencies, Amtrak, railroads and other interested parties. Once a study is completed, more detailed discussions with affected railroads and Amtrak are held to refine specific projects.

Page 49 - First Paragraph: Caltrans monitors this work closely - Is that done in connection with regulatory agencies responsible for railroad safety? It would read more properly if it noted that Caltrans in conjunction with other agencies monitors such work.

Caltrans monitors these projects closely to ensure contract compliance. It is the responsibility of the operating railroads to ensure compliance with all safety laws and regulatory agency requirements.

Page 53 - Rolling Stock under CA Car (third from last paragraph) a sentence reads, "Bicycle storage facilities will also be included." While it is good that bicycles will be allowed on trains, there is no reference to fact that such storage facilities will allow for on train safety of the bicycles stored.

In response to your comment, the section was revised to reflect the fact that bicycles can be locked to the "vertical restraint system" which will store and secure the bicycles.

COUNTIES OF FRESNO AND MADERA

The State Intercity Rail Capital Program

The Steering Committee is deeply concerned over the design, construction, procurement and delivery of the ""California Car"s."

Caltrans reported to us in September that the design of the cars is still unsettled, and their delivery delayed for months. New trains on our corridor are planned to start after the late arrival of new cars.

It appears that no substantial part of the "Intercity "California Car"" construction will be carried on in California as we had expected.

The current schedule calls for delivery of the first two intercity cars in the Summer of 1994. The first equipment delivered will be used to initiate the Sacramento - Stockton service. Additional equipment will be available to initiate other new services by April 1995.

The original plan called for the first ten cars to be completely assembled in New York and up to 25 percent of the final assembly of the remaining cars to be accomplished in a California facility. When the plan was changed to a tri-level design on the commuter cars, Morrison Knudsen committed to full assembly of the 47 commuter cars in Pittsburg, California. Additionally, Morrison Knudsen agreed to assemble in Pittsburg 21 of the 25 additional intercity cars added through an option order. These two actions have effectively increased the number of jobs to be created at the Pittsburg plant from 30 to 300.

The CRPPR pays too little attention to more station tracks and cross platform passenger movement in busy stations.

The details of station tracks and cross platforms were not meant to be addressed in this Report. These issues are addressed, however, as new stations or station improvements are planned. As such requests are made for additional information, the Report may be expanded in future editions.

LOS ANGELES - SAN DIEGO RAIL CORRIDOR AGENCY COMMENTS

Page 52: The text does not reflect the actions of Caltrans nor the concerns of the Rolling Stock Advisory Committee (RSAC) during the development of the performance specification nor the final Request for Proposal (RFP) process. A suggested revision would be starting on page 52, fourth paragraph, replacing the last sentence with the following:

> "The Southern California members of the RSAC questioned the operational viability of the married pair, multi-purpose car design, and suggested that the concept be reworded to allow for three car types.
>
> "1. A bi-level car with end doors at 51 inches above top of rail.
>
> "2. A bi-level car with door heights at 104.5 inches above top of rail.
>
> "3. A multipurpose car with one end door at 51 inches and the other at 104.5 inches.

"The intent of the RSAC was to permit a car builder to be allowed the flexibility to submit proposals for either intercity or commuter cars of any one of the three car body styles. This was in keeping with the RSAC's intent to permit the proposal process to demonstrate whether or not a common car shell was feasible and to allow the maximum level of creativity among the car manufacturers."

Comments concerning the RSAC direction to provide for two separate floor heights for intercity and commuter versions have been incorporated into the Report.

The first sentence of the last paragraph is false, and should also be deleted. The text of the first paragraph of page 53 should be deleted completely and replaced with the following:

> "Caltrans did not agree with the RSAC on the intercar passageway issue and determined independently that the defining characteristic of an intercity car was an end door height of 104.5 inches. The result was that only a single bidder out of four proposers meet this Caltrans imposed requirement. This was unfortunate, as the text

suggested by the RSAC would have permitted all proposers to compete. However, after adjustments and recommendations by auditors were incorporated into the contract, a contract was agreed upon."

Revise last sentence to read as follows: "This was in keeping with the RSAC's intent to permit the proposal process to demonstrate whether or not a common car shell concept was feasible and to allow the maximum level of creativity among the car manufacturers."

The final performance specification adopted by the RSAC incorporated the need for different floor heights for the two types of service. The ability to split the order was discussed and the general consensus was that splitting the order size would lead to higher overall costs and was not in concert with the direction of Proposition 116 to try for a "uniform design of a rail car shell...." Caltrans also discussed with the RSAC, before adoption of the final performance specification, State procurement constraints which would make splitting the bid difficult, if not impossible, to implement. The adoption of a performance specification rather than a detailed specific design(s) was the direct result of the RSAC wanting to allow flexibility with all carbuilders in arriving at an appropriate response to the RFP.

Page 53: The draft report states, "Of the (PROP 116) commuter cars 24 will be used for Metrolink commuter services in the LOSSAN basin." This section should be changed to read: "Of the (PROP 116) commuter cars 24 commuter cars are being allocated to Southern California.

We appreciate this information and concur; this change was made in the Report.

METROPOLITAN TRANSIT DEVELOPMENT BOARD COMMENTS

Figure 5B needs to identify dollar quantity and year ($1,000, 1993?).

The Report has been revised to identify dollar quantity in Figure 5B. In the final Report, Figure 5B was divided into two five-year segments.

It is unclear how funds are allocated in the "Section 190 State Grade Separation Program." (Page 57)

In response to your comment, the final Report was revised to clarify that the CTC delegates project allocation authority to Caltrans for use in accordance with Caltrans administrative regulations for this program.

"Eligible grade crossings" (Page 58) should be given a definition.

In response to your comment, the final Report was revised to state that eligibility and recommended improvements are determined by the California Public Utilities Commission (CPUC) in consultation with the railroads and the appropriate State and local agencies. Eligible projects are then listed by the CPUC on their "Recommended List of Public Crossings in California for Improved Crossing Protection with Federal Funding".

SAN JOAQUIN STEERING COMMITTEE COMMENTS

The State Intercity Rail Capital Program.

The Steering Committee is deeply concerned over the design, construction, procurement and delivery of the ""California Car"s". Caltrans reported to us in September that the design of the cars is still unsettled and their delivery delayed for months. New trains on the San Joaquin corridor are planned to start after the arrival of the new ""California Car"s".

It appears that no substantial part of the intercity ""California Car"" construction will be carried on in California as had been promised and as we had expected.

The current schedule calls for delivery of the first two intercity cars in the Summer of 1994. The first equipment delivered will be used to initiate the Sacramento - Stockton service. Additional equipment will be available to initiate other new services by April 1995.

The original plan called for the first ten cars to be completely assembled in New York and up to 25 percent of the final assembly of the remaining cars to be accomplished in a California facility. When the plan was changed to a tri-level design on the commuter cars, Morrison Knudsen committed to full assembly of the 47 commuter cars in Pittsburg, California. Additionally, Morrison Knudsen agreed to assemble in Pittsburg 21 of the 25 additional intercity cars added through an option order. These two actions have effectively increased the number of jobs to be created at the Pittsburg plant from 30 to 300.

The CRPPR pays too little attention to station tracks and cross platform passenger movement in busy stations. We believe this to be a necessary tool.

The details of station tracks and cross platforms were not meant to be addressed in this Report. These issues are addressed, however, as new stations or station improvements are planned. As such requests are made for additional information, the Report may be expanded in future editions.

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS COMMENTS

(Page 3, Chapter V) Fast-train/higher-speed upgrades to conventional rail systems INCLUDE POLICY

Increasing speeds to 110 mph on existing routes is folded into the discussion of Cost-Effective Intercity Rail Passenger Systems on page 3. We believe it should be identified separately as a Caltrans rail policy.

Fast-train or higher-speed rail improvements for conventional rail systems are clearly explained on page 51 under the 110 MPH Program. The Caltrans 110 mph program, which focuses on existing routes, is different than the Caltrans Ultra High-Speed Rail Planning Program, which will likely focus on the San Joaquin Valley and speeds above 110 mph. Either a separate policy should be developed, or the High Speed Ground Transportation System policy should be modified to recognize the differences. Clear Caltrans policy direction for 110 MPH Program should be identified for improvements to conventional systems, like the Coast Route.

Caltrans Rail Policies are general and the issue of increased speeds is a more specific action. However, the 110 mph goal is a specific objective supported by recommendations at the end of each of the three intercity route chapters and is discussed in detail in a section in Chapter V (Capital Program). Our policies specifically endorse the development of a High Speed Ground Transportation system for California; the SCR 6 Study will develop a 20-year Intercity High Speed Ground Transportation Plan, as described in Chapter XIV.

(Chapter V) New intercity rail passenger service routes - INCLUDE

Chapter V identifies three rail passenger service objectives, but does not recognize the need to identify "new" intercity routes. While the extension of existing routes would likely cover the majority of new services, adding new routes is mentioned as a rail policy on page 3 and should be included as an objective in this section.

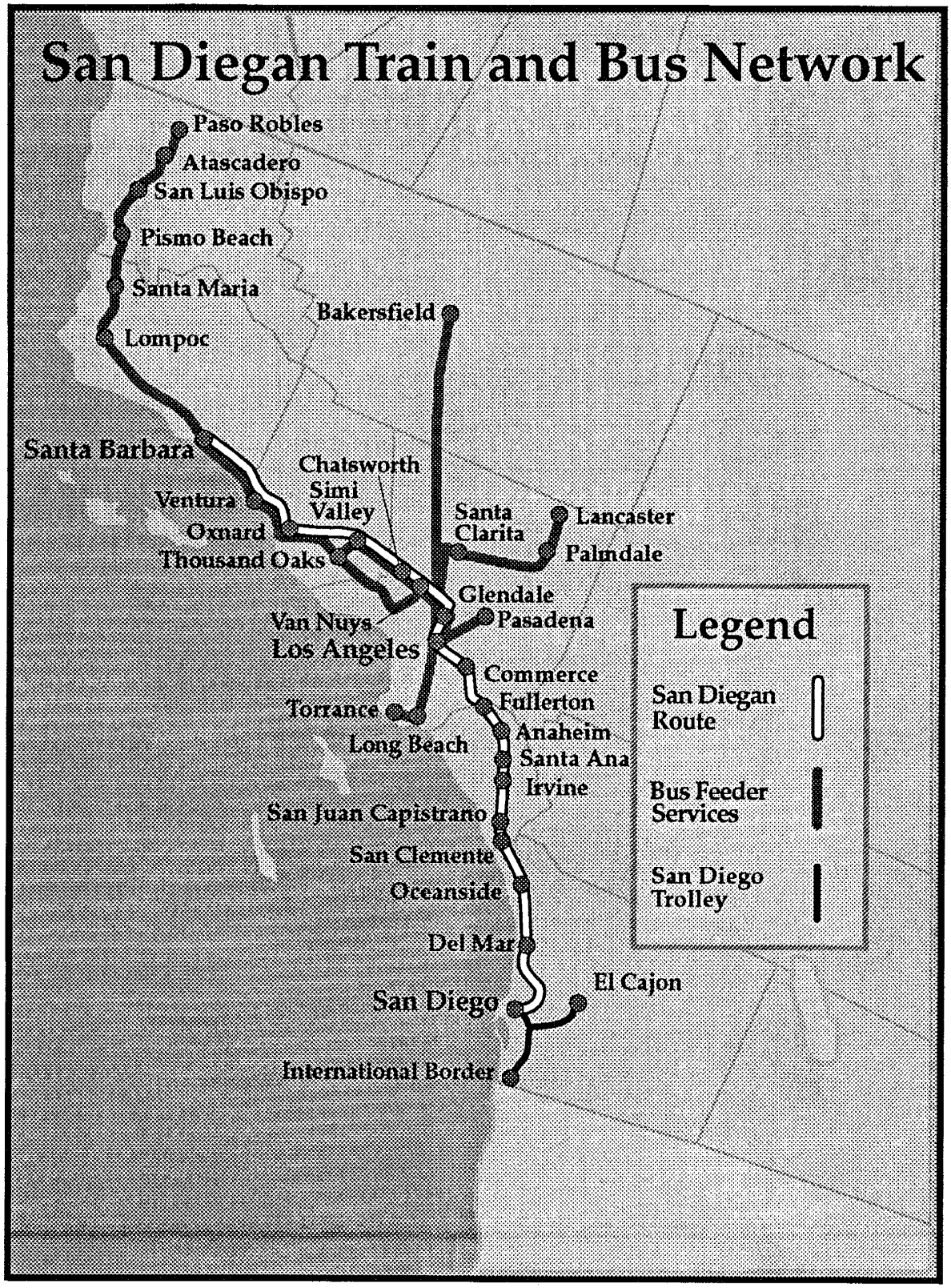
The objectives in Chapter V (Capital Program) are for incremental upgrading of existing intercity rail routes. New routes which are the subject of feasibility studies are discussed in Chapter X. Objectives for upgrading such routes will be added to the Rail Capital Program if such routes are adopted as a proposed State-supported intercity rail route.

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION COMMENTS

Page 52, last paragraph - the statement that "The RSAC agreed that the same basic carbody...was feasible for all RSAC agencies except Santa Cruz County Regional Transportation Commission" is made out of context. The SCCRTC polled all current and potential rail operators in Santa Cruz County about their potential rail car needs, at Caltrans request. One respondent stated that cars shorter than the proposed "California Car" might be desired as part of a long term proposal to establish a new rail corridor. This information was forwarded to Caltrans, but was not endorsed by the SCCRTC as their official position towards "California Car" development. The SCCRTC has not taken a position on the "California Car" design, although we were an active contributor to the RSAC.

The Report was revised to reflect SCCRTC's concern.

Figure 6A


San Diegan Train and Bus Network
Paso Robles
Atascadero
San Luis Obispo
Pismo Beach
Santa Maria
Lompoc
Bakersfield
Santa Barbara
Chatsworth
Simi Valley
Ventura
Oxnard
Thousand Oaks
Santa Clarita
Lancaster
Palmdale
Glendale
Pasadena
Van Nuys
Los Angeles
Commerce
Fullerton
Anaheim
Santa Ana
Irvine
Torrance
Long Beach
San Juan Capistrano
San Clemente
Oceanside
Del Mar
El Cajon
San Diego
International Border
Legend
San Diegan Route
Bus Feeder Services
San Diego Trolley

Chapter VI – The San Diegans (San Luis Obispo-Santa Barbara-Los Angeles-San Diego)

This Chapter covers the State-supported *San Diegan* Route. The Chapter includes: route objectives, background on the Route, a route description, route performance data, station descriptions, information on the *San Diegan* marketing program, a description of the Los Angeles-San Diego Rail Corridor Agency and a discussion of operational and service improvements to date and proposed train service improvements.

OBJECTIVES

The State's principal objectives on this route are to:

- Increase ridership and revenues
- Increase revenue/cost (farebox) ratio
- Increase frequency of service
- Increase speeds and reduce train running times
- Improve reliability (on-time performance) of trains
- Extend train service to San Luis Obispo

BACKGROUND

Historically, the San Luis Obispo-Santa Barbara-Los Angeles-San Diego corridor has been discussed in two parts, since the rail lines north and south of Los Angeles were owned and operated by separate railroad companies. However, in planning for improved passenger rail service in Southern California, Caltrans views the San Luis Obispo-Santa Barbara-Los Angeles-San Diego route as one continuous travel corridor. Reinforcing this view is the current study by the Southern California Association of Governments on the potential for conversion of Los Angeles Union Station to a run-through station.

When Amtrak was established in May 1971, it maintained the same level of service that had been provided previously by the railroads. The San Luis Obispo-Santa Barbara-Los Angeles segment was served by the daily Seattle-Los Angeles *Coast Starlight*. The Los Angeles-San Diego portion was served by two daily *San Diegan* round trips, plus tri-weekly train connections with the *Coast Starlight*. Later in 1971, this third train began daily operations. For the next five years, this three-train service functioned primarily as connections to long-haul trains at Los Angeles.

On September 1, 1976, a State-supported train was added to the Los Angeles-San Diego portion of the Route. A second State-supported train was

instituted on April 24, 1977 and a third on February 14, 1978, for a total of six round trips per day between Los Angeles and San Diego. On October 26, 1980 a seventh *San Diegan* was added by Amtrak as a basic system train (not State-supported).

Train service between Los Angeles and Santa Barbara was increased to two round trips per day on October 25, 1981, with the addition of the State-supported *Spirit of California,* which operated in the corridor as part of its Los Angeles-Sacramento route. Ridership on the service did not reach acceptable levels and it was discontinued on October 1, 1983.

On August 12, 1985, new service between Los Angeles and Santa Barbara was instituted in the form of dedicated bus connections to the *San Diegans*. On October 25, 1987, an eighth Los Angeles-San Diego round trip was added. On June 26, 1988, the Santa Barbara-Los Angeles-San Diego corridor was unified with the extension of one *San Diegan* round trip north to Santa Barbara. A second train was extended to Santa Barbara on October 28, 1990. The eighth train and the extensions to Santa Barbara are all State-supported services. On October 25, 1992, Amtrak added a ninth Los Angeles-San Diego round trip as a basic system train.

Caltrans plans to extend the *San Diegan* Route to San Luis Obispo in Spring 1995; this extension will provide an additional frequency between Santa Barbara and Los Angeles.

The performance of the *San Diegan* Route has continued to improve with increased train service, the extensions to Santa Barbara and increased marketing efforts. With these improvements and the others discussed in this Chapter, ridership and revenues should continue to increase. The revenue/cost (farebox) ratio, which was 103.3 percent in 1992/93, should continue to greatly exceed the 55 percent statutory requirement.

Figure **6A** is a map displaying the route and the connecting bus services that are described in Chapter IX.

ROUTE DESCRIPTION

The *San Diegan* Route presently extends 232 rail miles between Santa Barbara and San Diego (103 north of Los Angeles; 129 south of Los Angeles). To facilitate the implementation of commuter rail service, regional and local agencies in Ventura, Los Angeles, Orange and San Diego Counties have purchased [from the Southern Pacific (SP) and Santa Fe (ATSF) Railroads] major segments of the rail line used by the *San Diegan* trains. The intercity trains continue to be operated by Amtrak on these segments under the provisions of its contracts with the selling railroads. In view of the line's limited capacity and continuing construction of major rail improvement projects, the issue of potential conflicts between intercity and commuter services must be addressed by Caltrans, Amtrak and the local agencies and freight railroads involved in operation of rail passenger services on this

route. Figure **6B** describes the current ownership, segment mileage, track and signal characteristics of the *San Diegan* Route.

Scheduled train running time between Santa Barbara and Los Angeles varies from 2 hours, 35 minutes to 2 hours, 50 minutes and overall average speeds, including station dwell time, varies from 36 to 40 mph. Between Los Angeles and San Diego, train running time varies from 2 hours, 54 minutes to 3 hours, 9 minutes and the average speed, including station dwell time, varies from 41 mph to 46 mph.

Figure **6B**

SAN DIEGAN ROUTE
OWNERSHIP AND TRACK CHARACTERISTICS

Route Segment					Owner of Track	*No. of Tracks	Max Speed	Signal System
Between	Mile Post	And	Mile Post	Miles				
Santa Barbara	370.7	E. Santa Barbara	371.9	1.2	SP	2	40	ABS/DTC
E Santa Barbara	371.9	Moorpark	427.1	54.5	SP	1	70	ABS/DTC
Moorpark	426.4	Ventura/LA Co. Line	441.3	14.9	(A)SP/VCTC	1	70	ABS/DTC
Ventura/LA Co. Line	441.3	Raymer (W. of Van Nuys)	454.1	12.8	(A)SP/LACMTA	1	70	CTC/ABS /DTC
Raymer (W. of Van Nuys)	454.1	Burbank Jct.	462.6	8.4	(A)SP/LACMTA	2	79	CTC
Burbank Jct.	462.5	Glendale (Fletcher Dr.)	478.2	6.8	(A)SP/LACMTA	2	50	CTC
Glendale (Fletcher Dr.)	478.2	C.P. Dayton	40.7	2.5	LACMTA	2	50	CTC
Via East Side of		**Los Angeles River (B)**						
C.P. Dayton	40.7	ATSF (Pasadena Subdivision OverXing)	41.1	0.4	LACMTA	2	30	CTC
ATSF (Pasadena Subdivision OverXing)	41.1	East Bank Jct.	481.9	0.8	LACMTA	1	30	CTC
East Bank Jct.	481.9	Mission Tower	482.2	0.3	SP	2	15	CTC
Via West Side of		**Los AngelesRiver (C)**						
C.P. Dayton	138.6	Mission Tower	140.0	1.4	LACMTA	2	-	CTC
Mission Tower	140.0	L.A. Union Station	140.8	0.8	Catellus	3	15	CTC
Mission Tower	140.0	Redondo Jct.	143.2	3.2	LACMTA	1	65	CTC
Redondo Jct.	143.2	Fullerton	165.0	21.8	ATSF	2/3	79	CTC
Fullerton	165.0	Santa Ana (Aliso)	175.2	10.2	OCTA	2 (D)	79	CTC
Santa Ana (Aliso)	175.2	Orange/San Diego Co. Line	207.4	32.2	OCTA	1/2 (D)	90	CTC/ATS
Orange/San Diego Co. Line	207.4	Del Mar/San Diego City Limits	245.6	38.3	NSDCTDB	1	90	CTC/ATS
Del Mar/San Diego City Limits	245.6	Sorrento	249.1	3.5	MTDB	1	90	CTC/ATS
Sorrento	249.1	San Diego	267.6	18.5	MTDB	1/2	79	CTC
Total (includes round trip between LA Union Station and Mission Tower)				231.9				

* General number of mainline tracks

(A) On this segment LACMTA (VCTC between Moorpark and the Ventura/LA County Line) purchased a 40-foot-wide portion of SP's right-of-way. Between Raymer and Burbank Junction, LACMTA constructed and owns a second main line track.
(B) Current route (and alternate route after West Side of Los Angeles River line construction is completed).
(C) New route (via Downey Avenue Bridge) under reconstruction.
(D) Planned for 1994

Owners:

ATSF	-	The Atchison, Topeka and Santa Fe Railway Company
Catellus	-	Catellus Corporation (a real estate development company; owner of L.A. Union Station)
MTDB	-	Metropolitan Transit Development Board
NSDCTDB	-	North San Diego County Transit Development Board
OCTA	-	Orange County Transportation Authority
LACMTA	-	Los Angeles County Metropolitan Transportation Authority
SP	-	Southern Pacific Transportation Company
VCTC	-	Ventura County Transportation Commission

Signal Systems:

ABS - Automatic Block Signals - Possession of a segment of track (a block) is protected by wayside signal indication. Switches must be thrown manually by train crews entering sidings.
ATS - Automatic Train Stop - Allows speeds of 90 miles per hour. System automatically applies train brakes if a restrictive signal indication is not observed or warning alarm is not acknowledged.
CTC - Centralized Traffic Control - Wayside signals protect possession of blocks. Signals and powered switches are also remotely controlled from the dispatching center to direct the movement of trains.
DTC - Direct Traffic Control - Dispatching center gives authority for train movement by radio to train crew directly.

PERFORMANCE

The revenue/cost (farebox) ratio for all State-supported trains on the route has increased from 50.8 percent in 1978/79 (the first full year with three such trains) to 103.3 percent in 1992/93. The ratio declined from 108.5 percent in 1988/89 to 99.3 percent in 1991/92, as a result of low growth in ridership and revenues due to the recession (and defense cuts in Southern California), coupled with increases in expenses due to inflation and the addition of the second Santa Barbara train in late 1990. However, the ratio increased to 103.3 percent in 1992/93, as ridership grew on the new service.

Ridership for the whole route increased from 967,316 in 1978/79 to 1,795,114 in 1992/93. Over 243,000 passengers rode the Santa Barbara extension of the *San Diegan* Route in 1992/93, an increase of 13 percent over the prior year.

Figure **6C** lists actual monthly ridership figures by route segments (north and south of Los Angeles) for 1990/91 through 1992/93, as well as the percent change from one year to the next. Figure **6D** lists *San Diegan* ridership by station, including connecting bus stops, for 1992/93. Ridership includes persons originating and terminating their trip at each station. Figure **6E** is a table showing ridership and financial performance data on an annual basis since 1974.

On-time performance for State-supported trains between San Diego and Los Angeles during the 12-month period ending November 1993 showed a mean of 74 percent, ranging from a low of 64 percent in January 1993 to a high of 86 percent in October 1993. Reasons for such performance vary. Construction projects, including new double track, occasional waiting for connecting buses and freight and passenger train interference contribute to the month-to-month changes. Amtrak is working to improve the situation, but until the capital projects are completed, on-time performance will be impacted.

The segment from Los Angeles to Santa Barbara had an on-time performance mean of 76 percent during the same period with low of 59 percent in January 1993 and high of 87 percent in October 1993. The signaling system has been continuously upgraded by segments and the on-time performance has improved as a result. The on-time performance has fallen slightly below 80 percent in only two of the months in the period June-November 1993.

Figure 6C

SAN DIEGAN RIDERSHIP SUMMARY

Fiscal Year Month	LA-San Diego Segment			LA-Santa Barbara Segment			TOTAL	
	Northbound	Southbound	Total	Northbound	Southbound	Total	Route Total	Change from Prior Year
1990/91								
Jul-90	80,379	75,549	155,928	5,204	5,250	10,454	166,382	5%
Aug-90	97,158	90,430	187,588	6,611	6,466	13,077	200,665	11%
Sep-90	71,466	67,188	138,654	4,378	4,203	8,581	147,235	5%
Oct-90	60,300	58,054	118,354	4,441	4,781	9,222	127,576	4%
Nov-90	63,327	64,132	127,459	8,737	10,352	19,089	146,548	10%
Dec-90	58,576	56,644	115,220	7,090	8,832	15,922	131,142	3%
Jan-91	57,880	54,887	112,767	5,959	6,574	12,533	125,300	4%
Feb-91	57,705	56,735	114,440	7,953	8,729	16,682	131,122	8%
Mar-91	68,065	67,966	136,031	8,549	10,033	18,582	154,613	- 4%
Apr-91	63,317	62,798	126,115	8,535	10,219	18,754	144,869	-10%
May-91	75,478	72,790	148,268	9,792	10,522	20,314	168,582	6%
Jun-91	66,232	62,107	128,339	9,063	10,345	19,408	147,747	- 8%
TOTAL	819,883	789,280	1,609,163	86,312	96,306	182,618	1,791,781	3%
1991/92								
Jul-91	67,137	64,404	131,541	9,582	10,118	19,700	151,241	- 9%
Aug-91	76,996	75,138	152,134	10,557	11,514	22,071	174,205	-13%
Sep-91	53,745	51,380	105,125	7,561	8,678	16,239	121,364	-18%
Oct-91	54,402	47,021	101,423	7,094	8,489	15,583	117,006	- 8%
Nov-91	54,221	49,449	103,670	8,209	9,733	17,942	121,612	- 17%
Dec-91	56,508	48,647	105,155	7,349	9,089	16,438	121,593	- 7%
Jan-92	59,501	48,352	107,853	6,836	7,949	14,785	122,638	- 2%
Feb-92	49,305	47,742	97,047	5,464	6,030	11,494	108,541	- 17%
Mar-92	69,337	66,392	135,729	8,083	9,465	17,548	153,277	- 1%
Apr-92	73,279	71,127	144,406	10,372	11,503	21,875	166,281	15%
May-92	74,806	68,419	143,225	10,990	11,734	22,724	165,949	- 2%
Jun-92	66,760	63,278	130,038	8,908	10,485	19,393	149,431	1%
TOTAL	755,997	701,349	1,457,346	101,005	114,787	215,792	1,673,138	-7%
1992/93								
Jul-92	78,407	74,041	152,448	11,569	12,777	24,346	176,794	17%
Aug-92	91,411	76,385	167,796	14,196	15,828	30,024	197,820	14%
Sep-92	68,761	65,247	134,008	9,555	10,721	20,276	154,284	27%
Oct-92	57,424	60,454	117,878	8,532	9,075	17,607	135,485	16%
Nov-92	65,712	61,178	126,890	10,466	11,378	21,844	148,734	22%
Dec-92	59,612	54,785	114,397	8,565	9,102	17,667	132,064	9%
Jan-93	61,449	54,661	116,110	7,166	7,544	14,710	130,820	7%
Feb-93	54,843	48,922	103,765	7,608	8,187	15,795	119,560	10%
Mar-93	58,319	52,274	110,593	8,002	8,319	16,321	126,914	- 17%
Apr-93	69,486	61,918	131,404	10,963	10,640	21,603	153,007	-8%
May-93	73,647	65,861	139,508	10,773	11,138	21,911	161,419	- 3%
Jun-93	70,479	66,506	136,985	10,410	10,818	21,228	158,213	6%
TOTAL	809,550	742,232	1,551,782	117,805	125,527	243,332	1,795,114	7%

Figure 6D

SAN DIEGAN ROUTE
RIDERSHIP BY STATION - FISCAL YEAR 1992/93

Rank		Station	Average Daily Ridership
1	T	San Diego	1892
2	A	Los Angeles	1860
3	T	Oceanside	774
4	T	Fullerton	750
5	T	Del Mar	742
6	T	San Juan Capistrano	719
7	T	Santa Ana	607
8	T	Anaheim	579
9	A	Santa Barbara	354
10	A	Glendale	125
11	T	Irvine	120
12	A	Oxnard	108
13	A	Chatsworth	72
14	A	Van Nuys	72
15	A	Simi Valley	63
16	A	Ventura	41
17	T	San Clemente	36
18	B	San Luis Obispo	32
19	T	Moorpark	16
20	B	Santa Maria	8
21	B	Lompoc	8
22	B	Pismo Beach	5
23	B	Thousand Oaks	4

Station Key:
T = Station served by train only (includes bus junction points).
A = Station served by both train and bus connection.
B = Station served only by bus connection.

Figure 6E

SAN DIEGAN Route
Annual Performance - State Fiscal Years

State Fiscal Year	Ridership Data: All Trains Riders	All Trains PM/TM (h)	403(b) Trains Riders	403(b) Trains PM/TM (h)	Financial Data: For State-Supported Trains/Buses Only Revenue	Operating Expense (h)	Operating Loss	Total State Cost (i)	Train Loss per PM (k)	Revenue /Cost Ratio
1973/74(a)	381,844	N/A								
1974/75	356,630	N/A								
1975/76	376,900	N/A								
1976/77 (b)	607,976	146	101,572	N/A	$598,140	$1,662,714	$1,064,574	$548,534	N/A	36.0%
1977/78 (c)	753,246	128	258,800	N/A	$1,446,036	$3,768,065	$2,322,029	$1,325,087	N/A	38.4%
1978/79	967,316	163	415,865	N/A	$2,203,403	$4,333,602	$2,130,199	$1,178,667	N/A	50.8%
1979/80	1,218,196	177	557,113	N/A	$3,341,561	$5,536,840	$2,195,279	$1,064,713	N/A	60.4%
1980/81 (d)	1,238,135	152	555,418	N/A	$4,032,480	$6,572,539	$2,540,059	$1,233,490	N/A	61.4%
1981/82	1,167,718	144	533,093	152	$4,097,254	$6,607,395	$2,510,141	$1,217,418	6.3¢	62.0%
1982/83	1,131,146	138	488,606	124	$4,094,750	$6,928,334	$2,833,584	$1,374,097	8.3¢	59.1%
1983/84	1,221,256	143	524,857	131	$4,842,400	$6,337,083	$1,494,683	$1,452,450	4.1¢	76.4%
1984/85	1,240,003	152	568,902	144	$5,410,502	$6,411,308	$1,000,806	$1,212,261	2.5¢	84.4%
1985/86	1,394,320	167	597,025	151	$5,658,915	$6,424,634	$765,719	$1,097,966	1.8¢	88.1%
1986/87	1,461,003	173	624,618	155	$6,072,523	$6,510,113	$437,590	$955,509	1.0¢	93.3%
1987/88 (e)	1,661,512	174	749,996	158	$8,223,462	$7,859,783	($363,679)	$1,145,330	(0.7¢)	104.6%
1988/89	1,717,539	164	865,003	161	$11,458,084	$10,563,459	($894,625)	$794,159	(1.2¢)	108.5%
1989/90	1,746,673	174	882,167	156	$12,189,942	$11,808,251	($381,691)	$988,847	(1.4¢)	103.2%
1990/91 (f)	1,791,781	159	946,988	163	$13,306,307	$13,364,150	$57,843	$1,170,448	(0.7¢)	99.6%
1991/92	1,673,107	161	884,224	147	$13,152,063	$13,245,924	$93,861	$1,012,564	(0.5¢)	99.3%
1992/93 (g)	1,795,114	155	953,649	155	$13,692,612	$13,254,709	($437,903)	$958,857	(0.8¢)	103.3%

(a) Three round trips through 8/30/76.
(b) Fourth round trip (first State-supported train) added 9/1/76; fifth round trip (second State-supported train) added 4/24/77.
(c) Sixth round trip (third State-supported train) added 2/14/78.
(d) Seventh round trip (not State-supported) added 10/26/80.
(e) Eighth round trip (fourth State-supported train) added 10/25/87; one round trip extended to Santa Barbara 6/26/88 (State-supported north of Los Angeles only).
(f) Second 403(b) train extended to Santa Barbara on 10/28/90.
(g) Ninth round trip (not State-supported) added 10/25/92.

(h) Passenger-miles per train-mile, a measure of the average load on a train over its entire route. Actual passenger-mile data was not provided by Amtrak prior to August 1981. PM/TM figures shown for all trains are calculated by Amtrak and cover the Amtrak Fiscal Year (October through September).
(i) For second Los Angeles-Santa Barbara train, long term avoidable cost basis. For other trains, short-term avoidable cost basis since October 1983, solely-related cost prior to then; includes cost of connecting buses. Depreciation and interest (equipment capital cost) included in operating cost under solely-related basis but excluded and charged separately under short-term and long-term avoidable bases.
(j) Effective October 1983, State cost is 65 percent of operating loss plus 50 percent of depreciation and interest (equipment capital cost); from October 1976 through September 1983, State cost was 50 percent of operating loss (including equipment costs), less 1.5 percent credit for staff services starting October 1978. Also includes State payment of entire net cost of connecting buses.
(k) Train loss (deficit) per train passenger-mile; the Congressional Standard for short-haul trains (under 600 miles) was originally 9.0 cents (based on short-term avoidable loss), but has inflated to 18.7 cents in FY 1993. Separate passenger-mile data for State-supported trains was not provided by Amtrak prior to August 1981. Connecting buses not included in loss per passenger-mile data.

RAIL STATION DESCRIPTIONS

This section includes descriptions of all rail stations on the *San Diegan* Route. An asterisk indicates that the station is planned. (Bus stations are not described.)

Anaheim: This staffed station opened on October 30, 1983 and is located within the Anaheim Stadium parking lot on East Katella Avenue in Anaheim. It was established under the Caltrans intermodal facilities program and is owned by the City of Anaheim. The station is also served by Orange County Commuter Rail (OCCR), which is planned to be incorporated into the Metrolink commuter rail system in December 1993.

****Burbank Airport:*** This station opened on June 1, 1990 using an existing platform (originally constructed for the Los Angeles-Oxnard commute service in 1982), near the Burbank-Glendale-Pasadena Airport. Train service was suspended on October 27, 1991 and the station was temporarily removed to allow a second main track to be added to accommodate Metrolink and Amtrak passenger rail service. A replacement station will be constructed with bus and auto loading and unloading zones, covered waiting areas and telephones. It is expected to open in 1994 and will be served by Airport shuttle buses and local transit. Also, *San Joaquin* feeder buses serve this station.

This station provides a direct linkage between intercity rail passenger services and an airport, supporting the provisions of Ch 599/92 (AB 2095, Costa).

Chatsworth: The new Chatsworth Amtrak/Metrolink station is located at 12510 Devonshire Street. The unstaffed station is also served by Metrolink commuter trains and *San Diegan* feeder buses. This new station opened on October 26, 1992, replacing the original Amtrak station in Chatsworth.

Commerce: The Commerce Station opened on July 26, 1993. It is located at 26th Street and Garfield Avenue, just west of the Santa Ana (I-5) Freeway in the City of Commerce. A simple platform with lighting and a parking lot, the stop is served by three round-trip *San Diegan* trains as well as OCCR. Funding is from the TCI Program and the Commerce Redevelopment Agency, with total cost estimated at $933,000.

Del Mar: The Del Mar station is located off the Via De La Valle exit from I-5 on Coast Boulevard. This station was completely rehabilitated under an agreement executed in 1981 and is now privately owned by Catellus Corporation. It serves all existing *San Diegan* trains. A free shuttle to the Del Mar race track is available during race season. However, due to limited parking and accessibility problems, the station will be relocated to Solana Beach, as proposed by the Los Angeles-San Diego Rail Corridor Agency. Solana Beach will serve both intercity trains and the planned San Diego County commuter rail service.

Fullerton: The Fullerton station is located off of Highway 91 in downtown Fullerton and is now owned by the City of Fullerton. The City acquired the station building as part of its transportation center project. It is a staffed, multimodal station that also serves *San Joaquin* feeder buses and OCCR. Across the street, local transit (Orange County Transportation Authority) service is available, including a bus connection to Disneyland.

The station and adjacent facilities have been extensively upgraded through a series of joint City/State intermodal facilities projects. In February of 1989, $500,000 in TCI funding was provided, with a local match of $500,000, to provide a new eight-inch above-the-rail north platform and related station improvements. And in February 1990, Caltrans provided for additional station site improvements, including a south platform, at a cost of $1.5 million, with a local contribution of $370,000. The CTC has recommended $150,000 in 1993/94 TCI funding for station modifications to meet requirements of the Americans with Disabilities Act (ADA).

Glendale: The Glendale station is located at Cerritos and Railroad Avenues. The staffed station is also served by the *Coast Starlight*, connecting *San Diegan* and *San Joaquin* feeder buses and Metrolink commuter rail service (starting in October 1992). In 1990/91, $320,000 in TCI funds were provided for station acquisition and in 1992/93, $2.0 million in TCI funds were made available to provide increased parking facilities.

Irvine: The Irvine station is located off the Alton Parkway exit from Interstate 5 in Orange County. This new, fully staffed station was developed under the intermodal facilities program and is owned by the City of Irvine. It opened on June 1, 1990 and is served by five round-trip *San Diegan* trains. The station also serves OCCR, Greyhound, local transit and vanpools to local offices.

In June of 1992, Caltrans provided an additional $1.136 million through the intermodal facilities program to help fund the construction of an additional platform and a pedestrian crossing to the El Toro Marine Corps Air Station. The CTC has recommended $425,000 in 1993/94 TCI funding for station modifications to meet ADA requirements.

Los Angeles: The historic Los Angeles Union Passenger Terminal (located at 800 North Alameda Street in downtown Los Angeles) is privately owned by Catellus. It serves as a hub for Amtrak's Western trains and for Los Angeles area commuter rail service. Amtrak serves the station with 13 daily round trips plus the tri-weekly service of the *Sunset*. Commuter rail service totals 63 one-way trips on Monday through Friday (except holidays); 61 by Metrolink and two by OCCR. When OCCR is incorporated into Metrolink in early 1994, trips will increase by two. The station also serves *San Joaquin* and *San Diegan* feeder buses and local transit lines.

Los Angeles' new Metro Red Line serves the station. As part of the construction of the Metrorail stop, a new Amtrak ticket office, baggage

facilities, restrooms and offices were constructed and placed in service in 1990. Food service is available.

Moorpark: The Moorpark Amtrak/Metrolink station is located at 300 High Street. The station uses parking facilities originally built for the Oxnard commuter service in 1982. *San Diegan* Route service began at Moorpark on October 26, 1992.

Oceanside: In 1984 a new station was constructed to replace an existing facility using funding from the intermodal facilities program. It is located off the Mission Avenue/Downtown exit from Interstate 5 and is owned by North County Transit District. This staffed station also serves *San Joaquin* feeder buses, Greyhound buses, as well as local transit. It will serve the Metrolink and San Diego County commuter rail lines.

In August of 1989, Caltrans and the North County Transit District provided $350,000 each to fund the addition of a second platform at the station, extension of the existing platform and construction of a pedestrian undercrossing between the two platforms. In July of 1990, an additional $2 million were provided by Caltrans for parking facility upgrades, plus an additional $1.2 million local contribution.

Oxnard: The Oxnard Amtrak station is located at 201 East Fourth Street. This staffed station also serves the *Coast Starlight,* and *San Joaquin* and *San Diegan* feeder buses. In September, 1987, Amtrak began using the new station constructed under the Caltrans intermodal facilities program.

San Clemente: This stop is located off the Palizada exit from Interstate 5 at the San Clemente Municipal Pier on the railroad right-of-way. Although there are no amenities or staff, there are public telephones at the pier where passengers may call a taxi. It is served by selected *San Diegan* trains.

San Diego: This station, privately owned by Catellus Corporation, is located at the corner of Broadway and Kettner in downtown San Diego. The Santa Fe Railway rehabilitated the station as part of a larger, long-range development project. The station building, originally constructed in 1915 to serve the Panama-California Exposition held in San Diego that year, is now a nationally registered historical landmark. This staffed station is also served by the *San Joaquin* feeder buses and the San Diego Trolley, as well as San Diego Transit and Mexicoach buses. It will serve the San Diego County commuter rail service.

San Juan Capistrano: The San Juan Capistrano station is located off the Highway 74/Ortega Highway exit from Interstate 5 and is owned by the City of San Juan Capistrano Redevelopment Agency. This station serves *San Joaquin* feeder buses and OCCR. Intercity bus service is only one block away. There is a restaurant on the premises. Amtrak recently opened a temporary ticket office, located in the adjacent parking structure, to serve this station.

In June of 1992, Caltrans provided $452,000 (plus a local contribution of $8,000) under the intermodal facilities program for platform improvements and construction of a new platform. In December of 1992, the City requested a separate allocation of $1,296,000 to construct a parking structure.

Santa Ana: This station was constructed to replace an existing station in Santa Ana. It is located in the heart of Orange County at 1000 Santa Ana Boulevard and is owned by the City of Santa Ana. This facility, the largest new rail station built in this country in over thirty years, opened in September 1985. It is a staffed, multimodal station and includes a sandwich shop. It also serves OCCR, *San Joaquin* feeder buses, Greyhound and local transit.

In March of 1992, Caltrans signed a contract providing $4.5 million under the TCI Program to construct a 423 space parking structure. In March 1993, the CTC recommended $202,050 in 1993/94 TCI funds to meet ADA requirements and make minor improvements.

Santa Barbara: The historical Santa Barbara station is located on State Street near downtown Santa Barbara, two blocks from the beach. It is presently privately owned. The station is staffed and serves the *Coast Starlight* and connecting *San Diegan* and *San Joaquin* feeder buses. Rail bond funds from Propositions 108 and 116 in the amount of $4.9 million are programmed for acquisition and rehabilitation of the station and adjacent grounds.

Simi Valley: The new Simi Valley Amtrak/Metrolink station is located at 5000 Los Angeles Avenue near Stearns. It opened on October 26, 1992. The unstaffed station is also served by the *Coast Starlight, San Diegan* feeder buses and Metrolink commuter trains.

****Solana Beach***: In October 1989, the City of Solana Beach approved the concept of a potential joint development using both State bond funds and private funds for a multi-modal/retail complex. In January of 1990, the Los Angeles-San Diego Rail Corridor Agency voted to support Solana Beach as the location of the mid-San Diego County full service intercity/commuter rail station. It will replace the existing Del Mar Station located approximately 2.6 miles south of Solana Beach. It will serve the San Diego County commuter rail service and North County Transit District buses.

Van Nuys: The Van Nuys Amtrak/Metrolink station is located at 7724 Van Nuys Boulevard. This stop was instituted with the extension of *San Diegan* train service to Santa Barbara on June 26, 1988. Located at a former Oxnard commuter rail station, it utilizes parking facilities constructed for that service. In October 1991, as requested by Caltrans, the CTC allocated $829,000 in Proposition 108 bond funds to provide a ticket office facility at this location. Design work was performed using $230,000 in previously allocated TP&D funds. This project is scheduled for completion in Winter 1994/95. It will be a "hub" for Amtrak in the San Fernando Valley, serving the Santa Barbara

extension of the *San Diegan* Route, as well as *San Diegan* and *San Joaquin* feeder buses. Caltrans and Amtrak are coordinating this effort with the City of Los Angeles and the SCRRA so that this staffed ticket office will also serve Metrolink commuter passengers.

The City of Los Angeles approved $2.1 million in local Proposition C funds for land acquisition and parking lot construction at Van Nuys. A joint application by the City of Los Angeles and Caltrans was approved by the CTC for a total of $1.797 million to purchase property and expand parking. Additional parking is needed for both the Metrolink and Amtrak operations. Funding for the facilities to start Metrolink operations at Van Nuys consisted of $234,000 in local Proposition A funds.

Ventura: The Ventura Amtrak station is located west of Highway 101 at Harbor Boulevard and Figueroa Street, adjacent to the County Fairground. This new, unstaffed station opened on April 5, 1992 and is also served by *San Joaquin* and *San Diegan* feeder buses. The station was constructed by the City of San Buenaventura under the Caltrans intermodal facilities program.

MARKETING

The *San Diegan* Route is part of Amtrak's basic system and all the trains on the route are not supported by the State. As a result, Caltrans and Amtrak jointly agree upon overall marketing goals for the *San Diegan* and then divide the strategies and campaigns. Caltrans uses the services of private advertising and public relations companies to implement major aspects of its marketing plans, as does Amtrak. Caltrans advertising agency is EvansGroup in San Francisco. Public relations consulting is provided by Charles Seifert & Associates.

The primary focus of the 1992/93 advertising program was on radio, supported by outdoor billboards and major sports promotions. Advertising spotlighted the introduction of the ninth *San Diegan* round trip between Los Angeles and San Diego, as well as custom class service, the convenience of more departure times and connections with The San Diego Trolley and Metrolink commuter rail in Los Angeles. Amtrak is a sponsor of the Great Western Forum, home of the Los Angeles Lakers and Kings. Caltrans continued its Amtrak sponsorship of Angels games at the Anaheim Stadium and sponsored special Amtrak events at the Del Mar racetrack. Amtrak provided television and print advertising in the English and Spanish-speaking *San Diegan* market and placed radio ads as part of its commitment to supplement State-sponsored advertising.

Two-for-one coupons were distributed at the end of the year. Bus panels and newspaper ads were used to support the special fare promotions.

Public relations activities in 1992/93 included joint promotions with radio stations and destinations along the route to encourage weekday ridership. Caltrans sponsored a display at the Los Angeles County Fair, highlighting recent rail program accomplishments. The display included a scale model of the California Car and was seen by over one million people. California Amtrak

timetables were produced by Caltrans and distributed to Amtrak stations, travel agencies, travel literature racks and at the Los Angeles County Fair. A press conference was held in San Diego to announce the federal commitment of funds to a high speed rail corridor from Sacramento to San Diego. Ceremonies were held for the opening of City of Commerce Amtrak Station.

Advertising and public relations activities for 1993/94 will continue Caltrans marketing strategy to position travel aboard the *San Diegan* as a smart, economical travel choice in Southern California. Advertising efforts will include English and Spanish language television and radio in the San Diego and Los Angeles markets, supported by outdoor billboards and newspaper and magazine advertising. Major sports promotions are planned with the Great Western Forum and Anaheim Stadium. Public relations activities will include outreach events on Amtrak Thruway bus connection routes, radio promotions to highlight Amtrak area destinations, rail program displays at Los Angeles County Fair and special events along the *San Diegan* Route. Special marketing projects will include targeted mailings and outreach events to highlight Amtrak service and destinations, local and regional travel promotions with popular tourist attractions and promotion of Amtrak travel discounts on the *San Diegan* Route.

State expenditures for advertising and public relations in 1991/92 and 1992/93 were:

	1991/92	1992/93
Advertising	$ 875,000	$ 973,000
Public Relations	110,000	43,000
Direct Mail	65,000	64,000
Total	$ 1,050,000	$ 1,080,000

LOS ANGELES-SAN DIEGO RAIL CORRIDOR AGENCY

In early 1989 seven agencies signed a Joint Powers Agency agreement to create the Los Angeles-San Diego Rail Corridor Agency (RCA). This agency is responsible for coordinating the implementation of capital projects in the corridor and undertaking related efforts to improve the corridor services and facilities. Proposition 116 designates the RCA as the recipient of all capital funding from this source for the Los Angeles-San Diego rail corridor. The RCA also coordinates subcorridor commuter rail services with corridor intercity rail services. It serves as an ongoing vehicle to coordinate and focus the efforts of all interested parties to improve the *San Diegan* Route. Voting members are: Los Angeles County Metropolitan Transportation Authority (LACMTA), Orange County Transportation Authority (OCTA), North San Diego County Transit Development Board (NSDCTDB), Metropolitan Transit Development Board (MTDB) and Caltrans. Nonvoting members are: Southern California Association of Governments (SCAG) and San Diego Association of Governments (SANDAG). The RCA has a Technical Advisory Committee

which meets monthly and is comprised of representatives of the member agencies, Amtrak, the ATSF, the Southern California Regional Rail Authority (SCRRA) and cities along the corridor.

Caltrans has assumed the Agency's administrative functions, as requested by the RCA Board in June 1991. Caltrans has provided analysis, legal counsel and prepared an application on behalf of the RCA for federal funding for grade separation projects in the corridor.

OPERATIONAL AND SERVICE IMPROVEMENTS

This section includes a description of the major operational and service improvements which Caltrans has made on the *San Diegan* Route since State-supported service was initiated.

Nine Train Service Level (Los Angeles to San Diego)

Between 1976 and 1992, Caltrans and Amtrak worked together to increase round trips from three to nine on the *San Diegan* Route between Los Angeles and San Diego. Additional round-trip services were added as follows:

Fourth	-	September 1, 1976	-	State-supported
Fifth	-	April 24, 1977	-	State-supported
Sixth	-	February 14, 1978	-	State-supported
Seventh	-	October 26, 1980	-	Amtrak basic system
Eighth	-	October 25, 1987	-	State-supported
Ninth	-	October 25, 1992	-	Amtrak basic system

The addition of the ninth round trip allowed the operation of four morning departures from both Los Angeles and San Diego, approaching the near term goal of regular intercity service every two hours in the corridor.

To permit operation of the ninth train, Caltrans and Amtrak agreed to use the additional set of equipment that had been added in 1990 for the second Santa Barbara extension to run a ninth *San Diegan* round trip between Los Angeles and San Diego.

Santa Barbara Extension

The *San Diegan* corridor has been extended north to Santa Barbara by operating two daily round trips beyond Los Angeles.

The first Santa Barbara extension (which began service on June 26, 1988), scheduled as a morning southbound departure from Santa Barbara, assumed the schedule of the mid-morning southbound *San Diegan* south of Los Angeles. Returning, the late afternoon departure from San Diego arrives in Santa Barbara in the late evening. In addition to serving the existing Amtrak stations in Oxnard, Simi Valley and Glendale utilized by the *Coast Starlight,* the train makes intermediate stops at Ventura, Moorpark, Chatsworth and Van Nuys. It will serve the Burbank Airport Station scheduled to re-open in Spring of 1994.

The second Santa Barbara extension (which began service on October 28, 1990) departs Santa Barbara in mid-afternoon and continues from Los Angeles to San Diego in the early evening. Northbound, this train is an extension of the second morning departure from San Diego, arriving in Santa Barbara mid-day. Stops are the same as mentioned above. This second train offers same day return trips from points between San Diego and Fullerton to destinations between Glendale and Santa Barbara. It also allows Van Nuys, Chatsworth, Moorpark and Ventura passengers wishing to use the *Coast Starlight* northbound to connect to that train in Simi Valley, Oxnard or Santa Barbara.

To allow the start-up of the second Santa Barbara extension, Caltrans and Amtrak reached an agreement on outstanding cost issues. Amtrak agreed to combine the financial results of the second Santa Barbara train with those of all other State-supported *San Diegan* trains for funding purposes. Caltrans agreed to accept billings for this new train based on long-term avoidable costs.

Additional Stops

Stops added to the *San Diegan* Route since State-supported service was initiated in 1976 are:

Anaheim	Moorpark
*Burbank Airport	Simi Valley
Chatsworth	*Solana Beach
Commerce	Van Nuys
Irvine	Ventura

Planned stops are preceeded with an asterisk. For additional information, see "Station Descriptions" above.

Fares

Following requests by Caltrans, in 1985 Amtrak introduced a $7 return fare (round trip for seven dollars more than one way) on the *San Diegan* Route. This fare had been very successful in stimulating ridership and revenue growth on the *San Joaquin* Route, where it was first introduced in 1983. While not as much of a discount on the *San Diegans*, the $7 return provides very attractive fares and has contributed to sustained ridership growth.

Effective April 1, 1991, Amtrak increased the upper age limit to provide half-fare travel to children two through 15 years of age. This policy makes rail service more competitive with the automobile for family travel.

In response to Caltrans request for a new promotional offer, Amtrak announced a "2 for 1" fare with a coupon valid from November 1, 1993 through March 30, 1994 on the *San Diegans, San Joaquins, Capitols* and connecting buses. An adult passenger could travel with another adult or child for the price of one adult fare. The fare is valid Mondays through Thursdays and Saturdays, except during specified holiday periods.

Push-Pull Operation

On October 25, 1987, Amtrak converted the *San Diegans* to push-pull operation, a system in which the locomotive remains at the same end of the train regardless of the direction of travel. In one direction the train is pulled in the conventional manner by the locomotive, but in the other direction the train is operated from a "cab-control" compartment in the end coach, with the locomotive "pushing" the train from behind. This system eliminates the need to turn trains around at each end of the line, thereby saving switching costs and reducing turnaround times between schedules. This, in turn, permitted the eighth round trip to be established without requiring additional equipment.

Custom Class

On April 28, 1985, Amtrak and Caltrans implemented custom class service on this Route. Custom class offers a reserved seat with complimentary beverages and newspapers for a nominal extra charge on all *San Diegan* trains. With the extension of *San Diegan* service to Santa Barbara, custom class was offered for the first time in the Los Angeles-Santa Barbara corridor.

CALTRANS PROPOSED TRAIN SERVICE IMPROVEMENTS

In response to public requests and operational evaluations, Caltrans has identified four improvements which will substantially upgrade the level of train service available to *San Diegan* passengers. The train service improvements proposed by Caltrans for implementation within the ten-year period of this Report are as follows:

- Add five additional round trips between Los Angeles and San Diego, thereby increasing service from nine to fourteen trains.
- Add two additional San *Diegan* daily round trips between Los Angeles and Santa Barbara, thereby increasing service from two to four trains.
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- Extend one daily *San Diegan* round trip to San Luis Obispo.

Additional equipment will be required to operate the expanded services listed above. Other capital improvements are needed. These improvements are, therefore, subject to the availability of sufficient capital and operating funds. All service improvements are subject to Amtrak's agreement to: operate each service, provide its usual financial contribution to new State-supported trains, and fund operation of new basic system trains. And of course, all service improvements are contingent upon demonstrated ridership demand.

Each of these improvements is discussed in the following sections of this Chapter (except for discussion of speed increases, see Chapter V).

Fourteen Train Service Level (Los Angeles-San Diego)

The *San Diegan* Route has experienced ridership and revenue growth that has consistently exceeded Amtrak system averages (see the "Performance" section earlier in this Chapter). These results point to the need for additional train schedules to be introduced between Los Angeles and San Diego. Caltrans estimates fourteen trains will be needed to accommodate growth over the next ten years. However, demonstrated ridership demand will have to support the decision to add additional frequencies. Also, Caltrans will have to assess the effect on the *San Diegan's* ridership of the new Metrolink commuter service between Los Angeles and Oceanside (scheduled to begin in early 1994) as well as the North San Diego County Transit Development Board's Oceanside to San Diego Service (scheduled to begin in October 1994). With coordination of schedules and frequencies, the commuter and intercity services should serve to mutually benefit each other.

A fourteen train schedule will allow hourly service to be introduced throughout the day, with a "memory schedule" (in which trains depart at the same number of minutes after the hour). This schedule will, therefore, greatly reduce the waiting time between trains, allowing many additional choices for the intercity traveler.

The tenth train to be added will be a State-supported 403(b) service, following the traditional pattern of half the *San Diegan* trains on the Los Angeles-San Diego portion of the Route being State-supported and half being Amtrak basic system trains. The eleventh train should be a basic system train and this alternating pattern should be followed for each additional train added. (However, Amtrak advises they have not agreed to add any more *San Diegans* as basic system trains.)

Four Train Service Level (Los Angeles-Santa Barbara)

As noted earlier in the "Performance" Section of this Chapter, the performance of the two *San Diegan* Route round trips extended to Santa Barbara has been excellent. These favorable results demonstrate a clear public demand for additional intercity rail service between Santa Barbara, Los Angeles and San Diego. Accordingly, two additional *San Diegan* Route trains should be added between Los Angeles and Santa Barbara. This service enhancement would be accomplished be extending two San Diego - Los Angeles trains beyond Los Angeles to Santa Barbara. The fourth train extension to Santa Barbara would extend beyond to San Luis Obispo.

San Luis Obispo Extension

The favorable results of the new Santa Barbara-San Luis Obispo bus route (see the *San Diegan* Route section in Chapter IX) demonstrated a substantial market for intercity service in this corridor. Consequently, Caltrans examined the feasibility of extending direct *San Diegan* rail service from Santa Barbara to San Luis Obispo. This analysis looked at ridership, schedules, operating

revenues, costs, operating support requirements, capital needs (equipment and station facilities) and coordination with existing and proposed services along the Route. The results of the analysis, distributed in September 1992, demonstrated that the extension would be cost-effective.

In April 1991 Caltrans awarded a $27,000 planning grant (supplemented with additional local funding) to the San Luis Obispo Area Coordinating Council (SLOACC) to study rail passenger service improvements in San Luis Obispo County. The "Rail Improvement Feasibility Study", issued in January 1992, produced findings consistent with Caltrans conclusions on the potential for successful operation of a *San Diegan* extension to San Luis Obispo.

Caltrans is therefore working towards implementing the extension of a *San Diegan* train to San Luis Obispo in 1995. Caltrans made a formal request to Amtrak in April 1993 to begin this service extension in Spring 1995.

Discussion of extension of service to San Luis Obispo is coupled with the additional trains to Santa Barbara discussed in the preceeding section. The fourth train extension to Santa Barbara would extend beyond to San Luis Obispo. Additional rolling stock will be available to make this service improvement possible in 1995. Funding is available for the capital projects necessary for this extension. The layover facility in San Luis Obispo includes $825,500 in 1993/94 TCI funds recommended by the CTC, supplemented by $207,000 in San Luis Obispo County's portion of Proposition 116 bond funds. State operating cost for the extension is included in funding projections for the *San Diegan* Route operations shown in Chapter IV (Figure 4C).

Following are descriptions of the stations to be served by the extension of a *San Diegan* train to San Luis Obispo:

Goleta: This planned station will provide service to the nearby campus of the University of California, Santa Barbara, as well as to Goleta itself. Use of $24 million in Proposition 116 funds is proposed for this new station and related train layover facility. Although a specific project site has not yet been selected, project plans include a platform, covered waiting area, lighting, public parking lot and bus loading area.

Grover Beach: It is anticipated that the planned new station at Grover Beach will be located at the intersection of Grand Avenue and Highway 1 (Pacific Boulevard). It will serve the communities of Grover City, Pismo Beach, Shell Beach, Arroyo Grande and the unincorporated community of Oceano. Located one mile from US 101, it will provide access for both the *San Diegan* feeder buses and local transit. The unstaffed station will consist of a boarding platform, shelter, benches, lighting, a public telephone and parking.

The CTC has recommended 1993/94 TCI funds in the amount of $496,000 to partially fund the improvements. The project also includes $1,115,000 in funding from San Luis Obispo County's portion of Proposition 116 bond funds.

Guadalupe: Three alternative sites are proposed for the station in Guadalupe. Two sites are located between 9th and 10th Streets on Pacheco Street. Another site is in the vicinity of the previous station on the Southern Pacific line in Guadalupe. The station will serve the nearby City of Santa Maria and will have platforms and appropriate ramps to meet ADA requirements. This unstaffed station will include benches, lighting, a public telephone and appropriate parking to be determined in the final design. The CTC has recommended $706,000 in 1993/94 TCI funds to construct this station.

San Luis Obispo: This staffed station is about 40 miles south of Hearst Castle, located off of Highway 101 on Railroad Avenue at Santa Rosa Street. Built in 1941, it is owned by Southern Pacific. It is a multimodal station that presently serves the *Coast Starlight*, the *San Diegan* feeder buses, a *San Joaquin* feeder bus connection to Hanford and local transit. Although there is no public transportation to Hearst Castle, car rentals are available as well as Amtrak's Hearst Castle tour package.

Surf/Lompoc: The proposed location of this new unstaffed station is at Surf in Santa Barbara County, nine miles from the City of Lompoc and adjacent to Vandenberg Air Force Base. It will consist of a boarding platform, shelter, benches and lighting. In accordance with State and federal regulations, it will be fully accessible to the disabled. The CTC has recommended $458,000 in 1993/94 TCI funds for a new station. Caltrans and Santa Barbara County also requested $600,000 in 1994/95 TCI funds for this station; the City of Lompoc will contribute $40,000.

RECOMMENDATIONS

Following is a summary of Caltrans *San Diegan* Route train service continuance and improvement recommendations for implementation over the ten-year period of this Report. However, demonstrated ridership demand, institutional barriers, availability of funding and equipment, and technical problems outside the control of Caltrans will affect when each of the improvements can be implemented.

- The State should continue to provide funding for the operation of the four existing State-supported *San Diegan* round trips between Los Angeles and San Diego and two round trips between Los Angeles and Santa Barbara, including their feeder bus network.
- Five additional *San Diegan* Route round trips should be added between Los Angeles and San Diego, thereby increasing service from nine to fourteen trains. (Three of these five round trips would be State-supported.)
- Two additional *San Diegan* Route trains should be added between Los Angeles and Santa Barbara, thereby increasing service from two to four trains.

- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- One *San Diegan* round trip should be extended to San Luis Obispo (this extension incorporates the fourth additional frequency between Los Angeles and Santa Barbara referred to above).

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

AMTRAK COMMENTS

Chapter VI - Pg. 64 Route Description: In this section, the route description skims over the institutional barriers to improving service. With the upcoming planned construction, and the lines limited capacity; intercity versus commuter conflicts are major issues which need to be addressed.

This comment was added to the Report.

Chapter VI - Pg. 78 Fourteen Train Service Level: The last sentence should be deleted. Amtrak has not agreed to add any more San Diegans as basic system trains.

The sentence referred to states "The eleventh train should be a basic system train and this alternating pattern should be followed for each additional train added". The sentence was retained, as it reflects Caltrans position that the historic 50/50 split between Amtrak basic system and State-supported services on the *San Diegan* Route should be continued. Amtrak's comment was added.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Executive Summary: Chapter VI - The San Diegans: No. 4 refers to speeds up to 110 mph where track configuration allows. The sentence would read better if it noted that track configurations also covers the subject of at grade crossings and protection improvements needed at those crossings to allow for 110 mph train operations. This same sentence is used at various locations in the reports.

The section in Chapter V - The State Intercity Capital Program on the "110 MPH Program" was modified to include reference to grade crossings and protection improvements as constraints limiting 110 mph operation. For the purposes of the Executive Summary on Chapter VI and each other section in the Report where the phrase "speeds up to 110 mph where track configuration allows" is used, we believe further detail is unnecessary.

Page 65 Under (A) and (B): References to purchases by SCRRA are inaccurate. Reference should be to the Los Angeles County Metropolitan Transportation Authority (MTA) or Ventura County Transportation Commission (VCTC) in Ventura County (i.e. Moorpark to Raymer).

The reference to SCRRA has been changed to LACMTA and VCTC as appropriate.

COUNTIES OF FRESNO AND MADERA COMMENTS

The San Diegans

We believe the CRPPR Chapter VI assertion that the San Diegan Route extends 350 miles from San Diego to San Luis Obispo is incorrect. About 130 miles constitute the San Diegan Corridor from San Diego to Los Angeles.

In response to your concern, the mileage shown for the *San Diegan* Route was changed to include only the rail portion currently in operation between Santa Barbara and San Diego. We clarified mileage shown for other routes -- it only includes the rail portion currently in operation.

We view the CRPPR practice of referring to train "routes" rather than to basic geographical corridors served by trains, leads to erroneous suggestions misunderstandings and plans.

The term "corridor" has been used historically, most often, in a broad sense. The "corridor" width is usually intuitive, undefined. For the convenience of the public, Amtrak and Caltrans use the term "Route" as a more precise definition than "corridor" to distinguish each individual train service in operation.

We do not argue that San Diegan equipment should not run on the Santa Barbara if convenient, but assert that the Santa Barbara "leg" is not a geographical part of the San Diegan Corridor that does not exist north of Los Angeles, even if the equipment extends to other cities.

Caltrans views the *San Diegan* Route as one continuous travel corridor. We feel a change in train names north and south of Los Angeles would confuse passengers and reduce our ability to market these through trains. Many of the riders using the trains north of Los Angeles travel through Los Angeles to and from points south of Los Angeles.

We view the extension of the San Diegan north of Santa Barbara to San Luis Obispo as a "foot in the door"effort to promote the Coast line, and we oppose it until after good through service is in place on the general route proposed by the AB 971 Study which we support.

Some funds must be spent in corridors specified by law such as Proposition 116. Beyond that, we are working to develop s statewide comprehensive rail passenger program which builds on the strengths of all appropriate routes. We believe limited extension of the *San Diegans* to serve San Luis Obispo, due to its large population, will enable us to expand our market base, increase revenue and potentially reduce State support in the corridor. Similarly, we support extensions of the *San Joaquins* north to Sacramento and southe to Los Angeles.

LOS ANGELES - SAN DIEGO RAIL CORRIDOR AGENCY COMMENTS

Page 36: The 403 (b) funding section should include a chart reporting the payments made by the State to Amtrak for increased *San Diegan* services. An explanation should also be provided as to why the farebox recovery ratio on the *San Diegans* has fallen from a high of 108% to 99.3%.

It is beyond the scope of this summary report to provide financial data (such as State payments to Amtrak) for individual trains, such as those added to *San Diegan* Route, as opposed to the Route as a whole. We will be glad to furnish such specific information to LOSSAN upon request.

We added a statement to the *San Diegan* Performance section explaining why the farebox recovery ratio has declined since 1988/89.

Chapter VI: The three County (Los Angeles, Orange and San Diego) capital programs developed as part of the draft LOSSAN "Capital and Operating Improvement Alternatives" (April 1993), should be incorporated into the *San Diegan* chapter. Figure 5B on page 50 does not appear to be consistent as it relates to the intercity/commuter rail capital projects programmed in the LOSSAN corridor.

Caltrans Capital Improvement Program for the *San Diegan* Route is summarized in Chapter V, along with our capital improvement programs for the other intercity routes. We have used LOSSAN's "Capital and Operating Improvement Alternatives" as a key input to our program. We are not providing project specific detail in the Report due to its length and the fluid nature of the information. Figure 5B in Chapter V only includes the intercity component of joint intercity-commuter rail projects, as this is a summary of Caltrans intercity rail program. We clarified the text to point out this fact.

Page 63: The objectives should be listed in the following priority order:

1 - Increase ridership and revenues.

2 - Increase revenue/cost (farebox) ratio.

3- Improve reliability (on-time performance) of trains.

4 - Increase frequency of service.

5 - Increase speeds and reduce train running times.

6 - Extend train service to San Luis Obispo

The objectives were listed in the same relative order for all three intercity Routes and do <u>not</u> represent priorities.

Page 65: SCRRA does not own any track. The member counties own the right-of-way in their counties. In Figure 6B, SCRRA should be replaced with Los Angeles County Metropolitan Transportation Authority (LACMTA) in all segments except Moorpark to Raymer where Ventura County Transportation Commission (VCTC) owns the forty foot strip from Moorpark to the Los Angeles County line at Mile Post 441.3. LACMTA owns the forty foot strip from the county line to Raymer.

In addition, LACMTA has also purchased the following segments and should be listed as sole owner:

- Burbank Junction - Glendale
- Glendale - Dayton Tower
- Dayton Tower to ATSF (Pasadena Subdivision Over Crossing)

We appreciate this information and concur ; these changes were made in the Report.

Page 66: A recent report from the Office of Traffic Improvement entitled, "Travel and Related Factors in California - August 31,1993," lists 1992 *San Diegan* ridership at 1,826,679 (8.7% increase over 1991). Figure 6C in your rail program report indicates a 7% decrease from 1991 or 1,673,138. Please clarify.

"Travel and Related Factors in California" shows calendar year totals and Figure 6C of the Report shows fiscal year totals.

Page 69: To Del Mar station description add, "This new site will be served by San Diego Commuter Rail."

Page 71: To Irvine station description add, "This station is served by selected Amtrak trains and by OCCR."

To Los Angeles station description change to read, "As of November 1, 1993, commuter rail service totals 63 daily one way trip commuter trains Monday through Friday (except holidays): 61 by Metrolink .... When OCCR becomes Metrolink services on December 6, 1993, daily one way trips will increase by up to four trips."

Also change to "Los Angeles' new Metro Red Line ...."

Page 72: To San Juan Capistrano station description add "The station is also served by OCCR."

We appreciate this information ; all of these changes were made in the Report.

Page 75: The section of the report addressing the LOSSAN RCA should be expanded to reflect work completed to date identifying the issues in the LOSSAN corridor. As reviewed by the LOSSAN RCA at several of its meetings this year, the following item should be given top priority in the State's rail plan:

The need to improve on time performance and reduce rail running time on the LOSSAN corridor by way of providing new rail car equipment."

As indicated above, this Report is not intended to list specific work projects completed to date. Table 5B (Chapter V) summarizes the capital program on each route. Objectives for route development are listed at the front of the *San Diegan* Chapter and include improvement in on-time performance and reduction of running time.

Page 76: Remove the planned service asterisk from the Commerce station.

This correction has been made in the Report.

Page 78: Caltrans states on page 99, "Two additional *San Joaquin* round-trip trains should be added when the "'California Car"s' become available." In the *San Diegan* chapter on page 78 Caltrans states, "Additional equipment will be required to operate the expanded services listed above." No commitment of "California Car"s is offered. Language similar to that already adopted by the LOSSAN RCA requesting a majority of the "California Car"s be allocated to the LOSSAN Corridor, should be inserted into the rail passenger program report.

Almost eighty percent of the $100 million set aside in Proposition 116 for the procurement of standardized rail cars is being used to procure commuter equipment. Additional funds, specifically from the *San Joaquin* and *Capitol* Routes, totaling $32.2 million, were budgeted to augment the $22.6 million available to procure California Cars for expanded intercity service. LOSSAN did not allocate Proposition 116 funds to procure intercity equipment. Caltrans views the intercity equipment as a pool and the actual distribution of equipment will be based on the operational needs and financial resources.

Third paragraph, fourth sentence, add at end of sentence: "...as well as the NSDCTDB's Oceanside to San Diego commuter serviced (scheduled to commence operations in October 1994)."

This change was made in the Report.

METROPOLITAN TRANSIT DEVELOPMENT BOARD COMMENTS

Figure 6B excludes some of the properties owned by Catellus.

Figure 6B details track ownership for rail lines used by the *San Diegan* trains. As the Figure currently states, Catellus owns track at Union Station. The figure is not intended to show any other Catellus-owned properties.

The Del Mar Station (Page 69) will be relocated to Solana Beach. The Solana Beach City Council approved this station on July 22, 1991.

In response to your comment, we revised the section to clarify that the Del Mar station will be relocated to Solana Beach. Solana Beach will serve both intercity trains and the soon to be initiated San Diego County commuter rail service.

The Marketing section (Page 74) would be easier to follow if accomplishments are listed in a bullet format, rather than paragraphs.

It is often a difficult question to determine how to format sections of the Report for ease of reading. In this case, we believe the text format is appropriate.

In the recommendations for the San Diegan (Page 75), some mention of the high speed rail considered for the corridor should be mentioned.

Chapter XIV - High Speed Ground Transportation includes a section on "Federal Funding for California's High-Speed Program" which discusses the fact that the San Diego-Los Angeles-San Francisco Bay Area/Sacramento corridor has been designated under ISTEA as a high speed rail corridor. Also, our discussion of SCR 6 (Chapter IX-High-Speed Ground Transportation) states the resolution in SCR 6 that high-speed service be provided to San Diego and Orange County by the year 2020. The Intercity High-Speed Ground Transportation Commission will, therefore, include consideration of the *San Diegan* Route in its studies.

In the Station Description sections (e.g., San Diegan Section, Pages 69-73) a common format that included consistent information about each station would be easier to follow. For example, each station would have listed: Staffing (y/n); Transit Service (commuter rail, bus routes, etc.; Owner; Date Opened; etc).

Your comment is well taken. We will consider revising the station description sections in the 1995/96 Report.

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS COMMENTS

(Pages iii, *35, 77, 79) San Diegan* extension to San Luis Obispo - SUPPORT

We strongly support the recommendation of extending one *San Diegan* train to San Luis Obispo. Moreover, with four *San Diegans* eventually serving Santa Barbara, consideration should be given to extending two *San Diegan* trains north based upon patronage of the corresponding connecting bus links.

We are pleased that the San Luis Obispo Council of Governments supports the proposed extension of one *San Diegan* train to San Luis Obispo. Ridership results will be carefully monitored and if they are positive, Caltrans will consider addition of a second train, contingent upon the availability of equipment and operating funds.

SLOCOG strongly supports connecting bus links to all *San Diegan* trains leaving southbound from Santa Barbara. Considering the outstanding ridership on the *San Diegan* connecting bus (Route 1) since 1990, construction of the layover facility and rail stations should be expedited.

The construction of the layover facility and stations is being pursued by Caltrans. The project is currently in the project development and environmental review process.

Additionally, it is unclear if the third or fourth *San Diegan* extended to Santa Barbara will incorporate the extension to San Luis Obispo. Page 35 suggests it will be the fourth *San Diegan* in fiscal year 1995/96. The time table previously identified for the San Luis Obispo extension has been Spring, 1995. This schedule would put the extension in fiscal year 1994/95. Please clarify.

The tabulation on page 35 showing service expansions indicates the first full fiscal year of each new proposed service, such as fiscal year 1995/96 for the San Luis Obispo extension of the *San Diegan*. It is correct that the extension of the fourth *San Diegan* to Santa Barbara will also be the same train extended to San Luis Obispo in Spring 1995.

(Page 74) Provide coordination between the State, Amtrak and local ridesharing marketing efforts - INCLUDE

The San Luis Obispo area has experienced service expansions of the *San Diegan* connecting bus system accompanied by very little advertising and marketing. Some portion of the State expenditure for advertising and public relations should be coordinated through the State sponsored Regional Ridesharing office, or Regional Transportation Planning Agency.

Caltrans plans to continue an aggressive level of marketing in the San Luis Obispo area for our feeder bus connections to the *San Diegan* and *San Joaquin* Routes. In the past year, this has included a significant level of local newspaper and radio advertising, specifically focused on the San Luis Obispo market. Also direct mail flyers were mailed to each household in the San Luis Obispo area advertising a summer 2-for-1 fare promotion on trains and buses. We welcome the input of RTPAs and other local entities on proposed marketing efforts in the San Luis Obispo area.

SANTA BARBARA COUNTY ASSOCIATION OF GOVERNMENTS COMMENTS

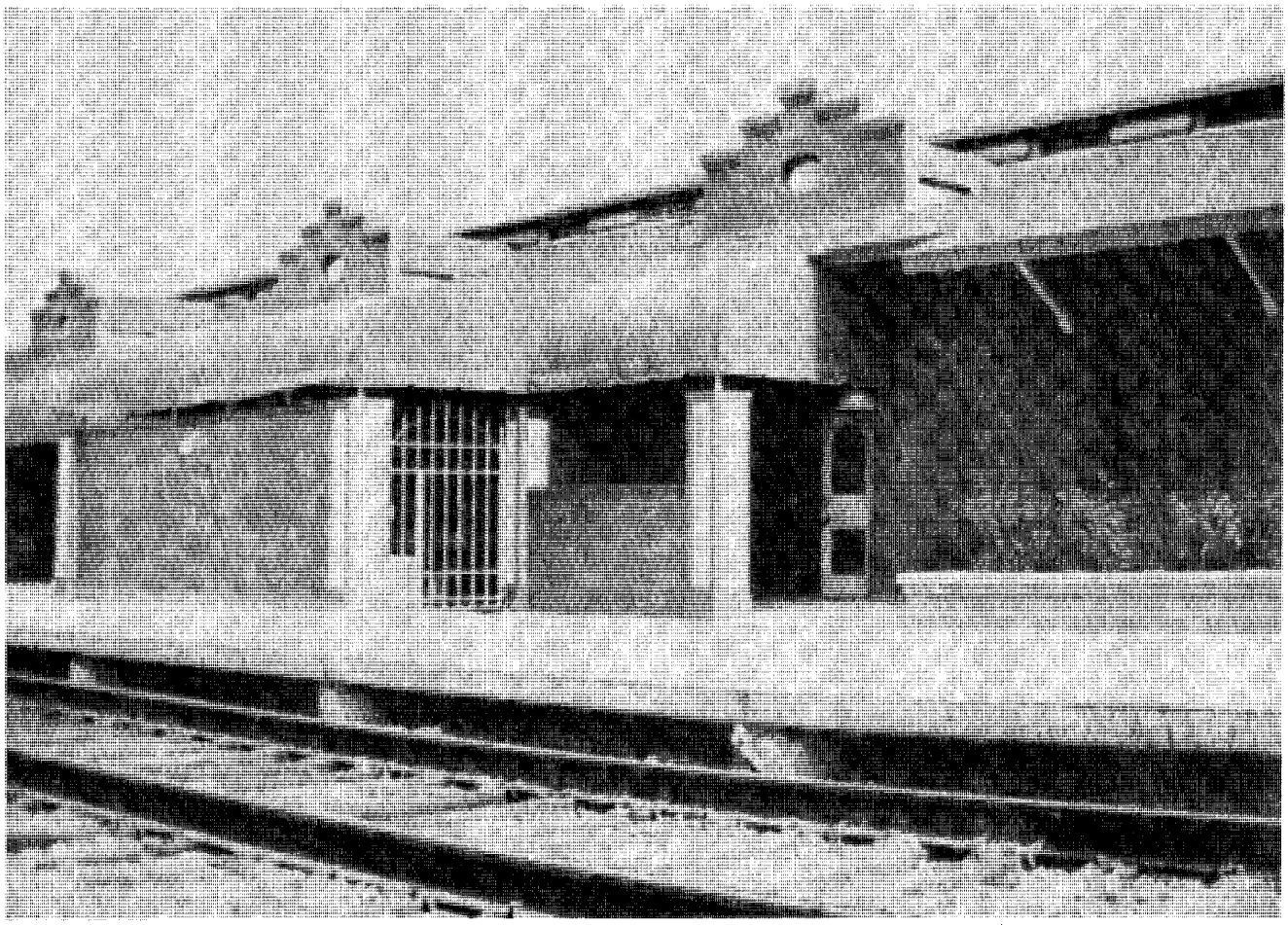
Our agency has reviewed the Draft version of the "California Rail Passenger Program Report 1993/94 - 2002/03" and request that the Division of Rail add a proposed station in Carpinteria to its Rail Plan and Program. Our agency approved this action on October 21, 1993.

During the development of the 1993 Regional Transportation Plan, the City of Carpinteria proposed the addition of a station in Carpinteria. Staff supported this recommendation based on its potential to attract tourist trips and divert traffic from Highway 101. As a result the station was added to our 1993 RTP. SBCAG now requests Caltrans Division of Rail incorporate this station into the ten-year rail plan and program.

Additional running time caused by adding new stops (such as Carpinteria) must be justified by projected revenue and ridership increases. As Carpinteria is only about 10 miles from Santa Barbara and its population is only 14, 300, it is not certain that a Carpinteria stop would be cost-effective.

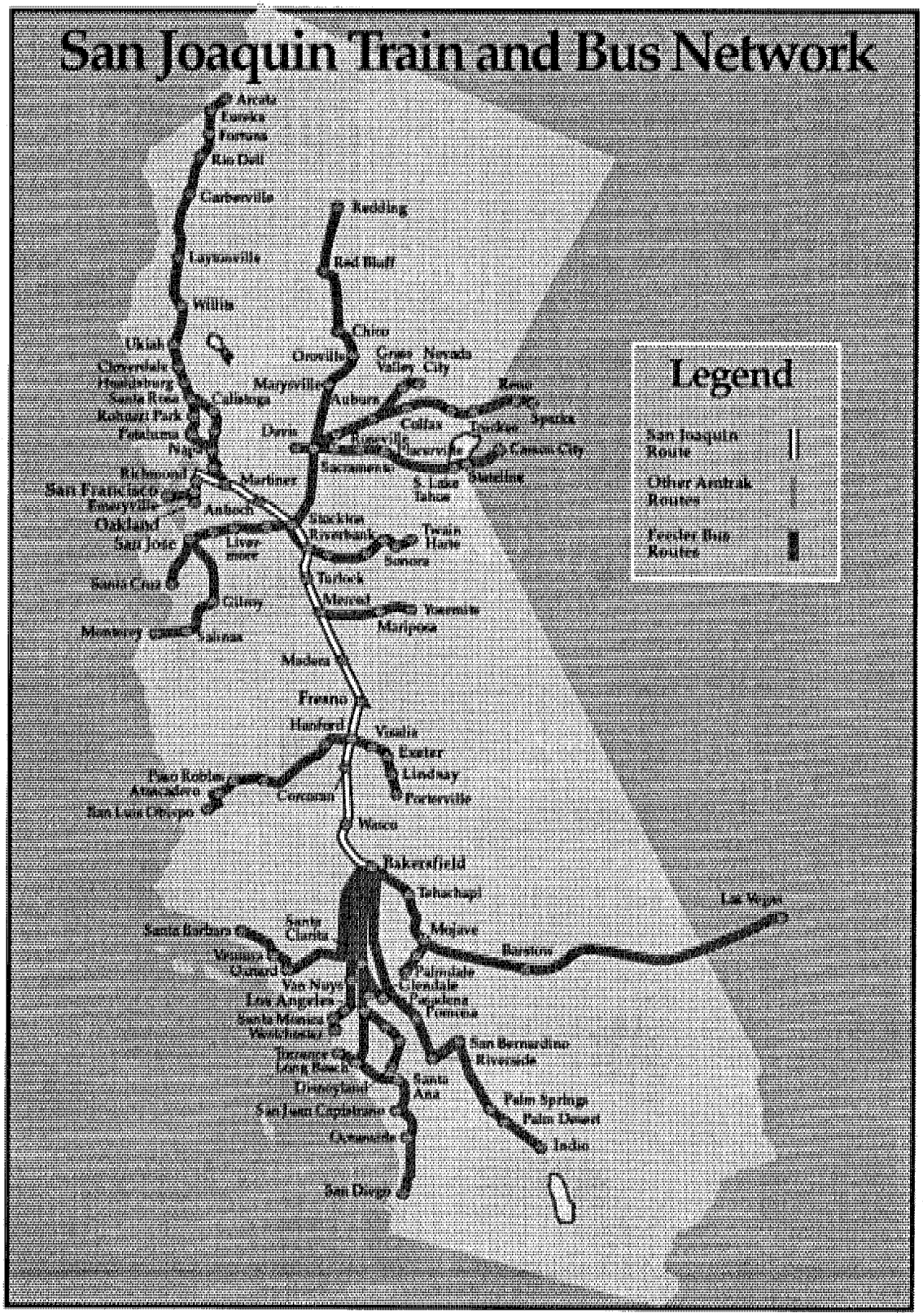
In addition we note that recent field reviews of the proposed station sites at Surf and Guadalupe have resulted in slight changes to the location of these station sites. The text should be changed to reflect these new locations.

The text was modified to reflect the correct proposed station site locations at Surf and Guadalupe.



Renovated Hanford Station with new eight inch, above-the-rail platform

Figure 7A


San Joaquin Train and Bus Network
Arcata
Eureka
Fortuna
Rio Dell
Garberville
Redding
Laytonville
Red Bluff
Willits
Chico
Ukiah
Oroville
Grass Valley
Nevada City
Cloverdale
Healdsburg
Marysville
Auburn
Reno
Santa Rosa
Calistoga
Rohnert Park
Colfax
Truckee
Sparks
Petaluma
Davis
Napa
Roseville
Reno
Carson City
Sacramento
Richmond
Martinez
S. Lake Tahoe
Stateline
San Francisco
Emeryville
Antioch
Oakland
Stockton
Riverbank
Twain Harte
San Jose
Livermore
Sonora
Santa Cruz
Turlock
Merced
Gilroy
Yosemite
Monterey
Salinas
Mariposa
Madera
Fresno
Hanford
Visalia
Exeter
Paso Robles
Lindsay
Atascadero
Corcoran
Porterville
San Luis Obispo
Wasco
Bakersfield
Tehachapi
Las Vegas
Santa Barbara
Santa Clarita
Mojave
Ventura
Oxnard
Barstow
Palmdale
Van Nuys
Glendale
Los Angeles
Pasadena
Santa Monica
Ontario
Westchester
San Bernardino
Torrance
Riverside
Long Beach
Santa Ana
Disneyland
Palm Springs
San Juan Capistrano
Palm Desert
Oceanside
Indio
San Diego
Legend
San Joaquin Route
Other Amtrak Routes
Feeder Bus Routes

Chapter VII - The San Joaquins (Bay Area/Sacramento-Fresno-Los Angeles)

This Chapter covers the State-supported *San Joaquin* Route. The Chapter includes: route objectives, background on the Route, a route description, route performance data, station descriptions, information on the *San Joaquin* marketing program, a description of the Steering Committee of Caltrans Rail Task Force, a discussion of route routing and a discussion of operational and service improvements to date and proposed train service improvements.

OBJECTIVES

The State's principal objectives on this route are to:

- Increase ridership and revenues
- Increase revenue/cost (farebox) ratio
- Increase frequency of service
- Increase speeds and reduce train running times
- Improve the reliability (on-time performance) of trains
- Extend train service to Sacramento, San Jose and Los Angeles

BACKGROUND

Rail passenger service in the San Joaquin Valley immediately prior to Amtrak consisted of two daily trains. Southern Pacific's (SP) *San Joaquin Daylight* operated between the Bay Area and Los Angeles. SP's *Sacramento Daylight* provided a Sacramento connector service to the *San Joaquin Daylight* at Tracy. Santa Fe's (ATSF) *San Francisco Chief* operated between the Bay Area and Chicago via Bakersfield. Amtrak's initial route structure in May 1971 used only SP's Coast Line for service between Northern and Southern California, leaving most of the San Joaquin Valley without rail passenger service. Public pressure for the restoration of the rail service began almost immediately.

Specific funding for San Joaquin Valley service was included in Amtrak's 1973/74 appropriation. Amtrak selected a joint SP-ATSF route by constructing a connection between the two railroads at Port Chicago (near Martinez). On March 6, 1974, a new *San Joaquin* entered service between Oakland and Bakersfield.

In 1979, a 43 percent reduction in Amtrak's nationwide route structure was proposed. Even though public and Congressional pressure saved all but five basic-system routes, the *San Joaquin* was scheduled to be eliminated on October 1, 1979. The State of California, however, reached an agreement with Amtrak to continue the train with State support under the provisions of Section 403(b) of the Amtrak Act. State support was conditioned on certain service improvements and efficiency measures to which Amtrak agreed.

On February 3, 1980, the addition of a second train transformed the route by providing, for the first time, morning and evening trains in both directions. Ridership increased significantly as the Valley corridor enjoyed renewed popularity.

On December 17, 1989, a third train was added to the service. In the last two and one-half years of increased service, ridership has risen 11 percent. A fourth round trip was inaugurated on October 25, 1992.

The performance of the *San Joaquins* has improved significantly since the State began supporting the route in October 1979. Due to the State's marketing efforts, the increased service described above, and the program of improvements discussed later in this Chapter, ridership and revenues should continue to increase. The revenue/cost (farebox) ratio, which was 56.8 percent in 1992/93, continues to meet the statutory requirement.

Figure **7A** is a map displaying the Route, including the connecting bus services that are described in Chapter IX.

ROUTE DESCRIPTION

The *San Joaquin* Route presently extends 312 rail miles between Oakland and Bakersfield with 13 intermediate stops. Predominant right-of-way ownership is by the ATSF (Port Chicago-Bakersfield). SP owns 35 miles at the northerly end of the Route (Oakland-Port Chicago). The *San Joaquins* are operated by Amtrak under provisions of its contracts with ATSF and SP. Figure **7B** describes the current ownership, segment mileage, track and signal characteristics of the *San Joaquin* Route.

The scheduled running time between Bakersfield and Oakland is exactly six hours for all trains and the overall average speed of the trains including station dwell time is now 52 mph.

PERFORMANCE

The revenue/cost (farebox) ratio has improved from 29.5 percent in 1979/80 to 56.8 percent in 1992/93. Ridership has nearly quadrupled, reaching a total of 516,112 in 1992/93.

Figure **7C** lists actual monthly ridership figures for 1990/91 through 1992/93, as well as the percent change from one year to the next. Figure **7D** lists *San Joaquin* ridership by station, including connecting bus stops, for 1992/93. Figure **7E** is a table showing annual ridership since the service began and annual financial performance data since the start of State support.

On-time performance for State-supported trains between Bakersfield and Oakland during the 12-month period ending November 1993 showed a mean of 78 percent, ranging from a low of 57 percent in April 1993 to a high of 88 percent in February 1993. The low was an anomaly; in no other month did the on-time performance fall below 74 percent. Major new construction coupled with train interference were the major contributors to reduced on-time performance.

Figure 7B

SAN JOAQUIN ROUTE
OWNERSHIP AND TRACK CHARACTERISTICS

Route Segment					Owner of Track	*No. of Tracks	Max Speed	Signal System
Between	Mile Post	And	Mile Post	Miles				
Oakland - 16th Street	5.5	Martinez	***34.7	29.1	SP	2	40/60	ABS
Martinez	34.7	Port Chicago	40.5	5.8	SP	1	30/46	ABS/DTC
Port Chicago	**1164.03	Stockton	1121.4	42.9	ATSF	1	79	ABS/TWC
Stockton	1121.4	Bakersfield	887.7	233.7	ATSF	1	79	CTC
			Total	311.5				

* General number of mainline tracks
**Port Chicago is the interchange point between the S.P. and the ATSF
*** There is a milepost equilization at Crockett

Abbreviations:
ATSF - The Atchison, Topeka and Santa Fe Railway Company
SP - Southern Pacific Transportation Company

Signal Systems:
ABS - Automatic Block Signals - Possession of a segment of track (block) is protected by a wayside signal. Switches must be thrown manually by train crews entering sidings.
CTC - Centralized Traffic Control - Wayside signals protect possession of blocks. Signals and powered switches are also remotely controlled from the dispatching center to direct the movement of trains.
DTC - Direct Traffic Control - Dispatching center gives authority for train movement by radio to train crew directly.
TWC - Track Warrant Control- Similar to DTC..

Figure 7C

SAN JOAQUIN ROUTE RIDERSHIP (a)
(1990/91-1992/93)

	Northbound - Departs Bakersfield at:				Southbound - Departs Oakland at:				TOTAL	
	Train 711	Train 703	Train 709	Train 705 *	Train 702 *	Train 708	Train 704	Train 710		
Fiscal Year Month	5:15 am Riders	11:20 am Riders	3:15 pm Riders	6:45 pm Riders	7:20 am Riders	10:55 am Riders	1:25 pm Riders	5:20 pm Riders	Route Total	Change From Prior Year
1990/91										
Jul-90	4,900	7,142	9,501			9,908	6,964	5,143	43,558	33%
Aug-90	5,236	7,613	9,833			10,255	7,776	5,527	46,240	34%
Sep-90	3,701	4,778	7,642			7,229	5,162	4,502	33,014	37%
Oct-90	3,827	5,152	7,877			7,662	5,275	4,554	34,347	41%
Nov-90	4,100	6,113	7,823			8,487	5,932	4,635	37,090	33%
Dec-90	4,392	6,439	7,847			8,579	6,420	4,625	38,302	23%
Jan-91	3,305	5,590	6,811			7,012	5,058	3,841	31,617	12%
Feb-91	3,582	5,213	6,750			6,979	5,142	4,159	31,825	16%
Mar-91	4,651	6,443	8,339			9,333	7,151	5,270	41,187	-11%
Apr-91	4,612	6,275	7,620			9,621	5,383	4,405	37,916	-25%
May-91	5,314	7,146	9,064			11,599	5,961	5,545	44,629	-7%
Jun-91	5,626	6,632	9,242			11,081	6,439	5,161	44,181	0%
TOTAL	**53,246**	**74,536**	**98,349**			**107,745**	**72,663**	**57,367**	**463,906**	**11%**
1991/92										
Jul-91	4,741	6,417	9,105			10,466	6,923	4,876	42,528	-2%
Aug-91	5,788	7,759	10,397			11,329	7,096	5,779	48,148	4%
Sep-91	4,133	4,921	7,344			7,714	5,050	4,471	33,633	2%
Oct-91	3,925	5,515	7,563			8,392	5,325	4,132	34,852	1%
Nov-91	4,304	5,721	7,192			7,603	5,478	4,272	34,570	-7%
Dec-91	4,971	7,727	8,505			9,434	7,169	4,439	42,245	10%
Jan-92	4,102	6,141	7,353			7,221	5,678	4,426	34,921	10%
Feb-92	4,095	5,865	7,066			7,235	5,398	4,567	34,226	8%
Mar-92	5,394	6,921	8,473			9,524	6,288	5,255	41,855	2%
Apr-92	6,038	8,159	9,812			12,246	7,083	5,374	48,712	28%
May-92	6,064	8,505	9,705			12,082	6,832	5,520	48,708	9%
Jun-92	5,120	6,407	7,755			8,911	6,358	4,644	39,195	-11%
TOTAL	**58,675**	**80,058**	**100,270**			**112,157**	**74,678**	**57,755**	**483,593**	**4%**
1992/93										
Jul-92	5,459	7,620	10,158			10,689	7,588	5,313	46,827	10%
Aug-92	5,926	8,696	11,270			11,567	9,277	5,491	52,227	8%
Sep-92	4,468	5,744	8,406			8,477	5,972	4,216	37,283	11%
Oct-92	4,643	6,545	8,134	788	1,245	7,716	5,944	4,508	39,523	13%
Nov-92	4,367	7,680	5,980	3,933	6,525	4,672	5,457	4,051	42,665	23%
Dec-92	4,739	7,678	5,761	3,810	6,799	6,012	5,530	3,808	44,137	4%
Jan-93	3,504	5,834	5,179	3,494	5,045	5,465	4,868	3,125	36,514	5%
Feb-93	3,719	5,550	4,855	3,335	5,359	4,093	4,300	3,498	34,709	1%
Mar-93	4,017	6,161	5,197	3,676	5,901	4,552	4,522	4,183	38,209	- 9%
Apr-93	5,393	7,675	6,391	3,929	8,685	5,485	5,687	4,597	47,842	- 2%
May-93	4,828	7,726	7,408	3,245	8,276	5,335	4,840	4,616	46,274	- 5%
Jun-93	5,464	8,345	7,146	3,813	8,734	5,722	5,531	5,147	49,902	27%
TOTAL	**56,527**	**85,254**	**85,885**	**30,023**	**56,569**	**79,785**	**69,516**	**52,553**	**516,112**	**7%**

(a) Ridership includes passengers using feeder bus segment of joint rail-bus trip.
* Service on Trains 702 and 705 began October 25, 1992

Figure 7D

SAN JOAQUIN ROUTE RIDERSHIP BY STATION - FISCAL YEAR 1992/93			
Rank	Station Key	Station	Average Daily Ridership
1	T	Fresno	476
2	T	Bakersfield	294
3	B	Los Angeles	274
4	T	Hanford	274
5	T	Martinez	237
6	T	Stockton	221
7	B	San Francisco	174
8	T	Merced	162
9	T	Riverbank	121
10	B	Sacramento	92
11	T	Oakland	90
12	T	Richmond	54
13	T	Corcoran	49
14	T	Wasco	41
15	T	Antioch-Pittsburg	37
16	T	Turlock-Denair	35
17	B	San Jose	29
18	B	Pasadena	29
19	T	Madera	29
20	B	Pomona	24
21	T	Berkeley	24
22	B	San Bernardino	23
23	B	Van Nuys	19
24	B	Oxnard	16
25	B	Davis	15
26	B	Long Beach	14
27	B	Vallejo/Marine World	14
28	B	Glendale	13
29	B	Riverside	13
31	B	Santa Rosa	13
30	B	Santa Barbara	12
32	B	Visalia	11
33	B	Chico	7
34	B	Las Vegas	7
35	B	Santa Clarita/Saugus	6
36	B	Torrance	6
37	B	San Diego	5
38	B	Redding	5
39	B	Napa	5
40	B	Roseville	5
41	B	Ventura	4
42	B	Lancaster	4
43	B	West Los Angeles	4
44	B	Marysville	3
45	B	Santa Monica	3
46	B	Petaluma	3
47	B	San Luis Obispo	3
48	B	Disneyland	3
49	B	Barstow	3
50	B	Burbank Airport	3
52	B	Rohnert Park	3
53	B	Palm Springs	2
54	B	El Monte	2
55	B	Tehachapi	2
58	B	Palmdale	2
59	B	Livermore	2
61	B	Whittier	2
62	B	Oceanside	2
63	B	Santa Ana	2
64	B	Mojave	2
65	B	Fremont	2
66	B	Ukiah	2
67	B	Oroville	1
68	B	Willits	1
69	B	Tracy	1
70	B	Reno	1
71	B	Auburn	1
72	B	Indio	1
73	B	Red Bluff	1
74	B	Porterville	1
75	B	Healdsburg	1
76	B	Truckee	1
77	B	Woodland	1

Station Key:
T = Station served by train only (includes bus junction points).
B = Station served only by bus connection.

Figure 7E

SAN JOAQUIN Route
Annual Performance - State Fiscal Years

State Fiscal Year	Ridership Data		Financial Data					
	Riders	PM/TM (e)	Revenue	Operating Expense (f)	Operating Loss	Total State Cost (g)	Train Loss per PM (h)	Revenue Cost Ratio
1973/74(a)	38,770	83.6						
1974/75	66,990	44.2						
1975/76	66,530	43.8						
1976/77	87,642	56.0						
1977/78	80,611	52.7						
1978/79	87,645	60.2						
1979/80(b)	123,275	63.6	$1,174,065	$3,975,185	$2,801,120	$518,206	18.4¢	29.5%
1980/81	159,498	55.3	$2,224,137	$6,940,934	$4,716,797	$1,360,391	18.4¢	32.0%
1981/82	189,479	65.3	$3,115,710	$7,774,029	$4,658,319	$2,228,585	14.0¢	40.1%
1982/83	186,121	62.9	$3,342,137	$7,991,697	$4,649,560	$2,490,275	14.6¢	41.8%
1983/84	248,275	85.3	$4,730,431	$8,094,789	$3,364,358	$2,518,066	7.3¢	58.4%
1984/85	269,837	94.6	$5,210,951	$8,641,293	$3,430,342	$2,802,955	7.7¢	60.3%
1985/86	280,798	101.1	$5,425,329	$8,610,554	$3,185,225	$2,658,895	6.8¢	63.0%
1986/87	304,668	106.1	$6,084,677	$9,179,133	$3,094,456	$2,929,148	5.1¢	66.3%
1987/88	340,573	121.1	$7,457,686	$9,633,659	$2,175,973	$2,605,572	2.2¢	77.4%
1988/89	370,190	133.7	$9,527,268	$10,968,216	$1,440,948	$1,887,450	1.3¢	86.9%
1989/90	418,768	116.9	$11,845,743	$15,286,520	$3,440,777	$3,544,332	3.2¢	77.5%
1990/91	463,906	104.1	$12,691,986	$18,456,785	$5,764,799	$5,803,565	4.9¢	68.8%
1991/92	483,593	104.3	$12,369,805	$18,633,777	$6,263,971	$6,472,598	4.3¢	66.4%
1992/93	516,112	109.6	$12,628,496	$22,227,149	$9,598,653	$10,789,651	6.5¢	56.8%

(a) Service started 3/6/74 with one round-trip; figures are for four months only.
(b) State support started 10/1/79; figures are for nine months, during which time ridership totalled 93,206. Second round trip added 2/3/80.
(c) Third round trip added 12/17/89.
(d) Fourth round trip added 10/25/92.

(e) Passenger-miles per train mile, a measure of the average load on a train over its entire route.
(f) Short-term avoidable cost basis since October 1983, solely-related cost prior to then; includes cost of connecting buses. Depreciation and interest (equipment capital cost) included in operating cost under solely-related basis but excluded and charged separately under short-term avoidable basis.
(g) Effective October 1983, State cost is 65 percent of train operating loss plus 50 percent of depreciation and interest (equipment capital cost) from October 1979 through September 1983, State cost increased in stages from 18.5 to 48.5 percent of operating loss (including equipment costs). Also includes costs of special agreements with Amtrak for use of equipment, and State payment of entire net cost of all connecting bus routes.
(h) Train loss (deficit) per train passenger-mile; the Congressional Standard for short-haul trains (under 600 miles) was originally 9.0 cents (based on short-term avoidable loss), but has inflated 18.7 cents in FY 1993. Connecting buses not included in loss per passenger mile data.

RAIL STATION DESCRIPTIONS

This section includes descriptions of all rail stations on the *San Joaquin* Route. An asterisk indicates that the station is planned. (Bus stations are not described).

Allensworth: On May 9, 1992 a platform was dedicated at Colonel Allensworth State Historic Park, approximately 15 miles south of Corcoran. The platform is used only for groups of 15 persons or more. Stops must be arranged in advance. The cost of the platform was funded by the California Department of Parks and Recreation to facilitate access to this Park, which is located adjacent to the ATSF tracks.

Antioch-Pittsburg: This unstaffed station opened on October 28, 1984 and is located at the intersection of I Street and the Santa Fe Railroad tracks in Antioch. In August 1989, the City of Antioch was awarded $110,000 in Transit Capital Improvement (TCI) funds to construct an intermodal facility to serve local transit and a Bay Area Rapid Transit (BART) feeder bus to the Concord BART station. The project, completed in April 1991, included a shelter with passenger amenities, a platform and a bus loading zone. Currently, Amtrak is designing a project to extend the platform to 600 feet and incorporate ADA requirements. Completion is scheduled for mid-1994.

Bakersfield: The present Bakersfield Amtrak station is located at 15th and F Streets. The staffed station is served by many *San Joaquin* feeder bus routes which link the trains to Southern California points. It is also served by additional bus trips connecting to the *San Diegan* route.

In January 1990, as requested by Caltrans, the CTC reallocated $2 million in 1987-88 TCI funds for track and facility improvements at Bakersfield. An additional $2 million of TCI funding for 1989/90 was allocated to construct a new Bakersfield Amtrak station, including bays for the feeder buses. Final design is 90 percent complete and the station is expected to open in 1995.

Berkeley: The unstaffed Berkeley station was inaugurated on January 22, 1986, adjacent to the former SP station (now a restaurant) on Third Street at University Avenue. Improvements for the stop included platform, lighting and shelter. The stop serves the nearby campus of the University of California at Berkeley.

Corcoran: An unstaffed station at Otis and Whitley Avenue in the City of Corcoran went into service on July 29, 1989. It serves a major State prison at Corcoran. State funding of $96,000 was provided for the station under the Caltrans intermodal facilities and minor capital improvement programs, with an additional $24,000 provided by the City. Currently, the platform is being reconstructed to eight-inches-above the rail to improve access to the disabled. In March, 1993 the CTC recommended funding of $77,000 from 1993/94 TCI funds to demolish the former station building and complete preliminary design for a replacement intermodal facility.

Emeryville: This new staffed station opened on August 13, 1993. The dedicated feeder buses linking the *Capitols* and *San Joaquins* with San Francisco began to use the Emeryville station in October 11, 1993. The station is located at 5885 Landregan Street, off Powell Street. It consists of a 10,000 square foot station building, a 1,600 foot long platform and station tracks. The project, including street and road access improvements cost approximately $6.5 million, funded by a private developer, the City and Amtrak. This station is fully accessible to the disabled and serves the *Capitol* and *San Joaquin* Routes. The *Coast Starlight* and *California Zephyr* trains will also stop at Emeryville when SP mainline tracks are relocated in early 1994.

Fresno: The Fresno Amtrak station is staffed and located at 2650 Tulare, Building B. This is the busiest station in the *San Joaquin* corridor. Although the platforms have been upgraded to eight inches above-the-rail with improvements to enhance accessibility, the existing station (located in the former ATSF freight house building) is hampered by serious size and operational constraints. The current ramp to the station is too steep and does not meet State and ADA standards; the counter is not fully accessible to the disabled. The waiting room and ticket counter are too small for current passenger volumes and cannot be expanded given the size of the building and the proximity of surrounding parking. Even at current passenger levels, standing room conditions are quite common inside the station.

Two proposals to provide adequate station facilities are being studied. One approach would restore and upgrade the old ATSF passenger depot, adjacent to the present station. The building will need to meet accessibility standards, seismic requirements and provisions of the Uniform Building Code. The proposed improvements would include necessary roof repairs, seismic reinforcing, construction of a larger waiting room, baggage handling facilities, restroom and other related passenger amenities.

The other proposal is to build new station facilities to accommodate all of Amtrak's needs at Fresno. Included in this proposal are a new station track, raised station platform, undercrossing to a new center platform and a larger depot than the current Amtrak station building. The proposed site is south of the existing Amtrak depot on the Santa Fe Railway line.

The Fresno Freight Consolidation Project (FFCP) would also move Amtrak passenger trains to the SP line, bypassing the ATSF depot. However, two other considerations should be kept in mind:

- Completion of the FFCP is not assured. It is estimated to cost as much as $200 million and funding is not yet identified.
- If the FFCP is funded, completion is several years away.

The need for new passenger facility in Fresno is immediate. Pending determination of the funding and construction status of the FFCP, the *San Joaquin* patrons, able and disabled, will enjoy the use of an improved facility. Since the City of Fresno plans to use the ATSF tracks for its future

light rail system, Amtrak station improvements could become a key component of the City's system, even if the *San Joaquin* trains were served by another facility on the SP line.

Hanford: A total of $491,500 in TCI funds were awarded to the City of Hanford to acquire and renovate the existing Santa Fe station located at 432 W. 7th Street. The project provided an enlarged waiting room, ticket office, baggage room, additional parking and improved bus and local transit access. The improvements were completed in October, 1992. Also, the platform was upgraded to eight inches above-the-rail to enhance accessibility.

Negotiations are currently under way between the City and ATSF to add an extended parking facility including landscaping, signage and lighting.

Madera: This unstaffed station is located at Santa Fe Railroad and Avenue 15-1/2. The platform was upgraded to eight inches above-the-rail to enhance accessibility. Caltrans is working with the City and County to identify a new location with better visibility and street access.

Martinez: This staffed station is located at 401 Ferry Street and serves the *Capitol, San Joaquin, California Zephyr* and *Coast Starlight* trains. This station is served by Amtrak feeder buses, local transit to BART and an express BART feeder bus to the Concord BART station. In March 1993, the CTC recommended $1,000,000 in 1993/94 TCI funds be granted to the City to expand Amtrak parking and enhance bus facilities. Also, the City is assessing alternative station locations which would provide enhanced intermodal connections and more parking capacity.

Merced: The Merced Amtrak station is located at 24th and K Streets. The staffed station is served by tour and regular route buses to Yosemite National Park. The platform was upgraded to eight-inches-above the rail to enhance accessibility. Additional improvements for parking and lighting at the station have been requested by the City. Caltrans has received $200,000 in 1992/93 TCI funds for this project.

Oakland: The Oakland rail station building at 16th and Wood Streets sustained considerable structural damage in the 1989 Loma Prieta earthquake and was condemned. A temporary station building is presently in use at this site.

An alternate Oakland site, located near Jack London Square on Alice Street, has been identified for its replacement. This multi-modal facility will serve the *Capitol, San Joaquin, California Zephyr* and *Coast Starlight* trains, buses, automobiles and ferry passengers. Amtrak, SP, Caltrans and the Port of Oakland are cooperatively developing the specifications and plans for the new station. TCI funds of $3.164 million and $6.602 million in Proposition 108 bond funds have been programmed toward the construction of the new station and associated track and signal work. The station is expected to open in December 1994.

***Richmond*:** This staffed station is adjacent to the Richmond BART station located at 16th Street and MacDonald Avenue. The Amtrak ticket office is located next to the BART ticket machines. The station serves the *Capitol, San Joaquin, California Zephyr* and *Coast Starlight* trains, BART and local transit. In March 1993, the CTC recommended $150,000 in 1993/94 TCI funds to improve the platform, add seating, a shelter and provide other improvements.

***Riverbank (Modesto)*:** The station is located at 3243 Talbot Road. To improve disabled access, the platform is currently being reconstructed to eight inches above-the-rail. In 1993, the roof was repaired, the exterior was painted and the restrooms were made accessible to the disabled. In late 1993, Caltrans undertook an evaluation of the issue of whether the station should be retained at its present location and upgraded (as proposed by the City of Riverbank), or moved to a new location 4.5 miles south at Parker Road/Briggsmore Avenue extended (as proposed by the City of Modesto). Caltrans decision will be made in early 1994.

***Stockton*:** This station is located at 735 S. San Joaquin Street. Recent security improvements include new and relocated lighting fixtures, steel fencing to eliminate through traffic in the parking lot, parking warning signs and conversion of the public telephone to outgoing calls only. In March, 1990 San Joaquin County was awarded $171,796 in 1990/91 TCI funds for Phase I of the study of a new Stockton intermodal facility. Phase I recommended alternative sites for such a facility, which will provide access between Stockton and Sacramento, as well as between Stockton and the Bay Area for both intercity and proposed commuter service. Included in this study was a feasibility and needs assessment to delineate both initial and long term requirements.

In March 1991, the CTC recommended $578,000 in 1991/92 TCI funds for San Joaquin County to complete Phase II of this project. This Phase will provide the environmental documentation and master plan/preliminary engineering needed to begin the facility construction. An $8 million facility (to be constructed with rail bond funding) is planned. In March, 1993 the CTC recommended funding of $835,000 from 1993/94 TCI funds for final design, engineering, construction and right-of-way acquisition to provide platform improvements and parking facilities at the new facility.

The proposed Stockton multimodal facility potentially serving the Southern Pacific, Union Pacific and Santa Fe railroads will be served by the *San Joaquin* intercity trains and the planned Altamont Commuter Service. The new station will be the crossroads of the regional transportation system and will allow for integration and transfer between intercity and commuter services. The facility is also being designed as a primary point of operations for regional and interregional bus transit service.

Turlock (Denair Station): On September 12, 1987, a stop for Turlock was added at Santa Fe Avenue and Elm Street in Denair, located near Turlock. Amenities include a parking lot, shelter, platforms and lighting.

Wasco: The unstaffed Wasco station is located at 700 G Street. The platform is currently being reconstructed to eight inches above-the-rail to improve access to the disabled. In March, 1993 the CTC recommended funding of $330,000 from 1993/94 TCI funds for improvements including fencing, vandal-resistant lighting and track work.

MARKETING

In 1992/93 Caltrans hired a new advertising agency, EvansGroup in San Francisco, to produce advertising for State-supported intercity rail passenger service. Charles Seifert & Associates was hired to provide public relations consulting. The primary focus of the 1992/93 advertising program was on radio and television, with support from newspaper and magazines. Special emphasis was placed on discount fares, as well as on promotions to increase ridership on targeted bus connection routes. Advertising was placed in college newspapers and in senior citizen-oriented publications.

During 1992/93, service was inaugurated on the fourth *San Joaquin* round trip and major station improvement projects were commenced at Stockton and Oakland. Dedication ceremonies were held at Hanford to open its new staffed Amtrak station. Direct mail was utilized to increase awareness of rail travel options on the *San Joaquins* through the distribution of a two-for-one travel coupon. Inaugural events were held to commemorate the start of Amtrak feeder bus service to Eureka and Sonora. A major sports promotion was undertaken with the Oakland Coliseum. Also, California Amtrak Timetables were produced by Caltrans and distributed to Amtrak stations, travel agents and travel literature racks.

Advertising and public relations activities for 1993/94 will continue Caltrans marketing strategy to position the *San Joaquins* as a smart, economical travel option for Californians. Advertising efforts will include television, radio and newspapers on the Sacramento, San Francisco and Fresno markets, supported by billboards and a major sports promotion with the Oakland Coliseum. Public relations activities will include outreach events on new Amtrak Thruway bus connection routes, press tours to Amtrak destinations, and rail program displays at fairs and special events along the *San Joaquin* Route. Special marketing projects will include targeted mailings to highlight Amtrak service and destinations, local and regional travel promotions with popular tourist attractions and promotion of Amtrak travel discounts on the *San Joaquin* Route.

State expenditures for advertising and public relations in 1991/92 and 1992/93 are:

	1991/92	1992/93
Advertising	$ 1,417,000	$ 1,226,000
Public Relations	110,000	69,000
Direct Mail	65,000	285,000
Total	$ 1,592,000	$ 1,580,000

THE STEERING COMMITTEE OF CALTRANS RAIL TASK FORCE

In 1987, members of the Caltrans San Joaquin Task Force formed "The Steering Committee of Caltrans Rail Task Force" to provide a forum to develop suggestions for improving the *San Joaquins*. The Steering Committee is composed of representatives from each county served by the *San Joaquins* and interested counties served by the connecting bus network. Member counties are: Alameda, Contra Costa, Fresno, Kern, Kings, Los Angeles, Madera, Merced, Sacramento, San Joaquin, Stanislaus and Tulare. The Southern California Association of Governments and the Metropolitan Transportation Commission are also members of the Steering Committee. Santa Clara County, Caltrans, Amtrak and the California Public Utilities Commission have non-voting members on the Committee. A staff member from the Caltrans Division of Rail is the project manager and liaison with the Committee.

The Committee has affirmed the following priorities for improving service on the San Joaquins:

(1) Establishing direct through car rail service to Sacramento on all *San Joaquin* trains.

(2) Extending through rail service from Bakersfield to Los Angeles.

(3) Providing intercity rail service via the Altamont Pass.

The Committee has the long term priority of establishing a fully integrated rail system in the Central Valley using the SP, ATSF and UP rail lines.

The formation of the Committee and the active role that it has taken demonstrates the strong local support that exists for the *San Joaquin* service. At the Committee's request, several counties served by the route have passed resolutions urging the Governor, the Legislature and the CTC to develop and enact legislation affecting rail service. The Committee played an important role in securing enactment of Chapter 192/88 (AB 971, Costa) which required the development of a route capital-needs study. Many members of the Committee participated actively in the AB 971 study.

RAILROAD ROUTING

Between Stockton and Fresno, the *San Joaquin* rail corridor is served by the lines of both the ATSF and SP. Both lines serve the same regional populations with the lines separated by just a few miles. The lines are half-a-mile apart at Merced and eight miles apart between Stockton and Modesto. Four daily round-trip *San Joaquin* trains currently operate over the ATSF line paralleling the SP line.

Proposition 116 contains $60 million in funding to provide intercity rail service in this corridor via "...Madera, Merced Turlock and Modesto...". Some public support exists to reroute the *San Joaquin* trains from the current ATSF line to the SP line in the San Joaquin Valley. Intermodal projects have been developed (or are under way) at the former SP stations at Madera, Merced and Modesto.

Before additional capital improvements could be made in this corridor, a final decision was required on the route to be used for the State-supported *San Joaquin* intercity rail service in the Valley.

In February 1992, Caltrans requested the ATSF and SP railroads to submit a list of capital improvements necessary to operate six and ten daily intercity rail passenger round trips on their respective rights-of-way between Stockton and Fresno. This information was requested by July 1, 1992, so that Caltrans could determine the future routing of Amtrak's *San Joaquin* intercity trains. ATSF responded on July 1, 1992. SP submitted its proposal on October 15, 1992.

Caltrans conducted four public meetings in Valley cities in August 1992, to discuss the analysis and the reroute options. Meetings were held in Fresno, Modesto, Bakersfield and Martinez.

Caltrans announced its decision on January 21, 1993, to retain the existing routing of the *San Joaquin* trains on the ATSF between Fresno and Stockton. At the request of several interested Valley legislators and the SP, Caltrans agreed to withhold requests for funding allocations until the SP submitted a revised proposal.

To support its request for reconsideration, SP submitted additional information on March 19, 1993 and April 5, 1993. The first submission served to clarify specific details of SP's original cost proposal. The second submission included revised cost figures reducing their estimate at the six train level by $12.4 million. The reduction is a result of the SP absorbing all labor costs associated with their proposed rail relay project.

On May 26, 1993, ATSF advised Caltrans that, based on the experience gained in a mainline reconstruction project in Southern California, it could reduce its capital cost estimate by $3.0 million if funding were provided to permit ATSF to place orders for materials by August, 1993.

Caltrans announced its decision on June 14, 1993, to retain the ATSF route for the *San Joaquin* trains. The basis for that decision is summarized below:

Economic Analysis: At the six train service level, the SP route required a State investment of $41.6 million more than the ATSF route between Port Chicago and Fresno. SP contended the proposed Fresno rail consolidation project would cost $37.1 million less if the *San Joaquin* trains were rerouted to the SP. Caltrans discounted this position. It could not be validated since neither a consensus nor an agreement between the parties for the project had been reached. Full project funding was not identified and there is still no assurance the project will be implemented.

At the ten train service level, ATSF route costs were $7.3 million less than SP route costs. However, there is no assurance service will be expanded to ten round trips within the next decade. Such a potential expansion will depend upon demonstrated ridership increases, availability of funds and the impact on the market of a potential new, ultra high speed train through the Valley. Therefore, Caltrans based its decision on the capital costs associated with six round trips per day.

Operational Efficiencies: The improved ATSF route would provide more opportunities than the improved SP route to avoid passenger train delays due to freight interference at the six train level. The best indicator for each railroad's ability to dispatch intercity trains on time is its actual Amtrak system-wide on-time performance for 1992, which was 82.7 percent for ATSF and 71.5 percent for SP.

Route Marketability: Caltrans economic analysis indicated the reroute would have to attract over 55,000 additional passengers annually over thirty years just to recover the capital costs needed to reroute the service to SP. Although the reroute would be expected to increase ridership by 20,000 a year by serving downtown stations in Modesto, Madera, Turlock and Merced, as well as direct service to the Manteca/Lathrop area, loss of direct service between Stockton and the Bay Area could offset this increase.

Corridor High Speed Potential: While both the SP and ATSF routes can support increased running speeds up to 110 mph with additional capital projects, the ATSF route is more suitable for high speed operation because the ATSF goes through less urbanized areas and ATSF freight operations are more compatible with higher speed passenger trains.

OPERATIONAL AND SERVICE IMPROVEMENTS

This section includes a description of the major operational and service improvements which Caltrans has made on the *San Joaquin* Route since the service began.

Four Train Service Level

The third *San Joaquin* train was begun on December 17, 1989 and the fourth round trip was begun on October 25, 1992. Midday and afternoon departures are now offered from most cities on the route. The trains are served by connecting buses from as far as Arcata, California and Reno, Nevada.

Additional Stops

Stops added to the *San Joaquin* Route since State-supported service was initiated in 1979 are:

Allensworth (#)	Corcoran
Antioch-Pittsburg	Emeryville
Berkeley	Turlock

For additional information, see "Station Descriptions" above. (# - Allensworth is a stop used only for groups who make advance arrangements to travel to an adjacent State Park.)

Fares

The $7 return fare (round trip for seven dollars more than a one-way fare) was introduced as a promotion in 1983. Since it encourages longer trips, this special fare has greatly increased revenue and improved the revenue/cost (farebox) ratio by increasing both the number of passengers and the average fare. In September, 1985 the $7 return fare was extended to include points along the *San Diegan* Route. The one-way fare represents the combination of the two separate fares on the *San Joaquin* and *San Diegan* Routes, but the single $7 return fare applies to the entire return trip.

In Spring/Summer of 1993, a two-for-one promotional fare was added to the *San Joaquins*. From May 3, 1993 through August 31, 1993 persons traveling Monday through Thursday could present a coupon to receive a second trip at no additional cost. This promotion was available in conjunction with the $7 round-trip-excursion fares.

Effective April 1, 1991, Amtrak increased the upper age limit to provide half-fare travel to children two through 15 years of age. This fare change made rail service more competitive with the automobile for family travel.

In response to Caltrans request for a new promotional offer, Amtrak announced a "2 for 1" fare valid with a coupon from November 1, 1993 to March 30, 1994 on the *San Diegans, San Joaquins, Capitols* and connecting buses. An adult passenger could travel with another adult or child for the price of one adult fare. The fare is valid Mondays through Thursdays and Saturdays, except during specified holiday periods.

CALTRANS PROPOSED TRAIN SERVICE IMPROVEMENTS

In response to public requests and operational evaluations, Caltrans has identified seven improvements which will substantially upgrade the level of

train service available to *San Joaquin* passengers. The train service improvements proposed by Caltrans for implementation over the ten-year period of this Report are as follows:

- Add two additional round trips, thereby increasing service from four to six trains.
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- Extend train service to Sacramento.
- Extend train service to San Jose.
- Provide checked baggage service.
- Provide custom class service.
- Extend train service to Los Angeles.

Additional equipment will be required to operate the expanded services listed above. Other capital improvements are also needed. These improvements are, therefore, subject to the availability of sufficient capital and operating funds. All new train service improvements are subject to Amtrak's agreement to operate each service and to provide its usual financial contribution to State-supported trains. And of course, all service improvements are contingent upon demonstrated ridership demand.

Each of these improvements is discussed in the following sections of this Chapter (except for a discussion of speed increases, see Chapter V).

Six Train Service Level

With a continuation of the past performance of the *San Joaquins*, continued aggressive marketing and the expected population increase in the Valley, the need for two additional *San Joaquin* trains is expected. Caltrans anticipates the demand for six trains per day will occur when new California Cars become available. Since Amtrak is presently unable to supply additional equipment to add new trains, the availability of the California Cars governs the earliest possible service expansion date. (See Chapter V for a discussion of the California Cars.)

Further expansion to up to ten trains per day is dependent upon three considerations:

- Demonstrated ridership increases large enough to warrant increased services which will meet the statutory revenue/cost (farebox) ratio requirement.
- Availability of funds to provide capital improvements necessary to add additional frequencies.

- Assurance that any potential new high speed rail service in the Valley will not duplicate the *San Joaquin* service.

Sacramento Extension

The Los Angeles-Fresno-Bay Area/Sacramento High-Speed Rail Corridor Study, mandated by Ch 197/88 (AB 971, Costa) identified the capital improvements (including equipment needs) necessary to extend direct *San Joaquin* train service to Sacramento. The Study estimated the costs for such an extension. In June 1990, the AB 971 Study Group recommended direct *San Joaquin* rail service be extended to Sacramento as a near-term incremental service improvement.

Caltrans is working with ATSF, SP and UP on a project to construct a new track connection in the northeast quadrant of the junction between ATSF and SP at Stockton. Proposition 108 bonds in the amount of $838,000 and $2,239,000 from Proposition 116 bond funds are programmed to construct this track connection. In March 1993, the CTC recommended $1,460,000 in 1993/94 TCI funds to provide a direct connection between ATSF and SP in the northwest quadrant. Other capital improvements are proposed for projects to facilitate direct Sacramento service such as track and signal work and stations in Elk Grove (serving the South Sacramento area) and Lodi.

Caltrans and SP are presently engaged in expedited discussions to determine what capital improvements are necessary to provide sufficient capacity on their Stockton - Sacramento line to accommodate the *San Joaquin* trains without impairing SP's freight operations. Due to SP's original proposal for improvements on this line exceeding the $30 million maximum provided in Proposition 116, Caltrans asked Union Pacific (UP) to provide a cost estimate for use of their parallel line between Sacramento and Stockton. UP also submitted a proposal that exceeds the $30 million Proposition 116 funding. Caltrans requested both railroads to reconsider their original estimates and expects their revised proposals in early 1994.

Los Angeles Extension

The most frequently requested *San Joaquin* Route service improvement is extension of the trains directly to Los Angeles. When the through-rail trip was available between Bakersfield and Los Angeles on the SP's *San Joaquin Daylight*, it took significantly longer than a temporarily-operated, alternative bus connection. However, the great majority of train passengers preferred the through train ride.

SP's route between Bakersfield and Mojave is one of the busiest single track freight lines in the western United States. It is also used by ATSF freight trains operating on trackage rights. Beyond Mojave, SP's route to Los Angeles goes through Palmdale and Santa Clarita (south of Palmdale, the line is owned by the Los Angeles County Metropolitan Transportation Authority).

The Los Angeles to Bakersfield via the Tehachapis High Speed Study (see Chapter XIII) will evaluate alignments over the Tehachapis. It will explore high speed rail technologies as well as an alignment to link electrified HSR with current conventional rail services at Bakersfield and Los Angeles. The results of this study will be used to determine the most feasible method to provide direct rail service between Los Angeles and Bakersfield.

In the interim, Caltrans will continue to explore the feasibility of an overnight extension of the *San Joaquins* to Los Angeles, with one overnight train in each direction.

San Jose Extension

Caltrans is working with Amtrak to develop a new maintenance facility in the San Jose area. This facility will replace Amtrak's current maintenance facility at Oakland which must be relocated due to I-880 freeway and rail reconstruction resulting from the 1989 earthquake. The new facility in the San Jose area will service all Amtrak equipment used on Northern California routes.

The *San Joaquin* train equipment will have to go to the new San Jose area facility for maintenance. Therefore, an opportunity to significantly increase ridership on the *San Joaquins* is presented by extending *San Joaquin* service to San Jose. Two major benefits are evident:

- Equipment brought to San Jose will be in revenue service rather than operating empty between Oakland and San Jose.
- The *San Joaquin* Route will directly serve the population concentrations in the Fremont and San Jose areas.

Checked Baggage Service

In July 1990, Caltrans again requested that Amtrak restore checked baggage service to the Route to improve the overall level of service (thereby increasing ridership and providing additional revenue through Package Express service). The request focused on the provision of checked baggage service initially on Trains 702 and 709, which carry many long distance passengers who transfer to and from the *Coast Starlight*. Only one baggage car would be required to serve both trains. Amtrak agreed to provide the baggage car and identified both capital and operational costs required for starting the service. Caltrans received $315,000 in 1991/92 TCI funds to implement checked baggage service on the *San Joaquin* Route. Of this amount, $249,000 will fund modifications at five stations to provide secure inside storage areas and $66,000 will be used to purchase needed baggage tractors and wagons.

Checked baggage service on a limited basis began on October 1, 1993 on Trains 702 and 709 at Bakersfield, Hanford, and Stockton.

Baggage service facilities were already available at Martinez and Oakland, and have been installed at Bakersfield and Hanford. Facilities are currently under

construction at Fresno, Merced, Riverbank and Stockton. Upon their planned completion in early 1994, full baggage service will be available at these stations on Trains 702 and 709. Passengers using feeder bus service connecting with *San Joaquin* baggage service trains will have through checked baggage service to staffed stations (such as Los Angeles and Sacramento) which are served by the buses. Patrons whose origin or destination is at a station other than those listed above, i.e., at an unstaffed station, must carry their luggage when they board or deboard. Once baggage service begins on Trains 702 and 709, Caltrans will explore the extension of such service to all *San Joaquin* trains.

Custom Class Service

Caltrans is exploring the feasibility of providing custom class service on *San Joaquin* trains by incorporating this service feature into some of the new California Cars which will be used on this Route. Custom class will offer *San Joaquin* passengers an upgrade in service by providing a reserved seat with complimentary beverages and newspapers for a nominal extra charge. This service has been well received on the *San Diegan* Route and is especially designed to attract business travelers who appreciate a reserved seat and the added service features.

Caltrans will also explore the feasibility of providing special reserved connecting buses with upgraded seating for custom class passengers traveling on the feeder buses linking the trains with Los Angeles and Sacramento.

Additionally, Amtrak and Caltrans have begun Railphone service on all *San Joaquin* food service cars making telephone service available to all passengers on the train.

RECOMMENDATIONS

Following is a summary of Caltrans *San Joaquin* Route train service continuance and improvement recommendations for implementation over the ten-year period of this Report. Demonstrated ridership demand, institutional barriers, availability of funding and equipment and technical problems outside the control of Caltrans will affect when each of the improvements can be implemented.

- The State should continue to provide funding support for the operation of the four existing *San Joaquin* train round trips, including their feeder bus network.
- Two additional *San Joaquin* round-trip trains should be added when new California Cars become available, thereby increasing service from four to six trains. Frequencies above six will depend upon demonstrated ridership response to increased service, availability of funds and the potential for new high speed service to the Valley.
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.

- *San Joaquin* train service should be extended to Sacramento.
- Direct *San Joaquin* train service should be provided to Southern California by extending Trains 710 and 711 overnight between Bakersfield and Los Angeles.
- *San Joaquin* train service should be extended to San Jose in conjunction with the opening of a new maintenance facility in the South Bay.
- Checked baggage service will be provided once necessary station modifications are made and baggage handling equipment is provided.
- Custom class service should be provided once new California Car equipment is available.

PUBLIC REVIEW

AMTRAK COMMENTS

Most Amtrak comments were technical in nature, covering suggested updates and corrections. These comments are all reflected in the Report. Other specific Amtrak comments are:

Executive Summary: Page iv: Chapter VII... This section, in common with most others, fails to speak to the capital improvements required to support higher levels of service on California corridors. As this will represent a substantial outlay of state funds, should there be a mention in each corridor?

As Capital improvements for higher levels of service contain similar elements for each intercity route, they are described and summarized in Chapter V (The State Intercity Rail Capital Program), rather than discussed separately in each corridor.

Same section, 7th bullet... Some San Joaquins should be extended to San Jose, but not necessarily all. Capitol Service would be expected to be the backbone of Oakland San Jose service.

While specific schedules for a potential *San Joaquin* extension to San Jose have not been identified, Caltrans wishes to leave open the option of extending some or all such schedules. These extensions will provide direct service between San Jose and Stockton, a link not provided by the *Capitol* Route.

Chapter VII - Pg. 97 San Jose Extension: The first paragraph/last sentence should read "The new facility in San Jose area will service all Amtrak equipment used in Northern California".

Please see the discussion under Chapter V, Page 54. The maintenance facility will be used to maintain the rolling stock specified in the response.

It should be understood that not every San Joaquin will necessarily go to San Jose. We do not want to duplicate Capitol Service on close headway.

Please see the response to the same comment under Executive Summary above.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

Fresno station (page 89): Suggest verifying that a ramp has been built at the Fresno Amtrak station so the counter and entrance are accessible to the disabled.

The current ramp at the Fresno Station does not meet ADA standards. For example, the slope is too steep. This station is among those planned for rehabilitation to ensure ADA compliance at all stations in California served by State-supported intercity trains. The wording was changed to reflect this information.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Page 90 - middle of page: Is opening of the Jack London Station by August of 1994 a realistic timeframe due to construction delays encountered on the project?

You are correct, the project has been delayed. The current schedule for opening of the Jack London Station is December 1994. The Report was revised accordingly.

Page 98 - second paragraph: Checked baggage service is planned to begin the summer of 1993 on Trains 708 and 709... The report should note that this service has been delayed and give a projected startup date.

The section on checked baggage will be updated to reflect that checked baggage service began October 1, 1993 on a limited basis on Trains 702 and 709 at Bakersfield, Hanford and Stockton. Facilities are currently under construction at Fresno, Merced, Riverbank and Stockton. Upon their planned completion in early 1994, full baggage service will be available at these stations on Trains 702 and 709.

COUNTIES OF FRESNO AND MADERA COMMENTS

The San Joaquin

We disagree with the CRPPR Chapter VII ascertain that the San Joaquin Route is only 312 miles on and extends from Oakland to Bakersfield. We view it as a 450 mile long Corridor connecting the Bay Area and Sacramento by rail to the Los Angeles Basin, as it historically has for over a hundred years, even though the Bakersfield-Los Angeles segment of the trackage is now by-passed by highway bus service to which we referred in Comment #1 on Page 2, PART I.

We agree the *San Joaquin* Route connects the Bay Area and Sacramento to the Los Angeles Basin as stated in the title for Chapter VII. We clarified the reference to 312 route miles means current train route miles.

Our position on Chapter VII proposals is as follows:

- We consider the "San Joaquin Route", more properly designated by the California Legislature as the "Los Angeles-Fresno-Bay Area/Sacramento High Speed Rail Corridor" in AB 971, as the rail spine of California. Many of our members worked on the AB 971 Study and we support the Study Report sent to the Legislature in 1990.

- We request that the two additional daily round trips promised after ""California Car"s" are delivered be instituted as soon as possible using equipment that might otherwise be used to add much greater train frequencies elsewhere.

The Report states the fifth and six *San Joaquins* are planned for Fiscal Year 1995/96. The only services planned for the prior fiscal year are the *San Joaquin* extension to Sacramento and a third *San Diegan* extension to Santa Barbara. The Santa Barbara extension is proposed to be equipped by more intensive use of existing equipment now in Los Angeles. There are no other greater frequencies planned ahead of the two additional San Joaquin trains.

The order of priority for our desired service improvements is:

1. Direct rail service between Stockton and Sacramento

2. Direct rail service between Bakersfield and Los Angeles on trains 710 and 711.

3. Increased maximum speeds up to full Class 6 standards (110 mph) on Santa Fe segments of the line.

We agree with the Steering Committee's first priority. While the availability of equipment is one reason that Bakersfield to Los Angeles service is listed for 1996/97, Caltrans tries to provide service in areas where ridership and revenues are maximized. It is difficult, at times, to make choices where there is demand in several locations.

Our recommendations for the *San Joaquin* route in Chapter VII include these extensions, as well as increasing speeds to 110 mph where track configuration allows.

We support continued funding of the four daily trains now operating, and their feeder bus network subject to our historic position on buses. Again this year question the Caltrans tendency to create a bus empire.

Please see our response at the end of Chapter IX for comments on feeder bus services.

We do not believe extension of the *San Joaquin* trains, at least under that name, to San Jose, is important except for moving trains to the new proposed maintenance center near that city. *San Joaquin* equipment operated between Oakland and San Jose in revenue service should carry another name on that segment of the line, because no one would be likely to travel from Southern or Central California to San Jose via the circuitous Martinez/Oakland route voluntarily. (See PART I bus comments).

Extension of the *San Joaquin* trains to San Jose is proposed only in conjunction with development of a new maintenance facility in the San Jose area. It not considered desirable to use a different train name for the portion of an extended operation south of Oakland, as we believe this might confuse many passengers. Although few riders would use the through service to San Jose from points south of Stockton, it is probable there will be increased ridership from Stockton and points west, including passengers who wish to travel to CalTrain points via San Jose.

Custom Class would be desirable when possible, and checked baggage service would be useful on trains making long distance connections.

Caltrans is exploring the feasibility of providing custom class service on the San Joaquins by incorporating this feature into some of the new California Cars. We have recently implemented checked baggage service on the two *San Joaquin* trains connecting with the *Coast Starlight* in Martinez. Service is currently available at Los Angeles, Bakersfield, Hanford, Martinez and Oakland. Contracts are underway to modify baggage facilities at all other staffed stations on the Route. Stockton and Fresno will be the first stations at which checked baggage service will be added.

The Steering Committee devotes its efforts to intercity rather than commuter services, and we comment on Altamont Pass only by noting that we have supported the Altamont Pass route from the Central Valley as an Intercity link to the South Bay and not as a commuter line.

Because of your comments, Chapter VII, under "THE STEERING COMMITTEE OF CALTRANS RAIL TASK FORCE", will note provision of rail service via the Altamont Pass is a priority of the Committee.

Caltrans supports the implementation of the Altamont commuter service by the local agencies, however, in today's constrained funding environment, we must commit our limited intercity funds to our highest priority intercity services, namely the *San Joaquin* from Bakersfield to Oakland (via Martinez) and implementation of the rail connection between Stockton and Sacramento.

CITY OF GALT COMMENTS

(Letter dated October 7, 1993)

The City of Galt received a public review copy of the draft California Rail Passenger Program Report 1993/94 - 2002/03 and has the following comments and questions:

1. On page 96 and 97 the draft discusses the Sacramento Extension. It would be helpful to include a map that identifies the locations where rail improvements are proposed.

2. On page 97 please clarify what type of improvements are proposed for the Sacramento line? Where is the line? Is it the SP line that runs through Galt?

The extension of the *San Joaquins* to Sacramento is shown on the *San Joaquin* Route Map. Until the current negotiations with the Southern Pacific and Union Pacific railroads are completed, it is premature to specify details of the route and its improvements.

3. On page 97 the draft mentions construction of a new station in South Sacramento. Is it intended to mean the south part of the City of Sacramento or south Sacramento County?

South Sacramento meant the vicinity of Elk Grove where a light rail connection may be available with Regional Transit.

4. Has a station in Galt been considered?

We appreciate Galt's interest in being served by a Sacramento extension of the *San Joaquin* Route. However, every additional stop increases the running time of the train. In this case, if the Southern Pacific line is selected, we believe intermediate stops in Lodi and the Elk Grove area would best serve the surrounding areas including Galt. Galt is only about 12 miles south of Elk Grove and about 10 miles north of Lodi.

(Letter dated January 11, 1994)

.....the Southern Pacific mainline runs through the center of the community of Galt. It was the basis for this community's existence and could certainly play a very improtant role in the future of this community as well as the surrounding area, which has been histroically serviced by the Souther Pacific Railroad line.

The response to our letter of October 7, 1993, that causes the most concern in number four;

"Has a station in Galt been considered?"

Your response to our questions was:....**(See boldface response to Number 4 above.)**

We fail to understand the logic and criteria for determining that a station was not necessary in Galt based solely on its proximity to Lodi and Elk Grove. It is our opinion that the CTC staff has not fully researched the issue based on need, which should be the underlying basis of any determination as to whether stops would be made in the City of Galt. This

would seem fundamental in the process of making informed recommendations and decisions on issues of this magnitude.

Further, the City of Galt has expressed interest in having future rail service since 1992. At that time, the City was informed, by John Allison, District Director that the Southern Pacific line was not being considered for future rail service based on the July, 1991, "State of California Rail Passenger Plan, 1991-1996 Fiscal Year".

I would like to share some information with vou as well as the commission. The City of Galt is the fastest growing City in Northern California (17.2%). The City of Galt is the fourth (4th) fastest growing City in the State of California (State Department of Finance, 1993). The City is contemplating a plan that could increase the population of the City of Galt to approximately 75,000 persons by the year 2010. Based on these plans, the City of Galt will have a population comparable to Lodi's in approximately 12 years.

In addition, had the commute patterns for the community of Galt and surrounding area been evaluated, it would have been found that the majority of workforce commutes either to Sacramento (60%) or Stockton (40%) for employment via automobile.

At this time I request, on behalf of the City of Galt, that further consideration be given to this community's request for a rail stop on the Southern Pacific Railroad line should this be the selected route. ..... It is the City of Galt's opinion that if the community is overlooked as a stopping point for future rail service, it would clearly be a poor decision and one which was made with little foresight and thought.

Thank you for your consideration on this most important issue.

Your request for reconsidering our position on a stop at Galt requires a response similar to our initial response. Almost all cities adjacent to a passenger rail service desire stops in their city; the desire is understandable. Yet each stop adds to the running time of the train. For individual stations, the time needed for deceleration, boarding, deboarding and acceleration seems small. When these times are aggregated for a whole route, they are significant.

Considering the affect of additional stops on increased running time, the number of stops is kept to a minimum while still providing a service level that maximizes ridership and revenues, at least to the degree that the mandated 55 percent revenue/cost ratio is met. At this time the Elk Grove area and Lodi seem the logical choices. Should conditions change such as the major population growth at Galt you predict, we will certainly reconsider our position.

SAN JOAQUIN COUNTY DEPARTMENT OF PUBLIC WORKS COMMENTS

Page 88: Stations planned for the Stockton to Sacramento extension of the *San Joaquins*, should be included. In San Joaquin County, the Lodi Station has achieved local, state and federal programming and funding commitments, including ROW acquisition and partial construction.

The "Stations Descriptions" section includes intercity stations on the *San Joaquin* route actually in operation or currently planned. Caltrans is actively discussing route options between Sacramento and Stockton with both the Southern Pacific and Union Pacific railroads. It would be premature, therefore, to include the proposed Lodi station in this list at this time.

Page 90-91: The discussion on the Stockton Station should also include the following:

a) "The Stockton Station will serve the *San Joaquins*, and the *Altamont Commuter Service*. Furthermore, under Scenario "2" of ACR 132, the Stockton multimodal station would serve as a point for splitting trains and sharing equipment with the *Capitols*."

b) "The need for a new passenger rail facility in Stockton is immediate. Pending determination of the funding and construction status, patrons, both abled and disabled, will take advantage of the convergence of the Santa Fe, Union Pacific and Southern Pacific railroads. This crossroads of the regional transportation system will allow for integration and transfer between intercity and commuter service. The multimodal station is also a key component of the City of Stockton Redevelopment Plan for the Downtown area. Finally, the facility has been designated as a primary point of operations for regional and interregional bus transit service."

We agree Stockton's multimodal station will be a critical service point to both intercity and commuter rail. We added the following text to the Report:

"The proposed Stockton multimodal station potentially serving the Southern Pacific, Union Pacific and Santa Fe railroads will be served by the *San Joaquin* intercity trains and the planned *Altamont Commuter Service.*

"The new station will be the crossroads of the regional transportation system and will allow for integration and transfer between intercity and commuter services. The facility is also being designed as a primary point of operations for regional and interregional bus transit service."

Page 96-97: A systems perspective should primarily focus on serving patrons and secondarily on equipment utilization. The extension of the *San Joaquins* from Stockton to Sacramento should be in place, prior to any investment into, or equipment scheduling for service between Oakland and San Jose.

We fully agree with your remark that our "primary focus" must be "on serving patrons and secondarily on equipment utilization." All increases or improvements to intercity services levels are market driven. Equipment turns and cycles are considered to ensure optimum utilization of resources and potential revenue generation.

The Stockton to Sacramento extension remains one of our highest priorities and, upon a successful completion of negotiations with the railroads, will be the first corridor to be served by the new California Cars.

If the intent is to move train equipment into San Jose for maintenance purposed, and draw upon the population concentrations in Fremont and San Jose, a San Jose extension of the *San Joaquins* , via the Altamont Pass, should be considered as an alternate route. This route also has the potential to draw upon the population concentrations of the northern Central Valley communities.

The primary purpose for the proposed extension of the *San Joaquins* from Oakland to San Jose is to accommodate the relocation of the Amtrak maintenance facility. Caltrans is currently considering the best route options to facilitate this move and capture revenue at the same time.

SAN JOAQUIN STEERING COMMITTEE COMMENTS

Extension of San Joaquin Trains from Bakersfield to Los Angeles

The Steering Committee believes that Caltrans Division of Rail should place the highest priority in the short term to extend one San Joaquin train in each direction over the

Tehachipi. It is our belief that equipment is available now to acheive this objective. We believe this service should begin in 1994.

An overnight extension of a *San Joaquin* train would require the addition of one complete train set to the equipment pool for this Route. Sufficient equipment to begin this service is not presently available to Caltrans. In view of the need to use the new California Cars to initiate the fifth and sixth *San Joaquin* trains, we believe the timing proposed for the Los Angeles extension of the *San Joaquin* Route is appropriate.

Chapter VII of the CRPPR fails to list the important Tehachapi study now in progress among those "in progress or underway". This is a serious defect because:

The Legislature in AB971 declared the Tehachapi to be a missing link in the State's Rail Network, and urged its immediate study. Caltrans has now signed a contract in the approximate amount of $4.5 million for the study required to be completed in 1994.

The CRPPR gives no indication that Caltrans proposes to pursue the study of the direct new Fresno-San Jose route proposed via Panoche Pass, Altamont Pass, (some prefer Pacheco Pass) in the AB971 Study Report. This new alignment, like the new Tehachapi link is of critical statewide rail importance, especially for high speeds.

The Tehachapi Study is mentioned in Chapter VII under "Los Angeles Extension" and is discussed in Chapter XIV under "Proposition 116 - Los Angeles to Bakersfield via the Tehachapi Mountains".

Studies called for under SCR 6 will investigate all potentially viable corridors connecting Northern and Southern California. As staff to the SCR 6 Committee, Caltrans will ensure both the Panoche and Pacheco Pass Routes are considered but it seems premature to attempt to list or discuss all such routes now.

The San Joaquins

We disagree with the CRPPR Chapter VII assertion that the San Joaquin Route is only 312 miles long and extends from Oakland to Bakersfield. We view it as a 450 mile long Corridor connecting the Bay Area and Sacramento by rail to the Los Angeles Basin, as it historically has for over a hundred years, even though the Bakersfield-Los Angeles segment of the trackage is now by-passed by highway bus service to which we referred in our comments in Part I.

We recommend that the following be implemented as soon as possible:

We consider the "San Joaquin Route", more properly designated by the California Legislature as the "Los Angeles-Fresno-Bay Area/Sacramento High Speed Rail Corridor" in AB971, as the rail spine of California connecting Southem California with Northem California and vice versa. Many of our members worked on the AB971 Study and we support the Study Report sent to the Legislature in 1990.

We agree the *San Joaquin* Route connects the Bay Area and Sacramento to the Los Angeles Basin as stated in the title for Chapter VII. We have clarified the reference to 312 route miles means current train route miles.

That the two additional daily round-trip trains promised after ""Califomia Car"s" are delivered be instituted as soon as possible using equipment that might otherwise be used to add greater train frequencies elsewhere. We believe equipment is available and this service should begin in 1994.

The Report states the fifth and six *San Joaquins* are planned for Fiscal Year 1995/96. The only services planned for the prior fiscal year are the *San Joaquin* extension to Sacramento and a third *San Diegan* extension to Santa Barbara. The Santa Barbara extension is proposed to be equipped by more intensive use of existing equipment now in Los Angeles. There are no other greater frequencies planned ahead of the two additional *San Joaquin* trains.

Our priorities for improvement are listed in order of preference as follows:

1. Direct rail service between Stockton and Sacramento.

2. Direct rail service between Bakersfield and Los Angeles on trains 710 and 711. This service should begin in 1994.

3. Increased maximum speeds up to full Class 6 standards (110 mph) on Santa Fe segments of the line.

We agree with the Steering Committee's first priority. While the availability of equipment is one reason that Bakersfield to Los Angeles service is listed for 1996/97, Caltrans tries to provide service in areas where ridership and revenues are maximized. It is difficult, at times, to make choices where there is demand in several locations. (Please see above for comments on the timing of the Los Angeles extension).

Our recommendations for the *San Joaquin* Route in Chapter VII include these extensions, as well as increasing speeds to 110 mph where track configuration allows.

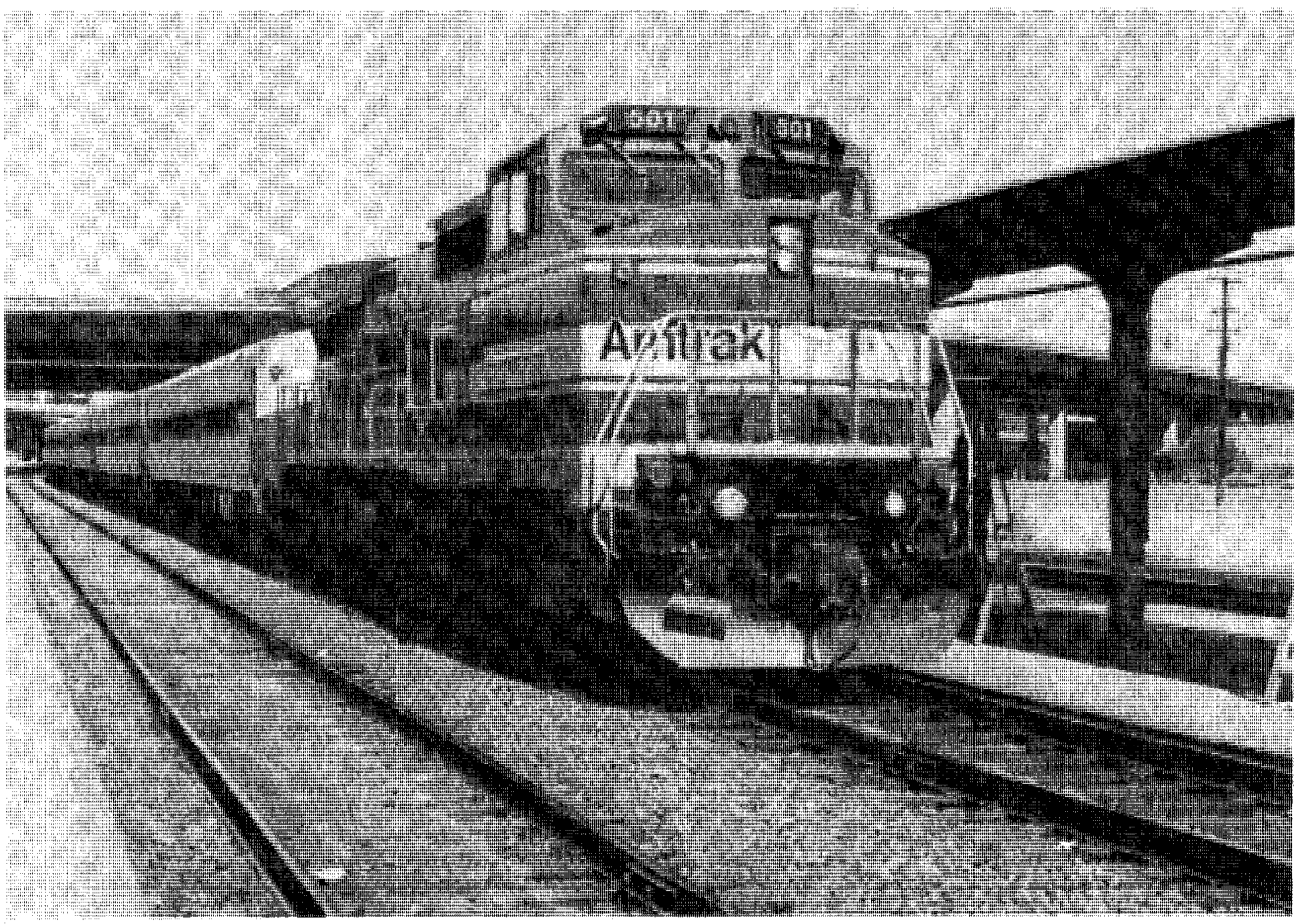
We support continued funding of the four daily trains now operating and their feeder bus network, taking into account our long standing position on buses.

Custom Class is desirable when possible.

Caltrans is exploring the feasibility of providing custom class service on the *San Joaquins* by incorporating this feature into some of the new California Cars.

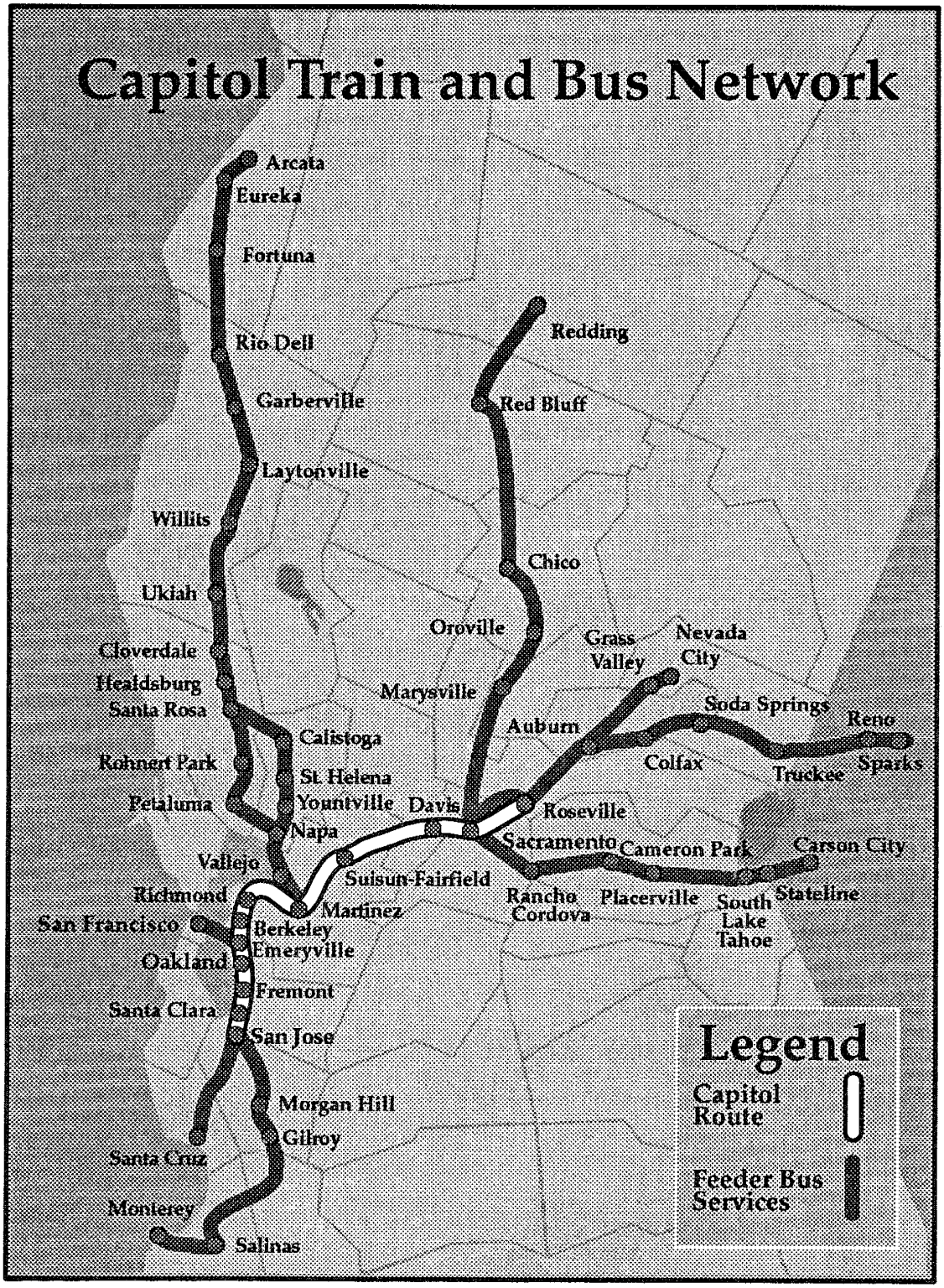
Checked baggage service on trains making long distance connections would be useful.

Checked baggage service was recently implemented on the two San Joaquin trains connecting with the Coast Starlight in Martinez. Service is currently available at Los Angeles, Bakersfield, Hanford, Martinez and Oakland. Contracts are underway to modify baggage facilities at all other staffed stations on the Route. Stockton and Fresno will be the first stations at which checked baggage service will be added.



Capitol Route train with Dash 8 locomotive at Sacramento

Figure 8A


Capitol Train and Bus Network
Arcata
Eureka
Fortuna
Rio Dell
Garberville
Laytonville
Willits
Ukiah
Cloverdale
Healdsburg
Santa Rosa
Calistoga
Rohnert Park
St. Helena
Petaluma
Yountville
Napa
Vallejo
Richmond
San Francisco
Berkeley
Emeryville
Oakland
Fremont
Santa Clara
San Jose
Morgan Hill
Gilroy
Santa Cruz
Monterey
Salinas
Suisun-Fairfield
Martinez
Redding
Red Bluff
Chico
Oroville
Marysville
Davis
Auburn
Grass Valley
Nevada City
Roseville
Sacramento
Rancho Cordova
Cameron Park
Placerville
Colfax
Soda Springs
Truckee
Reno
Sparks
Carson City
South Lake Tahoe
Stateline
Legend
Capitol Route
Feeder Bus Services

Chapter VIII - The Capitols (Roseville/Sacramento-Oakland-San Jose)

This Chapter covers the State-supported *Capitols* Route. The Chapter includes: route objectives, background on the Route including the ACR 132 Study and Policy Advisory Committee, a route description, route performance data, station descriptions, information on the *Captiols* marketing program and a discussion of operational and service improvements to date and proposed train service improvements.

OBJECTIVES

The State's principal objectives on this route are to:

- Increase ridership and revenues
- Increase revenue/cost (farebox) ratio
- Increase frequency of service
- Increase speeds and reduce train running times
- Improve reliability (on-time performance) of trains
- Extend train service to Colfax

BACKGROUND/ACR 132 STUDY

The I-80 corridor links Placer County, Sacramento, Oakland and San Jose. The National Strategic Transportation Planning Study (NSTPS) found that a potential solution to congestion in this corridor was transit improvement, including improved intercity rail passenger service. Following the NSTPS finding, Assembly Concurrent Resolution 132 (Resolution Chapter 136, Statutes of 1988) requested the Metropolitan Transportation Commission (MTC), in cooperation with the Sacramento Area Council of Governments and Caltrans, to conduct an intercity rail corridor upgrade study on this route.

Phase I of the MTC study considered seven scenarios (which are summarized in Chapter VII of the 1990 Rail Passenger Development Plan) and recommended Scenario II-B as the first increment of Corridor development.

Phase II of the study, included in MTC's Final Report, "ACR 132 Intercity Rail Corridor Upgrade Study", issued in November 1990, provided a more comprehensive investigation of Scenario II-B, which examined the following three stages:

- Stage 1 - Three daily round trips between Sacramento, Oakland and San Jose.
- Stage 2 - Six daily round trips between Sacramento, Oakland and San Jose, with through service to Placer County.

- Stage 3 - Increases service to ten daily round trips. In addition, the maximum speed between Benicia and West Sacramento would be increased to 79 miles per hour by various upgrade projects.

Caltrans, Amtrak and Southern Pacific (SP) worked together to implement Stage 1 of the ACR 132 Study. As a result, service on this corridor was implemented on December 12, 1991 with three daily round-trip trains between Sacramento, Oakland and San Jose. Also, one round trip was extended to operate to and from Roseville.

Figure **8A** is a map displaying the Route, including the connecting bus services that are described in Chapter IX.

ACR 132 POLICY ADVISORY COMMITTEE

The ACR 132 Policy Advisory Committee is a fourteen-member committee consisting of representatives from the cities and counties along the corridor, plus SP, Amtrak and Caltrans. Other entities, such as the California Public Utilities Commission representatives, attend to assist with their expertise. The Committee acts in an advisory capacity, providing valuable recommendations and assistance in new station site selections, business strategies, train schedule changes, marketing plans and service planning.

ROUTE DESCRIPTION

The *Capitol* Route presently extends 153 rail miles from Roseville to San Jose. Sacramento to San Jose is 134 miles. Right-of-way ownership is exclusively by SP. The *Capitols* are operated by Amtrak under provisions of its contract with SP. Figure **8B** describes the current ownership, segment mileage, track and signal characteristics of the *Capitol* Route.

Scheduled train running times between San Jose and Sacramento vary from 3 hours, 15 minutes to 3 hours, 25 minutes and the average overall speed, including station dwell time, varies from 40 mph to 43 mph.

Figure **8B**

CAPITOL ROUTE
OWNERSHIP AND TRACK CHARACTERISTICS

Route Segment					Owner of Track	*No. of Tracks	Max Speed	Signal System
Between	Mile Post	And	Mile Post	Miles				
San Jose	47.3	Santa Clara	44.4	2.9	JPB	3	60	CTC
Santa Clara	44.4	Newark	30.6	13.8	SP	1	70	CTC
Newark	30.6/37.2	Niles Tower	42.4/29.6	5.2	SP	1	70	CTC
Niles Tower	42.4/29.6	Elmhurst	13.4	16.4	SP	1	70	CTC
Elmhurst	13.4	Oakland 16th Street	3.9/5.5	9.5	SP	2	60	ABS
Oakland 16th Street	3.9/5.5	Martinez	34.7/31.7	29.7	SP	2	40/60	ABS
Martinez	34.7/31.7	Davis	75.6	43.9	SP	2	70/79	ABS
Davis	75.6	West Causeway	81.1	5.5	SP	2	60	CTC
West Causeway	81.1	East Causeway	85.2	4.1	SP	1	60	CTC
East Causeway	85.2	Sacramento River	88.5	3.3	SP	2	60	ABS
Sacramento River	88.5	Sacramento	89.0/88.9	0.5	SP	2	35	ABS
Sacramento	89.0/88.9	Elvas	91.8	2.9	SP	2	10	CTC
Elvas	91.8	Roseville	106.6	14.8	SP	2	60	ABS
			Total	152.5				

* General Number of mainline tracks

Abbreviations:
JPB - Peninsula Corridor Joint Powers Board
SP - Southern Pacific Transportation Company

Signal Systems:
ABS - Automatic Block Signals - Possession of a segment of track (block) is protected by a wayside signal. Switches must be thrown manually by train crews entering sidings.
CTC - Centralized Traffic Control - Wayside signals protect possession of blocks. Signals and powered switches are also remotely controlled from the dispatching center to direct the movement of trains.

PERFORMANCE

The revenue/cost (farebox) ratio for the *Capitols* was 35.6 percent in 1992/93, and ridership was 238,785.

Figure **8C** lists actual monthly ridership figures from the start of service in December 1991 through 1992/93, as well as the percent change from one year to the next. Figure **8D** lists the *Capitols* ridership by station, including connecting bus stops, for 1992/93. Figure **8E** is a table showing ridership and financial performance data for 1991/92 (from start of service) and 1992/93.

On-time performance for State-supported trains between Roseville, Sacramento and San Jose during the 12-months period ending November 1993 showed a mean of 70 percent, ranging from a low of 59 percent in April 1993 to a high of 86 percent in December 1992. Following the winter storms, SP issued a slow order for approximately 40 miles of the Route west of Davis. Despite the posted speeds found in Figure **8B**, the current operating speed is 60 mph throughout the segment of the slow order. The speed reduction, coupled with existing freight and passenger train interference, is responsible for the reduction in on-time performance.

Caltrans is working with Amtrak and SP to identify operational improvements and capital projects, such as installation of continuous welded rail and introduction of a modern Centralized Traffic Control system with reverse running capabilities, to improve the on-time performance.

Figure 8C

CAPITOL ROUTE RIDERSHIP (a)
(1991/92 - 1992/93)

	Westbound - Departs Sacramento at:			Eastbound - Departs San Jose at:			TOTAL	
	Train 721 7:15 AM (3)	Train 723 12:30 PM	Train 725 5:55 PM	Train 722 6:35 AM	Train 724 12:55 PM	Train 726 5:10 PM (4)	Route Total	Change From Prior Yr.
Fiscal Year Month	Riders	Riders	Riders	Riders	Riders	Riders		
1991/92								
Dec-91 (1)	1,416	1,947	1,887	1,206	2,023	1,741	10,220	
Jan-92	2,652	2,740	3,615	2,277	2,835	3,564	17,683	
Feb-92 (2)	3,464	3,330	5,322	3,888	3,593	4,526	24,123	
Mar-92 (2)	6,587	5,440	12,412	9,865	5,852	8,130	48,286	
Apr-92 (2)	5,457	4,675	8,464	7,817	4,743	6,258	37,414	
May-92	2,855	3,233	4,302	4,097	2,744	3,714	20,945	
Jun-92	2,264	2,311	2,841	2,724	1,992	2,869	15,001	
TOTAL	**24,695**	**23,676**	**38,843**	**31,874**	**23,782**	**30,802**	**173,672**	
1992/93								
Jul-92	2,414	2,672	3,117	2,559	2,406	3,141	16,309	
Aug-92	2,917	3,238	3,846	3,146	3,032	3,453	19,632	
Sep-92	2,533	2,492	3,373	2,682	2,239	2,974	16,293	
Oct-92	2,515	2,863	3,484	2,852	2,412	3,330	17,456	
Nov-92	2,682	3,286	3,709	2,890	2,894	3,435	18,896	
Dec-92	3,156	3,813	3,306	2,774	3,258	3,614	19,921	
Jan-93	2,696	3,473	3,539	2,482	2,786	3,753	18,729	6%
Feb-93	3,264	3,513	3,865	3,119	2,671	3,600	20,032	-20%
Mar-93	2,997	3,416	4,088	3,342	2,580	3,657	20,080	-140%
Apr-93	2,879	3,816	4,590	3,871	3,062	3,868	22,086	-69%
May-93 (2)	3,454	3,818	4,707	4,198	3,260	4,306	23,743	12%
Jun-93 (2)	3,979	4,150	4,869	4,625	3,324	4,661	25,608	41%
TOTAL	**35,486**	**40,550**	**46,493**	**38,540**	**33,924**	**43,792**	**238,785**	

(a) Ridership includes passengers using feeder bus segment of joint rail-bus trip.
(1) Service began December 12, 1991.
(2) "Buy-one, get-one-free" promotion effective February 8 through April 9, 1992 and from May 3 through August 31, 1993.
(3) Train 721 Departs Roseville at 6:45 am.
(4) Train 726 operates through to Roseville arriving at 9:05 pm.

Figure 8D

CAPITOL ROUTE
RIDERSHIP BY STATION - FISCAL YEAR 1992/93

Rank		Station	Average Daily Ridership
1	T	Sacramento	470
2	T	San Jose	201
3	B	San Francisco	165
4	T	Davis	107
5	T	Martinez	95
6	T	Oakland	92
7	T	Richmond	66
8	T	Berkeley	45
9	T	Suisun-Fairfield	39
10	A	Roseville	33
11	B	Reno	10
12	B	Monterey	8
13	B	Salinas	7
14	B	Chico	7
15	B	Santa Cruz*	6
16	B	Truckee	4
17	B	Auburn	3
18	B	Grass Valley	2
19	B	Redding	2
20	B	Nevada City	2
21	B	Napa	2
22	B	Marysville	2
23	B	Gilroy	1
24	B	Colfax	1
25	B	Santa Rosa	1
26	B	Oroville	1
27	B	Vallejo	1
28	B	Calistoga	1

Station Key:
T = Station served by train only (includes bus junction points).
B = Station served only by bus connection.
A = Station served by both train and bus connection.

* Santa Cruz data reflects only through trickets sold by Amtrak, not local tickets.

Figure 8E

CAPITOL Route
Annual Performance - State Fiscal Years

State Fiscal Year	Ridership Data		Financial Data					
	Riders	PM/TM (b)	Revenue	Operating Expense (c)	Operating Loss	Total State Cost (d)	Train Loss per PM (e)	Revenue Cost Ratio
1991/92(a)	173,672	96.3	$1,973,255	$4,848,967	$2,875,712	$1,592,907	15.0¢	40.7%
1992/93	238,785	67.7	$2,970,103	$8,333,093	$5,362,990	$6,712,017	20.1¢	35.6%

(a) Service started 12/12/91 with three round trips; figures are for six and one/half months only.
(b) Passenger-miles per train mile, a measure of the average load on a train over its entire route.
(c) Long-term avoidable costs includes cost of connecting buses.
(d) State cost is 65 percent of train operating loss. Also includes State payment of costs of special agreements with Amtrak for use of equipment, and entire net cost of all connecting bus routes.
(e) Train loss (deficit) per train passenger-mile; the Congressional Standard for short-haul trains (under 600 miles) was originally 9.0 cents (based on short-term avoidable loss), but has inflated 18.7 cents in FY 1993. Connecting buses not included in loss per passenger mile data.

RAIL STATION DESCRIPTIONS

This section includes descriptions of all rail stations on the *Capitol* Route. An asterisk indicates that the station is planned. (Bus stations are not described).

Berkeley: The unstaffed Berkeley station was inaugurated on January 22, 1986 to initially serve the *San Joaquin* Route. It is adjacent to the former SP station (now a restaurant) on Third Street at University Avenue. Improvements for the stop included new platforms, lighting and a shelter. The stop serves the nearby campus of the University of California at Berkeley.

Davis: The staffed Davis station was purchased from the SP by the City of Davis at the beginning of the current restoration program. The building was renovated and improved, the waiting room was enlarged, and new restrooms installed. It meets modern service standards while retaining its original historic look.

The increased station use since the *Capitol* Route service began will require increasing parking and provisions for public transit. In March 1993, the California Transportation Commission (CTC) recommended $630,000 in 1993/94 Transit Capital Improvement (TCI) funds to acquire additional property to expand parking at the Davis station.

Emeryville: This new staffed station opened on August 13, 1993. The dedicated feeder buses linking the *Capitols* and *San Joaquins* with San Francisco began to use the Emeryville station on October 11, 1993. The station is located at 5885 Landregan Street, off Powell Street. It consists of a 10,000 square foot station building, a 1,600 foot long platform and station tracks. The project, including street and road access improvements, cost approximately $6.5 million, funded by a private developer, the City and Amtrak. This station is fully

accessible to the disabled and serves the *Capitol* and *San Joaquin* routes. The *Coast Starlight* and *California Zephyr* trains will also stop at Emeryville when SP mainline tracks are relocated in early 1994.

Fremont: A temporary platform has been constructed at Fremont Boulevard and Peralta Court in the Centerville District of Fremont. As a result, *Capitol* Route service was inaugurated on June 4, 1993. Planning and right-of-way acquisition are underway for the permanent station. A contract between the City and Caltrans has been executed, which provides for an unstaffed station at this location. The station will consist of a platform with shelter, parking lot, landscaping and street and pedestrian improvements. The City will purchase the required property from SP. Total project cost is $1.3 million funded from Proposition 116 bonds.

Hayward: A Hayward station is planned to serve *Capitol* Route trains. The initial proposal was for an unstaffed station at Winton Avenue and Cannery Court, under the Winton Avenue overpass. However, due to concerns about compatibility of the Winton Avenue location with existing freight switching tracks, the City and Caltrans requested CTC approval to implement the new station at another site at the "A" Street overcrossing. At its October 1993 meeting, the CTC approved this change. The station would consist of a platform with shelter, parking lot, bicycle storage facilities, lighting and security measures, landscaping, and street and pedestrian improvements. Project funding consists of $1.1 million in Proposition 116 bond funds and $300,000 from City funds.

Martinez: This staffed station is located at 401 Ferry Street, and serves the *Capitol, San Joaquin, California Zephyr* and *Coast Starlight* trains. This station is served by *Capitol* and *San Joaquin* feeder buses, local transit to BART and an express BART feeder bus to the Concord BART station. In March 1993, the CTC recommended $1,000,000 in 1993/94 TCI funds be granted to the City to expand Amtrak parking and enhance bus facilities. Also, the City is assessing alternative station locations which would provide enhanced intermodal connections and more parking capacity.

Oakland: The Oakland rail station building at 16th and Wood Streets sustained considerable structural damage in the 1989 Loma Prieta earthquake and was condemned. A temporary station building is presently in use at this site.

An alternate Oakland site, located near Jack London Square on Alice Street, has been identified for its replacement. This multimodal facility will serve the *Capitol, San Joaquin, California Zephyr* and *Coast Starlight* trains, buses, automobiles, taxis, bicycles, pedestrians and ferry passengers. Amtrak, SP, Caltrans and the Port of Oakland are cooperatively developing the specifications and plans for the new marina station near Jack London Square. TCI funds of $3.164 million and $6.602 million in Proposition 108 bond funds have been programmed toward the construction of the new station and associated track and signal work. The station is expected to open in December 1994.

**Oakland Coliseum:* Caltrans is proposing to implement an Amtrak station at a location adjacent to the Oakland Coliseum . This station would allow Amtrak passengers to access the nearby Oakland Airport via shuttle bus, and to connect with BART at its Coliseum/Oakland Airport station.

***Richmond*:** This staffed station is adjacent to the Richmond BART station at 16th Street and MacDonald Avenue. The Amtrak ticket office is located next to the BART ticket machines. The station serves the *Capitol, San Joaquin, California Zephyr,* and *Coast Starlight* trains, BART and local bus lines. In March 1993, the CTC recommended $150,000 in 1993/94 TCI funds to improve the platform, add seating, a shelter and provide other improvements.

***Roseville*:** This unstaffed station has been used by the *California Zephyr* since platforms were built in October 1987. Since then, *San Joaquin* feeder buses and subsequently, the *Capitol* Route trains have begun using the site. At the present time, Roseville consists of a concrete platform with lighting, a public telephone and a bus-shelter waiting area.

Design of a new station building, to be constructed and owned by the City of Roseville, was completed in early 1993. Construction began in Fall 1993; and is scheduled to open in early 1994. This new station will have interior and exterior waiting areas, expanded auto parking and parking for buses, taxis, handicapped persons and bicyclists, a ticket office and a baggage room. In March 1993, the CTC recommended $250,000 in 1993/94 TCI funds for expanded parking (including disabled accessibility and passenger waiting area) and a bus layover area.

Sacramento: The Sacramento station, located at 5th and I Streets, is fully staffed (open eighteen hours daily) and serves the *Capitol, Coast Starlight* and *California Zephyr* trains and the *Capitol* and *San Joaquin* feeder buses. In addition, Sacramento Regional Transit buses connect the station with Downtown and the Sacramento light rail route.

Through an agreement with Amtrak and SP, Caltrans has several projects planned to make the SP-owned station more attractive. The station interior and exterior will be cleaned, patched and repainted, parking lots expanded, canopies repaired and lighting and drainage improved. In the future, landscaping, ceiling repair and mural restoration is planned. Project funding approved by the CTC includes $450,000 in Proposition 116 rail bond funds and $750,000 in 1992/93 TCI funds.

***San Jose*:** This staffed station is located at 65 Cahill Street, close to the new San Jose Stadium. It is owned by Caltrans and serves the *Capitol* and *Coast Starlight* trains, the *Capitol* and *San Joaquin* feeder buses, CalTrain commuter trains and local bus lines. It will serve as a stop on a future extension of the Santa Clara County light rail system.

A contract has been awarded for the seismic upgrading and renovation of this station. In March 1993, the CTC recommended funding of $5,140,000 in 1993/94 TCI funds to build a parking garage for the use of Amtrak passengers. All

modifications to the station site must be in accordance with historical preservation laws and regulations, as the San Jose station is an historical site.

Santa Clara/Great America: A temporary platform was constructed on Stars and Stripes Drive, under the Tasman Drive overpass (near Great America and the San Francisco 49er's training camp). As a result, *Capitol* Route service began on May 21, 1993. Caltrans contracted with the City of Santa Clara for design and construction of a permanent, unstaffed station. This site is primarily owned by the City, with the platform area leased from SP. This location will be served by the Santa Clara County light rail system.

Suisun/Fairfield: This station is located in the City of Suisun City, off Main Street at the SP tracks. It is served by the *Capitol* and the *California Zephyr* trains. Financed by the Suisun Redevelopment Agency and the TCI Program, the station was rehabilitated and remodeled in 1992. The improvements consisted of platforms, lighting, landscaping increased parking and improved interface with public transit. Greyhound Lines and a travel agency have offices within the building.

During 1993, more TCI funds were made available to Suisun City to provide additional station parking and create a pedestrian walkway from Central Suisun City to the station.

MARKETING

In 1992/93 Caltrans hired a new advertising agency, EvansGroup in San Francisco, to produce advertising for State-supported intercity rail passenger service. Charles Seifert & Associates was hired to provide public relations consulting. The primary focus of the 1992/93 advertising program for the *Capitols* was on TV and radio, supported by billboards, direct mail and print.

In-house marketing projects for 1992/93 included cable TV, direct mail and print advertising. Direct mail was utilized to increase awareness of rail travel options on the *Capitols* through the distribution of a two-for-one travel coupon. Advertising was placed in college newspapers to promote Amtrak travel discounts and to introduce the special ten-ride ticket. California Amtrak Timetables were produced by Caltrans and distributed to Amtrak stations, travel agencies, and travel literature racks.

In 1992/93 public relations activities included dedication ceremonies for the new Suisun-Fairfield Station; outreach events to promote new Amtrak Thruway bus service to South Lake Tahoe and Carson City; station ground breakings at Roseville, Oakland, Fremont, and Santa Clara; and participation at rail transportation fairs along the Route. Ceremonies were held at Fremont and Santa Clara/Great America to celebrate the start of Amtrak service.

Advertising and public relations activities for 1993/94 and beyond will continue Caltrans successful marketing strategy to position the *Capitols* as a smart, economical travel option for Californians. Advertising efforts will include television, radio and newspapers in the Sacramento and San Francisco

markets, supported by outdoor billboards and magazine supplements. Public relations activities will include outreach events on new Amtrak Thruway bus connection routes, press tours to Amtrak destinations, and rail program displays at fairs and special events on the *Capitol* Route. Special marketing projects will include targeted mailings to highlight Amtrak service and destinations, local and regional travel promotions with popular tourist attractions, and promotion of Amtrak travel discounts on the *Capitol* Route.

State expenditures for advertising and public relations in 1991/92 and 1992/93 were:

	1991/92	1992/93
Advertising	$ 806,000	$ 1,275,000
Public Relations	20,000	73,000
Direct Mail	205,000	342,000
Total	$ 1,031,000	$ 1,690,000

OPERATIONAL AND SERVICE IMPROVEMENTS

This section includes a description of the major operational and service improvements which Caltrans has made on the *Capitol* Route since service was initiated in late 1991.

Additional Stops

Stops added to the *Capitol* Route after service was initiated in 1991 are:

Emeryville
Fremont
*Hayward
*Oakland Coliseum
Santa Clara/Great America

Planned stops are preceded by an asterisk. For additional information, see "Station Descriptions " above.

Fares

To encourage ridership on the *Capitols*, Amtrak and Caltrans implemented a $1 return fare (providing a round-trip ticket for only one dollar more than the one way fare) between January 7 and April 9, 1992. It was again placed in effect on October 25, 1992.

Shortly after the introduction of the *Capitols*, a two-for-one promotional fare was offered from February 8 through April 9, 1992. As a result, ridership more than doubled, especially on weekend peaks. The revenue/cost (farebox) ratio almost reached its 55 percent statutory level during this period.

From May 3 through August 31, 1993 the special two-for-one promotional fare was repeated on the *Capitols*. Upon presentation of a coupon obtained either through the newspaper or by direct mail, customers could obtain a

second trip (for travel Monday through Thursday only) at no additional charge. It was coupled with the $1 return fare and was intended to test whether lower fares could again produce higher revenues, as they did in 1992. Results were again favorable with revenues increasing by 25 percent in June, 45 percent in July and 18 percent in August over the same months in the prior year.

In response to Caltrans request for a new promotional offer, Amtrak announced a "2 for 1" fare valid with a coupon from November 1, 1993 to March 30, 1994, on the *San Diegans, San Joaquins, Capitols* and connecting buses. An adult passenger could travel with another adult or child for the price of one adult fare. The fare is valid Mondays through Thursdays and Saturdays, except during specified holiday periods.

SACRAMENTO-TAHOE-RENO INTERCITY RAIL CORRIDOR STUDY

In Spring 1993, Caltrans undertook a study of the feasibility of providing intercity rail passenger service to the Lake Tahoe Region via the I-80 and the US-50 corridors. A key element of this study is the potential for extending the *Capitol* Route to the Truckee/Reno/Sparks area, via SP's transcontinental main line. (For additional information and background on this study, see Chapter X).

CALTRANS PROPOSED TRAIN SERVICE IMPROVEMENTS

Since *Capitol* Route service is new, predictions of future ridership cannot be made by examining past performance. However, Caltrans experience with new starts on the *San Joaquins* and *San Diegans* and the significant population growth in the Sacramento Valley indicate the need for improvements which will substantially upgrade the level of train service available to *Capitol* passengers. The train service improvements proposed by Caltrans for implementation within the ten-year period of this Report are as follows:

- Add seven additional round trips between San Jose and Sacramento, thereby increasing service from three to ten trains. (Some trips may be extended beyond Sacramento to Placer County points).
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- Extend *Capitol* Route service to Colfax.

Additional equipment will be required to operate the expanded services listed above. Other capital improvements are also needed. These improvements are subject to the availability of sufficient capital and operating funds. All service improvements are subject to Amtrak's agreement to operate each service and to provide its usual financial contribution to new State-supported trains. And

of course, all service improvements are contingent upon demonstrated ridership demand.

Each of these improvements is discussed in the following sections of this Chapter (except see Chapter V for discussion of speed increases).

Ten Train Service Level

Ridership on the *Capitols* has been acceptable considering that this is a new Route starting service during a recessionary period. But Caltrans believes the frequency increases projected in Stage 2 (six round trips) of the ACR 132 Study (Scenario II-B, Phase II) must be implemented to provide sufficient service frequency to adequately develop ridership in this important corridor. Increasing the frequency will allow additional choices for the traveler by reducing the time between trains, generating further ridership increases.

Since Amtrak is presently unable to supply additional equipment to add new trains, the availability of the California Cars in 1995 (See Chapter V for a discussion of the California Cars) governs the earliest possible service expansion date to six daily round trips. Expansion to ten round trips (Stage 3 of the ACR 132 Study) should follow within the period of this Report, depending upon demonstrated ridership increases large enough to warrant increased services which will meet the statutory revenue/cost (farebox) ratio requirement.

Extension to Colfax

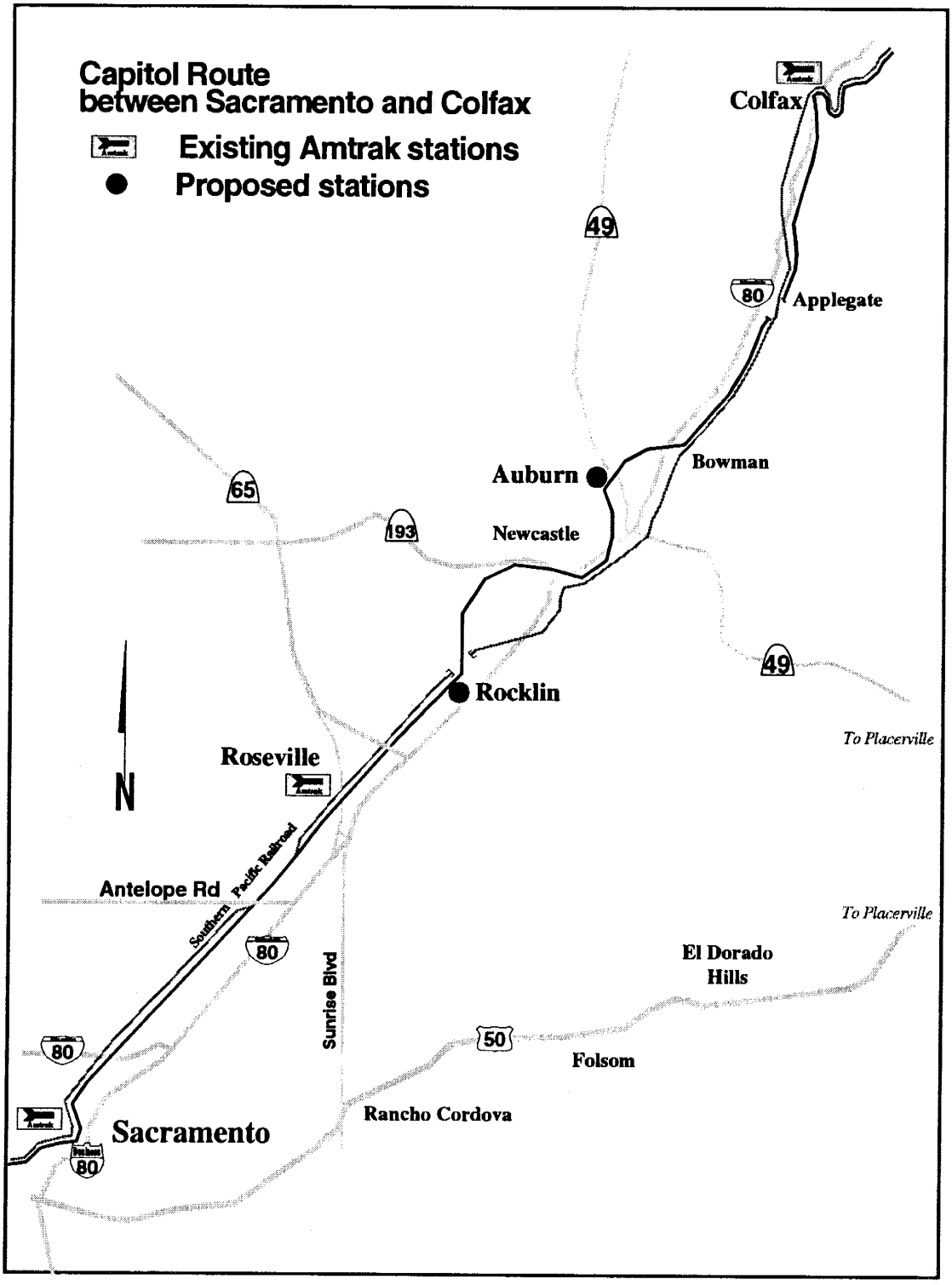
Caltrans, Amtrak, SP and the Placer County Transportation Commission are exploring the cost and feasibility of extending the *Capitol* Route service beyond Roseville to Colfax. (See Figure **8F** for a map of this proposed extension). This service expansion, which would serve the rapidly growing areas of Placer County east of Roseville, would require new stops at Auburn and Rocklin.

SP has proposed a multi-million dollar program of projects to facilitate the extension. Principal projects include the following:

- Construct double track with Centralized Traffic Control (CTC) for 3.1 miles west of Roseville.
- Install CTC (signaled in both directions) on the new (faster) eastbound track between Roseville and Colfax.
- Construct a layover facility at Colfax.
- Miscellaneous track improvements related to the work described above.

Also, new stations would have to be constructed in Rocklin and Auburn, and the Colfax station would require upgrading. The extension is subject to the availability of funding to implement these capital projects. Once implemented, its continuation would depend upon strong ridership support.

Figure 8F


Capitol Route
between Sacramento and Colfax
Existing Amtrak stations
Proposed stations
Colfax
49
80
Applegate
Bowman
Auburn
65
193
Newcastle
49
Rocklin
To Placerville
N
Roseville
Antelope Rd
Pacific Railroad
Southern
To Placerville
80
El Dorado
Hills
Sunrise Blvd
80
50
Folsom
Rancho Cordova
Sacramento
80

RECOMMENDATIONS

Following is a summary of the Caltrans *Capitol* Route train service continuance and improvement recommendations for implementation over the ten-year period of this Report. However, demonstrated ridership demand, institutional barriers, availability of funding and technical problems outside the control of Caltrans will affect when each of the improvements can be implemented.

- The State should continue to provide funding support for the operation of the three existing *Capitol* round trips between Sacramento and San Jose (and the one existing round trip extended to Roseville) including their feeder bus network.
- Seven additional *Capitol* Route round trips should be added between Sacramento and San Jose, thereby increasing service from three to ten trains (certain additional trips may be extended beyond Sacramento to Placer County points).
- Increase maximum speeds to up to 110 mph where track configuration and operational constraints allow.
- *Capitol* Route service should be extended to Colfax subject to the availability of funding to implement necessary capital improvements.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

AMTRAK COMMENTS

Executive Summary: Page v; Chapter VIII: Pg. 101 Objectives; Pg. 110 Proposed Train Service etc...Last bullet should say extended to Colfax or beyond [e.g. Reno/Sparks].

Only the extension to Colfax is a part of Caltrans present service improvement recommendations for the *Capitol* Route. The potential for an extension beyond to Reno/Sparks is still under study, as reported in Chapter X (Intercity Rail Feasibility Studies).

Chapter VIII - Pg. 110 Proposed Train Service etc...Second bullet should specify CTC on both mains between Roseville and Colfax.

As Southern Pacific has advised they plan to discontinue use of the old westbound track between Roseville and Colfax, the CTC signal project needed is only on the eastbound track.

ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS COMMENTS

Thanks for the opportunity to comment on the *Draft California Rail Passenger Program Report of* September, 1993. In general, I thought the report was clearly written, comprehensive, and well organized. The historical descriptions of the routes was particularly useful. I do have a few minor comments as follows:

p.109 The results of *the Capitols* fare test (repeating the promo fares May 3 through July 29) were not reported. The fact that the initial promo more than double ridership and brought the farebox recovery to .55 would appear to justify adoption of this type of fare structure, or an explanation of why it was not adopted.

We agree the results of the fare promotion (which were favorable) should be stated and have done so in the Report. The promotional fare has been reinstituted and runs through March 31, 1994. We are currently working with Amtrak in evaluating the fare structures of all State-supported intercity trains.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

San Jose (page 107): The light rail line is the Santa Clara County light rail system, not San Jose.

Santa Clara/Great America (page 107): the light rail line is the Santa Clara County light rail system, not Santa Clara.

In response to your comments, the final Report includes the correct references to the Santa Clara County light rail system.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Executive Summary: Chapter VIII - The Capitols, Paragraph 1: It should be noted the trains are State supported as identified for the San Joaquins Chapter Nine - Connecting Bus Services;

In response to your comment, the Executive Summary of the *Capitols* states that all trains are State-supported.

Page 102 - ACR Policy Advisory Committee: It might also be noted that CPUC representatives have attended such meetings and offer what input they can in this process.

In response to your comment, the Report notes CPUC representatives have attended ACR 132 Policy Advisory Committee meetings.

Page 109 - Fares: Paragraph 2 mentions the two-for-one promotional fare that was implemented on Capitol Corridor trains between Feb. 8, 1992 and April 9, 1992 with the farebox ratio jumping to 55%. The report does not show what the farebox ratio was in periods when the two-for-one promotional fare was not in effect. In fairness it should be shown the tremendous changes in fare box revenues that resulted from the impact of the two for one fare. Both the low and high farebox periods should be shown for comparison purposes.

In response to your comment, information was added in this section on the farebox return for months before and after the period that the two for one fare was in effect.

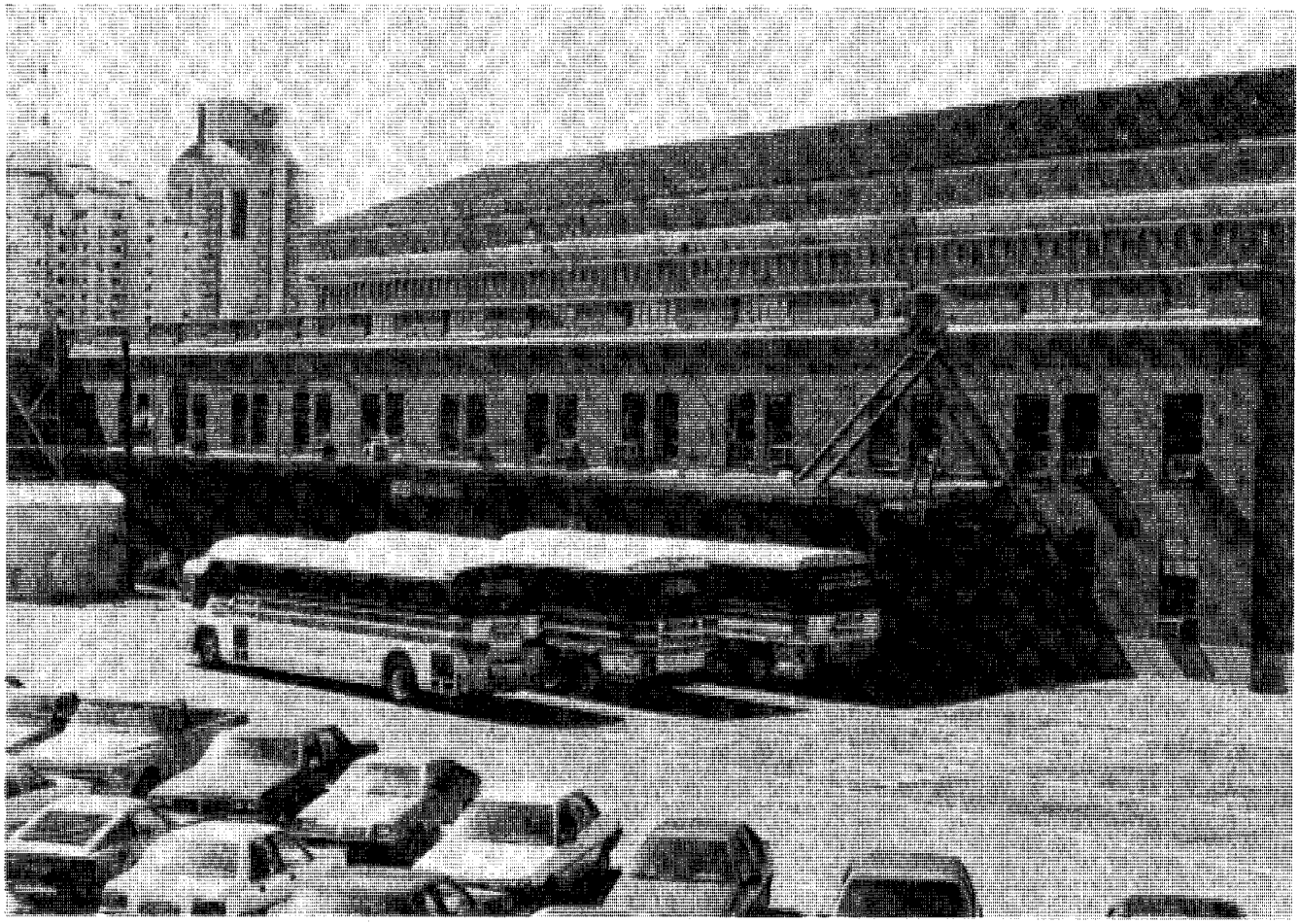
SAN LUIS OBISPO COUNCIL OF GOVERNMENTS COMMENTS

(Chapter VIII *Capitol* Route extension to San Luis Obispo - INCLUDE

The connecting bus schedules listed on **[see Public Review at the end of Chapter IX]** would demonstrate the ridership potential for extension of one *Capitol train* to San Luis Obispo. One of the seven *Capitol* round trips identified on page 110 should specify an extension to San Luis Obispo. This extension would provide a Sacramento train-to-train connection at San Luis Obispo for passengers traveling as far south as San Diego. Serving the Coast Route in this manner would mitigate the start-up equipment costs of providing San Francisco - Los Angeles train service. As an alternative to extending a *Capitol* train, Caltrans should study the extension of one *Caltrain* to San Luis Obispo operating as an intercity train.

As directed by the Legislature through the passage of SCR 6 in July 1993, the Intercity High Speed Ground Transportation Commission will prepare a 20-year High Speed Intercity Ground Transportation Plan. The Draft Plan is to be completed by July 1, 1995 with the final report due by December 31, 1995. SCR 6 requires the Los Angeles to San Francisco Bay Area High Speed Corridor be the first corridor developed and "all feasible routes be considered". Thus, the analysis will examine both the Coast Route and the Valley Route.

Once the outcome of the SCR 6 study is known, we will be in a position to determine if expansion of passenger rail services on the Coast Route is economically feasible. Until those studies are completed, it is premature to modify the Rail Passenger Program Report to include the Coast Route. The Report covers all appropriate developments, including the status of SCR 6 as it impacts the Coast Route.



Amtrak Thruway buses at Sacramento

Chapter IX - Connecting Bus Services

GENERAL

Since 1980, Caltrans has developed an extensive network of connecting (feeder) bus routes to increase the accessibility of the State supported train services. In some cases they restore service to markets that had been served prior to Amtrak's formation; in other cases, the buses tap entirely new markets. The bus routes also serve as a test of potential ridership for proposed rail services.

Caltrans contracts with Amtrak for the provision of these bus services and Amtrak then contracts with bus operators. This procedure is necessary for the bus routes to function as direct parts of the Amtrak system, with integrated fares and ticketing procedures, and inclusion in Amtrak's central information and reservation (RSO) system in the same manner as the trains.

In most cases "dedicated" bus service is provided only for Amtrak passengers who are making part of their trip on an Amtrak train. Contract bus operators for these bus routes are selected through competitive bidding.

Some routes, and portions of others, are operated by regular route intercity bus companies in conjunction with their scheduled service. These "mixed-mode" services use the same bus to handle both Amtrak passengers and the bus company's own regular route passengers. Where there is only one existing provider on a route, contracts are negotiated with that operator. Where there is more than one existing service provider, competitive bids are solicited from each.

Beginning in April 1992, a new type of bus service has been offered on selected parts of the connecting bus system. Designated "open door" service, these segments generally operate in the same way as dedicated routes, with one exception. While passengers on dedicated routes must be making part of their trip on an Amtrak train, open door service is available to Amtrak passengers using the bus for local travel.

Currently, there are three different sets of circumstances where open door service is practical. First, open door service is offered on routes which parallel train service, such as Los Angeles-Santa Barbara, so that the buses offer additional frequencies. Second, when possible, open door service is offered on routes where there is no competing public transportation, for instance, Bakersfield-Santa Barbara. Third, routes which connect with non-Amtrak train service, such as CalTrain, are candidates for open door service status. Finally, it is desirable to limit open door service to routes which have a sufficient number of Amtrak ticket offices to permit adequate ticketing of passengers.

Unlike the trains themselves, the operating costs of these buses are borne entirely by the State, although much of the bus operating costs are offset by bus "revenues". A mileage/yield-based portion of the revenue from each through bus/rail ticket is allocated to the bus portion of the trip. This allocated revenue

is then transferred to the cost of the bus, reducing the actual State expense. Revenue credits for some of the bus routes cover the entire cost of operation, with any excess credits helping to offset the costs of other bus routes.

SAN DIEGAN ROUTE

While a majority of the connecting bus service in California serves *San Joaquin* and *Capitol* passengers, three routes provide service exclusively for *San Diegan* passengers. A significant part of Route 1 (a *San Joaquin* feeder bus) also feeds passengers to the *San Diegan* route. Figure **9A** depicts bus service which connects with the *San Diegans.*

Bus Route 1 -- Los Angeles Basin

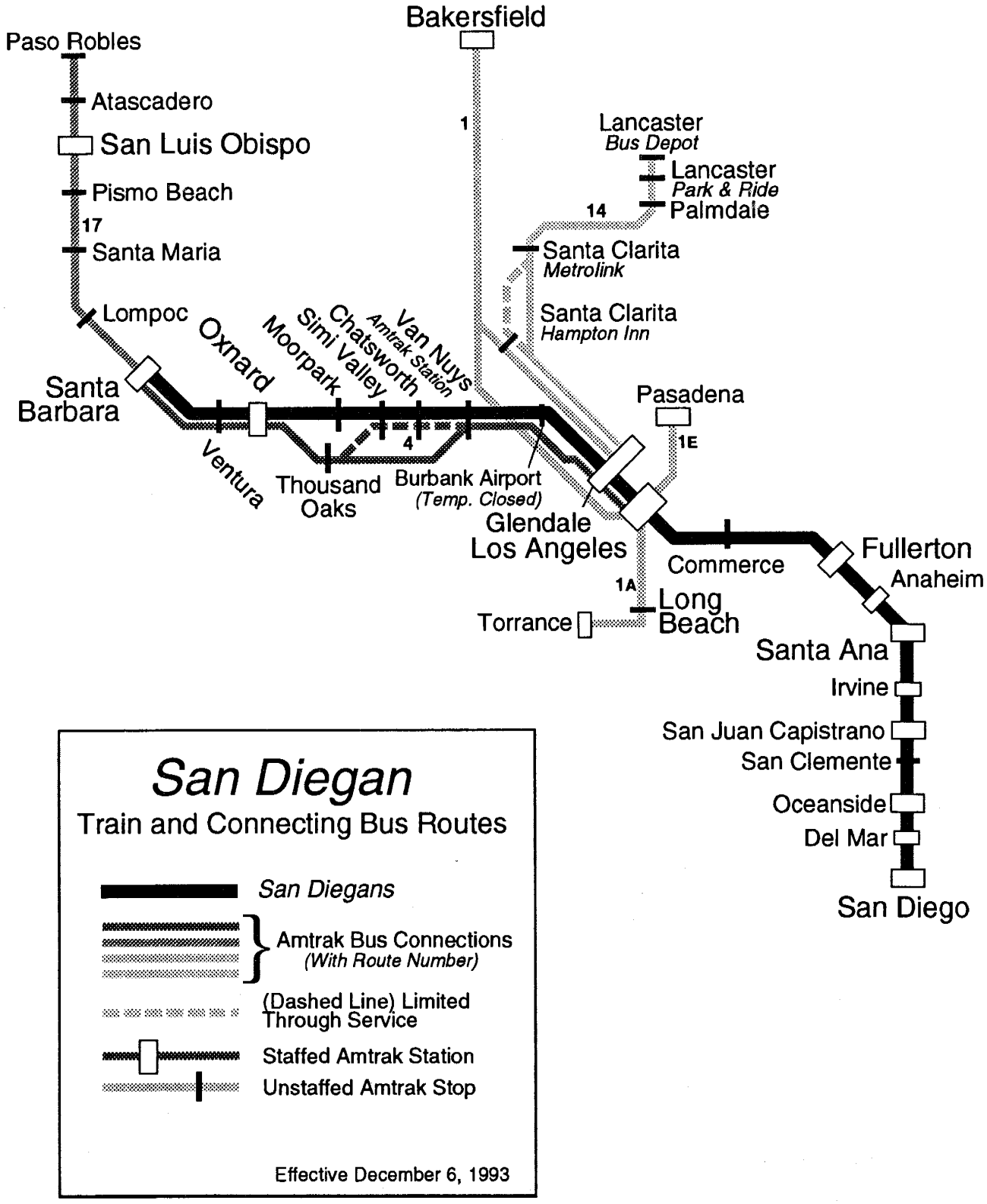
Route 1, which operates between Bakersfield and the Los Angeles Basin, serves mainly as a *San Joaquin* connection. Buses which connect with *San Joaquins* are fully described in the *San Joaquin* section below. Only those Route 1 buses which connect with *San Diegans* are described in this section.

There is one Route 1 bus which does not have any *San Joaquin* connections. This round trip, which began on October 25, 1992, operates between Bakersfield and Torrance via Santa Clarita (Hampton Inn), Glendale, Pasadena, Los Angeles and Long Beach. The morning southbound bus connects at Glendale with *San Diegan* Trains 773 (Train 767 on weekends) to Santa Barbara, and 774 to San Diego. It then continues to Pasadena where it picks up passengers who connect at Los Angeles with Train 774 to San Diego. Passengers from Bakersfield, Santa Clarita and Pasadena may also connect with the eastbound *Desert Wind* in Los Angeles. At Los Angeles, the bus picks up passengers from Trains 773/767, 774 and the *Southwest Chief* and transports them to Long Beach and Torrance.

In the northbound direction, the operation is similar. The bus originates at Torrance in the early evening and picks up Torrance and Long Beach passengers who are transferring to Trains 783 (to Santa Barbara), 586 (to San Diego) and the *Southwest Chief* at Los Angeles. At Los Angeles it picks up passengers from the westbound *Desert Wind* traveling to Santa Clarita and Bakersfield. At Glendale, it boards *San Diegan* passengers from Train 783, and Santa Barbara/Oxnard passengers from the evening Route 4 bus. It then continues to Santa Clarita and Bakersfield, arriving in the late evening. Originally, the bus served Pasadena. Scheduling difficulties resulted in a change beginning December 6, 1993. The northbound trip now skips Pasadena; that stop is served by a separate bus from Los Angeles.

Three other Route 1A buses offer *San Diegan* connection at Los Angeles to and from Long Beach and Torrance. From Torrance there are connections to southbound Trains 572, 576 and 580, and northbound Santa Barbara Train 773 (Train 767 on weekends). In the other direction, connections from northbound Trains 579, 581 and 585, and southbound Santa Barbara Train 784 (Train 788 on weekends) are available.

Figure 9A


Bakersfield
Paso Robles
Atascadero
San Luis Obispo
Pismo Beach
17
Santa Maria
Lompoc
1
Lancaster
Bus Depot
Lancaster
Park & Ride
14
Palmdale
Santa Clarita
Metrolink
Santa Clarita
Hampton Inn
Oxnard
Moorpark
Simi Valley
Chatsworth
Amtrak Station
Van Nuys
Santa Barbara
Pasadena
1E
4
Ventura
Thousand Oaks
Burbank Airport
(Temp. Closed)
Glendale
Los Angeles
Commerce
Fullerton
Anaheim
1A
Long Beach
Torrance
Santa Ana
Irvine
San Juan Capistrano
San Clemente
Oceanside
Del Mar
San Diego
San Diegan
Train and Connecting Bus Routes
San Diegans
Amtrak Bus Connections
(With Route Number)
(Dashed Line) Limited Through Service
Staffed Amtrak Station
Unstaffed Amtrak Stop
Effective December 6, 1993

Several Route 1E trips provide *San Diegan* connections between Los Angeles and Pasadena. Northbound, buses connect with Trains 773 (Train 767 on weekends), 577 and 783; while southbound buses connect with Trains 784 (Train 788 on weekends) and 586.

The non-stop Los Angeles-Bakersfield service provided by Routes 1A and 1B offer Bakersfield connections for northbound *San Diegan* Trains 571 (weekdays only), 575 and 579. The southbound counterparts connect with Trains 580 and 784 (Train 788 on weekends).

On February 1, 1992, wheelchair-lift-equipped buses were made available for Route 1 passengers on a stand-by basis. When a passenger notifies Amtrak at least 24 hours in advance that a wheelchair lift will be needed, one of the lift-equipped buses is substituted for the regularly assigned bus. The Route 1 contract was renewed in October 1993. At that time Caltrans specified that all regularly assigned buses be equipped with wheelchair lifts.

Bus Route 4 -- South Coast

This route connects Santa Barbara, Ventura, Oxnard, Thousand Oaks, Simi Valley, Chatsworth, Van Nuys and Glendale with the *San Diegans* at Los Angeles. The route supplements *San Diegan* train service between Santa Barbara and Los Angeles, offering passengers a variety of departure and arrival times. *The Coast Starlight* also provides service between Los Angeles and Santa Barbara with stops at Glendale, Simi Valley and Oxnard.

Several changes were made to this route, effective October 25, 1992. As a result of the addition of the ninth *San Diegan*, several trains were rescheduled. Consequently, the late morning Los Angeles-Chatsworth round trip was discontinued. Train 572 was rescheduled to operate about one hour later. Its connecting bus was also rescheduled, and extended to operate from Ventura rather than Thousand Oaks.

Due to the start-up of Metrolink commuter rail service between Moorpark and Los Angeles on October 26, 1992, the inbound bus to Train 572 was rerouted (on weekdays only) to skip Simi Valley and Chatsworth. The outbound afternoon bus connecting with Train 581 was also rerouted (on weekdays only) to skip Van Nuys, Chatsworth and Simi Valley. These stops continue to be served on weekends when Metrolink trains do not run.

On December 6, 1993, the first morning inbound bus to Los Angeles connecting with Train 572 was extended to originate in Santa Barbara rather than Ventura.

On February 1, 1992, wheelchair lift-equipped buses were made available for Route 4 passengers on a stand-by basis. When a passenger notifies Amtrak at least 24 hours in advance that a wheelchair lift will be needed, one of the lift-equipped buses is substituted for the regularly assigned bus. The Route 4 contract was renewed in October 1993. At that time, Caltrans specified that all regularly assigned buses be equipped with wheelchair lifts.

Bus Route 14 -- Antelope Valley-Glendale

Until April 5, 1992, one round trip connected Lancaster (Bus Depot), Palmdale and Santa Clarita with the *San Diegan* train service to and from Orange and San Diego Counties. Southbound, the train connection was at Glendale, while northbound the connection was at Los Angeles. Ridership did not meet expectations. Caltrans felt that only one daily trip might be too limiting to adequately develop the market. As a consequence, a second round trip was added on a trial basis.

With the October 25, 1992 changes to the *San Diegan* schedule, Route 14 bus schedules were modified. All train connections are now made at Glendale. Southbound buses connect with Trains 774 and 784 (Train 788 on weekends) at Glendale for connections to points Los Angeles and south. These buses also connect at Glendale with Amtrak service to Oxnard and Santa Barbara. The morning connection is with Train 773 (Train 767 on weekends), while the afternoon connections are with Route 4 buses.

In the other direction, the connection from San Diego and intermediate stations is from Trains 773 (767 on weekends) and 783. The connection from Santa Barbara and intermediate stations is from Train 774 (morning schedule) and Route 4 bus (evening schedule).

On October 25, 1992, a new stop was added in Santa Clarita at the Metrolink Station. This stop is several miles from the Santa Clarita (Hampton Inn) stop, also served by Route 1, and thus serves a different market area. On May 6, 1993, a second stop was added in Lancaster at the City's Park and Ride Lot near Highway 14.

In the Spring of 1993 this service was changed from "mixed-mode" to "open door" service for passengers traveling to or from Glendale. Wheelchair lift-equipped buses were also added.

Bus Route 17 -- Central Coast

With the introduction of the second *San Diegan* train serving the Los Angeles-Santa Barbara route, on October 28, 1990, new connecting bus service between Santa Barbara and San Luis Obispo was initiated. The route offered twice daily service connecting with both train round trips at Santa Barbara. Intermediate stops include Lompoc (stop for Vandenburg Air Force Base), Santa Maria and Pismo Beach. The route was an immediate success--one of the most successful new bus routes in the California system.

Prior to October 25, 1992, the northbound afternoon trip connecting from Train 771 was through routed with Route 18, offering a through bus trip between Santa Barbara and Hanford.

On October 25, 1992 the morning northbound *San Diegan* service to Santa Barbara was shifted to Train 773, operating over an hour later. At the same time, Route 18 was rescheduled to have a morning departure from San Luis Obispo. This meant that the connection to Atascadero and Paso Robles would be broken.

As a result, Caltrans decided to extend the afternoon Santa Barbara-San Luis Obispo bus north to Atascadero and Paso Robles. The southbound trip connecting to Train 784 (788 on weekends) was also extended to originate in Paso Robles instead of San Luis Obispo--making Paso Robles and Atascadero connections to the *San Diegan* available in both directions. Early ridership reports have shown a significant increase in the number of passengers using the Paso Robles and Atascadero stops.

Route 17 was rebid in the Fall of 1993. The new contract specifies that regularly assigned buses be equipped with wheelchair lifts. The contractor will be acquiring new 45 foot long buses for this route to increase capacity. The previous standard has been 40 foot long buses for all routes in the Amtrak system.

Bus Route 11 -- Imperial Valley

This route connected the Imperial Valley with *San Diegan* service at San Diego. There were two daily round trips, making stops at Calexico (just across the border from Mexicali, Baja California, Mexico), El Centro and El Cajon. Western Greyhound Lines operated the service on a mixed-mode basis. Under this arrangement, Greyhound was paid a fixed price per mile for providing the bus service, and was then permitted to sell any seats not occupied by Amtrak passengers to riders holding Greyhound tickets.

Ridership on the route was extremely disappointing. Several factors contributed to the poor ridership. Amtrak tickets were not available at the Greyhound depot in Calexico until October 1990--one year after start of operation--and they were never available at the El Centro depot. There were some operational problems with the service as a result of the Greyhound strike, which began in March, 1990. Since there has been no rail passenger service in the area since the mid-1950s, use of the train was an option that was usually not considered by area residents. Greyhound offered several trips daily between the Imperial Valley and the Los Angeles area which, although no faster than the Amtrak service, did not require a transfer. Finally, lack of an Amtrak "presence" in the Valley meant that most travel agencies are not in the habit of offering their customers Amtrak as a travel option. As a result, the Imperial Valley route was discontinued on October 27, 1991.

SAN JOAQUIN ROUTE

The extensive network of buses connecting with the *San Joaquins* represents a major improvement brought by State involvement in the route. Figure **9B** is a schematic map of the *San Joaquin* connecting bus service in Southern California. Figure **9C** shows both *San Joaquin* and *Capitol* and connecting bus service in Central and Northern California. The bus feeders have been primarily responsible for the dramatic increase in *San Joaquin* ridership and revenues, which began in 1981 and continues today. Without the connecting bus service, the *San Joaquins* would not have met the 55 percent revenue/cost

Figure **9B**

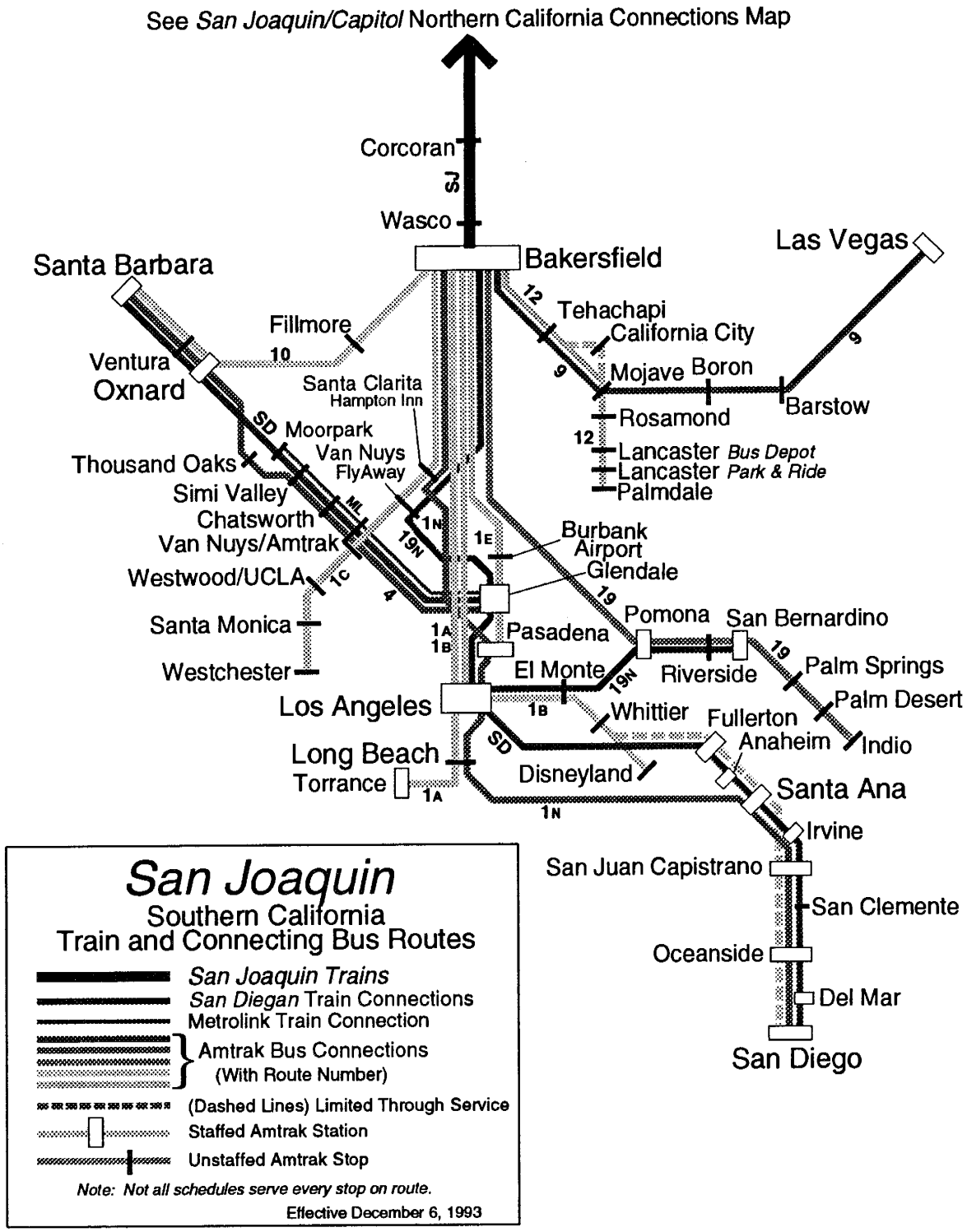
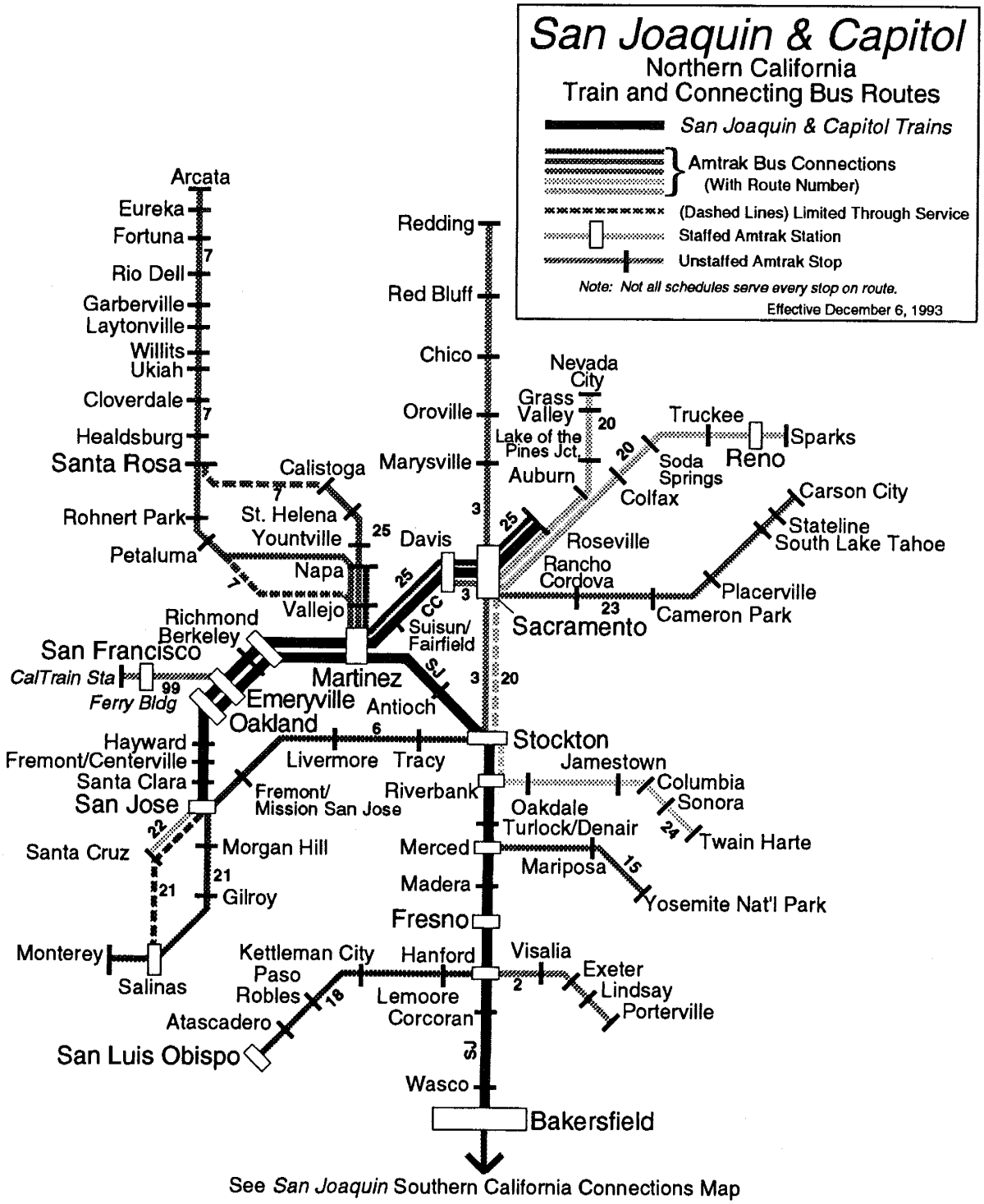

See San Joaquin/Capitol Northern California Connections Map
Corcoran
Wasco
Bakersfield
Las Vegas
Santa Barbara
Fillmore
Ventura
Oxnard
Santa Clarita
Hampton Inn
Tehachapi
California City
Mojave
Boron
Barstow
Rosamond
Lancaster Bus Depot
Lancaster Park & Ride
Palmdale
Moorpark
Thousand Oaks
Van Nuys
FlyAway
Simi Valley
Chatsworth
Van Nuys/Amtrak
Westwood/UCLA
Santa Monica
Westchester
Burbank
Airport
Glendale
Pasadena
Pomona
San Bernardino
Riverside
Palm Springs
Palm Desert
Indio
El Monte
Los Angeles
Whittier
Fullerton
Anaheim
Long Beach
Torrance
Disneyland
Santa Ana
Irvine
San Juan Capistrano
San Clemente
Oceanside
Del Mar
San Diego
San Joaquin
Southern California
Train and Connecting Bus Routes
San Joaquin Trains
San Diegan Train Connections
Metrolink Train Connection
Amtrak Bus Connections
(With Route Number)
(Dashed Lines) Limited Through Service
Staffed Amtrak Station
Unstaffed Amtrak Stop
Note: Not all schedules serve every stop on route.
Effective December 6, 1993

Figure 9C


San Joaquin & Capitol
Northern California
Train and Connecting Bus Routes
San Joaquin & Capitol Trains
Amtrak Bus Connections
(With Route Number)
(Dashed Lines) Limited Through Service
Staffed Amtrak Station
Unstaffed Amtrak Stop
Note: Not all schedules serve every stop on route.
Effective December 6, 1993
Arcata
Eureka
Fortuna
Rio Dell
Garberville
Laytonville
Willits
Ukiah
Cloverdale
Healdsburg
Santa Rosa
Rohnert Park
Petaluma
Calistoga
St. Helena
Yountville
Napa
Vallejo
Richmond
Berkeley
San Francisco
CalTrain Sta
Ferry Bldg
Emeryville
Oakland
Martinez
Suisun/
Fairfield
Antioch
Hayward
Fremont/Centerville
Santa Clara
San Jose
Fremont/
Mission San Jose
Livermore
Tracy
Stockton
Santa Cruz
Morgan Hill
Gilroy
Monterey
Salinas
Redding
Red Bluff
Chico
Oroville
Marysville
Davis
Nevada
City
Grass
Valley
Lake of the
Pines Jct.
Auburn
Colfax
Truckee
Sparks
Reno
Soda
Springs
Carson City
Stateline
South Lake Tahoe
Roseville
Rancho
Cordova
Sacramento
Placerville
Cameron Park
Jamestown
Columbia
Sonora
Twain Harte
Oakdale
Turlock/Denair
Merced
Mariposa
Yosemite Nat'l Park
Madera
Fresno
Kettleman City
Hanford
Visalia
Exeter
Lindsay
Porterville
Paso
Robles
Lemoore
Corcoran
Atascadero
San Luis Obispo
Wasco
Bakersfield
See San Joaquin Southern California Connections Map

ratio requirement for continued State support. More than half of all *San Joaquin* riders use one or more of the buses for a portion of their trip.

Ridership analysis shows that bus feeder riders make longer than average trips and therefore produce higher revenues per trip.

Bus Route 1 -- Los Angeles Basin

The Bakersfield-Los Angeles Basin bus service consists of five separate routes. Four of these connect with Trains 702, 703, 704, 705, 708 and 709 at Bakersfield, while the other connects with Trains 710 and 711.

The routes connecting with Trains 702, 703, 704, 705, 708 and 709 are as follows:

A) Bakersfield-Los Angeles-Long Beach-Torrance.

B) Bakersfield-Los Angeles-El Monte-Whittier-Disneyland.

C) Bakersfield-Santa Clarita-Van Nuys-Westwood/UCLA-Santa Monica-Westchester.

E) Bakersfield-Burbank Airport-Glendale-Pasadena (except Train 703)-Los Angeles.

The route connecting with Trains 710 and 711 operates as follows:

N) Bakersfield-Santa Clarita-Pasadena-Los Angeles-Long Beach-Santa Ana-San Juan Capistrano-Oceanside-San Diego.

On April 7, 1991 a Route 1C stop at Hollywood was discontinued due to low ridership. This change permitted the bus to make a more direct journey between Van Nuys and Westwood/UCLA.

Prior to October 27 1991, bus service, described below as Route 19--Inland Empire-Coachella Valley, was operated as part of Route 1. It was separated to keep Route 1 from becoming too large and unmanageable, and to increase the bidding competition among potential contractors.

With the introduction of the fourth *San Joaquin* round trip on October 25, 1992, several changes were made to Route 1. A complete set of daytime feeders (Routes 1A, 1B, 1C and 1E) was established for the new trains. Since the rescheduled Train 704 would no longer be able to connect with Train 4 *(The Southwest Chief)* at Pasadena, the Pasadena stop was moved from Route 19 to Route 1E. Train 704's new schedule resulted in a connecting bus arrival in Los Angeles after the departure of the last *San Diegan.* As a result, the Route 1B bus was extended beyond Whittier to Fullerton, Santa Ana, San Juan Capistrano, Oceanside and San Diego. Disneyland was dropped as a stop for Train 704 only--Trains 702 and 708 continue to have direct bus connections from Bakersfield to the Disneyland bus stop.

On October 25, 1992, Train 703's *San Diegan* connection, Train 571 (formerly Train 771), became a weekday only train. Consequently, Train 703's Route 1B bus was rescheduled to originate in Santa Ana on weekends and holidays. It

stops in Fullerton and then resumes its weekday schedule at Whittier. Train 703 does not have a Disneyland connection; however, Disneyland service is available for Trains 709 and 705.

The October 25, 1992 schedule change brought a limited amount of open door service to Route 1. Train 704's Route 1B bus (which operates to San Diego, as described above) and Train 710's Route 1N bus (which also operates to San Diego) were made available for local passengers from Los Angeles Union Station to San Diego and intermediate points. This makes two late evening bus departures available after the last *San Diegan* has departed. Northbound, Train 711's Route 1N bus from San Diego was made available to local passengers between San Diego and Los Angeles. This offers passengers a late evening departure from San Diego, more than one hour after the last train departure.

On May 2, 1993, Route 1C was extended from Santa Monica to Westchester in the western part of the Los Angeles Basin. In addition to Westchester, this stop is convenient to the surrounding communities of Playa Del Rey, Marina Del Rey, Culver City, Inglewood and El Segundo as well as Loyola-Marymount College.

Effective January 15, 1994 the basic system *Southwest Chief* will be rerouted between San Bernardino and Los Angeles to operate via Fullerton instead of Pomona and Pasadena. With this change, Amtrak plans to close the Pasadena depot. This change will result in a new stop location for Route 1 buses at Pasadena.

On February 1, 1992 wheelchair lift-equipped buses were made available for Route 1 passengers on a stand-by basis. When a passenger notifies Amtrak at least 24 hours in advance that a wheelchair lift will be needed, one of the lift-equipped buses is substituted for the regularly assigned bus. The Route 1 contract was renewed in October 1993. At that time, Caltrans specified that all regularly assigned buses be equipped with wheelchair lifts.

Some Route 1 buses also provide connections for *San Diegan* trains at Los Angeles and Glendale. These connections are described in the *San Diegan* section above.

Bus Route 9 -- Barstow/Las Vegas

The Bakersfield-Barstow route was the first "mixed-mode" route in the California feeder bus network. It was scheduled specifically to link the *San Joaquin* at Bakersfield with the *Desert Wind* at Barstow, but the operator, Orange Belt Stages, included the schedule as part of its regular intercity bus service between Bakersfield and Barstow. This permitted local (non-Amtrak) passengers to use the bus as well. The mixed-mode arrangement significantly reduced the overall cost of providing the service for both Caltrans and Orange Belt Stages, with the further benefit of adding

a third regularly scheduled bus round trip between Bakersfield and Barstow.

In October, 1990 the route was extended from Barstow to Las Vegas as the result of a schedule change to the *Desert Wind* which broke the connection at Barstow. The Bakersfield-Barstow portion continues to operate under the mixed-mode arrangement, while the Barstow-Las Vegas portion is dedicated service for Amtrak passengers only.

Currently, Route 9 operates one daily round trip, connecting with Trains 708 and 709. Intermediate stops are made at Tehachapi and Mojave. A new stop was added at Boron on May 2, 1993.

In October, 1993 Amtrak negotiated a new contract for Route 9. The new contract specifies that regularly assigned buses will be equipped with wheelchair lifts. Orange Belt Stages has decided to purchase new 45-foot buses to replace the currently assigned 40-foot buses. This will increase capacity, and reduce the need for extra buses during peak ridership periods.

Bus Route 12 -- Antelope Valley

Route 12 operates between Bakersfield and the cities of Lancaster and Palmdale in the Antelope Valley. The route overlaps with Route 9 and shares stops at Tehachapi and Mojave. The route is operated by Orange Belt Stages as a mixed-mode service.

With the addition of the fourth *San Joaquin* on October 25, 1992, the two daily round trips were rearranged to avoid any duplication with Route 9. Northbound buses connect at Bakersfield with Trains 703 and 705, while southbound buses connect with Train 702 and 704. At the same time a new stop was added at California City for one round trip (Trains 703 and 702).

Northbound buses connect at Bakersfield with Trains 703 and 705, while southbound buses connect with Train 702 and 704. On October 25, 1992 a new stop was added at California City for one round trip (Trains 703 and 702).

This route, along with *San Diegan* feeder Route 14, has been the subject of an evaluation by Caltrans consultant (Parsons Brinckerhoff Quade & Douglas, Inc.). Several recommendations were made in an attempt to improve ridership on the two routes serving the Antelope Valley. Among the recommendations were suggestions for additional stops. Two were instituted on May 2, 1993 the new Lancaster Park-n-Ride lot and Rosamond. The second Lancaster stop supplements the current stop at the Greyhound bus depot and caters to passengers who wish to leave their car at the bus stop. The Rosamond stop serves local residents and nearby Edwards Air Force Base.

Wheelchair lift-equipped buses will be assigned to this route in early 1994.

Bus Route 10 -- Santa Barbara

A daytime feeder bus links Ventura and Santa Barbara Counties with the *San Joaquins* at Bakersfield. Stops include Oxnard, Ventura and Santa Barbara. In addition to providing connections between these points and the San Joaquin Valley, the route serves as an alternate route between the Bay Area or Sacramento and Santa Barbara or Oxnard when *The Coast Starlight* is delayed or sold out.

With the inauguration of the fourth daily *San Joaquin* in October, 1992, the schedules were rearranged. Northbound buses connect with Trains 703 and 705, while southbound buses connect with Trains 702 and 704. At that time, the route was made an "open door" service.

On December 6, 1993, an intermediate stop at Fillmore was added. This stop had been discontinued in 1990 as a result of capacity constraints in Amtrak's computer system. Since then, the system has been expanded permitting reinstatement of the Fillmore stop.

Current plans call for Route 10 buses to be equipped with wheelchair lifts, beginning in late 1993 or early 1994.

Bus Route 19 -- Inland Empire-Coachella Valley

On October 27, 1991, Route 19 was created out of what had formerly been Route 1D. This route connects the *San Joaquins* at Bakersfield with Pomona, Riverside and San Bernardino. One daily round trip extends beyond San Bernardino to Palm Springs, Palm Desert and Indio. The morning connection to Train 703 also stops at Pasadena to provide a direct non-stop connection between the *Southwest Chief* and Bakersfield. Until October 24, 1992, Train 704's bus called at Pasadena to connect with the eastbound *Southwest Chief*. The rescheduling of Train 704 broke the connection. Consequently, *Chief* passengers now use Train 708, with a bus connection at Los Angeles. The Pasadena stop was transferred from Train 704's Route 19 bus to the Route 1E bus.

The bus which connects with Trains 710 and 711 operates on a substantially different route, serving Van Nuys-FlyAway, Glendale, Los Angeles Union Station, El Monte, Pomona, Riverside and San Bernardino. This bus supplements the Route 1N bus (operating between Bakersfield, Los Angeles and San Diego) providing extra capacity between Bakersfield and Los Angeles.

On October 25, 1992 an additional round trip was added for new Trains 702 and 705. Effective December 6, 1993 the Riverside stop was moved to the new Metrolink station. This site offers ample parking and 24 hour security. As discussed in the Route 1 section above, Amtrak will be closing the depots in Pasadena and Pomona due to the rerouting of *The Southwest Chief* in January 1994. This change will result in new bus stop locations in both cities.

Caltrans expects this route to be served by wheelchair lift-equipped buses beginning in the Winter of 1993/94.

Bus Route 2 -- Tulare County

The Tulare County bus route offers a connection between the *San Joaquins* at Hanford and Visalia. This connection is available for passengers traveling to or from both points north and south of Hanford. In addition, a connection is available for passengers on Trains 702 (708 until October 24, 1992) and 709 traveling between points north of Hanford and Porterville.

This service is operated using the "mixed-mode" concept. The feeder service is part of the regular route structure of an intercity bus carrier (in this case Orange Belt Stages). The buses carry both Amtrak passengers (using Amtrak tickets) and Orange Belt's own passenger (using bus tickets). The operator is paid an amount per passenger based upon the number and destination of Amtrak tickets honored by the bus company and is guaranteed a minimum monthly payment. This guarantee is less than the monthly cost of providing a bus exclusively for Amtrak passengers on the route.

In addition to providing the feeder service for Amtrak passengers, the financial arrangement permits the operator to provide more local bus service than would otherwise be offered.

With the introduction of the fourth *San Joaquin* round trip on October 25, 1992, a fourth Hanford-Visalia round trip was added. On May 2, 1993, intermediate stops at Exeter and Lindsay were reinstated on the one round trip serving Porterville.

Route 2 buses will be equipped with wheelchair lifts beginning in early 1994.

Bus Route 18 -- Central Coast-Valley

The *San Joaquin* connection provides one round trip daily serving Lemoore (stop for Lemoore Naval Air Station), Kettleman City (stop for Avenal State Prison), Paso Robles, Atascadero and San Luis Obispo. As part of an existing Orange Belt Stages intercity service, the Hanford-Paso Robles segment is operated on a mixed-mode basis, while service south of Paso Robles is dedicated for Amtrak passengers only.

As originally designed, the bus route connected at Hanford with trains serving the northern part of the *San Joaquin* route. On October 25, 1992, the schedule was rearranged to offer a morning departure from San Luis Obispo, with an evening return.

This schedule change accomplished several things. First, in addition to the north valley connections (via Trains 703 and 704), the change permitted connections to and from Bakersfield via Trains 708 and 705--thus greatly increasing the potential market. Also, the previous schedule operated at about the same times that the *Coast Starlight* was scheduled through San Luis Obispo. In effect, the bus was competing with the *Coast Starlight* for markets such as San Luis Obispo-Sacramento and San Luis Obispo-Oakland. The new schedule compliments the *Coast Starlight*, giving passengers two choices of departure times. Finally, the new schedule requires only one bus.

Previously, the route was an afternoon trip in each direction with the buses meeting between Paso Robles and Kettleman City. The new schedule and additional connections have resulted in a significant increase in ridership.

Route 18 buses will be equipped with wheelchair lifts in early 1994. Caltrans is investigating an extension of the route from San Luis Obispo to Pismo Beach and Santa Maria.

Bus Route 15 -- Merced-Yosemite

On April 1, 1990 two connecting routes to Yosemite National Park became part of the Amtrak Thruway bus network. Both were operated by Yosemite Gray Line on a mixed-mode basis. The first route, for which there was no financial support by Caltrans or Amtrak, operated one round trip between Yosemite and Merced, connecting with *San Joaquin* Trains 709 and 708 to and from the San Francisco Bay Area.

The second route (Route 16) operated one round trip daily between Yosemite and Fresno, connecting with *San Joaquin* Trains 703 and 708. This route provided transportation between Yosemite and Southern California. Caltrans reimbursed the operator for a portion of the operating deficit in a manner generally similar to other mixed-mode operations. Unfortunately, ridership on this route never lived up to expectations. The route's usefulness was limited by being restricted to connections to and from Southern California. Also, hoped-for local traffic to such intermediate stops as Oakhurst and Coarsegold never developed.

On October 25, 1992, the Fresno-Yosemite round trip was transferred to Route 15 (Merced-Yosemite), offering double daily service. By doing this, connections were maintained between Yosemite and Southern California via Trains 708 and 709. Meanwhile the Bay Area connections were effectively doubled. The Caltrans-sponsored round trip also connects with Trains 703 and 704 to and from Oakland/San Francisco.

In the Spring of 1993, Route 15 was put out to bid with a schedule offering two daily round trips. This would give Caltrans and Amtrak greater control over the service. The successful bidder, Via Charter Lines, was already operating service between Merced and Yosemite. The State sponsored service was incorporated into Via's own timetable, resulting in four daily round trips total.

Meanwhile, Yosemite Gray Line continued to operate its one non-subsidized round trip. Since both carriers have interline ticket agreements with Amtrak, Amtrak passengers now have a choice of five different schedules daily between Merced and Yosemite, only two of which are State supported.

Via Charter Lines has assigned wheelchair lift-equipped buses to the two State-supported round trips.

Bus Route 24 -- Central Sierra

On May 2, 1993, Caltrans introduced a new *San Joaquin* connection at Riverbank. This route, which has one round trip, serves Oakdale, Jamestown (site of Railtown USA State Park), Columbia State Historical Park, Sonora and Twain Harte.

Operationally, this route is through-routed with Route 6 and is a continuation of the new San Jose-Stockton bus serving Trains 708 and 705. Like Route 6, buses serving Route 24 are wheelchair lift-equipped.

Bus Route 6-21 -- Monterey Bay-South Bay

Route 6 connects San Jose, Fremont, Livermore and Tracy with the *San Joaquins* at Stockton. There are now four round trips daily. Five of the eight trips are through-routed with Route 21 from Monterey and Salinas to San Jose. Three of these operate via Gilroy and Morgan Hill (Trains 704, 710 and 711), while the other two operate via Santa Cruz (Train 702 and 709). The connections with Trains 703, 705 and 708 operate between Stockton and Santa Cruz (as part of Route 22, south of San Jose) only. Route 21 is primarily a *Capitol* connection and began operating on December 12, 1991. It is discussed in greater detail in the *Capitol* section below.

The through routing with Route 21 permits connections between Route 21 stops and the San Joaquin Valley without the need for a transfer at San Jose. The Route 6 buses for Trains 704, 710 and 711 also connect with Route 22 (Santa Cruz-San Jose) at San Jose. In addition to serving trips between the stops listed above and the San Joaquin Valley, Route 6 provides an alternative routing for San Jose-Los Angeles trips when *The Coast Starlight* is delayed or sold out.

Beginning in the summer of 1992, all buses regularly assigned to Route 6-21 were equipped with wheelchair lifts.

Effective October 25, 1992, portions of Routes 6 and 21 were designated as open door service. For Route 6, local passengers are carried between Stockton and San Jose. Local passengers are carried on Route 21 between San Jose and any regular stop.

Bus Route 3 -- Sacramento Valley

The Sacramento Valley connecting bus route connects with the *San Joaquin* trains at Stockton. From Stockton, all buses serve Sacramento. All *San Joaquins* also have service to or from Davis, although some schedules require a bus transfer at Sacramento.

Northbound Trains 711, 703 and 709, and southbound Trains 708, 704 and 710 have connections serving Marysville, Oroville, Chico, Red Bluff and Redding. Until December 6, 1993, a connection from Redding and intermediate points was available for Train 704 only by using a bus which connected with *Capitol* Train 723 at Sacramento. This connection required a two hour layover in Sacramento. The rescheduling of Train 708 permitted consolidation of its

connection with Train 723's connection, permitting the third bus to operate on a schedule connecting directly with Train 704 at Stockton.

In addition to providing an interconnection between Sacramento Valley points and the San Joaquin Valley at Stockton, reverse connections are made at Stockton, providing supplemental service to the *Capitol* trains between Sacramento and the San Francisco Bay Area. Presently this reverse connection consists of two trips. The first (via Route 3) connects from Train 708, providing a mid-morning departure from the Bay Area. The second reverse connection (via Route 20) operates from Sacramento to Stockton for Train 705, offering a later evening departure from Sacramento.

Beginning in the spring of 1992, all buses regularly assigned to Route 3 were equipped with wheelchair lifts. Route 3 buses also provides *Capitol* train connections. These services are described below in the *Capitol* section.

On May 2, 1993, Route 3 was opened to local passengers riding to or from Sacramento or Stockton.

Bus Route 20 -- High Sierra-Sierra Foothill

Route 20, which operates east from Sacramento, is basically a *Capitol* Route feeder. It began operating on December 12, 1991 when the *Capitols* were inaugurated. There are two branches, one serving Reno and Sparks, Nevada (High Sierra), the other serving Grass Valley and Nevada City (Sierra Foothill).

Some buses operate through to or from a *San Joaquin* connection at Stockton, while others require a bus-to-bus transfer at Sacramento. The High Sierra connections for Trains 703, 704, 710 and 711 serve Colfax, Soda Springs, Truckee, Reno and Sparks. The Sierra Foothill connections for these trains (plus Trains 702 and 709) stop at Roseville (except for Train 702), Auburn, Grass Valley and Nevada City. A new stop was added at Lake of the Pines Jct., between Auburn and Grass Valley, effective December 6, 1993. Trains 702 and 711's buses operate through to and from Stockton.

Beginning in the spring of 1992, all buses regularly assigned to Route 20 were equipped with wheelchair lifts. Starting May 2, 1993, this route was opened to local passengers riding to or from Sacramento or Stockton.

Bus Route 23 -- Lake Tahoe

Another new route began operating on May 2, 1993 connecting Sacramento with Lake Tahoe. Stops include Rancho Cordova, Cameron Park, Placerville, City of South Lake Tahoe, California and Stateline, Nevada. Three round trips operate between Sacramento and Placerville, with two continuing on to Lake Tahoe and one trip extending to Carson City, Nevada.

This route is designed to be primarily a *Capitol* connection; however, *San Joaquin* passengers are able to transfer in Sacramento. There are Lake Tahoe connections for Trains 703, 704, 710 and 711, with the Placerville short turn

connecting with Trains 702 and 709. All regularly assigned buses are equipped with wheelchair lifts.

Bus Route 7 -- North Bay-Redwood Empire

The North Bay route originally connected the *San Joaquins* at Martinez with Vallejo/Marine World-Africa USA, Napa, Petaluma, Rohnert Park and Santa Rosa. Three round trips operated daily between Martinez and Santa Rosa, connecting with each of the *San Joaquins*. .

On April 7, 1991 the bus which connects with Trains 703 and 704 was extended north of Santa Rosa to serve Healdsburg, Cloverdale, Ukiah and Willits. Ridership on this extension, especially from Ukiah and Willits, was encouraging from the outset.

On April 5, 1992 a second bus was extended north to Willits. This trip connects with Trains 710 and 711 at Martinez. At that time three new round trips were introduced between Martinez and Calistoga, stopping at Vallejo, Napa and Saint Helena. These trips are designed primarily to connect with the *Capitols* and are discussed in more detail in the *Capitol* section below. On October 25, 1992 a new stop was added to the Calistoga branch at Yountville--site of the California Veterans Home.

On May 2, 1993 the bus connecting with Trains 703 and 704 was extended further north from Willits to serve Humboldt County. Stops are Laytonville, Garberville, Rio Dell/Scotia, Fortuna, Eureka and Arcata (site of Humboldt State University). Caltrans also added connections for the one *San Joaquin* which did not have a Santa Rosa bus--Trains 702 and 705.

In the Winter of 1991/92, all regularly assigned buses for Route 7 were equipped with wheelchair lifts.

Bus Route 25 -- Capitol Supplemental

See the discussion below in *The Capitol* section for a description of Route 25. This route makes use of a *San Joaquin* connection at Martinez to provide an additional frequency on The Capitol Route, as well as providing additional service between Martinez and Napa to supplement Route 7 buses.

CAPITOL ROUTE

With the inauguration of the *Capitol* route, several *San Joaquin* connecting bus routes were expanded or modified to provide connections for *Capitol* passengers. Routes 20 and 21 were added to the system at that time, providing connections to both train routes. Route 22 between Santa Cruz and San Jose is primarily a *Capitol* feeder. Figure 9C (page 186) shows all bus routes which provide connecting service to *Capitol* trains.

Bus Route 3 -- Sacramento Valley

The Sacramento Valley connecting bus route connects with *San Joaquin* trains at Stockton (see *San Joaquin* section for more information). The Redding branch of Route 3 connects with *Capitol* train service at Sacramento.

Southbound, only Trains 723 and 725 have connections from Redding. Northbound, connections are available for all three trains (722, 724 and 726). Buses stop in Marysville, Oroville, Chico and Red Bluff. All of these buses also connect with *San Joaquin* trains at Stockton.

Beginning in the spring of 1992, all buses regularly assigned to Route 3 were equipped with wheelchair lifts. On May 2, 1993 Route 3 was opened to local passengers riding to or from Sacramento.

Bus Route 20 -- High Sierra-Sierra Foothill

Route 20, which operates east from Sacramento, is basically a *Capitol* route feeder. It began operating on December 12, 1991 when the *Capitols* were inaugurated. There are two branches--one serving Reno and Sparks, Nevada (High Sierra); with the other serving Grass Valley and Nevada City (Sierra Foothill). Some buses operate through to or from a *San Joaquin* connection at Stockton.

The High Sierra connections for Trains 722, 723, 724 and 725 serve Colfax, Soda Springs, Truckee, Reno and Sparks. The Soda Springs stop near the summit of Donner Pass was added to Route 20 at the October 25, 1992 schedule change. This stop is mainly for skiers in the winter and hikers and campers year round.

The Sierra Foothill connections for these trains stop at Roseville, Auburn, Grass Valley and Nevada City. There is only a single (Sierra Foothill) bus connecting with Trains 721 and 726 (omitting the Roseville stop). A stop at Lake of the Pines Jct. (between Auburn and Grass Valley) was added to the Foothill branch on December 6, 1993 to serve this rapidly growing community just off Highway 49.

A fourth Foothill round trip is mainly an equipment move. The bus operates from Sacramento to Nevada City in the morning, connecting at Sacramento with the Southbound *Coast* Starlight and offering a morning departure for local passengers. The Westbound counterpart departs Nevada City in the evening, connecting with *The Coast Starlight* at Sacramento. It then continues to Stockton, making the reverse connection with *San Joaquin* Train 705 to the Bay Area.

Beginning in the Spring of 1992, all buses regularly assigned to Route 20 were equipped with wheelchair lifts. On May 2, 1993 this route was opened to local passengers riding to or from Sacramento.

Bus Route 23 -- Lake Tahoe

A new route began operating on May 2, 1993 connecting Sacramento with Lake Tahoe. Stops include Rancho Cordova, Cameron Park, Placerville, City of South Lake Tahoe, California and Stateline, Nevada. Three round trips operate between Sacramento and Placerville, with two continuing on to Lake Tahoe and one trip extending to Carson City, Nevada.

This route is designed to be primarily a *Capitol* connection; however, *San Joaquin* passengers are able to transfer in Sacramento. There are Lake Tahoe connections for Trains 722, 723, 724 and 725, with the Placerville short turn connecting with Trains 721 and 726. All regularly assigned buses are equipped with wheelchair lifts.

Bus Route 7 -- North Bay-Redwood Empire

Until April 5, 1992 Route 7 was primarily a *San Joaquin* feeder. *Capitol* passengers could connect with Route 7 buses at Martinez, however, long layovers between bus and train were usually necessary. Route 7 *San Joaquin* buses connect Martinez with Vallejo (Marine World-Africa USA), Napa, Petaluma, Rohnert Park, Santa Rosa, Healdsburg, Cloverdale, Ukiah and Willits. See the *San Joaquin* section above for more detail.

On April 5, 1992 three new round trips were introduced between Martinez and Calistoga, stopping at Vallejo, Napa and Saint Helena. One trip was extended beyond Calistoga to Santa Rosa. These trips are designed primarily to connect with the *Capitols* and connect at Martinez with trains traveling in both directions. Thus, a passenger from Napa, for instance, may connect at Martinez with a westbound train to Oakland and San Jose, or with an eastbound train to Sacramento. Subsequently, all trips except the connection to Trains 721 and 722 were extended to operate to or from Santa Rosa.

Another schedule connects from Train 723 to Vallejo, Napa, Petaluma, Rohnert Park and Santa Rosa. This trip eliminates the need for Train 723's passengers to wait at Martinez for Train 724 to arrive (one hour) for service to Vallejo, Napa and Santa Rosa. The return trip in the evening from Santa Rosa provides a connection to the Northbound *Coast Starlight* and Westbound *San Joaquin* Train 705 to Oakland.

On October 25, 1992 a new stop was added to the Calistoga branch at Yountville, site of the California Veterans Home. In the Winter of 1991/92, all regularly assigned buses for Route 7 were equipped with wheelchair lifts.

Route 21 is primarily a *Capitol* connection and began operating on December 12, 1991. It connects San Jose with the Monterey County cities of Salinas and Monterey. There are three round trips daily. Connections for Trains 722 and 725 operate via Santa Cruz, while the connections for Trains 721, 723, 724 and 726 operate via Gilroy and Morgan Hill. The Morgan Hill stop at the CalTrain station was added on October 25, 1992. Five of the six trips are through-routed

with Route 6 between San Jose and Stockton. Route 6 is discussed in detail in the *San Joaquin* section above.

Bus Route 21 -- Monterey Bay

Beginning in the summer of 1992, all buses regularly assigned to Route 6-21 were equipped with wheelchair lifts.

Effective October 25, 1992 portions of Route 21 were designated as open-door service. This was done largely to make the bus service available to passengers using CalTrain commuter rail service north of San Jose. Local passengers are carried between San Jose and any regular stop.

Bus Route 22 -- Santa Cruz

Bus service on what is now Route 22 actually predates *Capitol* train service by several years. In November, 1988 the Santa Cruz CalTrain Connector began operating between San Jose (CalTrain Station) and Santa Cruz (Metro Center). The service, which featured nine daily round trips, was designed as a connection for CalTrain commuter rail service operating between San Jose and San Francisco.

A special appropriation by the Legislature was used to purchase a 21-passenger vehicle and guarantee a specified level of operating revenue for startup. Santa Cruz Transportation Company (SCTC), operator of airport van and taxi service in Santa Cruz, was the only interested operator with Public Utility Commission operating authority. Santa Cruz Metropolitan Transit District (SCMTD) acted as an intermediary between the State and SCTC. By the time State funds had been exhausted, the route's ridership had reached the break-even point (65 passengers per day) and no further subsidy was needed.

When planning began for *Capitol* train service, Caltrans felt Santa Cruz feeder bus service was essential. A proposal was made to SCTC to provide funding for expanded service on the Connector route. By this time, the Connector was averaging 100 passengers per day. Unfortunately, legal and technical problems prevented the proposal from being carried out. Then SCTC announced that they would no longer operate the Santa Cruz CalTrain Connector, beginning less than a month before the *Capitols* were to begin.

Last minute negotiations with SCMTD enabled another contractor to operate substitute service until a more permanent arrangement could be worked out. The original intention was to combine the CalTrain Connector service with existing Santa Cruz-San Jose transit service funded by SCMTD and Santa Clara County. A satisfactory funding arrangement could not be agreed to, so Caltrans assumed responsibility for the Connector service on April 5, 1992.

Peninsula Charter Lines, operator of Routes 6 and 21, agreed to operate six round trips between San Jose and Santa Cruz as part of their existing Amtrak bus contract. Buses were mainly scheduled to connect with *Capitol* trains and *San Joaquin* buses at San Jose. Local riders, however, were allowed to ride, in

order to help pay the cost of operating the route. Drivers collected cash fares on the bus. This became the first open-door bus route in the Amtrak system.

The original schedule was not very efficient and the per mile cost of operation was very high. In order to reduce this cost and increase revenues, Caltrans and Peninsula Charter staff immediately began planning changes.

On June 1, 1992, several changes were made. The morning northbound Route 21 bus from Monterey was rerouted to operate via Santa Cruz instead of Gilroy. This not only replaced the first northbound Route 22 trip, but eliminated a non-revenue move from Peninsula Charter's yard to Santa Cruz. Likewise, the late evening southbound Route 21 bus was similarly rerouted, saving the last Route 22 trip and another non-revenue move. These two saved round trips were rescheduled during the day and another was added, bringing the total number of Route 22 round trips to eight. With the one Route 21 trip, San Jose-Santa Cruz service was now back to nine round trips.

With reliable service and the comfort and extra capacity of full-sized buses, ridership increased very quickly. By late 1992, ridership was well above the highest levels achieved by SCTC. Undoubtedly, the new *Capitol* connections contributed to the increase. On Wednesday, November 25, 1992 (the day before Thanksgiving), a new record of 230 passengers was set.

On May 2, 1993, Caltrans added a new Route 6 (San Jose-Stockton) round trip to connect with *San Joaquin* Trains 708 and 705 at Stockton. These trips were through-routed with Route 22, operating Santa Cruz-Stockton. In addition, another San Jose-Santa Cruz round trip was added, serving as a positioning move for the above round trip. This increased Route 22 service to eleven daily round trips and schedule modifications permitted a twelfth round trip, as well.

Regularly assigned Route 22 buses were equipped with wheelchair lifts by the Spring of 1993.

OTHER BUS SERVICE

Bus Route 99 -- Emeryville -- San Francisco

A bus connection between Oakland and San Francisco has been a part of rail passenger service in California since long before Amtrak was formed in 1971. Buses replaced ferry connections for all three railroads serving Oakland in the 1950's.

When Amtrak service began, San Francisco bus connections were provided for the basic system trains serving Oakland--The *Coast Starlight* and The *San Francisco Zephyr* (later the *California Zephyr*). These buses served Trans Bay Terminal, then the location of Amtrak's San Francisco ticket office. The first *San Joaquin* was also connected to San Francisco by bus. All expansions of

State-supported train service at Oakland have included Oakland-San Francisco bus connections.

On October 25, 1981, San Francisco bus service was extended to the CalTrain station at Fourth and Townsend Streets. This extension provided an interconnection between Amtrak service and CalTrain service. On June 18, 1993, Amtrak closed its Trans Bay Terminal ticket office and temporarily relocated it to the CalTrain Station. The San Francisco bus terminal was then relocated to the Ferry Building on July 6, 1993. The transfer point for State supported trains was moved from Oakland to the new Emeryville station on October 11, 1993.

Caltrans is now exploring various options for bus extensions in San Francisco. Proposals include service to the Financial District, Civic Center and San Francisco Airport.

SYSTEM EVALUATION

Figure 9D shows the performance of those currently operated bus routes that have been in service for 1991/92 and/or most of 1992/93. The column headed "Net Generated Revenue" requires an explanation: few feeder bus passengers would use the train if the feeder bus did not exist; therefore, "Generated Revenue" represents the total bus/train revenue generated by such passengers. Then the cost of the bus service is deducted from "Generated Revenue" to determine "Net Generated Revenue", which shows the economic impact of the bus service on the rail network in California.

Caltrans is continually evaluating new Amtrak connecting and feeder bus routes as well as expansions of existing routes to determine what route changes might increase ridership and improve the financial performance of the service. In evaluating a route, many outside factors which influence ridership, such as economic trends and competing modes, are considered. All routes with a positive "Net Generated Revenue" serve to link communities with the train route and to contribute to the economic success of the rail network.

If a route has a negative "Net Generated Revenue", Caltrans evaluates the reasons for this performance. If the service is relatively new, negative results may occur during its initial growth period. If ridership and revenue continue to increase, the service will be continued to allow further growth, even though the service is not yet making a positive economic contribution to the rail network. If ridership and revenue do not increase, the service is reviewed for potential withdrawal to allow more effective use of State funding.

Figure 9D

AMTRAK FEEDER BUS PERFORMANCE

Route Number - Name		Bus Trips	Passengers	Passengers per Trip	Net Generated Revenue	Net Generated Revenue per Passenger	Trips (b) Without Passengers
State Fiscal Year 1991/92							
1	Los Angeles Basin-Bakersfield	8,784	121,387	13.8	$2,847,589	$23.46	- -
2	Hanford-Visalia-Porterville	1,464	6,368	4.4	(14,868)	(2.33)	- -
3	Sacramento Valley-Stockton	5,612	49,787	8.9	838,879	16.85	- -
4	Los Angeles-Santa Barbara	2,928	30,419	10.4	112,251	3.69	- -
6	San Jose-Stockton	2,196	12,560	5.7	166,604	13.26	- -
7	Martinez-Santa Rosa-Willits	2,742	17,755	6.5	32,444	1.83	- -
9	Bakersfield-Barstow-Las Vegas	732	6,647	9.1	(42,535)	(6.40)	- -
10	Bakersfield-Santa Barbara	1,464	9,180	6.3	19,959	2.17	- -
12	Bakersfield-Antelope Valley	1,464	3,607	2.5	(81,372)	(22.56)	- -
14	Antelope Valley-Glendale	914	5,254	5.8	(40,270)	(7.66)	- -
17	Santa Barbara-San Luis Obispo	1,464	18,224	12.5	378,170	20.75	- -
18	San Luis Obispo-Hanford	732	2,657	3.6	(146,746)	(55.23)	- -
19	Bakersfield-San Berdardino-Indio	2,196	18,681	8.5	(52,342)	(2.80)	- -
20	Stockton-Sacramento-Reno/Sparks	2,531	5,553	2.2	(61,119)	(11.01)	- -
21	San Jose-Monterey	1,206	3,548	2.9	(63,888)	(18.01)	- -
	1991/92 TOTAL	**36,429**	**311,627**	**8.6 (a)**	**$3,892,756**	**$12.49 (a)**	- -
State Fiscal Year 1992/93							
1	Los Angeles Basin-Bakersfield	9,113	137,153	15.1	$2,350,503	$17.40	113
2	Hanford-Visalia-Porterville	3,404	5,092	1.5	(63,412)	(12.45)	35(c)
3	Sacramento Valley-Stockton	4,864	54,954	11.3	886,050	16.12	16(c)
4	Los Angeles-Santa Barbara	2,190	30,698	14.0	106,875	3.48	3
6	San Jose-Stockton	2,312	13,004	5.6	139,876	10.76	35(c)
7	Martinez-Santa Rosa-Eureka	2,854	16,792	5.9	(286,451)	(17.06)	469(d)
9	Bakersfield-Barstow-Las Vegas	730	4,752	6.5	(178,092)	(37.48)	0
10	Bakersfield-Santa Barbara	1,460	11,825	8.1	100,246	8.48	9
12	Bakersfield-Antelope Valley	1,460	3,562	2.4	(115,577)	(32.45)	105
14	Antelope Valley-Glendale	1,214	2,373	2.0	(152,758)	(64.37)	170
17	Santa Barbara-San Luis Obispo	1,460	24,732	16.9	553,869	22.39	0
18	San Luis Obispo-Hanford	730	2,459	3.4	(182,443)	(74.19)	6
19	Bakersfield-San Bernardino-Indio	2,674	24,134	9.0	200,473	8.31	19
20	Stockton-Sacramento-Reno/Sparks	4,864	15,953	3.3	(181,260)	(11.36)	93(c)
21	San Jose-Monterey	2,190	5,884	2.7	(60,974)	(10.36)	31
22	San Jose-Santa Cruz	8,030	36,824	4.6	4,084	0.11	340(d)
	1992/93 TOTAL	**49,549**	**390,191**	**7.9 (a)**	**$3,121,009**	**$8.00**	**1,444 (a)**

(a) Average for all routes
(b) Covers period January 1 through June 30, 1993
(c) Partial information due to incomplete data submissions
(d) Primarily represents trips operated to move equipment into place for revenue producing trips

CONNECTING BUS SERVICE ADMINISTRATION

Caltrans and Amtrak share the responsibility for administering the extensive connecting bus network in California. Their activities fall into several categories which are briefly summarized below.

Service Planning

- Analysis and evaluation of ridership data, schedules, problems and operating plans of current service.
- Analysis of input from Amtrak operating personnel, contract operators and the public.
- Analysis of geography and demographics of areas served as well as areas with potential to be served.
- Preparation and refinement of proposed schedule and services changes.
- Discussions with Amtrak and contractors concerning feasibility and cost of proposed service.
- Field survey of proposed route or route modification.

Service Implementation

- Field survey to locate suitable bus stop locations where there is no existing Amtrak station.
- Negotiation and preparation of bus stop contract, if necessary.
- Preparation of final bus schedule and listing of bus stop locations for inclusion in *California Amtrak Timetable , California Bus Connection System Operating Timetable* and Amtrak's computerized reservation and information system (Arrow).
- Preparation of Request for Quotation (RFQ) for new routes and contract language modifications for existing routes to be modified.
- Evaluation of RFQ's, including field inspection of potential contractors' facilities and award of contract to lowest responsive bidder.
- Coordination with contractors to ensure that bus drivers will know where and when to operate.
- Preparation of schedule information inserts to be posted at unstaffed bus stops.
- Installation of Amtrak bus stop signs and schedule information panels at new bus stops. Updating of schedule information at

existing stops with changes in service. Posting of discontinuance notices at stops which are being eliminated.

- Coordination of ribbon-cutting ceremonies. Preparation of press releases and initial advertising for new services.

Service Improvement

- Service monitoring to identify problems and evaluate quality of service being provided.
- Evaluation of new intercity bus equipment which may offer enhanced service to passengers.
- Identification of other measures which can improve service quality such as: bus destination signs, service amenities and improved schedule graphics.
- Identification of measures which can improve service efficiency such as: route and schedule revisions, equipment utilization and coordination of services.
- Investigation and resolution of passenger complaints.

Marketing

- Coordination of Caltrans and Amtrak marketing efforts to ensure that connecting bus services are given proper exposure in overall Amtrak service promotion.
- Preparation and implementation of an overall Passenger Information Plan for the entire State-supported system.
- Presentation of training classes about the State-supported system to Amtrak personnel who provide information to the public.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Executive Summary: Chapter IX - Connecting Bus Services: Last paragraph on page. It should be noted that besides bus performance and net generated revenues that costs of providing the service has also been looked at and is reported later in the report.

We added a reference in the Executive Summary that Chapter XI includes an economic evaluation of the feeder bus network.

Page 131 - Other bus service: Paragraph 2 notes that Amtrak shifted bus service from the Transbay Terminal to the Ferry Building. There is no mention of Amtrak possibly providing bus service from San Francisco to the new depot in Emeryville with the attached ridership benefits that would occur to the Capitol and other Corridors that the Emeryville station is designed to serve.

The discussion of Route 99 was changed to reflect the fact that the San Francisco bus connection for the *Capitol* and *San Joaquin* Routes began operation from the Emeryville Station on October 11, 1993.

COUNTIES OF FRESNO AND MADERA COMMENTS

Connecting Bus Service

Again this year, as in every year since the Steering Committee's formation in 1987, we remain highly critical of the Caltrans preoccupation with developing its feeder bus network as a substitute for the direct rail service our Committee and national transportation policy advocates. Once again we restate our position on feeder buses as follows.

We consider feeder buses only as a substitute for railway trains where no tracks are in place or cannot be reasonably installed. We OPPOSE buses as a substitute for trains when avoidable, because:

1. The law creating Amtrak specifically says that railway trains are needed as an ALTERNATIVE to all other forms of travel.

2. All studies show that travelers strongly dislike changing modes of travel en route from trains to buses and do so only when there is no other choice.

3. Buses add to the congestion on our overcrowded highways and are another source of air pollution that has become intolerable.

The CRPPR map Figure 7A, on page 82 is titled "San Joaquin Train and Bus Network" shows about 312 miles of railway and nearly 1,500 miles of bus routes, a substantial amount of it to destinations reachable by rail. Figure 7E, page 87, showing San Joaquin train ridership lists 76 cities 61 of which are served by buses, more than half of the 61 are already served by direct rail or could be.

The Capitol Route Map, Figure 9C shows 46 cities served by buses and 11 by rail, though half of the 46 area also on rail lines.

There doesn't seem to be a basic disagreement on the use of feeder buses. It is not Caltrans policy to emphasize feeder buses over expanded rail services. It remains Caltrans policy to improve Amtrak service in California by introducing cost effective expansions of rail passenger service, as well as the feeder bus network. Expansion of rail service has been difficult and time consuming due to the need to fund and acquire new equipment for service expansions and to secure approval of the operating railroads to add new rail service. Expansion of the feeder bus network, which more than pays for itself, is simpler as equipment and right-of-way access problems do not occur.

Caltrans will continue to vigorously pursue rail service expansion. Appropriate feeder bus service expansions will also be considered. Caltrans goal is to achieve a balanced Amtrak service network in California with frequent rail service serving as the "spine" and with feeder buses linking the trains to points not served by direct rail service. Where direct train service can be added on new links (such as between Sacramento and Stockton), feeder bus operation will no longer be required on the same link.

The Caltrans "open door" buses are an outright substitute for rail services they often parallel and are a non-train service we oppose.

"Open door" service is an effort to provide additional revenue to support buses being operated to connect with Amtrak trains by allowing local passengers to ride the bus, although their immediate trips do not connect with a train. We believe this feature does not detract from their function as a train feeder bus. Instead, it allows us to bring additional revenues to the rail program, thus helping to reduce costs paid by the taxpayer. The buses are run on an open door basis only in situations where they parallel train service and provide additional frequencies on different schedules; where there is no competing local public transportation service; and where they also connect with non-Amtrak train service, such as CalTrain.

SAN JOAQUIN STEERING COMMITTEE COMMENTS

Connecting Bus Services.

Again this year, as in every year since the Steering Committee's formation in 1987, we restate our position. We consider feeder buses only as a substitute for railway trains where no tracks are in place or cannot be reasonably installed. We oppose buses as a substitute for trains when avoidable, because:

1. The law creating Amtrak specifically says that railway trains are needed as an ALTERNATIVE to all other forms of travel.

2. All studies show that travelers strongly dislike changing modes of travel en route from trains to buses and do so only when there is no other choice.

3. Buses add to the congestion on our overcrowded highways and are another source of air pollution that has become intolerable.

The CRPPR map Figure 7A, on page 82 is titled "San Joaquin Train and Bus Network" shows about 312 miles of railway and nearly 1,500 miles of bus routes, a substantial amount of it to destinations reachable by rail. Figure 7E, page 87, showing San Joaquin

train ridership lists 76 cities, 61 of which are served by buses, more than half of the 61 are already served by direct rail or could be.

The Capital Route Map, Figure 9C shows 46 cities served by buses and 11 by rail, though half of the 46 are also on rail lines.

There doesn't seem to be a basic disagreement on the use of feeder buses. It is not Caltrans policy to emphasize feeder buses over expanded rail services. It remains Caltrans policy to improve Amtrak service in California by introducing cost effective expansions of rail passenger service, as well as the feeder bus network. Expansion of rail service has been difficult and time consuming due to the need to fund and acquire new equipment for service expansions and to secure approval of the operating railroads to add new rail service. Expansion of the feeder bus network, which more than pays for itself, is simpler as equipment and right-of-way access problems do not occur.

Caltrans will continue to vigorously pursue rail service expansion. Appropriate feeder bus service expansions will also be considered. Caltrans goal is to achieve a balanced Amtrak service network in California, with frequent rail service serving as the "spine" and with feeder buses linking the trains to points not served by direct rail service. Where direct train service can be added on new links (such as between Sacramento and Stockton), feeder bus operation will no longer be required on the same link.

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS COMMENTS

(Chapter IX) Establish connecting bus routes (to the *Capitol* Route) on the Coast Route-INCLUDE

In our last review of the California Rail Passenger Development Plan over two years ago, SLOCOG recommended the inclusion of connecting bus links to San Jose. Caltrans responded that it would be examined in the San Luis Obispo Rail Improvement Feasibility Study. Indeed, the results of the study recommended such an extension. Specifically, the study recommends SLOCOG:

"Encourage Caltrans to include in its state rail plan the development of feeder bus connections northward along the coastal corridor..."

The connecting (feeder) bus routes serve as a test of potential ridership for proposed rail services. Caltrans has been requested through House Resolution 39 and Senate Resolution 44 to cooperate with the Regional Transportation Planning Agencies to study upgrading this corridor. Connecting bus routes operating on the corridor would provide valuable ridership information for inclusion in this study. SLOCOG's 1993/94 discretionary grant request to undertake this study was denied by Caltrans. We strongly believe this service has come of age. It is time for Caltrans to include it in the Plan rather than ignore the corridor serving the single most popular train in the Amtrak system; the *Coast Starlight.* SLOCOG believes that the establishment of connecting bus service would demonstrate that a substantial market exists on the Coast Route.

The following table shows two options for the southbound service. The late evening departure from Sacramento would provide a connection to the *San Diegan* extension in San Luis Obispo. The train (or initially the connecting bus) would be serviced in San Luis Obispo at the new layover facility and return providing northbound service. This service would effectively connect Sacramento, the Bay Area, Los Angeles and San Diego.

Specifically, this service extension can be accomplished by the following route modification shown in **bold:**

POSSIBLE TRAIN/BUS SCHEDULE FOR *CAPITOL* ROUTE
CONNECTIONS SERVING THE COAST ROUTE

SOUTHBOUND (read down)		STATION	(read up)
NORTHBOUND			
Train #724	#705		Train #724
12:30p	**7:55p**	Sacramento	3:55p
2:24p	11:15p (current s. Joaquin)		Oakland
	1:50p		
		Oakland-San Fran Bus	
2:50p	11:40	SF Trans Bay Term	1:25p
3:00	11:50	SF Caltrain	1:10p
2:29	**11:20p**	Oakland	1:45p
3:48p	**1:00a**	San Jose	
	12:35p		
5:45p	**2:30a** (Salinas)	Monterey	
	10:20a		
6:45p	**3:30a**	**King City**	**9:20a**
7:30p	**4:15a**	**Paso Robles**	**8:35a**
8:15p	**4:45a**	**Atascadero**	**8:00a**
8:45p	**5:45a**	**San Luis Obispo**	**7:30a**

We understand your interest in the development of *Capitol* Route feeder bus connections to points on the *Coast* Route. (Such buses already link this route with Salinas and Monterey). However, until the revenue/cost ratio for the *Capitol* Route has reached a statutorily mandated level of 55 percent, we do not believe it would be prudent to add additional bus links to this Route, as the cost of such services would be added to the *Capitol* Route. We will give further consideration to this suggestion as soon as the economics of the Route permits.

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION COMMENTS

Pages 35, 87, 104, 129, 132, Santa Cruz Feeder Bus Service - the story of the Santa Cruz feeder buses is not clearly told on these pages. The tables on pages 34 and 104 state that ridership from the Santa Cruz "station" is very low (0.5 daily riders and 451 annual riders, respectively). This is in conflict with page 129, which states that ridership betters the break even point, and has gone as high as 230 riders/day. Could it be that most riders on this bus are local riders? If this is the case, perhaps a footnote is in order that highlights this important source of revenue augmentation for the feeder bus routes.

Page 104, which summarizes feeder bus services for the San Joaquin trains, does not include Santa Cruz as a stop, although it is counted as a San Joaquin stop on page 35. Also, the table on page 132 does not include the Santa Cruz feeder bus route.

We encourage you to include comprehensive FY 92-93 ridership numbers for the Santa Cruz feeder bus service on all the above mentioned tables when this information becomes available and is included in the Final Report. We also encourage Caltrans to aggressively market the feeder bus service Santa Cruz, as it is our perception that the general public here doesn't know about it.

Most passengers using the San Jose-Santa Cruz feeder bus purchase tickets locally. These tickets are not included in Amtrak's ridership data base, which is the source of the data in the ridership tables to which you refer. However, Caltrans includes all riders in its discussion of the Route in Chapter IX. Also, the Amtrak feeder bus evaluation table (Figure 9D, near the end of Chapter IX) was enhanced

to include the complete Santa Cruz feeder bus results for this route. We will continue to market this feeder bus route in coordination with the Peninsula Corridor Joint Powers Board to insure ridership is maximized.

Page 137, San Francisco/Monterey route - We encourage Caltrans to develop the discussion of San Francisco/Monterey Bay rail planning in this section further based on the recently released findings from the District 5 study.

The discussion of the San Francisco/Monterey rail study has been expanded to reflect the findings of the study to which you refer.

Chapter X - Intercity Rail Feasibility Studies

A number of extensions or new routes have been proposed for development since Caltrans began its support of intercity rail passenger service in 1976. Generally, before Caltrans recommends a major route extension or a new route, a feasibility study is performed, either by Caltrans or by a consultant. Occasionally a local agency will propose a new intercity route and perform a feasibility study.

This Chapter describes five intercity rail feasibility studies that are currently in progress or recently completed. These studies include:

- Los Angeles - Coachella Valley - Calexico Route
- San Francisco - Los Angeles Coast Route
- San Francisco - Monterey Corridor
- Sacramento-Tahoe-Reno Intercity Rail Study
- San Francisco Bay Area - Eureka Corridor

Caltrans has not yet recommended the implementation of intercity rail service on any of these routes. Specific route extensions that have been recommended for service are included in the appropriate route chapter (such as the extension of the *San Diegan* Route to San Luis Obispo in Chapter VI).

This Chapter also discusses two other potential studies:

- Sacramento - Oregon Border Route
- San Francisco Bay Area - Santa Cruz Study

LOS ANGELES-COACHELLA VALLEY-CALEXICO ROUTE

In December 1991, the Riverside County Transportation Commission completed the "Los Angeles - Coachella Valley - Imperial County Intercity Rail Feasibility Study." The Study was prepared by Schiermeyer Consulting Services and Wilbur Smith Associates. The Study examines the technical and financial feasibility of intercity rail passenger service between Los Angeles, Riverside and the Coachella and Imperial Valleys, a distance of 239 miles (approximately 100 miles from the Eastern Coachella Valley to Calexico).

The proposed Route would use Atchison, Topeka and Santa Fe (ATSF) tracks through Riverside and then continue on Southern Pacific (SP) tracks through the Coachella Valley. The extension to Imperial County would also use SP tracks. The Study states that the potential market for this service would be recreational and business trips between Coachella Valley, Riverside, Orange County and Los Angeles, and international travel from Mexico to points north and west.

The Study contained analyses on: station locations, fares and schedules, capital and operating costs, patronage and revenue assessment and institutional and

financial issues. The service scenario studied included three daily round trips between Los Angeles and the Coachella Valley with an option of extending one daily round trip to Calexico. It is estimated the entire Route would have a total of 12 stations. The revenue/cost (farebox) ratio in early years of service was projected to be 59 percent. Capital costs for the Route for a "minimum upgrade" scenario were estimated at $61 million; approximately $9 million for track and related work, $13 million for stations and $39 million for rolling stock.

Caltrans is currently evaluating the Route's potential to reach the statutorily required farebox recovery ratio. A detailed survey of highway travel along this Route has been conducted to develop data for input to Caltrans new ridership estimation model. (See Chapter IV for a discussion on the ridership model.) If the results of this analysis project the Route to be cost effective and feasible, Caltrans will have to determine if it is possible to develop a fundable program of capital projects before being able to recommend State-supported service on the Route.

SAN FRANCISCO-LOS ANGELES COAST ROUTE

This section describes a number of recent studies in progress or completed studies on the Route.

San Luis Obispo County Rail Study

In March 1992, the San Luis Obispo Council of Governments (COG) published the "Rail Improvement Feasibility Study" prepared for the COG by Schiermeyer Consulting Services and R & F Transportation Consultants. This Study examined a range of options for rail service to San Luis Obispo County. It coincided, in part, with the Caltrans analysis on extending the *San Diegans* to San Luis Obispo (see Chapter VI). Also, this Study examined the feasibility of a Los Angeles - San Francisco service.

The Study examined seven different rail service options, most of which concerned service specifically to San Luis Obispo County. Two options concerned Coast Route service between Northern California and Los Angeles; one option was for a daytime round trip and the other was for an overnight round trip. The Study found the daily round trip to have "very high tourism potential" with a revenue/cost (farebox) ratio projected to exceed the legal minimum of 55 percent.

Appraisal

In September 1992 the Los Angeles County Transportation Commission (LACTC) --now the Los Angeles County Metropolitan Transportation Authority (LACMTA) -- entered into a letter of intent with the SP for an option to purchase the SP's Coast Route. The purchase price was not fixed, nor is a subsequent purchase offer mandatory. The option allows the LACMTA to obtain an appraisal of the line, based on net liquidation value. The option also

allows LACMTA to assign ownership of the Route to other public entities along the Route.

HR 39 and SR 44

In September 1992, House Resolution 34 (HR 34) and Senate Resolution 44 (SR 44) were passed. HR 39 and SR 44 request that an intercity rail corridor upgrade study on the California Coast Passenger Rail Corridor be conducted by the Regional Transportation Planning Agencies (RTPA) along the Corridor in cooperation with Caltrans within 18 months of the passage date of the resolutions.

The resolutions state the proposed Study should examine improvements to facilitate additional frequencies oriented to local travel, increased speeds, reduced running times and increased reliability of service. The study should develop ridership projections and station locations. It is also required to analyze the institutional issues and arrangements necessary to implement the service improvements. Finally, the study should include a funding and implementation program for a future Coast Service.

At a meeting on April 30, 1993 the seven counties affected by HR 39 and SR 44 convened to discuss coastal corridor issues. The group came to consensus on the interest and importance of the study; however, funding has yet to be identified. The Executive Directors of the affected planning agencies will formulate a funding plan for the Study. A technical committee may be formed to verify existing studies and cost estimates for service to the Corridor in an effort to preclude the need for an extensive study. Caltrans will cooperate with the counties in the furtherance of this effort.

SCR 6

As directed by the Legislature through the passage of SCR 6 in July 1993, the Intercity High-Speed Rail Commission will prepare a 20-year High-Speed Intercity Ground Transportation plan. The Draft Plan is to be completed by July 1, 1995 with the final Report due by December 31, 1995. SCR 6 requires the Los Angeles to San Francisco Bay Area High Speed Corridor be the first corridor developed and "all feasible routes be considered". Thus, the analysis will examine both the Coast Route and the Valley Route. Once the outcome of the SCR 6 Study is known, Caltrans will be in a position to determine if expansion of rail passenger services on the Coast Route is economically feasible.

SAN FRANCISCO-MONTEREY CORRIDOR

The Budget Act of 1991 appropriated $100,000 in State funding for a passenger rail feasibility study for the San Francisco-Monterey rail corridor. Caltrans District Five entered into a consultant contract with the firm of Wilbur Smith Associates to conduct this Study. A Rail Advisory Committee established by Caltrans consisted of technical staff from local agencies and interested entities to provide input to the study process. Additional funds to study the Gilroy-

Hollister segment were provided by the Council of San Benito County Governments.

The results of the Study provide the Legislature and Caltrans with ridership, revenue, operating and capital cost estimates to evaluate the feasibility of implementing passenger rail service between San Francisco and Monterey, Hollister and Salinas. Options include the existing rail line via SP's Monterey Branch and potential new alignments via Salinas and Fort Ord (see below). Other key elements addressed by the study include proposed service levels for three analysis years (1995, 2000 and 2005), coordination with other connecting transportation services, availability of right of way, equipment availability and cost, identification of required capital projects including station needs and an implementation program.

In September 1993, the study Final Report was issued. The Executive Summary includes the following extracts:

"The analysis performed in this study indicates that a market for passenger rail service exists in the study area with sufficient size to meet cost recovery objectives after six years of service. The primary markets are pleasure trips between the San Francisco Bay Area and the Monterey Peninsula, work trips between the Salinas area and Silicon Valley and work trips between Hollister and Silicon Valley. A future market will be trips associated with Fort Ord reuse...

The analysis of potential ridership indicates that a sufficient market exists to meet cost recovery objectives after six years of service for operation of intercity passenger rail service between San Francisco and Downtown Monterey. Thus, initial analysis of revenues and operating costs shows that the proposed service will take longer than the three years allowed to meet the 55 percent farebox recovery currently required by the State of California in order to establish eligibility for ongoing state operating support payments. However, both the revenue and operating cost estimates are conservative and farebox recovery could likely be improved through an integrated marketing strategy and additional ridership from the Santa Cruz area, stronger recovery of the tourism market and additional trips by Monterey Peninsula residents to San Francisco and San Jose. Conversion of Fort Ord to civilian uses, especially establishment of the State University Campus, could also increase farebox recovery more rapidly than projected in the initial analysis. The timing of Fort Ord reuse activities is difficult to determine...

The cost of initiating service in 1995 is estimated to be $19.3 million for track improvements and $4.9 million for station improvements. These costs do not reflect bridge replacement on the Monterey Branch as preliminary investigations do not suggest replacement is warranted. For reference only, it is noted that bridge replacement could cost between $2.5 - $3 million. Right-of-way (ROW) acquisition costs are unknown and not included. Providing two trainsets for the service could cost up to $19.7 million if this equipment must be purchased outright. If it is possible to obtain use of equipment for a period

of time by lease or other funding mechanisms, the incremental capital cost for equipment could be deferred...

The analysis of potential ridership and operating costs indicates that commuter rail service to Hollister should be provided at a future date, when the population of the Hollister area exceeds 50,000 and/or when the average daily traffic on Route 25 exceeds 20,000. Given current trends, these events are expected to occur in about 10 years...

Hollister would best be served by an extension of Caltrain commuter service from Gilroy...

It is estimated that the cost of physical improvements to implement service to Hollister would be $11.3 million for track upgrade (excluding ROW acquisition costs) and $1.0 million for station facilities. While it might be possible to begin service utilizing existing CalTrain equipment sets which would otherwise terminate at Gilroy, the study identifies rolling stock requirements of three locomotives, five trailer cars and two cab control cars for service consisting of three daily round trips in 2005. At that point, it is estimated that such service would have 800 daily passengers, a cost recovery ratio of 65 percent and require an annual operating subsidy of $272,000...

Ridership and operating cost analyses performed in the study indicate that there is a sufficient market to warrant commuter rail service between San Francisco and Salinas. The trains would be an extension of CalTrain service to Gilroy. South of Gilroy, stops would be made at Watsonville Junction, Castroville and Salinas. The trains would operate north from Salinas in the morning and south from San Francisco in the afternoon. The schedule would be arranged to serve southern Peninsula employment centers at prime work times. Estimated costs, ridership and travel time for this service are shown in [the Report]. Service would be initiated with a single weekday round trip, with a second and third schedule added as additional funding becomes available."

Subsequent to the issuance of the Study, the Transportation Agency for Monterey County requested Caltrans to extend three *Capitol* or *San Joaquin* Route trains to Salinas, with feeder bus connections to Monterey. Caltrans replied that it would study the feasibility of such an extension including associated operating and capital costs. Preliminary findings should be completed by May 1994. However, State funds available for operation of intercity rail passenger services are limited. If the service proved feasible and cost-effective, new sources of funds must be identified before the service can be implemented.

Fort Ord Transportation Corridor Study

In addition to the Caltrans study, the Transportation Agency of Monterey County (TAMC) has conducted a study examining a transportation corridor between Salinas and the Monterey Peninsula via Fort Ord. This study was prompted by the impending closure of Fort Ord on the Monterey Peninsula

and examined the possible development of a new passenger rail line as part of a multimodal transportation facility within the corridor. As a result of this study, the TAMC has requested through the U.S. Army Corps of Engineers public conveyance of Fort Ord property for the future development of the corridor.

SACRAMENTO-TAHOE-RENO INTERCITY RAIL STUDY

In response to a request from several legislators, Caltrans undertook this Study in early 1993. The Study, to be completed in 1994, is investigating the possible extension of the *Capitols* along the I-80 corridor to Truckee and to Reno/Sparks, Nevada following the *California Zephyr* Route. It will also look at the segment of Highway 89 from Truckee to North Lake Tahoe where tracks were removed in 1943.

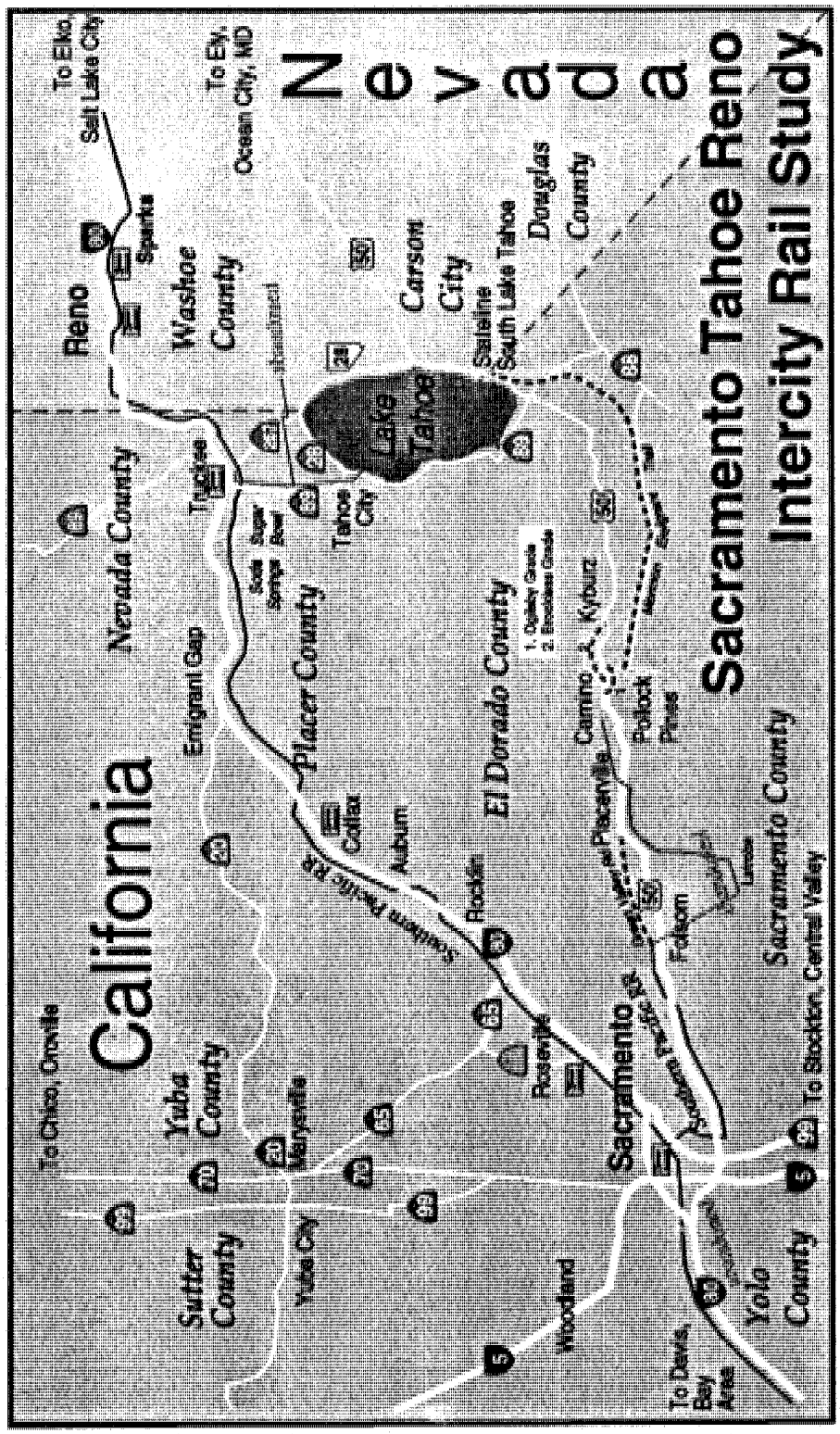
The Study will also look at the potential for intercity rail service in the U.S. 50 Corridor between Sacramento and South Lake Tahoe. A small portion of track exists in this Corridor but no rail line has ever connected Sacramento to South Lake Tahoe. The study will focus on the overall costs and feasibility of developing a new rail route in this Corridor and potential further steps will be addressed in the Study's recommendations. See Figure **10A** for a map showing the corridors covered in the Study.

Much of the market in these corridors would be tourist and recreation related travel. Tahoe area destinations include ski areas, Nevada casinos and recreational spots. Persons traveling west would have the opportunity to take the train to the Sacramento and San Francisco Bay Area for business and recreational travel.

The Study will review the history of rail in the area and the conditions of the track, signals, stations and platforms along the I-80 Corridor. It will make recommendations on capital improvements necessary to implement service, including equipment needs. Environmental and land use concerns will also be addressed. Ridership, revenue and operating cost forecasts will be prepared to project whether the revenue/cost (farebox) ratio will meet the statutory standard.

This Study is being conducted by Caltrans District Three, in conjunction with other Caltrans units such as the Division of Rail, the Division of Transportation Planning and the Office of Traffic Improvement. The Nevada Department of Transportation is also participating in the Study. A Technical Advisory Committee includes the Study team and members from Amtrak, SP, the California Public Utilities Commission, the Metropolitan Transportation Commission (Bay Area), the Nevada Office of Hotels and Tourism, regional entities in both California and Nevada, ski organizations and other interested parties.

Figure 10A


Sacramento Tahoe Reno
Intercity Rail Study
California
Nevada
Reno
Sparks
Washoe County
Carson City
Douglas County
Lake Tahoe
Stateline
South Lake Tahoe
Tahoe City
Truckee
Nevada County
Emigrant Gap
Placer County
Cottax
Auburn
Rocklin
El Dorado County
Kyburz
Camino
Pollock Pines
Placerville
Folsom
Sacramento County
Sacramento
Roseville
Yuba County
Marysville
Yuba City
Sutter County
Woodland
Yolo County
To Chico, Oroville
To Elko, Salt Lake City
To Ely, Ocean City, MD
To Stockton, Central Valley
To Davis, Bay Area
Southern Pacific RR

SAN FRANCISCO BAY AREA-EUREKA CORRIDOR

The San Francisco-Santa Rosa-Eureka Corridor is one of six corridors identified in State law as eligible for funding under the Intercity Rail Program. The law specifies each corridor should receive funding proportionate to the population served in the corridor. Thus, Caltrans decided to do a feasibility study on this Corridor.

The Study, funded from Proposition 108, was allocated $210,000 and Wilbur Smith Associates was selected to perform the Study. Work on Phase I began in January 1992 and work on Phase II began February 1, 1993 with completion expected by March 31, 1994. An advisory committee consisting of representatives of the various counties, regional transportation planning agencies, the North Coast Railroad, the California Western Railroad, the Southern Pacific, Amtrak and the Golden Gate Bridge, Highway and Transportation District was established to assist Caltrans in conducting the Study. Caltrans participants include representatives from Districts One and Four, Division of Rail and Division of Transportation Planning.

Phase I, which inventoried the line and evaluated the potential for providing intercity rail passenger service, was completed in August 1992. The Consultant felt that because of the diversity of the Corridor, it would be best to evaluate ridership and cost benefits by analyzing defined segments and varied service scenarios. Phase I determined that certain combinations of service scenarios had the best chance of meeting the statutorily required 55 percent farebox recovery ratio.

Based on the information gathered during Phase I, Phase II is examining capital improvements necessary to initially implement tourist-oriented rail passenger service between Eureka/Arcata and Willits, and commuter rail service between Healdsburg and Southern Marin County. Phase II will then examine how capital improvements for the excursion and commuter services can facilitate potential future implementation of intercity rail service along the entire Corridor, in conjunction with other improvements related solely to intercity service. Caltrans decision to take this approach for Phase II was based on the high cost estimates identified for intercity capital improvements in Phase I and the very limited funds available to implement such improvements. Caltrans felt tourist-oriented excursion service in the north and commuter service in the south would be the most feasible first steps in the development of passenger services in the Corridor. The first Phase II working paper, North Coast Railroad Excursion Service, was delivered in September 1993 and the second, South End Passenger Service Larkspur-Ukiah, was delivered in December 1993.

In 1993, the North Coast Railroad Authority operated seasonal excursion service between Eureka and Arcata, from Eureka/Arcata to Fort Seward and from Willits to Tunnel No. 11. It hopes to implement regularly scheduled excursion service to Willits once necessary capital improvements are

completed and the line is rehabilitated sufficiently to lift the speed restrictions imposed by the Federal Railroad Administration due to defined track maintenance conditions between Fort Seward and Willits.

On this Corridor, freight service is presently provided by the California Northern Railroad between Fairfield and Willits; by the North Coast Railroad between Willits and Eureka, and by the California Western Railroad between Willits and Fort Bragg.

SACRAMENTO-OREGON BORDER ROUTE

Caltrans may conduct a feasibility study of the Sacramento-Oregon Border route. The study would examine intercity rail service on this portion of Amtrak's long distance *Coast Starlight* Route (between Seattle and Los Angeles). The Study would determine if potential for a cost-effective service exists on this route and if so, the resources that would be needed to begin service. Amtrak has conducted a brief analysis of the costs of a second *Coast Starlight* frequency that would provide input to the new Caltrans Study (see Chapter II for a further discussion of the Amtrak analysis). Once Caltrans has completed the Sacramento-Tahoe-Reno Intercity Rail Corridor Study (discussed above), it will evaluate if staff resources are available to study the Sacramento-Oregon Border Route.

In March 1993, the California Transportation Commission recommended that the City of Roseville be granted $60,000 in Transit Capital Improvement funds to study rail passenger service in the Roseville-Lincoln-Marysville Corridor. Local agencies will also provide $30,000 for this study. Also, in December 1993, the City of Chico requested $100,000 in 1994/95 Transit Capital Improvement funds for a feasibility study of intercity rail service in the Redding-Chico-Marysville-Sacramento corridor.

SAN FRANCISCO BAY AREA-SANTA CRUZ STUDY

The Santa Cruz County Regional Transportation Commission has requested that Caltrans conduct a study of passenger rail service between the San Francisco Bay Area and Santa Cruz to serve the tourism market. Caltrans is working to identify funding to conduct the proposed study.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

Page 140 - San Francisco Bay Area - Eureka Route;

Paragraph 2 references an advisory committee consisting of representatives of the various counties, regional transportation planning agencies, etc. The railroads are mentioned but not by name. It would be helpful to identify what railroads are involved; i.e., Fairfield to Willits -- California Northern Railroad and Willits to Eureka--North Coast Railroad Company. It should be noted the CNRR is new and began operations at 12:01 A.M. on Sept. 27, 1993.

Last paragraph - on the mention of seasonal excursion service between Eureka and Arcata and Eureka to Ft Seward.... this would be better worded as follows: "The North Coast Railroad currently offers seasonal excursion services in the Eureka area extending as far south as Ft. Seward.

In response to your comments, this sentence has been updated to reflect actual points of operation of seasonal excursion services in 1993.

Last paragraph - second to last line - the mention "by the Federal Railroad Administration due to track conditions between Fort Seward and Eureka." This could be more accurately worded as follows: "by the Federal Railroad Administration due to deferred track maintenance conditions that presently prohibit the carrier from offering passenger services between Fort Seward and Willits."

As a result of your comments, the section has been revised to mention the specific railroads operating on this corridor. We clarified the FRA's reasons for imposing speed restrictions between Fort Seward and Willits.

SENATOR GARY K. HART COMMENTS

I am writing to express my support for modifying the draft California Passenger Rail Program Report to underscore the significance of the California Coast Passenger Corridor as part of a statewide system of passenger rail services and to discuss improvements for higher speed rail and increasing train frequencies along this popular route.

I am a strong supporter of rail travel, and believe every effort should be made to maximize use of this effective altemative mode of transportation. I successfully carried Senate Bill 1691 this session, which makes the Coast Route eligible for rail bond funding and adds Coast Route representation to the Department of Transportation's rail advisory committee.

I am concerned that, as drafted, the report ought to include adequate plans to expand State-supported intercity passenger rail services on the Coast Route in view of the fact that the demand for the popular Amtrak Coast Starlight has created a lack of seating capacity for intercity passengers between Los Angeles and the Bay Area. In particular, attention should be focused on the feasibility of "higher-speed" improvements to convention rail systems that could compliment ultra-high speed systems proposed for the San Joaquin Valley.

Planning for expansion of these services in this report would serve to set in motion plans to evaluated improvements to the Coast Route as prescribed in House Resolution 39. such

planning efforts, currently without funding, are a necessary precursor to developing attainable capital and operations plans.

As directed by the Legislature through the passage of SCR 6 in July 1993, the Intercity High Speed Rail Commission will prepare a 20-year High Speed Intercity Ground Transportation Plan. The Draft Plan is to be completed by July 1, 1995 with the final report due by December 31, 1995. SCR 6 requires the Los Angeles to San Francisco Bay Area High Speed Corridor be the first corridor developed and "all feasible routes be considered". Thus, the analysis will examine both the Coast Route and the Valley Route.

Once the outcome of the SCR 6 Study is known, we will be in a position to determine if expansion of passenger rail services on the Coast Route is economically feasible. Until those studies are completed, it is premature to modify the Rail Passenger Program Report to include the Coast Route. The Report covers all appropriate developments, including the status of SCR 6 as it impacts the Coast Route.

ASSEMBLYMAN JACK O'CONNELL COMMENTS

(letter dated November 1, 1993 to Caltrans)

As you know, the Draft California Passenger Rail Program Report version is open for review and comment. While the report is a useful examination of current operational issues, capital improvements and the programming and funding process, as a representative of coastal residents, I am concerned with the lack of focus on service expansions and speed improvements on the Coast route. The Report only discussed the San Francisco - Los Angeles Coast Route in the context of completed intercity Rail Feasibility Studies and does not take measurable steps to expand State-supported intercity passenger rail services in this corridor.

As you are aware, Amtrak's Coast Starlight train is the most popular long distance train in the entire Amtrak system. Also, due to Amtrak's ticketing policies to maximize fare yields, rail passengers traveling between San Francisco and Los Angeles are often turned away to sell the seats for longer distance passengers. Consequently, during certain times of the year there is a lack of seating capacity for residents traveling on California's coast between the two largest population centers in the State.

I realize that among other obstacles, there is a lack of available rail equipment to begin a new San Francisco - Los Angeles intercity passenger rail service. But the Report does not set in motion a plan to study improvements to the Coast Route consistent with the intent of HR 39 and SR 44 (September 1992) which would be a necessary step prior to the service expansion. The coastal counties affected by these resolutions have convened to discuss the coastal corridor issues, but due to a lack of funding have not been able to conduct a study.

In addition, I believe consideration should be given to modifying Caltrans rail policies to specifically emphasize "higher-speed" improvements to conventional intercity passenger rail systems. The Coast route is a perfect example where speed improvements are a low-cost option that could complement the ultra-high speed rail systems anticipated for the San Joaquin Valley. Furthermore, last August's demonstration of the "tilt train" showed large support for the need to have a viable "high-speed" rail program along the Coast.

In conclusion, I would hope that the study include three very important aspects of the Coast's rail needs: 1) developing high-speed rail service on the coast; 2) extensions of existing rail services to include additional access along the coast by taking advantage of existing equipment; and finally 3) expansion of existing services by including new equipment. This will not only help recognize the importance of the Coast route, but better

create a network for all Californians in our desire to improve rail passenger service by the 21st Century.

As directed by the Legislature through the passage of SCR 6 in July 1993, the Intercity High-Speed Rail Commission will prepare a 20-year High-Speed Intercity Ground Transportation Plan. The Draft Plan is to be completed by July 1, 1995 with the final report due by December 31, 1995. SCR 6 requires the Los Angeles to San Francisco Bay Area High Speed Corridor be the first corridor developed and "all feasible routes be considered". Thus, the analysis will examine both the Coast Route and the Valley Route.

The Budget Act of 1993 appropriated funds specifically for the SCR 6 study effort. We do not have funds available to fund a major independent Coast Route rail passenger study.

In view of the SCR 6 study, it would be premature for Caltrans to undertake another Coast Route rail passenger study at this time. Once the outcome of the SCR 6 study effort is known, we will be in a position to determine if additional studies are needed concerning expansion of passenger rail services on the Coast Route.

(letter dated January 5, 1994 to Chairman Jerome F. Lipp of the California Transportation Commission)

As the Commission is aware, The Department of Transportation (Caltrans) recently presented its Draft 10-year Rail Passenger Program Report. I was very concerned when I reviewed that Report.

It is my understanding that Caltrans did not include my November 1, 1993 letter (copy enclosed) to the Department indicating my concerns and comments with the draft version of California's Passenger Rail Program Report. In that letter, I requested that consideration should be given to modifying Caltrans rail policies to specifically emphasize 'higher-speed' improvements to conventional intercity passenger rail systems. In addition, I had hoped that the Report would set in motion a plan to study improvements to the Coast Route consistent with the intent of House Resolution 39 and Senate Resolution 44 and include three very important aspects of our rail needs: 1) developing higher-speed rail service on the coast; 2) extensions of existing rail services to include additional access along the coast by taking advantage of existing equipment; and 3) expansion of existing rail services by including new equipment. For example, the regional transportation planning agency in San Luis Obispo County has suggested that bus connections between San Jose and San Luis Obispo for the "San Diegan" and "Capitol" trains be considered.

When I reviewed a copy of Caltrans December draft, I was pleased to see the recommendations of 1) adding two additional round-trip services between Los Angeles and Santa Barbara; and 2) extending one daily San Diego to Los Angeles round-trip train to San Luis Obispo. However, there seems to be a lack of overall focus on the Central Coast as a viable higher-speed rail corridor. As I have maintained, the Central Coast offers a unique setting for developing higher-speed rail between Los Angeles and San Francisco. Failure to include it as a study point in any draft plan for rail development would be missed opportunity for the people of California.

The December draft of the Rail Passenger Program Report did not include any Caltrans responses to comments on the September draft. Caltrans Assistant Director for Legislative and Local Government Affairs responded by letter to Assemblyman O'Connell on December 2, 1993 (as quoted in the Caltrans response above). Caltrans also responded separately by letter to all other persons and agencies who submitted comments, addressing the issues raised in the original comment letters.

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS COMMENTS

(Chapter X) New San Francisco - Los Angeles intercity rail service on the Coast Route- INCLUDE

Page 135 notes that Caltrans has not recommended the implementation of intercity rail services between San Francisco and Los Angeles on the Coast Route. The San Luis Obispo Rail Improvement Feasibility Study studied a S.F. - L.A. train and found it profitable. It projected a total corridor ridership of approximately 250,000 annual trips and a farebox ratio exceeding 55%. We urge you to include in the Report a goal to increase service frequencies on the Coast Route. The new service could take the form of an additional run of the *Coast Starlight,* or brand new *"San Franciscan"* service, that would focus on service between San Francisco and Los Angeles. SLOCOG recommends that Caltrans include plans for such a study in the Rail Passenger Program Report.

As directed by the Legislature through the passage of SCR 6 in July 1993, the Intercity High Speed Ground Transportation Commission will prepare a 20-year High Speed Intercity Ground Transportation Plan. The Draft Plan is to be completed by July 1, 1995 with the final report due by December 31, 1995. SCR 6 requires the Los Angeles to San Francisco Bay Area High Speed Corridor be the first corridor developed and "all feasible routes be considered". Thus, the analysis will examine both the Coast Route and the Valley Route.

Once the outcome of the SCR 6 study is known, we will be in a position to determine if expansion of passenger rail services on the Coast Route is economically feasible. Until those studies are completed, it is premature to modify the Rail Passenger Program Report to include the Coast Route. The Report covers all appropriate developments, including the status of SCR 6 as it impacts the Coast Route.

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION COMMENTS

Thank you very much for the opportunity to comment on the sections of the Draft 93/94 - 02/03 California Rail Passenger Program Report dealing with intercity and high speed rail. Santa Cruz County Regional Transportation Commission (SCCRTC) staff has reviewed the document and found it to be a comprehensive, useful resource for understanding the state rail passenger program, and rail planning in general.

The SCCRTC has recently requested that Caltrans conduct a study of intercity passenger rail service between the San Francisco Bay Area and Santa Cruz to serve the tourism market. Pending Caltrans' decision on such a study, we would like the Rail Passenger Program to reference this request in Chapter 10. Attached is a profile of the proposed service to be studied

Caltrans is working to identify the availability of funding to conduct this study. The Report was updated to reflect SCCRTC's request.

ASSEMBLYWOMAN ANDREA SEASTRAND COMMENTS

I have recently had the opportunity to review the draft California Passenger Rail Program Report, and I am concerned with the lack of focus for service expansions and speed improvements on the Coast Route. While Chapter X does discuss the San Francisco-Los Angeles Coast Route, it does not take measurable steps to expand intercity services in this corridor.

As you are aware, Amtrak's Coast Starlight train is the most popular long distance train in the entire Amtrak system. Also due to Amtrak's ticketing policies to maximize fare yields, rail passengers traveling between San Francisco and Los Angeles are often turned away to sell the seats for longer distance passengers. Consequently, during certain times of the year there is a lack of seating capacity for residences and tourists traveling on California's coast between the two largest population centers in the State.

I would support modifications to the Report so that the statewide importance of the Coast route is recognized. It is crucial that we set into motion a plan to study improvements to the Coast route, including improvements for higher speeds and increases in the frequency of trains.

As directed by the Legislature through the passage of SCR 6 in July 1993, the Intercity High Speed Ground Transportation Commission will prepare a 20-year High Speed Intercity Ground Transportation Plan. The Draft Plan is to be completed by July 1, 1995 with the final report due by December 31, 1995. SCR 6 requires the Los Angeles to San Francisco Bay Area High Speed Corridor be the first corridor developed and "all feasible routes be considered". Thus, the analysis will examine both the Coast Route and the Valley Route.

Once the outcome of the SCR 6 Study is known, we will be in a position to determine if expansion of passenger rail services on the Coast Route is economically feasible. Until those studies are completed, the Department believes it is premature to modify the Rail Passenger Program Report to include the Coast Route. The Report covers all appropriate developments, including the status of SCR 6 as it impacts the Coast Route.

TRANSPORTATION AGENCY FOR MONTEREY COUNTY COMMENTS

The Transportation Agency wishes to urge that the Draft Intercity Rail Program Report be changed to extend at least three daily trips of the proposed Capitol or San Joaquin trains on suitable schedules to Salinas, California from their current terminus in San Jose. The recently completed study for our area shows that intercity rail service to Salinas (three round trips per day) with connecting local bus service to Monterey would yield an 81 percent farebox recovery ratio. We believe that carefully implemented train and connecting bus service and proper marketing would boost this percentage even higher, resolve some of our traffic congestion, and serve the residents of California well.

In the long run, the Transportation Agency is working toward use of either the SP tracks between Castroville and Monterey or alternative alignments through Fort Ord; however, progress on these fronts is dependent upon securing additional funds and negotiation with Southern Pacific. In addition, we support additional train service on the Coast Starlight train and are surprised that this is not included in the Intercity Rail Program Report. We also wish you to know that we object to the fact that less than 10 percent of the $1.146 Billion in funds is allocated for intercity services in Northern California.

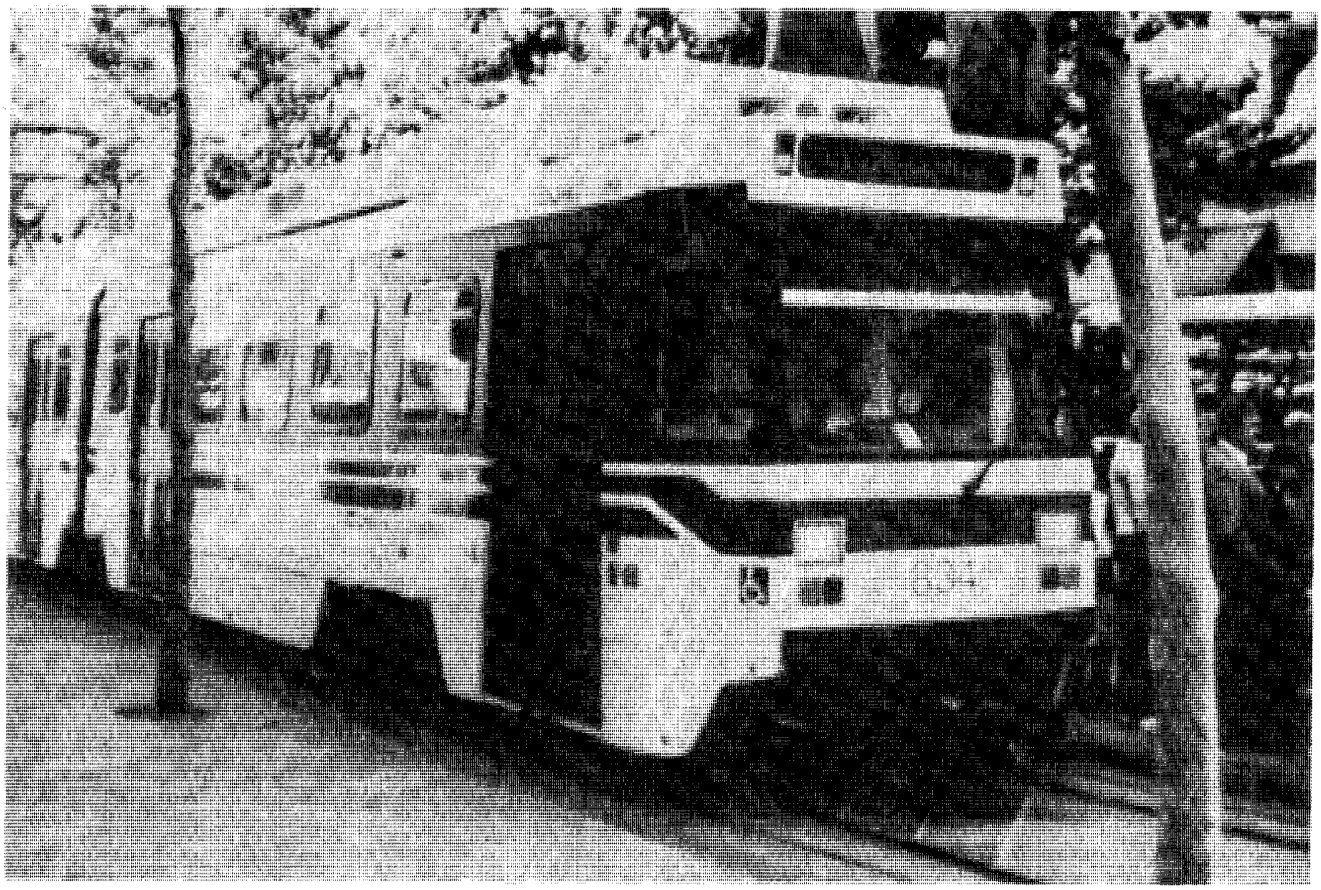
The City of Salinas is located only 17 miles from Monterey which is a major tourist destination statewide and nationally and is a major destination for Bay Area residents for weekend and day use recreational trips. So major a destination is the Monterey Peninsula and the Salinas area that all of our state highways are operating at level of service F during summer daytime hours on weekdays and weekends. The same is true of Highway 17 in Santa Cruz County.

We believe that train service to Salinas with high end, custom bus connections to Monterey (managed by our local transit operator, Monterey-Salinas Transit), is the immediately available way to provide these roads with some traffic relief and our citizens and visitors with train service. Currently. our transit operator is funded to extend the successful WAVE

shuttle service to serve more tourist destinations on the Peninsula. A well coordinated bus/train connection combined with the expanded visitor shuttle would be a success.

Caltrans understands the potential benefits expressed in your letter for introduction of corridor rail passenger service to serve the Salinas market, as well as Monterey, via bus connection from Salinas. We will study the feasibility of such an extension including associated operating and capital costs.

As you know, State funds available for operation of intercity rail passenger services are limited. If the service proves feasible and cost-effective, new sources of funds must be identified before the service can be implemented.



Santa Clara light rail in downtown San Jose

Chapter XI - Commuter and Urban Rail Financial Issues

Urban and commuter rail agencies are facing and will continue to face a number of long range financial challenges over the ten-year period of this Report. The purpose of this Chapter is to summarize these issues and suggest their causes, rather than to offer a preferred solution. Caltrans recognizes the need to develop statewide funding strategies to address the financial challenges outlined in this Chapter. However, these strategies must be developed in the context of overall transportation financial issues and with participation from a wide variety of transportation organizations. The final draft of the California Transportation Plan, submitted to the Governor in December 1993, makes broad recommendations on transportation financial issues and initiates the process of developing financial strategies.

The Chapter is organized into two sections: one on operating revenues and costs, and one on capital revenues and costs, including rehabilitation costs. Unlike the rest of this Report, this Chapter encompasses the overall financial activities of transit agencies, rather than solely their rail mode. Thus, bus and paratransit services are included in this analysis. This is because transit agencies, particularly in urban regions, usually provide integrated service on a variety of transit modes and do not typically account for operating revenues by specific modes. Therefore, the financial issues the agencies face, particularly on the operating side, cannot be meaningfully examined by only looking at the rail mode.

OPERATING REVENUES

Chapter III of this Report outlines transit agencies' major sources of operating revenues. There are four main sources. (1) The largest source is sales tax dedicated to transportation. Local Transportation Fund (LTF) revenues are generated by a statewide 1/4 percent sales tax for transportation purposes. Additionally, specific counties and transit districts have enacted local sales taxes for transportation purposes, including highway, streets and roads and transit. (2) The second largest source is passenger fares. (3) The third largest source is other local funds, including general funds and property taxes. (4) The fourth largest source is Federal funds, most importantly the Section 9 and 18 Federal Transit Administration (FTA) Programs.

The only operating assistance the State provides directly to local agencies comes from the State Transit Assistance (STA) Program, which is a fluctuating source and accounts for a very small portion of total transit agencies' operating funds.

Transportation Sales Taxes

This section includes a discussion on the LTF and on county and transit district transportation sales taxes.

LOCAL TRANSPORTATION FUND REVENUES

The Local Transportation Fund (LTF) is funded by 1/4 percent sales tax revenues. The LTF was introduced by the Transportation Development Act (TDA) in 1971. Under the Act, the funds must go almost entirely to transit. This source has traditionally been the backbone of transit financing. The State collects sales taxes and then provides each county with the amount of LTF sales tax that was collected in that county. Regional Transportation Planning Agencies (RTPA) apportion the LTF revenues based on population in areas of their county. The RTPAs then allocate the revenues based on requirements and specific claims by transit operators under the provisions of the TDA.

Virtually all rail and transit agencies receive LTF revenues, with the notable exception of the Peninsula Commute Service (PCS) and Metrolink. Intercity rail services also do not receive LTF funds. This is because these rail systems are run by regional authorities, rather than transit agencies. (These two commuter rail systems may receive LTF revenues indirectly through their member counties.) Thus all financial data in this Chapter related to LTF revenues will not include data on PCS and Metrolink.

Figure **11A** shows the amount of LTF revenues distributed to counties from 1986/87 through 1992/93. The rate of increase of LTF revenues between 1986/87 and 1989/90 was well above the rate of inflation [as measured by the Consumer Price Index (CPI)]. However, in 1990/91, even though the absolute amount of LTF revenues increased, they did not keep pace with inflation. Then in 1991/92 LTF revenues dropped from the previous year's level. They increased in the 1992/93 year, but not up to the previous 1990/91 level. The rate of the LTF increase in this year was just above the CPI rate.

Figure 11A

LTF REVENUES DISTRIBUTED TO COUNTIES
1986/87 THROUGH 1992/93
(dollars in thousands)

State Fiscal Year	LTF	Increase Over Previous Year	
		LTF	CPI
1986/87	$557,683		
1987/88	604,500	8.4%	4.2%
1988/89	645,805	6.8%	4.9%
1989/90	704,781	9.1%	5.0%
1990/91	717,814	1.9%	5.3%
1991/92	666,358	-7.2%	3.6%
1992/93	690,040	3.6%	3.2%

Source: State Board of Equalization for LTF
Department of Finance for CPI

LTF revenues received by counties in a year are not the same as those received by transit operators. This is because some LTF funds are used for streets and roads and planning purposes as well as transit capital projects. Thus, if the non-transit amounts increase or decrease from year to year, this will affect the amount of LTF funds available for transit agency operating purposes. Also, transit operators may have LTF reserves from prior years that can be used in future years.

Figure **11B** shows LTF revenues received from 1986/87 through 1991/92 by counties, cities, special districts and consolidated transit agencies (data for 1992/93 is not yet available). When comparing Figures **11A** and **11B**, one can see that although total LTF revenues declined between 1990/91 and 1991/92, the revenues counties, cities, special districts and consolidated transit agencies received did not show the same decline. This is probably because prior year reserves were received. However, the relationship of the rate of increase in LTF revenues received over this period to the CPI follows the same pattern as seen above with LTF revenues distributed to counties.

Figure 11B

LTF REVENUES RECEIVED BY COUNTIES, CITIES, SPECIAL DISTRICTS AND TRANSIT AGENCIES
1986/87 THROUGH 1991/92
(dollars in thousands)

State Fiscal Year	LTF	Increase Over Previous Year	
		LTF	CPI
1986/87	$553,957	--	--
1987/88	580,522	4.8%	4.2%
1988/89	617,692	6.4%	4.9%
1989/90	669,003	8.3%	5.0%
1990/91	700,572	4.7%	5.3%
1991/92	716,158	2.2%	3.6%

Source: State Controller for LTF
Department of Finance for CPI

Transit agencies were traditionally able to make fairly accurate projections of future LTF revenues. This has become more difficult as the recession has slowed sales tax collections and the number and size of transit agencies has changed with the expansion of transit services. Thus LTF revenues are being distributed to more and larger transit agencies.

Locally Enacted Transportation Sales Taxes

Transit agencies also receive funding from locally enacted transportation sales taxes. There are two kinds of these taxes. Four transit districts directly impose a sales tax on their district. These districts are the Bay Area Rapid Transit District, San Mateo County Transit District, Santa Clara County Transit District and Santa Cruz Metropolitan Transit District.

Seventeen California counties have enacted sales taxes for transportation purposes (Los Angeles County has two one-half percent measures). Thirteen of these measures have passed since 1989. Four measures were passed in 1989 and eight (including a second 1/2 percent in Los Angeles County) were passed in 1990 or later. A local governmental agency is responsible for administering the sales tax revenues. Depending upon the specific sales tax measure approved by voters in each county, the tax revenues may be used for public transit, for highways or for a combination of both. Each individual sales tax has different restrictions and different revenue distribution requirements, including whether the funds can be used for operating or capital purposes. Often the measures specify a level of funding for specific capital projects.

Two sales tax measures, the Monterey County sales tax measure and the extension of the ten-year Santa Clara County sales tax measure, were

invalidated by a court decision. The latter, recently approved by the voters, was to have occurred in April 1995. Both of these court decisions relate to the restriction placed upon counties by Proposition 13 that new county taxes require a two-thirds vote of the people. Santa Clara county is currently waiting a decision by the State Supreme Court on this issue. At this time it seems that other county sales tax measures will not be affected by these decisions. However, these rulings do open the possibility of a further deterioration of local transportation sales tax revenues.

Figure **11C** shows the total amount of local sales tax revenues (including both county and transit district sales taxes) available for transportation purposes from 1989/90 through 1991/92. This includes both capital and operating funds for highway, rail and public transit. This source of transit revenues has increased significantly over the last few years. This is primarily because of the number of new sales tax measures passed recently. However, individual counties are not receiving as much revenue as had been anticipated when the measures were passed because of decreasing sales tax revenues due to the recession. For example, in 1989/90, the 1/2 percent sales tax in Los Angeles County generated $399 million in revenues, while in 1991/92 the same 1/2 percent only generated $368 million in revenues, a decrease of almost eight percent.

Figure 11C

LOCAL TRANSPORTATION SALES TAX REVENUES 1989/90 THROUGH 1991/92 (dollars in thousands)

State Fiscal Year	Transportation Sales Tax Revenue
1989/90	$1,114,747
1990/91	$1,317,742
1991/92	$1,715,288

Source: State Board of Equalization

Local sales tax measures may also be used for purposes other than transportation. Seven California counties currently have local sales tax measures for non-transportation purposes such as general fund, earthquake relief and open space. In November 1993, six counties attempted to pass general fund sales tax measures and one county had a measure specifically for public safety. Only one of the general fund measures was successful. This may indicate a trend in voters reluctance to pass additional sales tax measures for any purpose, including transportation.

Figure **11D**, provides a picture of the amount of sales tax revenues going to transit operations. It shows the amount of local sales tax assistance the 17 largest transit agencies received for operating assistance from 1986/87 through 1992/93. One can see local sales tax revenues available to the 17 transit operators has increased substantially since 1989/90. In fact, local sales tax revenues in 1992/93 are projected to surpass LTF revenues.

Figure **11D** is taken from the California Transit Association's (CTA) "California's Public Transportation Operators: Analysis of Projected Financial Needs and Solutions" Report published in January 1993. The CTA Report found the 17 largest operators collectively account for approximately 80 percent of statewide total operating costs for 1990/91. (Because the CTA Report relies on data from agencies receiving LTF revenues, the PCS is not included as one of the 17 largest operators.) The operators are:

Alameda-Contra Costa Transit District
Central Contra Costa Transit Authority
Fresno Area Express
Golden Gate Bridge, Highway & Transportation District
Long Beach Transit
Los Angeles County Metropolitan Transportation Authority (Formerly Southern California Rapid Transit District)
Monterey-Salinas Transit
North San Diego County Transit District
Orange County Transportation Authority
Sacramento Regional Rail Transit District
San Diego Metropolitan Transit Development Board
San Francisco Bay Area Rapid Transit District
San Francisco Municipal Railway
San Mateo County Transit District
Santa Clara County Transit District
Santa Cruz County Metropolitan Transit District
Santa Monica Municipal Bus Lines

Figure 11D

OPERATING REVENUES AND EXPENSES
17 LARGEST CALIFORNIA TRANSIT OPERATORS
1986/87 through 1992/93

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93
DATA SOURCE	A	A	A	A	A	B	C
REVENUES							
Passenger Fares	$472,310,696	$478,279,409	$543,335,365	$583,571,735	$609,242,018	$609,814,335	$624,254,250
Local							
Property Tax	22,597,706	27,241,000	27,055,428	33,103,782	40,197,715	48,949,505	50,094,726
Sales Tax Rev & Assistance	218,035,542	224,340,822	194,932,949	215,681,562	337,391,195	411,094,715	527,518,207
Local Transportation Fund/TDA	364,503,336	384,689,436	400,489,088	439,755,759	448,326,817	432,473,441	394,095,516
All Other	217,354,811	232,079,320	232,117,179	248,678,727	255,471,157	234,059,669	235,630,244
Total Local Support	**$822,491,395**	**$868,350,578**	**$854,594,644**	**$937,219,830**	**$1,081,386,884**	**$1,126,577,330**	**$1,207,338,693**
State							
State Transit Assistance Fund	10,565,090	26,957,172	7,186,828	11,107,694	25,110,356	37,939,781	31,250,347
Other State Funds	6,838,969	3,914,248	3,309,301	3,582,887	5,244,220	4,559,119	6,431,432
Total State Support	**$17,404,059**	**$30,871,420**	**$10,496,129**	**$14,690,581**	**$30,354,576**	**$42,498,900**	**$37,681,779**
Federal							
Section 5/9 (1)	107,752,476	99,731,625	98,800,683	96,488,332	95,395,571	94,804,039	93,439,840
Section 18	0	80,709	99,298	102,209	100,743	133,769	192,736
Other Federal Funds	2,661,663	2,393,519	2,190,622	2,632,011	4,060,965	3,607,394	7,900,122
Total Federal Support	**$110,414,139**	**$102,205,853**	**$101,090,603**	**$99,222,552**	**$99,557,279**	**$98,545,202**	**$101,532,698**
TOTAL OPERATING REVENUES	**$1,422,620,289**	**$1,479,707,260**	**$1,509,516,741**	**$1,634,704,698**	**$1,820,540,757**	**$1,877,435,767**	**$1,970,807,420**
EXPENSES							
Salaries, Wage & Benefits	$1,044,673,725	$1,134,479,875	$1,150,993,570	$1,233,440,759	$1,324,935,163	N/A	N/A
Other Operating Expenses	377,946,564	350,949,100	360,782,386	402,293,090	496,038,326	N/A	N/A
Total Operating Expenses	**1,422,620,289**	**1,485,428,975**	**1,511,775,956**	**1,635,733,849**	**1,820,973,489**	**1,911,792,599**	**1,977,292,615**
Americans with Disabilities Act	0	0	0	0	0	1,778,300	7,956,800
Clean Air Act	0	0	0	0	0	0	0
Total Other Expenses	0	0	0	0	0	1,778,300	7,956,800
TOTAL OPERATING AND OTHER EXPENSES	**$1,422,620,289**	**$1,485,428,975**	**$1,511,775,956**	**$1,635,733,849**	**$1,820,973,489**	**$1,913,570,899**	**$1,985,249,415**

(1) - Section 5 Program is no longer in existence. It provided capital and operational funds for transit.

N/A - Not available for selected operators

Data Sources:

A -1986/87 through 1990/91 data from Annual Report 1991/92 Financial Transactions Concerning Transit Operators and Non-Transit Claimants Under The Transportation Development Act, Gray Davis, State Controller

B - 1991/92 data from Transit Operator's unaudited financial statements.

C - 1992/93 data from Transit Operator's preliminary fiscal year budgets.

Clearly local sales taxes have fast become a significant source of operating revenues for transit agencies. This source differs significantly from LTF revenues. While LTF revenues provide funds all over the State based on population, local sales tax revenues only go to counties or districts that have enacted measures. Thus, although this source is fast increasing, it provides a much less consistent Statewide source than LTF revenues.

Passenger Fares

Passenger fares are the only revenue source directly tied to ridership and the size of a transit system. Traditionally passenger fares do not make up the majority of operating revenues. Passenger fares account for roughly 30 percent of total operating revenues for the 17 largest operators listed in Figure **11D**.

Other Local Funds

Transit agencies utilize a variety of other local fund sources. Two of the most common are general funds and property taxes. Many transit agencies use these sources for a small percentage of operating revenues. The notable exception is Muni which uses a significant amount of general fund revenues. General funds can be susceptible to fluctuations related to a city's financial situation. For example, Muni's operating revenues were composed of between 44 and 48 percent general funds from 1984/85 through 1991/92. In 1992/93, as a result of San Francisco's budgetary problems, Muni's general funds were reduced to 39 percent of operating revenues. Consequently Muni's total operating revenues decreased between 1991/92 and 1992/93 (although some of the General Fund revenue shortfall was covered by an increase in other local funds).

Federal Programs

The Federal Government provides capital and operating funding for transit agencies in California and other states through the Federal Transit Administration (FTA), formerly the Urban Mass Transit Administration (UMTA). Specifically, the Section 9 Urbanized Area Formula Program and the Section 18 Nonurbanized Area Formula Program provide operating and capital funds for transit agencies.

The Section 9 Program is a formula-apportioned grant for capital and operating assistance for transit agencies in urbanized areas with populations of over 50,000. This Program has a cap on the total amount that can be used for operations. The Section 18 Program is a formula-apportioned grant for capital and operating assistance for transit agencies in nonurbanized areas with populations under 50,000. Under the Section 18 Program the entire amount can be used for operations.

Figure **11E** shows the amount of Section 9 and 18 funding California transit operators have received from 1988 through 1993. Combined Section 9 and Section 18 funds have decreased between 1988 and 1993. Clearly federal funds have become a less significant source of operations funding for transit agencies.

Figure 11E

SECTION 9 AND 18 APPORTIONMENTS
1988 THROUGH 1993
(dollars in thousands)

Federal Fiscal Year	Section 9	Section 18	Total
1988	$245,694	$2,816	$248,510
1989	$224,130	$2,872	$227,002
1990	$228,223	$2,819	$231,042
1991	$240,667	$2,931	$243,598
1992	$274,342	$4,982	$279,324
1993	$237,323	$4,259	$241,582

Source: Federal Registers (1988-1993)

A similar trend can be seen in Figure **11D** with the 17 largest transit agencies; between 1986/87 and 1991/92 federal funds declined from eight percent to five percent of total operating revenues.

A hallmark of the Federal ISTEA legislation is the increased flexibility it provides to fund transit and rail. However, in general, ISTEA only allows increased funding for capital programs, not for operating assistance. Thus, in some ways ISTEA raises expectations for increased transit service by making available capital funds, without providing corresponding operating funds to run the new services.

OPERATING COSTS

This section includes a discussion on four issues: transit agency operating expenses, operating costs related to the expansion of the rail system made possible by the rail bond measures passed in 1990, costs of compliance with the federal Americans with Disabilities Act (ADA) and costs of compliance with the federal and State Clean Air Acts.

Transit Agency Operating Expenses

Figure **11D** shows the majority of transit agency operating expenses are salaries, wages and benefits. Salaries, wages and benefits rose from 73 percent of total expenses in 1986/87 to 76 percent of total expenses in 1988/89 and then back down again to 73 percent of expenses in 1990/91. Other expenses include categories such as materials and supplies, utilities, purchased transportation services and depreciation costs.

Given the current fiscal situation, transit operators must work aggressively to control and reduce operating expenses. Clearly the most financial benefits can be gained from controlling costs in the area of salaries, wages and benefits. Certain of the California transit operators have some of the highest wage rates in the nation. However, it is difficult to reduce such costs as they are, in large part, governed by labor agreements with unions representing the employees of the transit systems.

Expansion of the Rail System

Propositions 116 and 108 made available significant capital funds for rail expansions and new rail systems. Since these measures have passed no similar Statewide revenue source has been developed to provide operating funds for the new or expanded systems. However, many of the local sales tax measures were passed around the same time as Propositions 116 and 108 and anticipated providing operating revenues for extensions. For example, Los Angeles County passed its second 1/2 percent sales tax in 1991. A portion of the revenues from the measure are used to fund new rail services. Unfortunately, as discussed above, the full level of revenues anticipated from these measures has not materialized due to the recession.

Similarly, LTF revenues have not increased as projected. In addition, federal operating funds have decreased. All these factors have caused transit agencies' projections for operating revenues for expanded systems to now show a shortfall. Finally, one should note it is likely the transit agencies' projections for operating revenues had always been somewhat optimistic and in some cases relied on uncertain revenue sources.

Americans with Disabilities Act Compliance

According to the CTA Report "the Americans with Disabilities Act (ADA) signed into law in 1990, has significant implications for transit operators." The Act requires, in general, that all fixed routes be accessible. Also, service that is comparable to fixed (paratransit) route service must be provided for those who cannot utilize fixed route transit. No additional federal funds have been provided to transit operators to comply with ADA.

The costs of providing this additional paratransit service are considered to be the most significant ADA costs in California; these costs will be primarily operating costs. This is because under California law that predated the ADA, fixed route service had generally been required to be accessible. Because the ADA is so recent, the cost impacts to transit agencies have not been fully realized or assessed.

Clean Air Acts Compliance

According the CTA Report "the Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) require that transit operators comply with stringent emission regulations through the use of alternative

fuels and technologies for transit vehicles - particularly for heavy-duty engines." There will most likely be operations, capital and maintenance costs to comply with Clean Air Act requirements. For example, many transit agencies have already started to convert their fleets to alternative fuels and to add alternative fueling facilities. Again, it is difficult at this time to determine the exact impacts Clean Air Act compliance will have on operational costs.

CAPITAL SOURCES AND USES

This section includes a discussion on both capital sources and uses.

Capital Sources

The source of capital funds, like operating revenues, has changed significantly over the last five or so years. Prior to the passage of Propositions 108 and 116, the State provided a limited amount of capital funds to local transit operators, mainly through the Transit Capital Improvement Program, including State Highway Account (Article XIX) funds - see Chapter III of this Report for a further description of these programs. A notable exception to this is the San Diego Trolley's south line which was developed primarily with State funds. Since the passage of the rail bond measures the State has become a much more significant funding partner in local transit capital projects.

Just as local sales tax revenues have become an important operating revenue source, this source is also being heavily used for rail expansion. For example, Los Angeles County's second sales tax measure is being heavily used for capital projects, as is San Diego County's measure.

Traditionally the federal UMTA (now called FTA) provided funding for large urban transit projects. Local jurisdictions also provided significant funding to build their own transit systems. For example, BART originally intended to fund its initial system entirely with local funds. A 1962 bond referendum of $792 million, the largest local bond issue ever undertaken by a California jurisdiction, provided capital funds to begin building the system. Later, UMTA grants of about 20 percent of the total capital costs were used to complete the initial BART system. Another example is the initial 11.1 mile segment of the San Diego Trolley east line which was built with approximately 58 percent federal funds.

Figure **11F** taken from the "State Controller's Annual Report 1991/92 Financial Transactions Concerning Transit Operators and Non-transit Claimants under the Transportation Development Act" shows TDA recipient capital acquisition revenues from 1987/88 through 1991/92. This figure does not include funds from State rail bonds and excludes data on the PCS and Metrolink. There is a clear trend of decreasing federal funds and increasing local funds dedicated to capital projects.

Figure 11F

TDA Recipient Capital Acquisition Revenues
1987/88 through 1991/92

	1987/88	1988/89	1989/90	1990/91	1991/92
Federal Capital					
UMTA Section 3 Grants	$157,471,920	$182,798,820	$182,682,002	$123,410,973	$107,164,955
UMTA Section 9 Grants	117,277,381	182,581,090	177,354,025	144,876,719	96,399,419
UMTA Section 18 Grants	4,713,872	1,010,542	6,322,439	806,224	1,518,817
UMTA Section 16(b)2 Grants	778,130	1,169,629	407,142	531,231	455,267
Federal Interstate and Other	4,511,847	9,858,992	18,503,878	11,142,634	3,274,943
Total Federal Capital	**$284,753,150**	**$377,419,073**	**$385,269,486**	**$280,767,781**	**$208,813,401**
State Capital					
State Transit Assistance	27,781,562	7,586,428	14,796,401	5,336,510	12,267,720
TP&D Guideway	12,689,698	16,600,112	7,868,407	4,496,467	15,644,344
State Article XIX Guideway	10,878,544	6,027,722	22,374,209	21,044,591	34,424,040
General Fund and Other	10,292,100	50,157,782	44,967,158	26,494,272	24,759,152
Total State Capital	**$61,641,904**	**$80,372,044**	**$90,006,175**	**$57,371,840**	**$87,095,256**
Local Capital					
Local Transportation Fund	33,664,819	48,394,310	51,915,119	37,355,233	51,769,653
Other Local Provisions	57,870,367	49,342,066	97,231,921	70,513,477	201,767,521
Total Local Capital	**$91,535,186**	**$97,736,376**	**$149,147,040**	**$107,868,710**	**$253,537,174**
Non-Government Donation	**$26,653,120**	**$34,383,460**	**$27,659,916**	**$25,265,753**	**$17,545,942**
TOTAL CAPITAL ADDITIONS TO EQUITY	**$464,583,360**	**$589,910,953**	**$652,082,617**	**$471,274,084**	**$566,991,773**

Source: Annual Report 1991/92 Financial Transactions Concerning Transit Operators and Non-Transit Claimants Under The Transportation Development Act, Gray Davis, State Controller

Figure **11G** shows rail bond allocations from 1990/91 through 1992/93. This data includes allocations to PCS and Metrolink (excluding allocations for the intercity portion of certain shared rail projects). Clearly, the two rail bonds are a major new source of capital funds. In 1991/92 total rail bond allocations of $780 million were well above all other capital revenues transit agencies received; Figure **11F** shows transit agencies received $567 million from federal, local and State (not including rail bonds) sources in 1991/92.

Figure 11G

PROPOSITION 108 AND 116 ALLOCATIONS
1990/91 THROUGH 1992/93
(dollars in thousands)

State Fiscal Year	Proposition 108 Allocations	Proposition 116 Allocations	Total
1990/91	$99,927	$14,300	$114,227
1991/92	338,076	441,819	779,895
1992/93	253,389	222,700	476,089

Source: Caltrans

Capital Uses

Every urban and commuter rail system in California currently operating, with the exception of BART, Muni and the Peninsula Commute Service (PCS), has commenced service in the last 12 years (beginning with the San Diego Trolley in 1981). As was discussed above, these systems were built primarily with local and federal funds.

The new State rail bonds allow existing systems to expand and also provide funds for entirely new systems such as the Metrolink commuter system in the Los Angeles area and the Metro Red Line subway in Los Angeles. Some of the planned rail systems will replace existing bus service on very heavily traveled lines that could operate more effectively with guideway service. Others though, represent significant new service expansions. Again the Metrolink is an excellent example. Previously only limited commuter bus service ran on most of the Metrolink corridors.

Rehabilitation

At the same time as significant expansion is being planned and occurring, most of the new California rail systems will be aging and facing serious rehabilitation needs for the first time. Rehabilitation includes the life-cycle needs of vehicles, stations, control and signal systems, and track. Of course, BART, Muni and the PCS are all much older and already face serious rehabilitation needs. As discussed above, in general, the new sources of capital revenue are planned to be used for new projects and not for rehabilitation needs. Thus, although rehabilitation needs are increasing, special funding sources to meet these needs have not been developed.

Transit agencies' ten-year rehabilitation programs (as reported by the agencies) are shown in Chapters XII and XIII of this Report. Caltrans has not undertaken an independent study of the adequacy of these rehabilitation programs.

The recent emphasis in transit on concentrating capital funding on new extensions is in sharp contrast to how highway maintenance and rehabilitation is funded. Section 14529.6 of the California State Government Code states that funds in the State Highway Account shall be programmed, budgeted and expended under a specific set of priorities. Operations, maintenance and rehabilitation is the first item on the list of priorities. Thus, operations, maintenance and rehabilitation of the State highway system are generally adequately funded. Additionally, the federal government funds a well established rehabilitation program, which is carefully monitored.

New issues and trade-offs come into play as transit systems age. For example, if rehabilitation of infrastructure, facilities and equipment is delayed, operation and maintenance costs will increase. Additionally, if rehabilitation is delayed, the eventual cost of the rehabilitation or capital project will increase, leaving the system with higher capital costs. Transit agencies are facing these kind of choices at the same time as operating revenues are lower than previously anticipated (as discussed above). The critical decisions public officials and transit operators make on the trade-offs between rehabilitation, operating needs and new capital projects will greatly impact the finances and services of California urban and commuter rail systems in the next decade and beyond.

SUMMARY

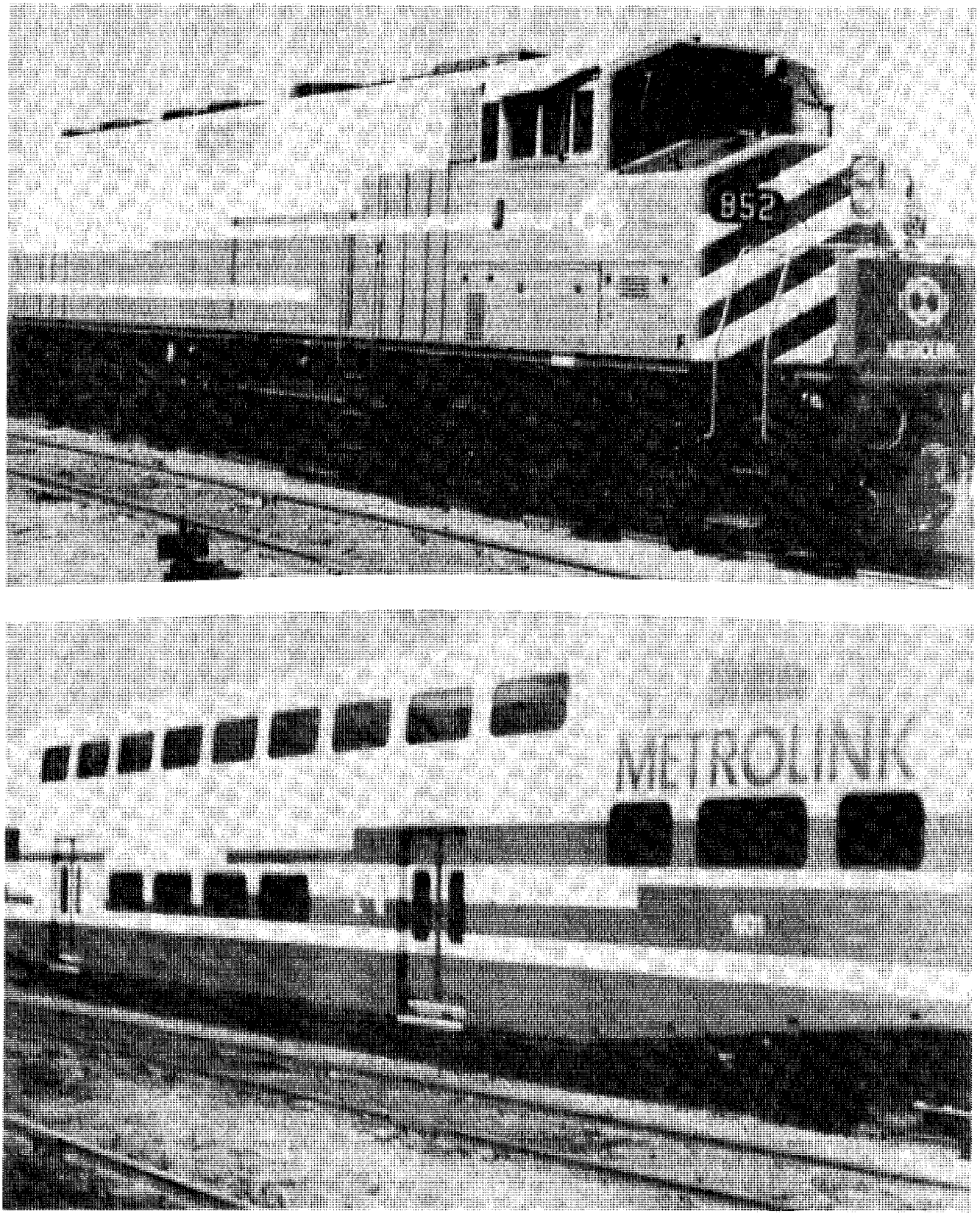
Looking at the financial condition of California transit agencies from a historical perspective, one can see the passage of the TDA allowed many transit agencies to initiate and greatly expand bus service and build new rail systems. Also early on, some of the large transit agencies developed local sales tax revenues, partially to support operations. For example, the Bay Area Rapid Transit District passed a 1/2 percent sales tax in 1970. Generally speaking, for many years the TDA revenues and specific local sales tax measures, in conjunction with fares, federal funds and other local funds, were adequate for the operating needs of transit agencies.

Over the 1970's and 1980's transit systems grew and expanded. TDA revenues throughout the 1980's continued to grow at a rate a little above inflation, but not enough to accommodate significant expansions. In the late 1980s some systems passed sales tax measures partly to help pay increasing operating costs resulting from expansion. For example, San Diego county passed a sales tax measure in 1988.

Starting in the late 1980's - before the full force of the recession hit and prior to the passage of the ADA, Clean Air Acts and rail bonds - transit systems were beginning to feel the pressure expanded systems were putting on available operating revenues. By the 1990's, a whole host of factors came together to put

extreme pressure on transit agencies' operating revenues. These factors are: (1) the negative effect of the recession on TDA and local sales tax revenues, (2) an overall reduction in federal funds for operating, (3) new operating costs related to the ADA and Clean Air Acts, (4) rehabilitation pressures on aging systems, (5) continuing pressure resulting from the State rail bonds to expand transit systems and thus add to operating costs in the short term and to rehabilitation costs in the long term, (6) the public mandate to expand transit systems in the hopes of reducing congestion and improving air quality and to serve persons whose mobility has been negatively affected by the recession.

In the 1990's California transit agencies and their funding partners face critical challenges in balancing these factors so that transit service is not adversely affected and expansion of the transit system can continue. To ensure effective solutions, these challenges must be examined in the context of statewide transportation funding strategies. Caltrans has addressed this issue in the California Transportation Plan (CTP). The final draft CTP recommends the Business, Transportation and Housing Agency should initiate a study on the subject of the State's role in non-highway modes of transportation, including clarification of necessary funding structures.



Metrolink locomotive and coach

Chapter XII - Commuter Rail Services

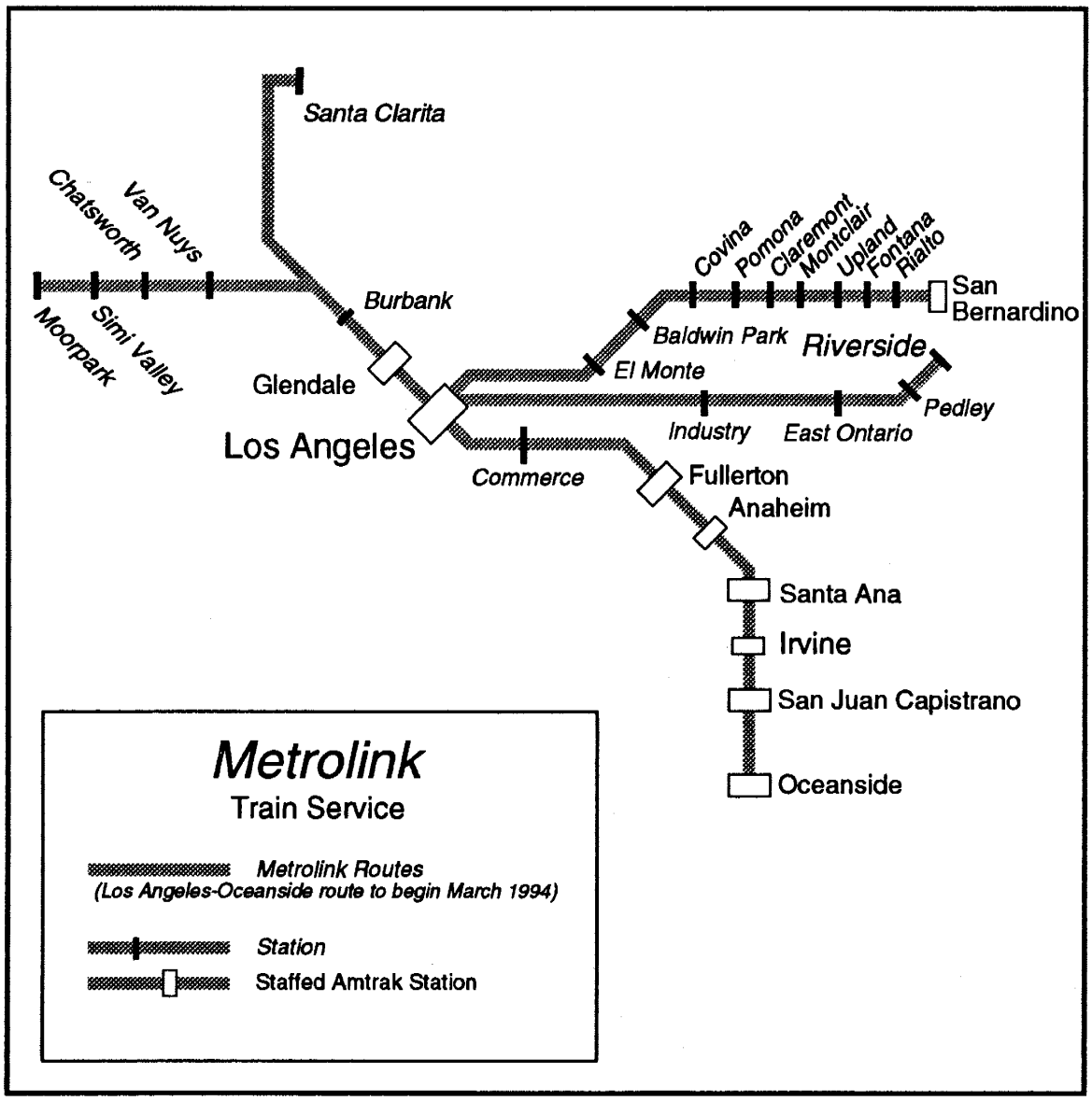
This Chapter provides factual information on existing commuter rail systems and a status report on proposed new systems. All information was reviewed by appropriate transit agencies and regional transportation planning agencies. This information is included in this Report to provide comprehensive coverage of all rail passenger services in California. Because commuter rail services primarily serve local and regional transportation needs, they are planned and administered by local and regional transportation agencies.

Currently two commuter rail services are in operation in California: Metrolink (including Orange County Commuter Rail) which operates five routes between Los Angeles and outlying areas, and the Peninsula Commute Service which runs between San Francisco, San Jose and Gilroy.

Other proposed commuter rail services are the subject of feasibility studies which are in progress or completed, or are in the later stages of planning. These services listed from south to north are:

- Oceanside-San Diego/Escondido Commuter Rail
- Altamont Pass Commuter Rail
- San Francisco Bay Area Proposed Commuter Rail Lines
- Woodland-Davis Rail Study
- Placer County-Sacramento-Davis

Figure 12A


Santa Clarita
Chatsworth
Van Nuys
Moorpark
Simi Valley
Burbank
Glendale
Los Angeles
Commerce
Covina
Pomona
Claremont
Montclair
Upland
Fontana
Rialto
San Bernardino
Baldwin Park
Riverside
El Monte
Pedley
Industry
East Ontario
Fullerton
Anaheim
Santa Ana
Irvine
San Juan Capistrano
Oceanside
Metrolink
Train Service
Metrolink Routes
(Los Angeles-Oceanside route to begin March 1994)
Station
Staffed Amtrak Station

Metrolink Commuter Rail

I. System Wide Information

Agency Name: Southern California Regional Rail Authority (SCRRA)
Address: 818 West Seventh Street, 7th Floor
Los Angeles, CA 90017
Public Affairs Phone Number (213) 244-6142

A. Agency History and Organization

The SCRRA was established in August 1991, through a Joint Exercise of Powers Agreement (JPA) between the following public agencies: Los Angeles County Metropolitan Transportation Authority (MTA), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), San Bernardino Associated Governments (SANBAG), and Ventura County Transportation Commission (VCTC).

The governing board has 11 members appointed by the member agencies with voting power as follows: MTA - 4, OCTA - 2, RCTC - 2, SANBAG - 2, and VCTC - 1.

Service started on three lines in Ventura and Los Angeles Counties on October 26, 1992. By 1995 six lines will provide service in Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties, with Orange County to Los Angeles service extending as far south as Oceanside in San Diego County. The system name "METROLINK" was adopted in August 1991. The SCRRA contracts with Amtrak to operate the service.

B. Area Served

Counties and Major Incorporated Cities Served: Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties.

Square Miles: 6,000
Population: 15.1 million

C. System Summary (10/26/92 - 6/30/93)

Vehicles in Fleet	Vehicles Operated in Maximum Service	Monthly Vehicle Revenue Miles	Number of Routes	Directional Route Miles	Miles of Guideway Track
7 cars 19 locomotives	53 cars 16 locomotives	26,080	4	196	258

D. Ridership (10/26/92 - 6/30/93)

Monthly Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Monthly Passenger Miles
90/91	91/92	92/93	1992/93	1992/93
N/A	N/A	113,873	5,399	3,758,000

E. Route Descriptions (10/26/92 - 6/30/93)

Route # Designation	Origin/ Destination	Yr Start of Rev Service	Directional Route Miles	Miles of Tracks	# Stops	Headway		Weekday Hours of Operation
						Min	Max	
Ventura-LA	Moorpark-LA	1992	47	60	7	40	50	5:15 am - 7:43 pm
Santa Clarita-LA	Santa Clarita/ LA	1992	34	49	4	55	60	5:35 am - 7:17 pm
San Bernardino-LA	San Bernardino-LA	1992	56	59	9	27	43	5:26 am - 7:18pm
Riverside-LA	Riverside-LA	1993	59	110	5	53	75	5:20 am - 7:34pm

F. Facilities

There is a maintenance facility at Taylor Yard in Los Angeles. Layover facilities are located in Moorpark, Santa Clarita, Montclair, San Bernardino, and Riverside. There are 22 stations.

G. Finance and Personnel

11/92-6/93 (unaudited) OPERATING REVENUE SOURCES ($ in millions)								11/92-6/93	
Passenger Fares	Agency Non Fare Revenue	TDA	Local Sales Tax	Other Local (a)	State	Federal	TOTALS	Operating Expense ($ in millions)	# of Personnel
$0.85	$0	$0	$0	$6.25	$0	$0	$7.10	$7.10	N/A (b)

(a) Includes member county contributions to METROLINK operations which may include local sales taxes and TDA.

(b) All staff are under contract.

H. Fare Structure

Metrolink has a barrier free system with ticket vending machines (TVMs) and validators at all stations. The TVMs accept cash or credit or debitcards and tickets can also be purchased at Union Station, through Employee Transportation Coordinators or through the mail. The system has a multi-zone fare structure designed to achieve 40 percent farebox recovery by the third full year of service. The base one-way fare is $2.50, with a $1.00 zone charge. The lowest regular monthly pass is $80 (which is one zone), the most expensive is $240 (six zones). All tickets are designed to include a free transfer to connecting public transportation. Discounts of 50 percent are offered to the disabled and seniors at all times and youth fares are available at off-peak hours. Off-peak fares are discounted at 25 percent from regular

fares. Ten-trip and monthly pass tickets at a discounted rate are also available.

I. System Integration

Transit integration plans have been prepared by each of the counties to ensure integration of Metrolink service with other transit systems and transportation modes. The fare is designed to provide a free transfer either from feeder bus or to local transit at the destination station. Riders can transfer to Amtrak at Union Station or at five other stations on the Ventura to Los Angeles line. Shuttle service is provided at the Burbank station to the Burbank Airport. Private shuttles at Los Angeles Union Station provide connecting service to Los Angeles International Airport. Riders can also transfer free to the Metro Red Line at Union Station. (The Metro Red Line connects to the Metro Blue Line at the 7th and Flower Station.) A free Metrolink shuttle bus operates in the mornings and evenings from Union Station to downtown Los Angeles.

J. Access for the Disabled

All stations and the vehicles are designed to be totally accessible to the disabled and comply with all ADA requirements.

II. Ten Year Capital Program (1993/94 through 2002/03)

A. Rehabilitation Program

As all facilities and rolling stock are new, there are no major rehabilitation projects planned through 2002/03.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions

Route Designation/ Origin/ Destination	New or Extended	Project Status	Start-up Year	Directional Route Miles (duplicated)	Miles of Track (duplicated)	# of Stops (a)	Daily Projected Passenger Trips (b)
Ventura-LA	New	Construction 15-100%	10/92	47	84	7	3398
Santa Clarita-LA	New	Construction 15-100%	10/92	35	49	4/5	2688
San Bernardino-LA	New	Construction 15-100%	10/92-5/93	57	64	11/13	4490
Riverside-LA(UP)	New	Construction 15-100%	6/93	60	103	5/7	4828
Oceanside-LA (c)	New	Construction 15-100%	3/94	87	122	14	2235
Riverside-Fullerton-LA	New	Construction 25-50%	1995	60	76	12	3599
SB-Riverside-Irvine	New	Construction 25-50%	1996	63	109	14	3178
Hemet-Riverside	New	Planning (RTIP phase)	after 1996	40	40	9	1506
Redlands-San Bernardino	New	Planning (RTIP phase)	after 1996	13	13	4	n/a

(a) Low number as of 6/93, high number at build out.
(b) Projections after one year of operation of each individual line.
(c) Currently Orange County Commuter Rail (sponsored by the Orange County Transportation Authority) operates one round-trip commuter rail train between Los Angeles and San Juan Capistrano.

2. Financial Data

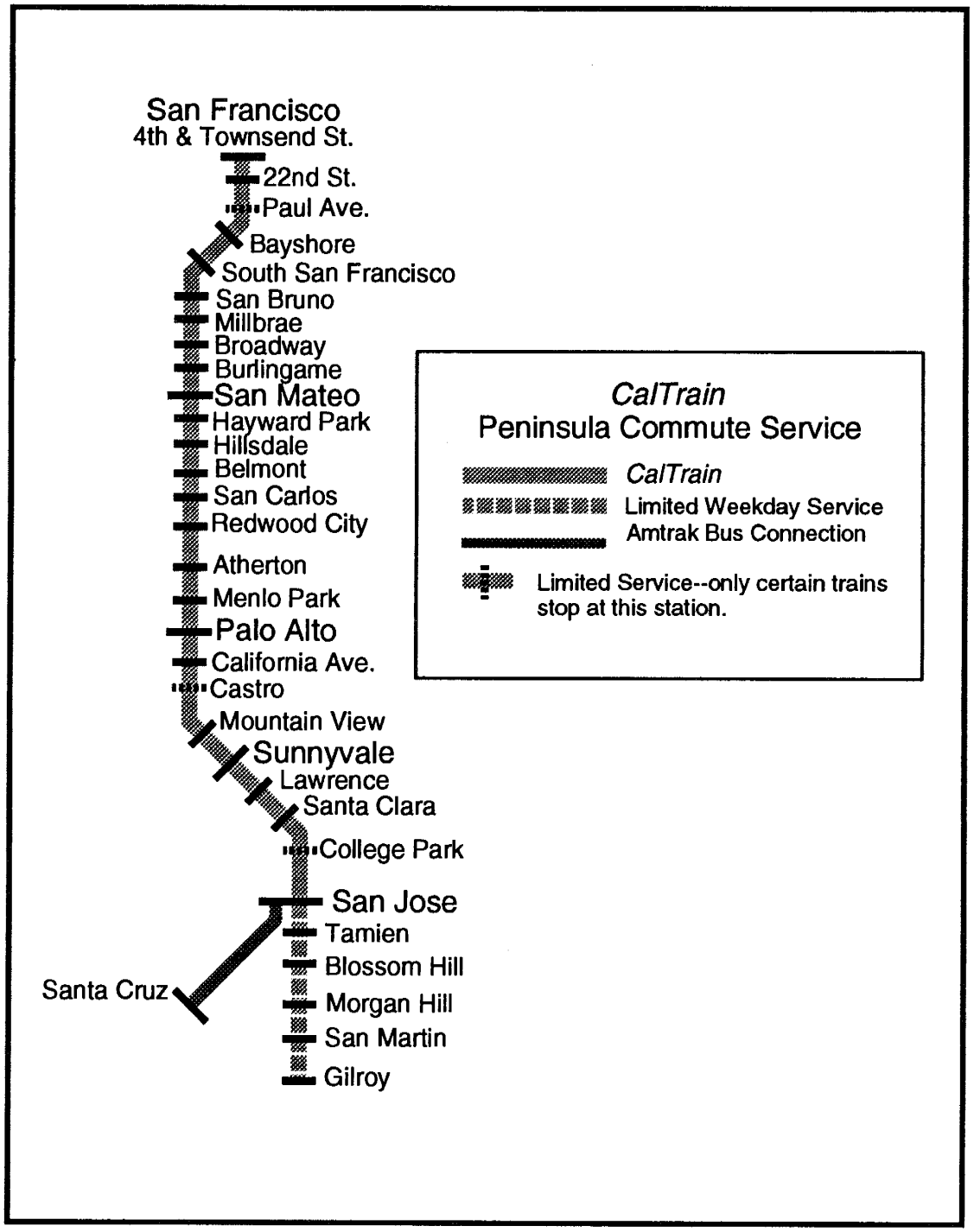
Route Designation	First Year Projected Annual Operating Expense ($ in millions)	Capital Costs ($ 1993) (a)				
		Proposed Funding Sources ($ in millions)				
		Local	State	Federal	Other	TOTALS
Ventura-LA (b)	$ 8,114	$28.3	$85.3	$	$	$113.6
Santa Clarita-LA	7,413	35.9	29.6	--	--	65.5
San Bernardino-LA	13,063	85.6	164.5	--	--	250.1
Riverside-LA(UP)	7,567	47.9	47.1	--	--	95.0
Oceanside-LA	8,180	111.7	177.1	--	--	288.8
Riverside-Fullerton-LA	4,532	57.7	138.8	--	--	196.5
SB-Riverside-Irvine	4,298	(e)	(e)	--	--	(e)
Hemet-Riverside	(c) n/a	37.5	33.1	--	--	70.6
Redlands-San Bernardino	(d) n/a	8.4		--	--	8.4
Maintenance Faility & Shared Facilities	n/a	27.0	37.4	--	--	64.4
Totals	$53,167	$440.0	$712.9	$--	$--	$1,152.9

(a) Includes costs for route construction, right-of-way, rolling stock and related facilities.
(b) Does not include intercity work north of Moorpark.
(c) Preliminary estimates only.
(d) ROW cost only.
(e) Costs included under Riverside-Fullerton-LA line.

C. New Improvement Projects

All new capital projects are included in II B.

Figure 12B


San Francisco
4th & Townsend St.
22nd St.
Paul Ave.
Bayshore
South San Francisco
San Bruno
Millbrae
Broadway
Burlingame
San Mateo
Hayward Park
Hillsdale
Belmont
San Carlos
Redwood City
Atherton
Menlo Park
Palo Alto
California Ave.
Castro
Mountain View
Sunnyvale
Lawrence
Santa Clara
College Park
San Jose
Tamien
Blossom Hill
Morgan Hill
San Martin
Gilroy
Santa Cruz
CalTrain
Peninsula Commute Service
CalTrain
Limited Weekday Service
Amtrak Bus Connection
Limited Service--only certain trains stop at this station.

Peninsula Commute Service

I. System Wide Information

Agency Name: Peninsula Corridor Joint Powers Board (JPB)
Address: 1250 San Carlos Avenue
San Carlos, CA 94070
Public Affairs Phone Number (415) 508-6200

A. Agency History and Organization

Between 1980 and July 1991, Caltrans District 4 administered a purchase-of-service agreement with Southern Pacific (SP) to operate the service. Caltrans and local government agencies partially funded the service. In addition to contract administration, Caltrans responsibilities included planning and marketing, engineering and design, fare and schedule setting, performance monitoring and customer service.

In 1987, representatives of the City and County of San Francisco, San Mateo County Transit District(SamTrans) and the Santa Clara County Transit Agency (SCCTA) formed the Peninsula Corridor Study Joint Powers Board (JPB) with the intention of transferring administrative responsibility of the Peninsula Commute Service (PCS) from the State to the local level. In July 1991, the JPB designated SamTrans as the oversight agency to administer PCS. The oversight function contains four major components: (1) direct oversight by the SamTrans Rail Division, assisted by the Woodside Consulting Group; (2) support functions provided by the SamTrans staff; (3) additional support functions by Caltrans District 4 personnel remaining in State service through 1993/94; (4) liaison by staff members of affiliated JPB agencies individually and through a regularly constituted Technical Advisory Committee.

In June 1992, the JPB established a Citizens Advisory Committee (CAC) composed of three representatives from each of the JPB counties. The CAC's principal function is to assist the JPB by articulating the interests and needs of transit users and potential patrons.

B. Area Currently Served

Counties Served:

San Francisco, San Mateo, and Santa Clara.

Cities Served:

San Francisco, South San Francisco, San Bruno, Millbrae, Burlingame, San Mateo, Belmont, San Carlos, Redwood City, Atherton, Menlo Park, Palo Alto, Mountain View, Sunnyvale, Santa Clara, San Jose, Morgan Hill, the community of San Martin, and Gilroy.

Square Miles: 424.5

Population: 3,690,367

C. System Summary (1992/1993)

Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Miles	Miles of Guideway Track
73*	56	881,218	1	78	78

D. Ridership

Annual Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
90/91	91/92	92/93	92/93	92/93
6,111,651	6,058,155	5,745,654	20,236	132,114,781

E. Route Descriptions (1992/1993)

Route # Designation	Origin/ Destination	Yr Start of Rev Service	Directional Route Miles	Miles of Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
PCS	SF/Gilroy	1864	78	78	34	5	60	4:44a-12:01a

* The PCS has 73 cars and 20 engines

F. Facilities

Stations

The PCS has a total of 34 stations. Four are in San Francisco County, 14 are in San Mateo county, and 16 are in Santa Clara county. The 34 stations have a total of 4,704 parking spaces.

Maintenance and Storage Facilities

Existing maintenance facilities are aging and dispersed throughout the Bay Area. The current situation makes routine and heavy maintenance inefficient due to the long periods that rolling stock must be out of passenger service in order to be maintained.

To alleviate this problem, a new maintenance facility will be constructed at the Lick Quarry site in San Jose. The proposed project will provide a new centralized equipment maintenance facility that will allow efficient and effective maintenance of PCS rolling stock. The project will include a 1,000-

foot long building containing "whole train" inspection facilities; locomotive sanding and fueling station; and crew and administrative facilities. The project will also include a train storage yard and yard control equipment.

A satellite maintenance facility at the San Jose/Cahill yard will be constructed in order to provide adequate locomotive servicing and maintenance until the Lick Maintenance Facility is constructed. The satellite maintenance facility will remain in service after the Lick Facility is operational.

G. Finance and Personnel

1992/93 OPERATING REVENUE SOURCES ($ in millions)								1992/93 Operating Expense ($ in millions)	1992/93 # Personnel
Passenger Fares	Agency Non Fare Revenue	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS		
$12.68	$1.97	$--	$--	$10.69	$10.95	$-	$36.47	$36.47	N/A

H. Fare Structure

To accommodate the new Gilroy service, the JPB adopted a new codified tariff effective July 1, 1992. The revised fare structure was established from the old graduated zone structure, which was based on distance traveled. Two new zones were instituted into the system in order to equalize fares and distances traveled to create consistency with other fare zones throughout the service area. This resulted in an increase from six to eight zones and new zone boundary lines approximately every 7.5 miles throughout the system.

Effective July 1, 1993, the JPB approved a 10 percent across-the-board fare increase. The ticket types available include one-way monthly pass (discounted for ticket-by-mail pruchases), and a 20-ride ticket. Also, seniors, disabled persons and children under twelve may ride at half the fare of a one-way ticket.

I. System Integration

Feeder Buses

SamTrans provides feeder service to ten of the 14 PCS stations which are located in San Mateo County as well as to the Palo Alto Station in Santa Clara County. Additionally, SCCTD provides feeder service to 14 PCS stations located in Santa Clara County.

In downtown San Francisco weekday shuttle bus service is provided for PCS patrons traveling in the peak-hour peak-direction. In addition, all-day Muni service is provided at the 4th and Townsend Station. Three shuttle routes implemented in 1984 serve the 4th and Townsend Station connecting passenger with Market Street, the Financial District, and the Embarcadero. The Levi Plaza route was added in January 1989.

16 PCS shuttle routes are currently in operation in San Mateo and Santa Clara Counties. These peninsula routes link train stations and employment centers

where shuttle service can serve patrons more directly than existing fixed-route service.

In November 1988 a demonstration program known as the CalTrain Connector was initiated to link the San Jose PCS station with downtown Santa Cruz, a distance of approximately 33 miles. Until April 1992, service was provided by contractors under a cooperative agreement between Caltrans and Santa Cruz Metro Transit. Eighteen trips were operated on weekdays and 16 on weekends, and an average of 100 passengers were carried. (See Chapter IX, Connecting Bus Services, Bus Route 22-Santa Cruz).

Intercity Rail

CalTrain connects directly to Amtrak's *Capitol* Route in San Jose. Feeder buses for the Amtrak *San Joaqu*in and *Capitol* Routes leave from Fourth and Townsend in San Francisco.

Light Rail

The PCS connects directly to Santa Clara Light Rail at the new Tamien Station in San Jose.

Ticketing Integration

With the purchase of a monthly PCS ticket, passengers are eligible to purchase a Peninsula Pass for an additional $25 per month. The Peninsula Pass is a sticker which is affixed to a PCS monthly ticket and enables the pass holder to ride all regularly scheduled Muni and SCCTD buses and is accepted as an 85-cent base fare on all SamTrans buses. In Santa Clara and San Mateo Counties, monthly train ticket holders are provided free transfers to local buses from the train. SamTrans also allows monthly ticket holders to ride free to train stations and extends this benefit to 20-ride ticket holders. In 1990, Caltrans and SCCTD introduced a revised bus/rail pass. As a result, patrons have the convenience of using one fare instrument that is good on all transit in Santa Clara County and PCS within Santa Clara County. If a ticket covering two or more zones exclusively within Santa Clara County is purchased, the Peninsula Pass sticker is free.

Since September 1989, the Muni Fast Pass has been accepted as fare payment at the four PCS stations within San Francisco. An agreement was reached between the two agencies for Caltrans to reimburse Muni for lost revenues. Muni is currently proposing a fare increase, so the cost of the Muni Fast Pass will increase accordingly.

Tickets are sold through several channels. Tickets may be purchased at selected stations and on board trains. Twenty-ride tickets can only be purchased at stations. Monthly tickets, on the other hand, can be purchased at stations, through the mail and at numerous employment sites throughout the Bay Area.

J. Access for the Disabled

Plans are moving forward to make the service accessible to elderly and disabled passengers. A Key Station Accessibility Plan has been completed and approved in July 1992. The ADA regulations specify five criteria which must be taken into account in identifying key stations: stations with above average passenger boardings, rail transfer stations, transfer station with other modes, end stations, and stations serving major activity centers.

Based on the criteria, ten stations were proposed for key station designation: Fourth and Townsend, San Mateo, Hillsdale, Redwood City, Palo Alto, Mountain View, Sunnyvale, Santa Clara, San Jose, and Tamien.

Independently of ADA key station requirements, Caltrans has plans in place to make 22 PCS stations accessible in the next few years. Most of the 22 planned accessible stations are already reasonably accessible to people with disabilities, including wheelchair users, and do not require extraordinarily expensive changes in order to achieve full accessibility. The new Tamien station is accessible.

Improvements will consist primarily of providing an accessible path to the platforms from the parking areas and bus stops, and providing an accessible path between the northbound and southbound platforms, whether by a track crossing or ramps under the tracks.

Accessibility between the station platforms and the trains will be provided by acquiring 23 new cars with low center sections and a mechanical level change device (a lift or a ramp). By 1995, each train will have one of the accessible cars, thereby meeting the requirement of the ADA that one car per train be accessible by 1995.

II. Ten Year Capital Program (1993/1994 through 2002/2003)

A. Rehabilitation Program

Track Rehabilitation

The JPB has developed a track capital improvement program for rehabilitation work on the track attributed to the passenger (not freight) use of the Peninsula rail line. The capital program is currently underway, financed by Federal Section 9 funds and State resources. Many rehabilitation projects will be under construction over the next few years. The planned rehabilitation program for track, bridges and signals is designed to insure that operating capabilities (i.e. train speeds) are maintained and that safety, ride quality and other aspects of the operation related to the track are improved.

Station Rehabilitation

The JPB will have an on-going station improvement program to upgrade, relocate and/or construct rail stations along the line. In 1994/95 through

2000/01, the JPB plans to utilize FTA Section 9 funds for the program. FTA has, however, indicated that some necessary projects are "maintenance" type capital improvements of minor or varied work not eligible for federal funding. These types of projects include such things as the acquisition of additional bicycle storage lockers, new or upgraded station landscaping, ticket office remodeling, etc. To complete this work, the JPB will continue the Caltrans station rehabilitation program, to be financed by a combination of State and local funds. The JPB has also programmed FTA Section 9 funds in 1995/96 through 2000/01.

Locomotive Rebuilding

In 1985, Caltrans purchased 18 locomotives for use on the Peninsula Commute Service. Two additional locomotives were purchased in 1987 and placed in service that same year. The service life of the locomotives is expected to be 25 years. However, to ensure the locomotives operate efficiently for this period, the manufacturer recommends replacement or major repair of a number of major components at approximately mid-life. Some of the essential components/assemblies that will require replacement include the power assembly, turbo charger, traction motor, radiator and generators. The JPB plans to initiate the locomotive rebuild program in 1995/96 with a prototype project on one unit and complete the rebuilding of all units during 1996/97 and 1997/98.

Passenger Car Rehabilitation

Based on recommendations of the Woodside Consulting Group, the JPB proposes a heavy overhaul program for all trailer and cab cars in its current fleet, accomplishing one-third of the program work in 1997/98, 1998/99 and 1999/2000. This car rehabilitation program includes mechanical and electrical components and systems and the refurbishment of car interiors. In addition to the rebuild program, the JPB has completed the on-going Caltrans program for replacing permanently fogged windows. The JPB will seek federal funds to pay for 80 percent of the project costs and will use State and local resources for the required 20 percent matching funds.

Satellite Maintenance Facility

In order to provide adequate locomotive servicing and maintenance facilities during the period between initiation of JPB/Amtrak service and the completion of the planned San Jose Maintenance Facility, an interim locomotive facility is required, including facilities for fueling the locomotives. The interim facility, including a basic "start-up" facility, is required because Amtrak has determined that the antiquated SPT facility at Lenzen Avenue in San Jose is inadequate to support their operations. The Capital Improvement Plan contains provisions for this new interim facility at San Jose's Cahill Yard.

The start-up locomotive servicing facilities will consist of a 70-foot long inspection pit, a diesel fueling area and locomotive repair area. All work

areas will have drip pans collection pipes, sump-pump and holding tank for licensed commercial disposal of effluent. Also, there will be modular offices and material storage containers as well as lighting and other utility services. Future improvements will likely include the addition of a locomotive drop pit and wheel truing machine. It is contemplated that much of the required facility equipment will be transferable to the new San Jose facility upon its completion.

B. New or Extended Routes (Presently Under Development and/or Planned)

The PCS currently has no plans for extending the route.

C. New Improvement Projects

Locomotives and Cars

In 1992/93, funds were approved to obtain additional rolling stock. As a result, three more locomotives will be purchased in 1993/94 to improve the availability of equipment. This, in turn, will strengthen service performance and ensure compliance with the equipment availability standards as stated in the JPB/Amtrak Operating Agreement. The locomotives are expected to begin operation in 1994/95.

To achieve accessibility between the station platforms and the trains, the JPB is acquiring 23 new cars, known as "California Cars". This acquisition will enable the JPB to meet the ADA requirements by providing accessible service to the elderly and disabled. By 1995, each train will have one of the accessible cars, thereby meeting the ADA requirement that one car per train be accessible by 1995. The accessible cars will also allow special provisions for bicycle access and accommodating bicycles on-board. The "Cal Cars" were funded in 1992/93, and are to be placed in service in 1993/94.

Self-Service Fare Collection System

Over three years ago, the JPB approved, in concept, the conversion of the PCS to a self-service fare collection system. Under this system, tickets would be purchased from ticket vending machines at stations and randomly inspected by authorized personnel aboard trains. Conductor personnel would be used to inspect tickets, on a random basis, for proper payment. The process for completely establishing a self-service fare collection system will be accomplished in three phases. Phase I of the project entails acquisition and installation of 11 ticket vending machines at select stations to test machine reliability and customer acceptance. Three machines were installed at the Tamien Station and were put into revenue service in February 1992. Two machines will be installed at each of the following stations during the summer of 1993: San Francisco, Menlo Park, and Mountain View. Two machines will be installed at Redwood City in the beginning of 1994.

Funding was committed in 1992/93 for Phase II of the project. Phase II consists of the acquisition of 55 additional machines, which will complete the

installation of machines at 27 stations (a minimum of two machines will be installed at each station). SCCTD programmed funds in 1992/93 for acquisition of 11 machines for the Gilroy extension, two for each station and one spare machine. Stand alone validators will also be purchased with this funding and installed at stations to ensure passengers can quickly and conveniently validate their tickets before boarding trains. This phase of the project is fully funded. Surface Transportation Program (STP) funds made available under the Intermodal Surface Transportation Efficiency Act (ISTEA) will fund 80 percent of the project with Proposition 116 funds used as local matching funds.

Phase III of the project involves acquisition and installation of 19 ticket vending machines and seven ticket validators. These machines may be needed to accommodate increased patronage resulting from service extensions, augmented train service, increased parking availability and Light Rail transit interface. Funding for these additional machines is programmed in 1999/2000.

Tower Consolidation

Peninsula Commute Service trains are directed along the tracks by use of signals and switches operated from four interlocking control points at San Francisco, Santa Clara, College Park, and San Jose. The tower consolidation project is divided into two phases; the first phase eliminates three control towers and consolidates the functions of these towers in San Jose. This consolidation/modernization project will improve operating safety and reliability and is expected to save approximately $450,000 annually when the project becomes operational. The first phase was funded in 1990/91. Work is underway with a target completion date of December 1993.

The second phase of the project is unnecessary at the committed 60 weekday train level and there are no committed funds to pursue this phase of the project. Beyond the committed level of service, there is no determination when the total capital cost of tower consolidation may be warranted.

New Maintenance Facility

The proposed project will provide a new centralized equipment maintenance facility within the PCS service area affording efficient and effective maintenance procedures. The project will include a 1,000-foot long building containing progressive "whole train" inspection facilities; diesel locomotive maintenance and repair facilities; and automatic train washer; car cleaning, sanding and fueling stations; and crew and administrative facilities. The project will also include a train storage yard and yard control equipment. Wayside power will be provided eliminating the need for powering locomotives at night during repair operations. The facility will require approximately 35 acres. A site in San Jose, known as Lick Quarry, was selected for the facility in August 1989 as part of the environmental impact process.

San Jose Multi-Modal Transportation Terminal Project

Stage I of the San Jose Multimodal Terminal project, which extends the service two miles south to West Alma Avenue and rehabilitates the existing San Jose Terminal, is now under construction. The San Jose Station rehabilitation project is fully funded and has an anticipated completion date of December 1993.

The proposed Stages II and III of this project would provide parking expansion at Tamien Station. An aggressive parking expansion program has been proposed to accommodate projected ridership growth as a result of planned transit improvements and extensions. It is premature to justify the need for additional parking facilities until the new service is in place for at least one year and parking demand can be determined.

Related to this project is a planned 400-space parking structure at the San Jose Cahill Station for intercity rail patrons. With the opening of the *Capitol* Corridor service in December 1991, Caltrans District Headquarters proposed additional parking facilities for exclusive use of intercity Amtrak passengers who arrive at the Cahill station for trains departing throughout the day.

San Antonio Station

The Castro Station will be relocated to San Antonio Road just north of Mountain View. This site was selected because of its proximity to employment centers, shopping districts and residential areas. The proposed station site would provide 150 off-street parking spaces and other physical improvements. The project is funded by a federal grant and completion of the new station is expected in 1994/95.

San Francisco Downtown Terminal Relocation

The project involves the extension of the current San Francisco terminal from Fourth and Townsend to near Market Street in the downtown financial district. An Environmental Impact Statement (EIS/EIR) in compliance with the Federal Transit Administration (FTA), the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) was submitted to the FTA in August of 1991. The study analyzed alternative site locations in terms of capital and operating costs, patronage projections, and environmental impacts.

A follow-up study is being conducted jointly by the Metropolitan Transportation Commission (MTC) and the Joint Powers Board (JPB). The study developed nine fundable extension alternatives for inclusion in MTC's financially constrained Regional Transportation Plan (RTP). MTC will consider the recommendations of this study in the adoption of the 1994 RTP.

The nine alternatives can be broken down into four categories, based on terminal location: alternatives that terminate at 7th and Market, alternatives that terminate at 2nd and Market, alternatives that terminate at the Transbay Terminal, and alternatives that terminate at Beale and Market.

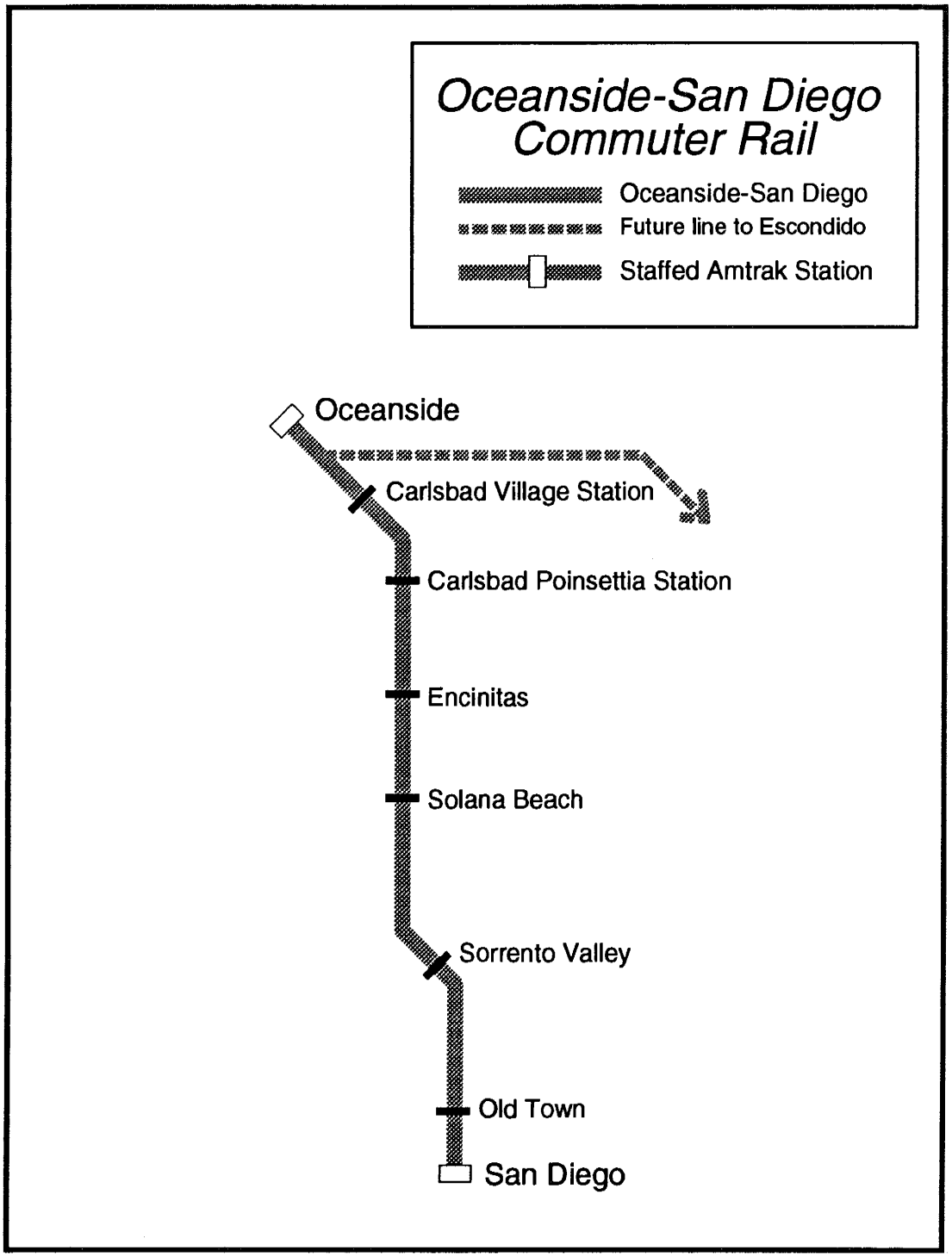
A number of system upgrades, like electrification of the PCS, are being considered in conjunction with the downtown extension. A decision on the preferred alternative will be made by the JPB in March 1994.

CalTrain Airport Station

The Alternative Analysis/Draft Environmental Impact Statement (AA/DEIS) for the BART extension to San Francisco International Airport was completed in March 1992 and public hearings were held in April 1992. The AA/DEIS included several different alternative alignments to the airport. The locally preferred alternative, selected in June 1992, identifies a joint CalTrain/BART station external to the airport. This station would be adjacent to the airport entrance with a cross-platform transfer between the two systems.

A supplemental EIS is currently being prepared to evaluate additional alternatives that warrant consideration. These alternatives were proposed during the public review and comment period, and during subsequent meetings between BART, SamTrans, and each of the affected jurisdictions. The supplemental EIS is expected to be released in the Spring of 1994.

Figure 12C


Oceanside-San Diego Commuter Rail
Oceanside-San Diego
Future line to Escondido
Staffed Amtrak Station
Oceanside
Carlsbad Village Station
Carlsbad Poinsettia Station
Encinitas
Solana Beach
Sorrento Valley
Old Town
San Diego

Oceanside-San Diego /Escondido Commuter Rail

I. System Wide Information

Agency Name: North San Diego County Transit Development Board (NSDCTDB)
Address: 311 South Tremont Street
Oceanside, CA 92028
Public Affairs Phone Number (619) 967-2828

NOTE: The information below is presented so that the reader will be aware of the service. Some data are omitted because the initial route (Oceanside-San Diego) has not yet begun service.

A. Agency History and Organization

The North San Diego County Transit Development Board was created by Senate Bill 802 on September 30, 1975. The Board was created to plan, construct and operate itself, or through a contractor, public transit systems in its area of jurisdiction.

On July 1, 1976, the Board formed the North County Transit District (NCTD) for the purpose of providing integrated public transit services within the North San Diego County region.

The Transit Development Board's area of jurisdiction is 1,020 square miles located in the northern portion of San Diego County. The area includes the cities of Carlsbad, Del Mar, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos and Vista, Camp Joseph H. Pendleton, the unincorporated communities of Fallbrook and Ramona and other unincorporated portions of North San Diego County.

B. Area Served:

Counties and Major Incorporated Cities Served:

Cities of Carlsbad, Del Mar, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, Vista and unincorporated areas of North San Diego County as mentioned above.

Square Miles: Estimated at 700 ; jurisdictional area is 1020.

Population: 690,000

C. System Summary:

D. Ridership:

Not Applicable, as service on initial Route is planned to begin in 1994.

E. Route Description

See II. B. 1 below

F. Facilities

Overnight storage and servicing facilities for the commuter trainsets are proposed at the Stuart Mesa yard, 2-1/2 miles north of Oceanside station. This facility includes the construction of several new storage tracks, an inspection pit, a shop building and related maintenance equipment. Daytime storage, minor maintenance, running repairs and periodic inspections are proposed at MTDB's trolley storage yard in San Diego, approximately 2 miles south of Santa Fe Depot. Major maintenance work could be contracted out, either to Amtrak at its Los Angeles Maintenance Facility or a new joint-use facility operated by Southern California commuter rail agencies.

G. Finance and Personnel

Not Applicable, as service on initial Route is planned to begin in 1994.

H. Fare Structure

The fare structures are evaluated based on regional fare policies, other commuter rail fare structures, farebox recovery policy considerations and impact of fares on ridership. One-way fares in the recommended structure range from $2.00 for the shortest trips to $3.75 for the Oceanside-San Diego trip, the average fare being $2.72. A flat monthly fare of $80.00 and $95.00 depending on trip length is also recommended. The fare structure is designed to avoid competition with local services and encourage long-distance riders. For the estimated third year ridership, total annual fare revenue under this structure would be approximately $3,100,000. Added to the other non-farebox railroad revenue, and compared to the estimated annual operating costs, this would represent a farebox recovery ratio of 56 percent.

Alternative fare structures were examined using lower fares which would generate higher ridership levels. However, these result in lower total revenue. An average fare of $1.63, for example, would produce an annual revenue of only $1,610,000, for a farebox recovery of 28 percent.

I. System Integration

The commuter train schedules have allowed for meets with two scheduled Amtrak trains in the morning and three in the evening. One through freight train is operated each day by the Santa Fe Railway, along with minor additional freight movements, all of which could be scheduled to operate outside of normal commuting hours.

J. Access for the Disabled

Cars and/or station platforms will be provided with equipment for handicapped access.

II. Ten Year Capital Program (1993/1994 through 2002/2003)

A. Rehabilitation Program

Not Applicable, as service on initial Route is planned to begin in 1994.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions

Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# Stops	Projected Passenger Trips (after 5 Yrs)
Oceanside-San Diego	New	Oceanside/ San Diego	Constr./ Improvements underway	1994	82.2	55.2	9	4,270-Daily
Oceanside-Escondido	New	Oceanside/ Escondido	Planning/ Preliminary Engineering	1999	43.8	25 (est.)	17	17,300-Daily

2. Financial Data

Route Designation	First Year Projected Annual Operating Expense ($ in millions)*	Capital Costs ($ 1993)*				
		Proposed Funding Sources ($ in millions)				
		Local	State	Federal	Other	TOTALS
Oceanside-San Diego (including ATSF ROW)	$3,839,496	$101,172,657	$113,598,992	$6,666,667	--	$221,438,316
Oceanside-Escondido (including ATSF ROW)	Not Developed	61,436,600	42,409,000	18,000,000	--	121,845,600
Totals	--	$162,609,257	$156,007,992	$24,666,667	--	$343,283,916

* Includes costs for route construction, right-of-way, rolling stock and related facilities.

C. New Improvement Projects

None

Altamont Pass Commuter Rail

Interest in providing rail service between the Central Valley and the San Francisco Bay Area through the Altamont Pass and the Livermore Valley has evolved over a period of years. In 1989, AB 971, a report to the State Legislature, identified the Altamont Pass, the Corridor between San Joaquin County and the Bay Area as a Bay Area Access Corridor for the Los Angeles-Fresno-Bay Area/Sacramento High Speed Rail Corridor. The San Joaquin County Regional Transportation Plan and the Alameda County Plan also support the development of rail service in the corridor.

San Joaquin County, which has assumed the lead role in this project, has been interested in determining the feasibility of passenger rail service between the Central Valley and the Bay Area. This interest has been due to increasing automobile congestion along Interstate 205 and Interstate 580; tougher state and federal air quality regulations that discourage automobile travel and focus on providing alternative transportation such as bus and rail transit; and a desire to provide both conventional and high speed rail services between the Valley and the Bay Area.

An Altamont Pass Advisory Coalition (APAC) was formed and consists of policy-makers from various jurisdictions who are responsible for decision-making during the planning process. The APAC includes representatives from various jurisdictions throughout the region and includes the Counties of: Alameda, Contra Costa, Sacramento, San Joaquin, San Mateo, Santa Clara, and Stanislaus. The purpose of the coalition is to analyze potential rail service through the Corridor, and develop strategies for short-and long-term implementation.

In May 1992, the San Joaquin County Council of Governments and the San Joaquin County Department of Public Works retained consultant services to undertake a study to determine the feasibility of inaugurating passenger rail service in the Corridor. After the consultant services began, the Union Pacific Railroad (UP), owner of the railroad between the Central Valley and the Bay Area (through the Altamont Pass), offered to operate passenger rail service for a two-year period between Stockton and the Union City BART Station.

In response to UP's proposal, San Joaquin County and the San Joaquin Council of Governments and their consultants developed a profile of the prototype service and determined the steps necessary to proceed with service implementation. This service, targeted to begin in 1996, will be offered to test public response and develop strategies for future enhancements. Initially, four frequencies (two weekday roundtrips) are proposed to serve the commute periods, including eight station stops along the route.

Proposed Area to be Served:

The recommended Altamont Passenger Rail Service would include 62.5 miles from Stockton to Niles Junction on the UP. From Niles Junction, the route would proceed on Southern Pacific (SP) Tracks 12.6 miles west of Niles in

Fremont/Centerville to Newark and then on to Santa Clara where it would connect to tracks owned by the Joint Powers Board. The final 2.3 mile segment from Santa Clara will proceed south to the Cahill Station in San Jose, where connections to the Peninsula Commuter Service and Amtrak intercity trains would be made. Candidate intermediate stations include: Manteca/Lathrop, Tracy, Livermore, Pleasanton, Fremont (Centerville), and Santa Clara (Great America).

Ridership on the proposed initial service is estimated at 364,000 annual passengers. Higher ridership of 520,000 annual passengers would result if fares were at the Caltrain Peninsula Commute monthly level of $4.00 per 50 miles traveled and a high level of shuttle bus services were available.

Estimated Costs:

The preliminary capital cost, in 1992 dollars, for this route is estimated to be $14,454,000 and the annual operating cost is estimated to be $3,963,673.

Service to Sacramento:

By extending the service to Sacramento, San Joaquin County believes there would be a positive benefit of increased ridership that will likely improve service economics. Service to Sacramento would be configured to include weekday and weekend service. To accomplish this, service would be expanded from two round trips or four trains, to three round trips or six trains. An intermediate stop would be made at Lodi.

At this time, the expansion of the intercity Amtrak *San Joaquins* service between Stockton and Sacramento is being negotiated by Caltrans. Proposition 116 provides up to $30 million for rail improvements between Stockton and Sacramento. An important institutional issue associated with Sacramento service is the service's relationship to the *Capitol Route* operating between Sacramento and San Jose through Oakland, both in respect to schedule and equipment coordination.

Estimated Costs:

The preliminary estimated capital cost, in 1992 dollars, for expanding the Altamont Commuter route to Sacramento (three round trips using two trains) is estimated to be $26,796,000 and the annual operating cost for the expansion is estimated to be $3,529,327.

Potential Funding Sources:

Proposition 116 sets aside $14,000,000 for the rail segment between San Joaquin County and Livermore in Alameda County. Additionally, in San Joaquin County, the local half-cent sales tax for transportation improvements has committed $21,518,000 (1993 dollars) to rail improvements in the Altamont Corridor. These funds include planning, capital and operating funds. Additional local sales tax revenue will be used to construct multi-modal stations, purchase rolling stock, and operate shuttle bus services connecting rail

passengers to employment and other travel destination points. Additional revenue sources include local sales tax revenues from other beneficiary jurisdictions, Transportation Development Act funds, private sector contributions, fare revenues, the State's Transit Capital Improvement program, and federal funding programs such as Congestion Mitigation and Air Quality Improvement Program , and Intermodal Surface Transportation Efficiency Act of 1991, Surface Transportation Program, and the FTA Section 3 program.

San Francisco Bay Area
Proposed Commuter Rail Lines

Several proposals have been made to develop new commuter rail lines serving the San Francisco Bay Area. Following is a summary of these proposals:

Marin/Sonoma Corridor: In 1989, the 101 Corridor Strategic Transportation Plan studied the preservation of the Northwestern Pacific (NWP) Railroad as a transportation corridor for future use by rail passenger services. Local agencies have acquired a portion of the NWP right-of-way, and are working towards acquisition of the rail line through both counties, using a combination of available federal and State funds. The local agencies are also evaluating the potential for the establishment of commuter rail service in this corridor.

GEBROC: The Greater East Bay Rail Opportunities Coalition (GEBROC) is a multi-agency rail transit planning body for the East Bay Counties. GEBROC has been evaluating the Southern Pacific Transportation Company's (SP) East Bay Commuter Rail Proposal. This proposal envisions service between West Oakland and Suisun/Fairfield; also between West Oakland and Brentwood.

BART FasTrak: The Bay Area Rapid Transit District (BART) has proposed new commuter rail lines serving three major travel corridors within a five-county region (Solano, Contra Costa, Alameda, San Joaquin and Santa Clara Counties). Specific lines proposed are:

- North Bay Commuter Rail: West Oakland to Fairfield/Suisun City
- South Bay Commuter Rail: West Oakland to San Jose
- Altamont Pass Commuter Rail: San Jose to Fremont and Stockton

Funding: The regional transportation planning agency for the Bay Area is the Metropolitan Transportation Commission (MTC). MTC is responsible for developing the Regional Transportation Plan (RTP) for the Bay Area. To date, MTC has not included any of the above proposals for new commuter rail service in its RTP due in part to the limited availability of funding to implement such new services. MTC gives funding priority to the maintenance and operation of the existing rail transit systems in the Bay Area. Therefore, MTC advises that prospects for the implementation of any of these new commuter rail services are uncertain at this time.

Woodland-Davis Rail Study

In March 1991, the California Transportation Commission recommended that the Cities of Davis and Woodland be granted $25,000 in Transit Capital Improvement funds to study proposals to establish commuter rail service between Woodland, the County seat, and Davis, the County's largest city and site of the University of California, Davis. The project will consider alternative modal connections and interface with Intercity Rail Service in the Auburn, Sacramento, Oakland, San Jose Corridor.

The proposed Woodland-Davis Passenger Rail Service Alternative Analysis was developed jointly by the City of Woodland and the City of Davis in an effort to provide a balanced transportation system in this part of the Sacramento Region. The study will be completed in June 1994. By agreement, the City of Woodland serves as applicant and fiscal manager of the project.

Current studies indicate that a large number of people live in the City of Woodland and work in the City of Davis. Because of various growth policies, it is expected that this trend will increase substantially in the coming years. In 1990, the population of Woodland was 39,797 and the population of Davis was 45,310. These figures are projected to increase 40 to 45 percent for Davis and nearly 50 percent for Woodland by the year 2010. The University of California, Davis (UCD) had a 1990 enrollment of 22,000 students. This enrollment is projected to increase by 20 to 25 percent by the year 2010.

Issues to be considered include:

- Utilization of existing Southern Pacific Transportation Company tracks vs. acquisition and construction of a new line within the State Route 113 corridor.
- Consideration of new station requirements, one at the existing Intermodal facility in Davis and two in Woodland and a possible extension to serve the UCD campus.
- Potential pedestrian/bicycle/rail conflicts at the Davis intermodal station and potential train/vehicle conflicts at-grade crossings in the corridor.
- Rolling stock requirements.
- An operating and maintenance revenue and expenditure model.
- Level of service alternatives including passenger projections and cost/benefit formulas, running time estimates, headways and frequency and duration of service.

Placer County-Sacramento-Davis

The Placer County Commuter Rail Feasibility Study prepared by Wibur Smith Associates (issued in November 1990 by the Placer County Transportation Commission) defines a plan for commuter rail service between Colfax and Davis linking the faster growing suburban locations with downtown Sacramento. It also provides preliminary estimates of potential costs, patronage and revenues for the service.

The major conclusions drawn from the feasibility study are as follows:

- The proposed commuter rail project as defined in the study is technically feasible, although institutional issues would need to be resolved.
- The appropriate timing for implementation of the commuter rail project would be during the Fiscal Year 1995-2000 period, following implementation by the State of upgraded intercity passenger rail services in the corridor. The same facilities would be utilized by both services.
- It is anticipated that a substantial operational subsidy will be required to supplement fare revenues and that an assured source of funding for these costs will be needed.
- Although the logical timing for actual implementation is after 1995, various initiatives would be appropriate and desirable as a follow up to this study, including the formation of a multi-jurisdictional committee to be the focus of project advocacy, early coordination with Caltrans and other public agencies, and planning for other actions leading toward implementation.

Proposed Area to be Served:

The commuter rail service would be developed in coordination with intercity Amtrak passenger rail services that would be provided by the State between Placer County and Santa Clara County through Sacramento and Oakland.

The project, as defined by the feasibility study, would include acquisition of two commuter train sets (plus spare rolling stock) to provide westbound service from Placer County to Sacramento in the morning peak period and eastbound service from Sacramento to Placer County in the afternoon peak period, with an extension of the service to Davis.

Estimated Costs:

Principal capital cost elements for the commuter service are $25.5 million for rolling stock and $2.7 million for stations at Auburn, Newcastle and Loomis. The estimated annual operating and maintenance costs are $1.95 million, excluding liability and right-of-way costs. These costs assume that intercity service in the Placer County-Sacramento-Oakland-San Jose corridor would be implemented, with facilities being used by both intercity and commuter services.

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS COMMENTS

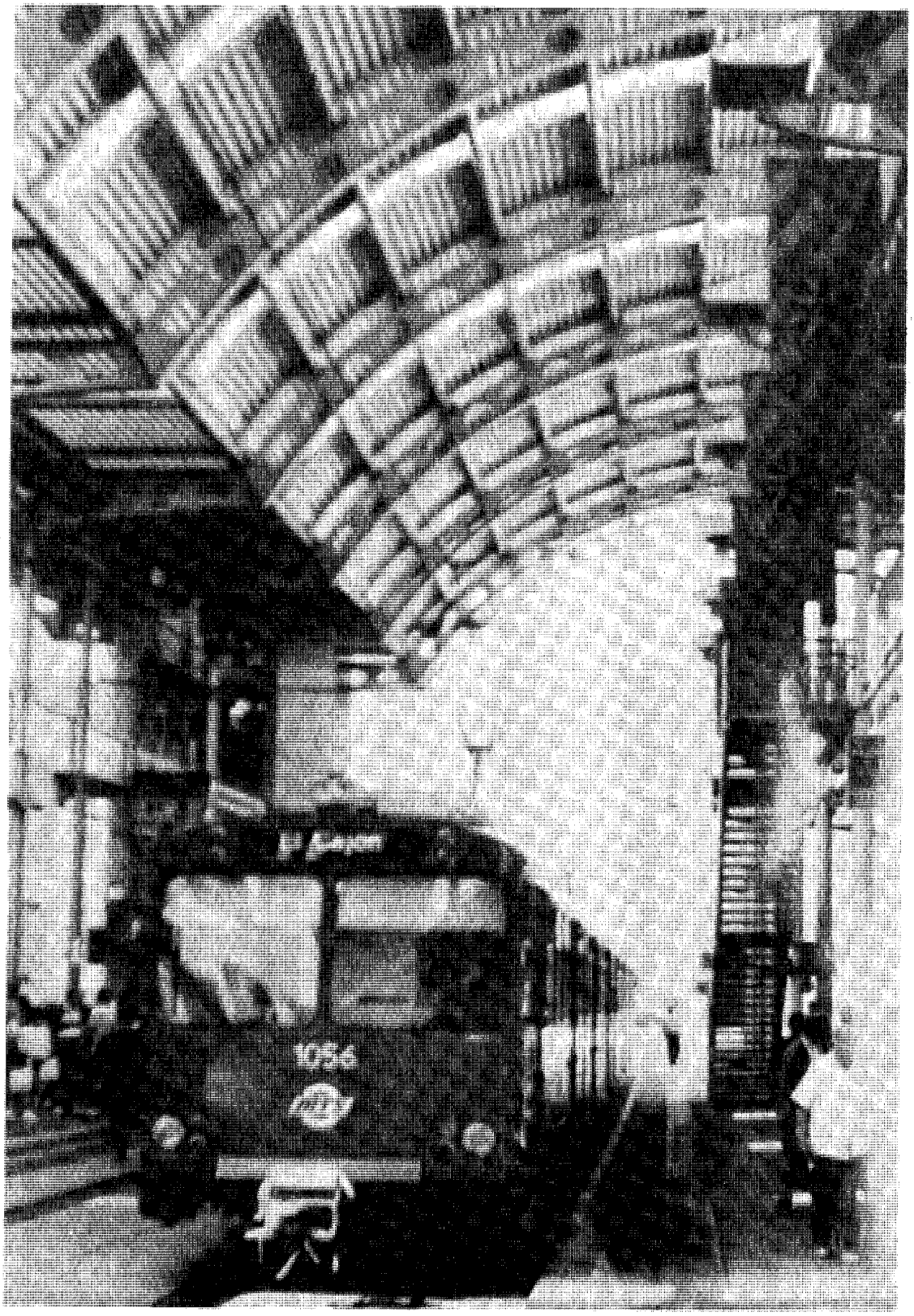
p.141 Santa Cruz Fixed Guideway (Route I corridor) is correctly classified as an urban guideway service, not as commuter rail. There is a remote possibility that the proposed new transit service in this corridor might be preceded by a demonstration phase using commuter rail type service. However, the preliminary corridor study by PBQ&D considered and recommended high frequency urban guideway services, not commuter rail. (See PBQ&D, *Santa Cruz Fixed Guideway/Rail Corridor Refinement Study, 1993)*

We have made the change you suggested and from now on will refer to the Santa Cruz Fixed Guideway as "Watsonville Junction - Santa Cruz - UC Santa Cruz Corridor" in response to your request and a request by the Santa Cruz County Regional Transportation Commission.

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION COMMENTS

Page 141 Commuter Rail Services - The "Santa Cruz Fixed Guideway Rail Project" listed here is better defined as an urban rail transit service, and more accurately listed as the . Please include the project profile in chapter 12 of the final report, and revise the project listing as the "Watsonville Junction - Santa Cruz - UC Santa Cruz corridor" in Chapter 12 and in the Executive Summary.

As suggested by your organization and the Association of Monterey Bay Area Governments, the "Santa Cruz Fixed Guideway Rail Project" was designated as "urban" and is now listed as "Watsonville Junction - Santa Cruz - UC Santa Cruz Corridor".



San Diego Trolley at Broadway-downtown San Diego

Chapter XIII - Urban Guideway Services

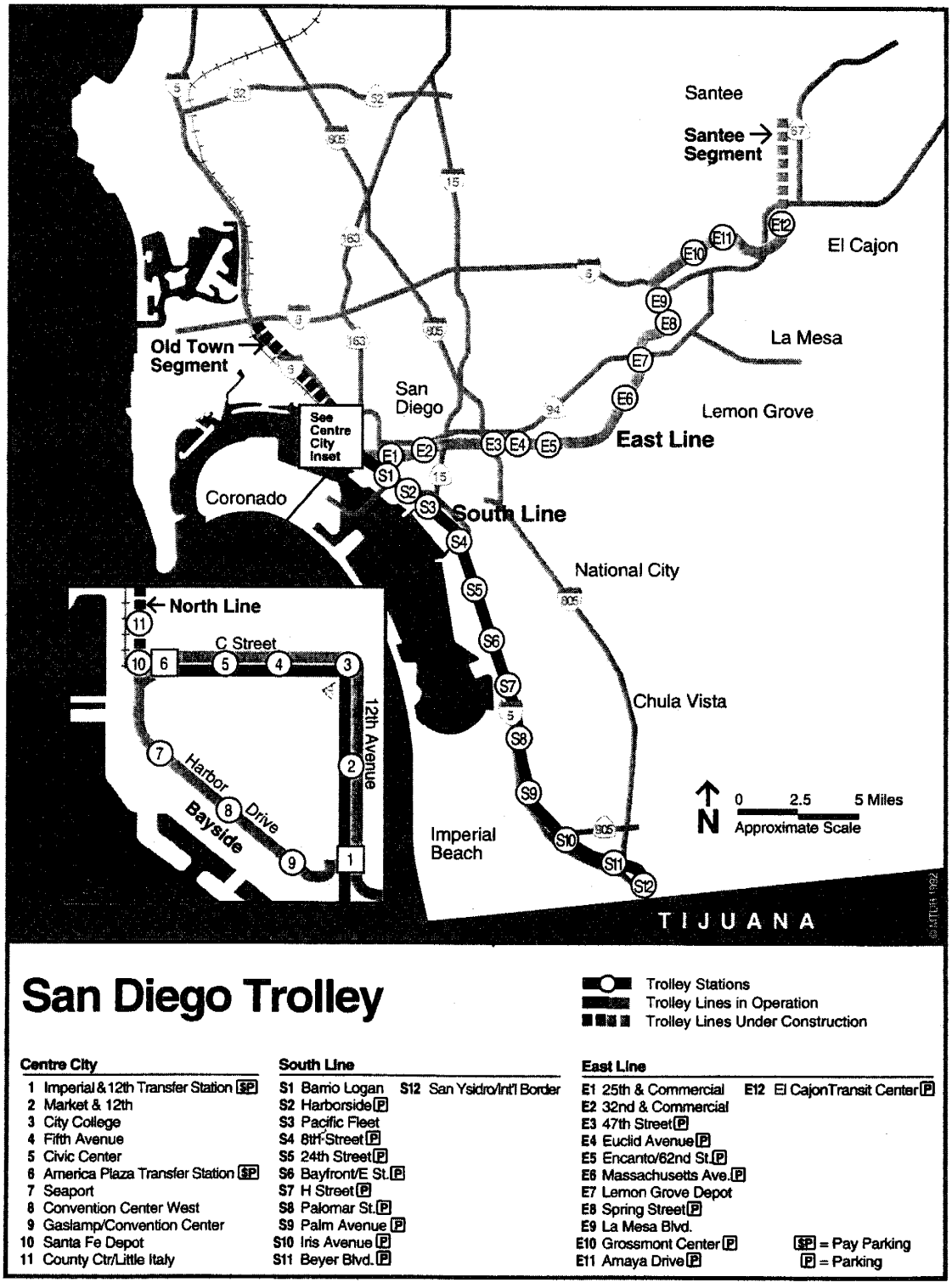
This Chapter provides factual information on existing urban rail systems and a status report on proposed new systems. All information was reviewed by appropriate transit agencies and regional transportation planning agencies. This information is included in this Report to provide comprehensive coverage of all rail passenger services in California. Because urban rail services primarily serve local and regional transportation needs, they are planned and administered by local and regional transportation agencies.

Currently, the following urban guideway services are in operation. These services listed from south to north are:

- San Diego Trolley
- Los Angeles Area Urban Rail (Red and Blue Lines)
- Santa Clara County Light Rail
- San Francisco Municipal Railway (Muni) - including Muni Metro, cable car and trolley bus
- Bay Area Rapid Transit (BART)
- Sacramento Light Rail

Additionally, the Alameda-Contra Costa Transit District is currently studying light rail and electric trolley bus alignments and the Santa Cruz County Regional Transportation Commission is studying the Watsonville Junction-Santa Cruz-UC Santa Cruz corridor.

Figure 13A


Santee
Santee Segment
El Cajon
La Mesa
Lemon Grove
East Line
Old Town Segment
San Diego
See Centre City Inset
Coronado
South Line
National City
Chula Vista
Imperial Beach
TIJUANA
North Line
C Street
12th Avenue
Harbor Drive
Bayside
N
0 2.5 5 Miles
Approximate Scale
San Diego Trolley
Trolley Stations
Trolley Lines in Operation
Trolley Lines Under Construction
Centre City
1 Imperial & 12th Transfer Station $P
2 Market & 12th
3 City College
4 Fifth Avenue
5 Civic Center
6 America Plaza Transfer Station $P
7 Seaport
8 Convention Center West
9 Gaslamp/Convention Center
10 Santa Fe Depot
11 County Ctr/Little Italy
South Line
S1 Barrio Logan
S2 Harborside P
S3 Pacific Fleet
S4 8th Street P
S5 24th Street P
S6 Bayfront/E St. P
S7 H Street P
S8 Palomar St. P
S9 Palm Avenue P
S10 Iris Avenue P
S11 Beyer Blvd. P
S12 San Ysidro/Int'l Border
East Line
E1 25th & Commercial
E2 32nd & Commercial
E3 47th Street P
E4 Euclid Avenue P
E5 Encanto/62nd St. P
E6 Massachusetts Ave. P
E7 Lemon Grove Depot
E8 Spring Street P
E9 La Mesa Blvd.
E10 Grossmont Center P
E11 Amaya Drive P
E12 El Cajon Transit Center P
$P = Pay Parking
P = Parking

San Diego Trolley

I. System Wide Information

Agency Name: The San Diego Trolley (SDTI)
Address: 1255 Imperial Avenue, Suite 1000
San Diego, CA 92101
Public Affairs Phone Number (619) 231-1466

A. Agency History and Organization

San Diego Trolley, Inc. (SDTI) is a wholly owned subsidiary of the Metropolitan Transit Development Board (MTDB). A seven-member Board, appointed by MTDB, oversees SDTI operations.

SDTI was created by MTDB in August 1980 to be the regional light rail transit (LRT) operator. SDTI began South Line revenue operations July 26, 1981. East Line-Euclid revenue operations began March 20, 1986. East Line-Spring Street revenue operations began May 14, 1989. East Line-El Cajon Transit Center began June 25, 1989 . East Line-Bayside began June 30, 1990. South Line extension to County/Centre/Little Italy began July 1992.

MTDB came into existence on January 1, 1976. It is governed by a 15 member Board. MTDB owns assets of: SDTI, San Diego Transit Corporation - the region's major bus operator, and San Diego and Arizona Eastern Railway Company - a railroad covering over 108 miles of track and right-of-way.

B. Area Currently Served

Counties and major incorporated cities served: Southwestern part of San Diego County.

Square Miles: 570

Population: 1.8 Million

C. System Summary (1992/1993)

Mode	Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Guideway Miles	Miles of Guideway Track
Light Rail	71	56	4,498,540	2	35.3	70.6

II. Guideway Information

A. Ridership (1992/1993)

Guideway Mode	Annual Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
	90/91	91/92	92/93	92/93	92/93
Light Rail	18,029,989	17,463,207	16,961,838	46,471	160,130,464

B. Route Descriptions (1992/1993)

Guideway Mode	Route # Designation	Origin/ Destination	Year Start of Rev. Service	Directional Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway		Weekday Hours of Operation
							Min	Max	
LRT	South Line	Little Italy / San Ysidro	1981	16.4	32.8	18	10m	15m	5:00a-1:00a
LRT	East Line	Centre City /City of Santee (a)	1986	22.4	44.8	24	15m	30m	5:00a-1:00a

(a) 1.7 directional route miles and 6 stations in Centre City shared with the South Line.

C. Facilities

The South Line has 18 stations with over 2,100 free parking spaces at eight Park and Ride lots. The East Line has 24 stations (six in Centre City shared with the South Line) and over 2,000 free parking spaces at eight Park and Ride lots. Each station is equipped with a shelter and fare vendomat. Bicycle racks and/or lockers are available at some suburban stations.

The maintenance facility is a 73,300 square foot building holding a maximum of eight light rail vehicles (LRV). The site is over four acres with 22 storage tracks, four shop tracks and one turnaround track. It includes one automatic LRV car wash on a designated track.

D. Finance and Personnel ((1992/1993)

Guideway Mode	1992/93 OPERATING REVENUE SOURCES ($ in millions)								1992/93	
	Passenger Fares	Agency Non Fare Revenue	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS	Operating Expense ($ in millions)	# of Personnel
Light Rail	$12.98	$.45	$.58	$.14	$6.53	$0	$0	$20.68	$20.15	268

E. Fare Structure

The fare collection system is a barrier-free, self-service system. Patrons must have proof of fare (ticket, transfer or pass) before boarding. Self-serve fare vendomats and multi-trip validators are located at each station. Approximately 20 to 25 percent of the passengers are randomly inspected

for proof of fare by roving code compliance officers. About a one percent fare evasion rate has been maintained since the start of service.

One-way fares range from $1 to $1.75 depending upon distance traveled. Discounts for monthly passes and multi-ride tickets are available. A $12 senior and disabled monthly pass is available. Senior and disabled riders pay a cash fare of $.75 for a one-way trip of any length. Children five and under ride free. A $22 monthly youth pass (6-18 years) is available.

F. System Integration

Both South and East lines serve as major routes in an area wide transit system. They are time-coordinated with buses at major transit points. San Diego Trolley, Inc. is an operator in the Metropolitan Transit System (MTS) and participates in regional fare and transfer agreements.

The trolley provides a direct connection to the San Diego Amtrak Station providing direct connections to the *San Diegans*. The Oceanside-San Diego Commuter Rail Service, planned to start in 1994, will also serve the San Diego Amtrak Station and thus allow direct connections to the trolley.

G. Access for the Disabled

Each LRV is equipped with a Ricon Wheelchair lift. Tactile mats at each station guide the blind or visually impaired riders to trolley doors.

III. Ten Year Capital Program (1993/1994 through 2002/2003)

A. Rehabilitation Program

None

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions (1992/1993)

Guideway Mode	Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# of Stops	Projected Passenger Trips (after 5 Yrs)
LRT	Santee Segment	Extended	El Cajon/ Santee	Constr.	1995	3.6	7.2	3	3,000
LRT	Old Town Segment	Extended	Cedar Street/ Taylor	Constr.	1996	3.2	6.4	3	9,500
LRT	Mid-Coast Segment	New	Old Town/ University	AA/EIS	2001	10.0	20.0	--	--
LRT	Mission Valley West	New	Old Town/ East I-15	Final Design	1997	5.7	11.4	9	9,000
LRT	Mission Valley East	Extended	East I-15/ Grossmont Center	AA/EIS	2000	5.5	11.0	--	--

2. Financial Data 1992/93

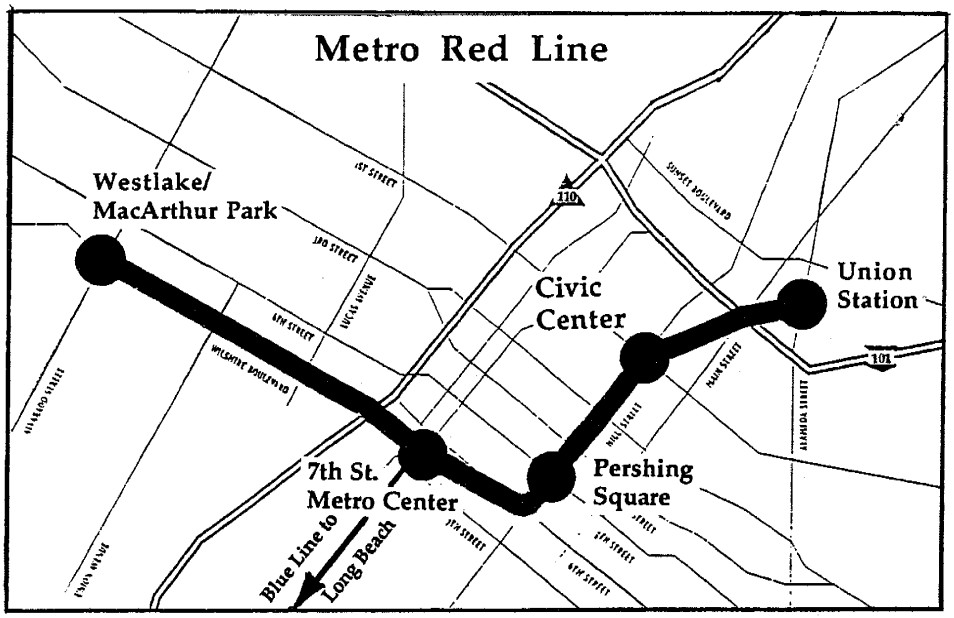
Guideway Mode	Route Designation	First Year Projected Annual Operating Expense (1993 $ in millions)	Capital Costs ($ 1993)(1)				
			Proposed Funding Sources ($ in millions)				
			Local	State	Federal	Other	Total
LRT	Santee Segment	2.1	64.2	44.9	--	--	109.1
LRT	Old Town Segment	2.2	65.6	48.4	--	--	114.0
LRT	Mid-Coast Segment	10.2	147.3	27.6	200.0	--	374.9
LRT	Mission Valley West	3.4	134.5	97.2		--	231.7
LRT	Mission Valley East	4.6	51.7	53.3	200.0	--	305.0
Totals		22.5	463.3	271.4	400.0	--	1,134.7

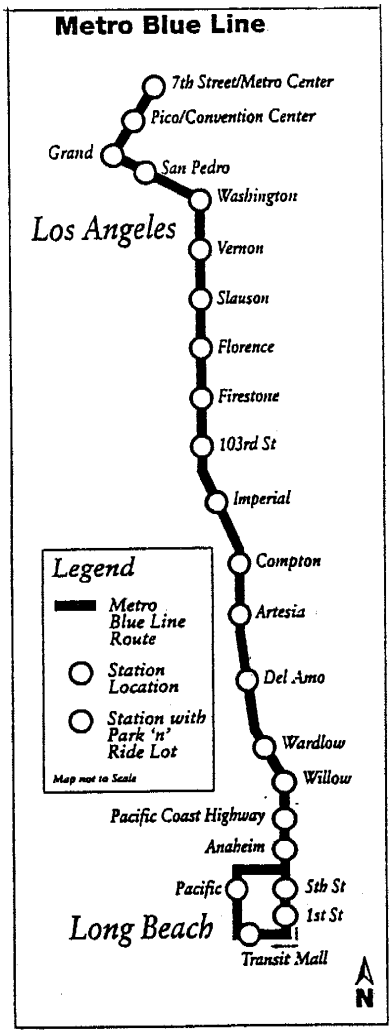
(1) Costs include route construction, right-of-way, rolling stock and related facilities.

C. New Improvement Projects

None

Figure 13B


Metro Red Line
Westlake/
MacArthur Park
Civic
Center
Union
Station
7th St.
Metro Center
Pershing
Square
Blue Line to
Long Beach


Metro Blue Line
7th Street/Metro Center
Pico/Convention Center
Grand
San Pedro
Washington
Los Angeles
Vernon
Slauson
Florence
Firestone
103rd St
Imperial
Compton
Artesia
Del Amo
Wardlow
Willow
Pacific Coast Highway
Anaheim
Pacific
5th St
1st St
Long Beach
Transit Mall
Legend
Metro Blue Line Route
Station Location
Station with Park 'n' Ride Lot
Map not to Scale
N

Los Angeles Area Urban Rail

I. System Wide Information

Agency Name: Los Angeles County Metropolitan Transportation Authority (MTA)
Address: 818 West Seventh Street
Los Angeles, CA 90017
Public Affairs Phone Number (213) 244-4290

A. Agency History and Organization

The Los Angeles County Metropolitan Transportation Authority (MTA) was established on February 1, 1993, as the principal transportation agency in Los Angeles County. Assembly Bill 152 was the law which merged the Los Angeles County Transportation Commission and the Southern California Rapid Transit District to create a single agency, the MTA. The MTA oversees most of the money spent on transportation within Los Angeles County - over $2 billion a year.

The MTA Board is a 14-member Board composed of the following: the five Los Angeles County Supervisors; the Mayor of Los Angeles; three mayor-appointed members; four representatives from the League of Cities; and a non-voting governor-appointed member from the California Department of Transportation. The Board oversees staff's efforts through five committees which present recommendations to the overall Board. The committees are as follows: Executive Management, Operations, Finance, Budget and Efficiency, Planning and Programming, and Rail Construction Board.

The MTA is a multi-modal system geared to meet the travel needs of a highly diverse population via a variety of transportation alternatives. The transit modes include: buses, light rail service and heavy rail (subway) service. Other transit responsibilities of the MTA include Smart Streets, Freeway Service Patrol, Call-Box System, Carpool Lanes, Park-and-Ride Lots, Paratransit and Bikeways.

B. Area Served

Counties and major incorporated cities served:

The MTA serves unincorporated areas and the 88 cities in Los Angeles County.

Square Miles: 4,069

Population: 9,087,399

C. System Summary (1992/1993)

Mode	Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Guideway Miles	Miles of Guideway Track
Heavy Rail	26	9	285,050	1	2.5	8.8
Light Rail	54	34	2,864,348	1	23.2	46.7
Motorbus	2,289	1,758	95,084,760	--	--	--
Totals	2,369	1,801	98,234,158	N/A	25.7	55.5

II. Guideway Information

A. Ridership (1992/93)

Guideway Mode	Annual Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
	90/91	91/92	92/93	92/93	92/93
Heavy Rail	N/A	N/A	1,982,743	12,494	3,142,534
Light Rail	7,487,185	11,306,908	11,809,196	36,553	106,352,851
Totals	7,487,185	N/A	13,791,939	49,047	109,495,385

B. Route Descriptions (1992/93)

Guideway Mode	Route # Designation	Origin/ Destination	Year Start of Rev Service	Directional Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
Heavy Rail	802 (Red Line)	Union Station/ Westlake	1993	2.5	8.8	5	5	10	5:00a-7:00p
Light Rail	801 (Blue Line)	Los Angeles/ Long Beach	1990	23.2	46.7	22	6	15	5:00a-10:00p

C. Facilities

The MTA supports the operation of over 2,500 buses, 54 Blue Line light rail vehicles (LRV's) and 30 Red Line heavy rail cars. Service is provided for thirteen bus operating divisions, two rail divisions and a score of bus/rail terminal and layover areas.

Bus Operating Facilities are located throughout the MTA service area and house operator dispatch, Transit Operations Supervisors (TOS) dispatch, revenue vaulting, vehicle inspection, maintenance, vehicle fueling, bus wash, road service dispatch and facilities maintenance functions.

Rail Operating Facilities provide service for the Blue Line, the Red Line and the future Green Line. The Blue Line yard/shop consists of three permanent structures The Red Line yard/shop has one principal

structure which houses transportation, yard control, vehicle maintenance and stores functions. The following activities are conducted at this yard and shop: rail car wash, rail material storage, TOS dispatch, facilities maintenance support, equipment maintenance, quality assurance, train operations within the yard and rail car inspection and maintenance.

Facilities for the Green Line are being constructed. The medium-capacity light rail system being constructed is within the median of the Glenn Anderson (I-105) Freeway and is scheduled to open for revenue operations in May 1995. There will be fourteen stations all with park-and-ride that will provide parking spaces for up to 2,058 cars. Cars similar to Blue Line equipment will be used. Each station will be accessible either by stairs, escalators or elevators. Fares will be comparable to Blue Line fares. Self-service ticket machines or a monthly pass system will be available.

D. Finance and Personnel

Guideway Mode	1992/93 OPERATING REVENUE SOURCES ($ in millions)								1992/93 Operating Expense ($ in millions)	# of Personnel
	Passenger Fares	Agency Non Fare Revenue	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS		
Heavy Rail	$0.234	$--	$--	$--	$--	$--	$--	$ 0.234	$9.2	121
Light Rail	6.1	--	--	--	--	--	--	6.1	43.7	241
All Other Modes	194.5	--	155.4	108.6	12.8	13.1	47.1	617.1	592.8	7,706
System Wide Totals	$200.8	20.6	155.4	108.6	12.8	13.1	47.1	623.4	645.7	8,068

* Includes Capitalized Labor

E. Fare Structure

Blue Line Light Rail: The Blue Line has a barrier-free self-service fare payment system. There are no impediments such as turnstiles, fare collectors or gates at rail stations to regulate fares. Passengers are required to possess proof of payment. Ticket Vending Machines (TVM's) also accept cash and tokens. Passengers can transfer between bus and rail if they are paying by cash, transfer and/or tokens and must have the bus operator "rail punch" the transfer. The transfer is the passenger's proof of purchase. Passengers transferring from rail to bus must pay the transfer surcharge at the time the fare is paid at the rail station. The fare from Long Beach to Los Angeles on express buses is $2.30 while the rail fare is $1.10 for the same trip. Round-trip rail tickets may be purchased for $2.20 ($1.10 for senior and disabled riders). Discounted passes are available for students, seniors and disabled passengers. The corporate

pass program allows employers to subsidize fares when purchasing tickets and passes for employees. Subsidies offered to employees range from $10.00 to $102.00 per month.

Blue Line: $ .90 Token

(LRT) $ 1.10 Cash

$ 42.00 Monthly pass, also discounted, student and senior/disabled passes are available

$ .25 Transfer except from Red Line where transfer cost is full cash fare

$ .45 Senior/disabled cash fare

Metro Red Line: Stations are designed for unattended operation and have proof-of-payment fare vending machines. Passengers may purchase single tickets with add-fare options which allow the value of the tickets to be increased. The initial $0.25 fare will continue indefinitely in order to promote ridership on the 2.5 mile starter line. Passengers will be able to transfer to the Los Angeles-Long Beach Blue Line at the 7th and Flower Street transfer station. Discounted passes are available for students, seniors and disabled passengers and a cash fare of $0.10 is offered to seniors and the disabled.

Red Line: $ .25 Cash, no transfer sold, but they are accepted if issued on bus or LRT mode

$ 42.00 Monthly pass, also discounted, student and senior/disabled passes are available

$ .10 Cash, senior/disabled

F. System Integration

The MTA's major program to improve mobility in the county and the surrounding Southern California area is an integrated transportation network called the METRO System. The METRO System employs the universally recognized Metro "M" symbol of metropolitan transit to graphically unify the county's fully coordinated network of rail, bus, freeway, bikeway, and dial-a-ride services. The planned system will provide an integrated transportation network coordinating three major components: (1) more than 400 miles of light rail and heavy rail (subway), with inter-county connections via a commuter rail system called Metrolink; (2) an expanded bus system; and (3) highway and freeway improvements.

The SCRRA and MTA have established a Union Station commuter rail/bus interface through route modifications and schedule adjustments to existing lines. The route modifications were designed to provide service along all major transit corridors within the Los Angeles Central

Business District. In combination, the lines operate nearly 200 bus trips away from Union Station in the morning peak period and a like number to Union Station in the afternoon peak period. Two routes were established exclusively for commuter rail passengers. The two routes serve the Civic Center, Bunker Hill, and the Financial District.

Four lines were modified to access suburban stations and to provide direct interface with the Moorpark-to-Los Angeles and Santa Clarita-to-Los Angeles Metrolink commuter rail services. These stations included the Chatsworth Station, served by the Moorpark commuter rail line and the Burbank and Glendale Stations, served by both Moorpark and Santa Clarita commuter rail lines.

An Interagency Transfer Agreement (ITA) was adopted describing the terms, conditions, and the fare reimbursement mechanism on fare coordination. The ITA makes Metrolink tickets valid for the base fare on selected MTA bus lines and the Metro Red Line to and from Metrolink stations from 4:00 a.m. to 8:30 p.m. Monday through Friday. The ITA allows Metrolink fare media to be used on urban and rail lines that make direct connections with the Metrolink stations. Metrolink patrons wishing to ride the express portion of the selected routes must pay additional express fare increments.

G. Access for the Disabled

The MTA's rail program has been built to provide a fully accessible system with level boarding, elevators and ramps, wheelchair securement locations, Braille signage, public address systems and other common accessibility features. In response to the ADA mandates, MTA is retrofitting its entire active and in-construction rail system (26 active stations and 18 in-construction stations) to comply with the ADA key stations requirements. This includes raised truncated domes as platform edge warning, electronic visual messaging signs, enhanced station signage, upgraded accessibility parking spaces and other mandated accessibility improvements. Additionally, the MTA has initiated a countywide complimentary paratransit service called METRO ACCESS. This service provides curb-to-curb service and is anticipated to expand to a 250 vehicle system by 1997.

III. Ten Year Capital Program (1993/1994 through 2002/2003)

A. Rehabilitation Program

Facilities Improvements

Each year the MTA undertakes a number of projects which result in improvements to existing facilities or construction of new facilities. The MTA has taken steps to maintain or improve upon the quality of its existing infrastructure of facilities. Projects identified for improvement include MTA's bus facilities, rail facilities and telecommunication facilities. The projects range from major facility renovation work to ongoing refurbishing, painting, and heavy maintenance programs at both bus and rail sites to less expensive shop facility equipment replacement projects. The Americans with Disabilities Act (ADA) requires that certain stations be designated "key" and made accessible to, and usable by, individuals with disabilities, including wheelchairs. All Blue Line stations, except for Washington Station and Vernon Station, were determined to meet the criteria for "key stations" (nevertheless, these two stations are wheelchair accessible). All Red Line Segment-1 passenger stations and five Green Line passenger stations currently meet ADA requirements.

ADA also requires that all public facilities meet a number of mandated requirements for access and use by disabled persons and applies to all currently owned and leased facilities. A detailed analysis was conducted on all facilities that interface extensively with the public. An assessment has also been made of the costs associated with the conversion of bus stops and passenger waiting areas to meet ADA requirements.

Following are some of the improvements of facilities that have either been started or completed in 1993:

- Underground Storage Tank Upgrade (to be completed by 12/11/98).
- Methanol Conversion Program
- American with Disabilities Act (ADA) Modification
- ADA Operating Facility Retrofit Program
- ADA Rail Key Station Improvements
- Industrial Waste Pretreatment Improvements

The MTA is responsible for the operation of the Red Line heavy rail subway and the Blue Line light rail service. Improvements for both of these operations would improve the safety, reliability and efficiency of service.

Blue Line Yard and Shop Facility:

Improvements include:

- Miscellaneous Lighting Improvements
- Telephone Installation at Yard limit
- Miscellaneous Capital Projects
- Automated Train Undercarriage Cleaner
- Construction of Additional Storage Tracks, including four switches, overhead catenary and signaling

Right-of-Way:

Improvements include:

- Grade Crossing Improvements at Selected Intersections
- Transit Mall Restroom Facilities

Red Line Rail Yard & Shop Facility:

Improvements include:

- In-floor Hoists
- Turntables
- Outdoor Inspection Pit
- Extension of Car Cleaning Platform

Red Line Right-of-Way:

Improvements include:

- Modifications to the Inclines of the Third Rail Expansion Joints

Red Line Stations:

Improvements include:

- Electronic Train Arrival/Departure Signage
- Ongoing Rail Station Refurbishment Program

Telecommunications:

Telecommunication Facility Infrastructure needs include the procurement and maintenance of necessary radio frequencies as well as construction or refurbishing of necessary transmission sites, in order for the MTA to be able to efficiently operate transit within its extensive service area.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions 1992/93

Guideway Mode	Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# of Stops	Projected Passenger Trips (after 5 Yrs)
Urban Rail	MOS-2	Extended	Wilshire/Alvarado-Wilshire/Western	Constr.	1996	6.7	13.4	3	57,000
			Wilshire/Alvarado-Hollywood/Vine	Constr.	1998	(combined)		5	35,000
Urban Rail	MOS-3	Extended	Wilshire/Western-Pico/SanVicente	Design	2000	6.3	12.6	2	19,000
			Hollywood/Vine-North Hollywood	Constr.	2000	2.3	4.3	3	38,000
			Union Station -East Side to 1st/Lorena	Final Design.	2000	3.0(1)	6.0	2	N/A(2)
Light Rail	Green Line	New	Norwalk-El Segundo	Constr.	1995	20.0	40.0	14	40,000
Light Rail	Pasadena Line	New	Union Station-Via Sierra Madre	Final Design	1998	14.1	27.2	14	68,000

(1)Approximate mileage.
(2)Estimated ridership to Whittier/Atlantic is 31,990 per day.

2. Financial Data 1992/93

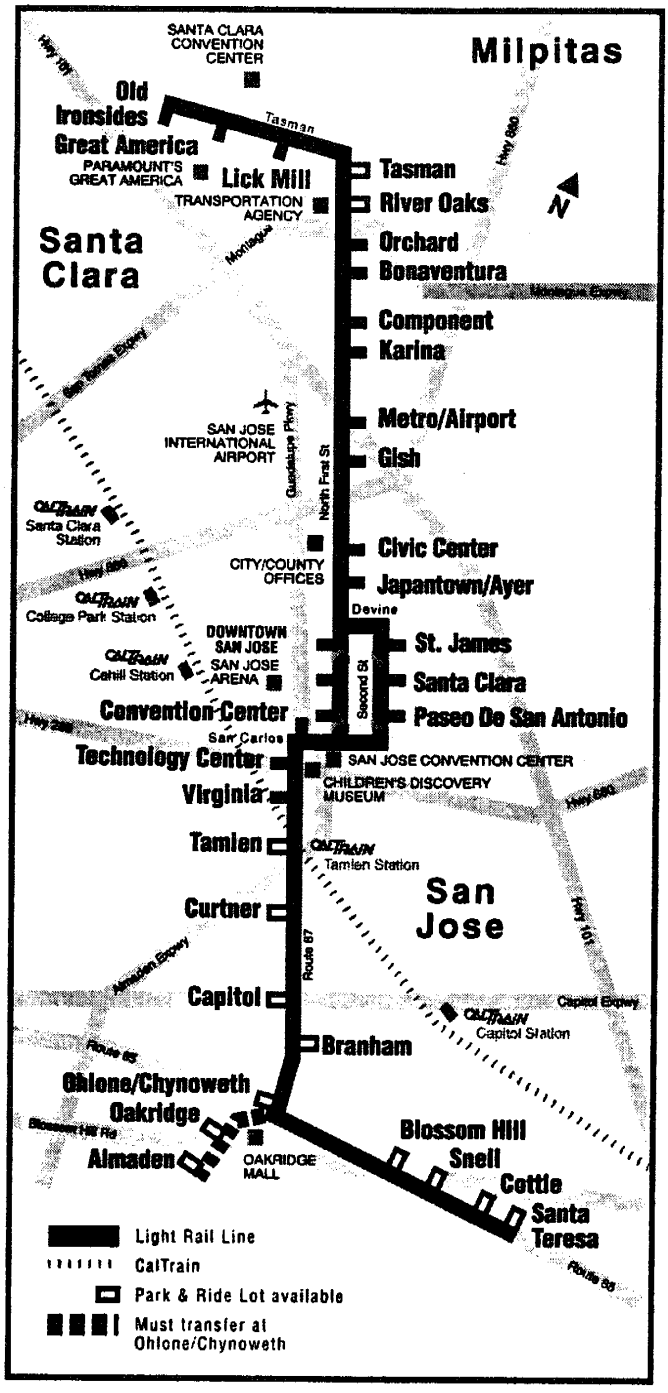
Guideway Mode	Route Designation	First Year Projected Annual Operating Expense ($ in millions)*	Capital Costs ($ 1993)** Proposed Funding Sources ($ in millions) Local	State	Federal	Other	TOTALS
Urban Rail	MOS-2	$	27,976	101,313	83,927	--	213,216
Urban Rail	MOS-3	--	5,286	--	40,208	--	45,494
Light Rail	Green Line	16.2	188,492	--	--	--	188,492
Light Rail	Pasadena Line	273.4	19,100	--	--	--	19,100
Totals		289.6	240,854	101,313	124,135	--	466,302

C. New Improvement Projects

The Long Range Integrated Transportation Plan identifies approximately 8 candidate corridor projects which are in various stages of environmental study. Each corridor includes such additional maintenance facilities as will be required to support the line. The Long Range Plan is an ambitious program of transportation development throughout the County. The Long Range Plan is currently undergoing a review; therefore, the candidate corridor projects to be constructed within the next 10 years (if any) have not yet been identified.

Figure 13C

SANTA CLARA COUNTY LIGHT RAIL



Santa Clara County Light Rail

I. System Wide Information

Agency Name: Santa Clara County Transportation Agency (SCCTA)
Address: 3331 North First Street
San Jose, CA 95134-1906
Public Affairs Phone Number (408) 321-2345

A. Agency History and Organization

The Santa Clara County Transit District, formed in 1971, began bus service in January 1973 with buses purchased from local bus companies. In 1974, County residents voted to make the Transit District part of the newly formed Santa Clara County Transportation Agency. The Agency's Transit Operations Division is responsible for planning, operating and maintaining the County's bus and rail systems. The Transit District Board of Supervisors makes all policy decisions. SCCTA provides bus service to 326 square miles of urbanized areas in Santa Clara County. Eighty percent of the County's 1.5 million residents live within a quarter mile of SCCTA bus service.

The Guadalupe Corridor Light Rail Line was initially opened for service in December 1987 and the full line opened in April 1991. The 20-mile light rail line links residential (and industrial) areas of South San Jose with downtown San Jose and high tech employment areas in North San Jose and Santa Clara.

B. Area Served

Counties and major incorporated cities served: Santa Clara County and the cities and towns of Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, and Sunnyvale.

Square Miles: 326

Population: 1.5 Million

C. System Summary (1992/1993)

Mode	Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Guideway Miles	Miles of Guideway Track
Light Rail	54	38	1,264,231	1	39	41
Motor Bus	472	380	18,307,125	72	106.4	--
Totals	526	418	19,571,356	73	145.4	41

II. Guideway Information

A. Ridership

Guideway Mode	Annual Unlinked Passenger Trips (in thousands)			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
	90/91	91/92	92/93	92/93	92/93
Light Rail	3,981.2	6,134.7	6,245.4	20,155	43,620,372

B. Route Descriptions (1992/1993)

Guideway Mode	Route # Designation	Origin/ Destination	Year Start of Rev Service	Direction Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
LRT	Guadalupe Line	Old Ironsides/ Santa Teresa & Almaden	1987	39	41	33	10	30	4:00a-12:30a

C. Facilities

The LRT operating/maintenance facility is located at 101 Younger Avenue. The facility is capable of servicing 10 LRT vehicles at one time, with all light rail repairs, overhauls, and painting of the vehicles being performed on site. Storage facilities are available for the current 50 LRT vehicles and five historic trolleys, with some capability for expansion. There are 33 stations and 11 park-and-ride lots with free lighted parking for almost 6,300 cars.

D. Finance and Personnel (1992/1993)

Guideway Mode	1992/93 OPERATING REVENUE SOURCES ($ in millions)								1992/93 Operating Expense ($ in millions)	1992/93 # of Personnel
	Passenger Fares	Agency Non Fare Revenue	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS		
Light Rail	--	--	--	--	--	--	--	--	--	210
All Other Modes	--	--	--	--	--	--	--	--	--	1,574
System Wide Totals	$18.84	$5.74	$36.18	$90.55	$0.86	$2.72	$6.04	$160.93	$101.66	1,784

E. Fare Structure

The District's fare policy has been totally integrated between the bus and LRT systems. Fares for LRT are the same as those charged for bus trips. Any valid SCCTA Day Pass or Monthly Pass may be used on LRT as well as bus service. LRT ticket purchase is on a self service, proof of purchase payment basis. Proof of fare payment is checked periodically by fare inspectors and is enforced through the courts.

The one-way fare for an adult is $1.00 and between 9:30 am and 2:30 pm it's $.50. A regular day pass is $2.00. The one-way fare for youth (5-17 years) at all times is $.50, and a day pass is $1.00 (children under 5 years ride free). For Seniors and the disabled the one-way fare is $.25 at all times, and a day pass is $.50.

F. System Integration

To foster coordination with adjoining transit operators, SCCTA works closely with BART, SamTrans, AC Transit and CalTrain. SCCTA has regional routes that connect with CalTrain, SamTrans, and AC Transit. TA is also involved in providing the Dumbarton Bridge Express Service which links the east and west bay areas and the Highway 17 Express Service which runs over Highway 17 between Scotts Valley in Santa Cruz County and Downtown San Jose. SCCTA has also been a participant in the BART Plus Program. This program provides a fare instrument that is good on BART, AC Transit, BART Express, the County Connection, Dumbarton Express, Martinez Link, SamTrans, Santa Clara County Transit, SF Muni, and Union City Transit.

SCCTA sponsors CalTrain service between San Jose and Gilroy. Costs for operations and capital improvements for four daily one-way trains are borne by SCCTA. Three daily round-trip Amtrak *Capitol* Route trains serve San Jose (Cahill) Station with an additional stop at Great America in Santa Clara. The existing Guadalupe Corridor Light Rail line connects

with Amtrak at Santa Clara, and with CalTrain at San Jose (Tamien). The future Tasman Corridor Light Rail will connect with Amtrak and CalTrain at San Jose (Cahill).

G. Access for the Disabled

SCCTA provides both accessible bus and light rail service for the mobility impaired. The light rail line is completely accessible. The system utilizes wayside lifts located on each station to enable wheelchair bound passengers access to vehicles. Stations are also equipped with elevators and escalators when necessary and warning band tiles to indicate the station platform edges to visually impaired passengers. The bus service has 59 accessible routes which serve 90 percent of the annual miles operated. All bus and rail vehicles are equipped with devices to secure a wheelchair or other mobility devices. The Americans With Disabilities Act (ADA) requires the Agency to identify key rail stations on the light rail line to achieve accessibility compliance at those stations. Improvements include: visual message boards, improvements to curbs, hand rails, parking and signage.

III. Ten Year Capital Program (1993/1994 through 2002-2003)

A. Rehabilitation Program

Overhauls of light rail vehicles are scheduled on five and ten year cycles. Complete replacement of the radio communication system for the bus and rail system is planned between fiscal years 1994 and 1996. Modifications to rail vehicles, stations and parking facilities to meet ADA requirements are planned as described above. Additional rehabilitation needs of vehicles, facilities and track and signal systems are being analyzed and will be programmed at a future date.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions

Guideway Mode	Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# of Stops	Annual Projected Passenger Trips (after 5
Light Rail	Tasman	Extended	Dwntwn Mt View/SJ	Prelim. Eng	1997	24.8	TBD	18	11,000
TBD	Fremont to San Jose	New	Warm Spring/SCC Dwntwn	Align. sel.ect. in progress	2009	24.28	TBD	TBD	20-22,000
Light Rail	Vasona	Extended	SJ/Los Gatos Dwntwn	EIS/EIR in progress	2003	12	TBD	TBD	5-6,000
Light Rail	Capitol/ Dwntwn Evergreen	Extended	SJ/Eastridge	Planning	2007	28	TBD	TBD	11-15,000
TBD	Stevens Creek	New	Alum Rock/ Cupertino Dwntwn	Planning	2010	32	TBD	TBD	15-24,000
Light Rail	Sunnyvale	Extended	Sunnyvale	EIS/EIR in progress	2014	6	TBD	TBD	TBD
TBD	Cupertino	New	Cupertino	Planning	2014	TBD	TBD	TBD	TBD

TBD - To Be Determined

2. Financial Data

Guideway Mode	Route Designation	First Year Projected Annual Operating Expense ($ in millions)(1)	Capital Costs ($ 1993)(2)				
			Proposed Funding Sources ($ in millions)				
			Local	State	Federal	Other	TOTALS ($ in millions)
Light Rail	Tasman	$13	$100	$100	$200	--	$400
TBD	Fremont to San Jose	4 (Depends on Option)	TBD	TBD	TBD	--	300
Light Rail	Vasona	8	TBD	TBD	TBD	--	200
Light Rail	Capitol/Dwtwn Evergreen	14	TBD	TBD	TBD	--	350
TBD	Stevens Creek	23	TBD	TBD	TBD	--	400
Light Rail	Sunnyvale	8	TBD	TBD	TBD	--	115
TBD	Cupertino	6	TBD	TBD	TBD	--	145
Totals		$76	--	--	--	--	$1,910

(1) Operating expense in 1993 $.
(2) Includes costs for route construction, right-of-way, rolling stock and related facilities.
TBD - To Be Determined.

C. New Improvement Projects

During 1994, TA will study options for upgrading the existing Almaden Branch LRT line between Ohlone/Chynoweth, Oakridge and Almaden Stations. Options to be analyzed include double tracking (presently this branch is a single track) and addition of a storage track at Ohlone/Chynoweth Station.

Figure 13D

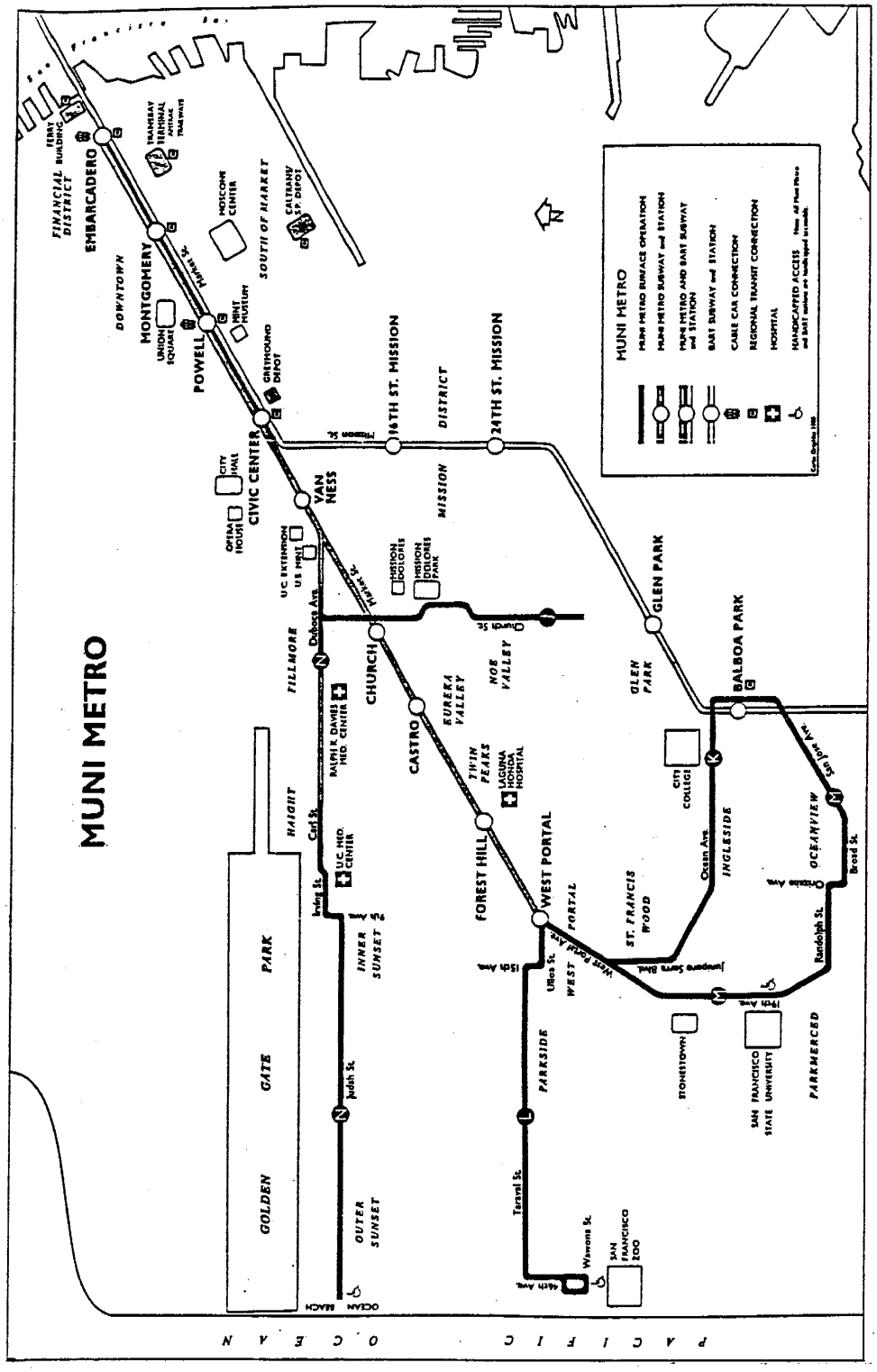
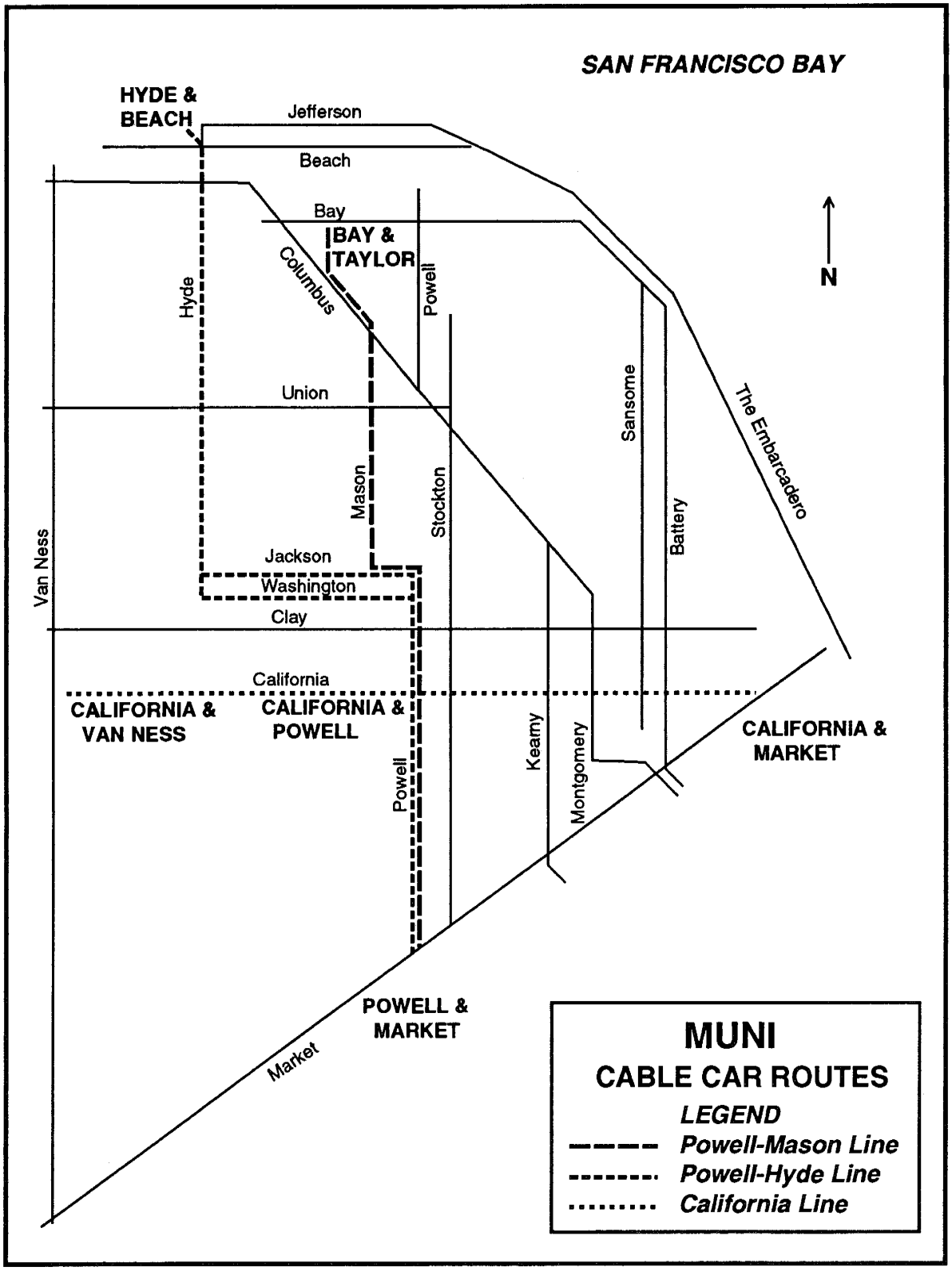

MUNI METRO
EMBARCADERO
MONTGOMERY
POWELL
CIVIC CENTER
VAN NESS
16TH ST. MISSION
24TH ST. MISSION
GLEN PARK
BALBOA PARK
CHURCH
CASTRO
FOREST HILL
WEST PORTAL
INNER SUNSET
OUTER SUNSET
PARKSIDE
PARKMERCED
INGLESIDE
OCEANVIEW
GOLDEN GATE PARK
PACIFIC OCEAN
MUNI METRO

Figure 13E


SAN FRANCISCO BAY
HYDE & BEACH
Jefferson
Beach
Bay
BAY & TAYLOR
Columbus
Hyde
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Sansome
The Embarcadero
Mason
Stockton
Battery
Van Ness
Jackson
Washington
Clay
California
CALIFORNIA & VAN NESS
CALIFORNIA & POWELL
Powell
Kearny
Montgomery
CALIFORNIA & MARKET
POWELL & MARKET
Market
MUNI
CABLE CAR ROUTES
LEGEND
Powell-Mason Line
Powell-Hyde Line
California Line

San Francisco Municipal Railway (Muni)

I. System Wide Information

Agency Name: San Francisco Municipal Railway (Muni)
Address: 949 Presidio Avenue
San Francisco, CA 94115
Public Affairs Phone Number (415) 923-6162

A. Agency History and Organization

Muni began operation in 1912 as one of the first publicly owned transit systems in the U. S., resulting from a City Charter calling for public ownership of utilities. A number of competing privately owned streetcar and cable car lines were combined, and eventually, by the late 1940's converted to bus operation, including trolley bus conversions. Muni now serves the City and County of San Francisco with five modes, in a modified grid including; cable car, streetcar (PCC), LRV, trolley coach and motor bus service. Additionally, Muni provides a brokered paratransit service.

Muni is an operating department within the City and County of San Francisco administrative structure, directly under the San Francisco Public Utilities Commission (PUC), appointed by the Mayor. The PUC General Manager reports to the PUC. Additional support bureaus are under the administrative aegis of the PUC including Finance, Personnel, Engineering and Management Information System.

B. Area Currently Served:

Counties and major incorporated cities served: City and County of San Francisco; one route serves recreation areas in Marin County on Sundays; six routes travel for a short distance in San Mateo County.

Square Miles: 49

Population: 727,000

C. System Summary (1992/1993)

Mode	Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Guideway Miles	Miles of Guideway Track
Light Rail	128	101	3,874,627	5	49.7	54.2
Cable Car	38	26	551,997	3	8.8	8.8
Trolleybus	343	265	7,283,601	17	119.8	--
Motorbus	474	386	13,023,507	54	--	--
Totals	983	778	24,733,732	79	178.3	63.0

II. Guideway Information

A. Ridership (1992/1993)

Guideway Mode	Annual Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
	90/91	91/92	92/93	92/93	92/93
Light Rail (LRV)	40,044,000	39,033,872	39,331,872	131,102	106,629,838
Cable Car (CC)	10,642,000	10,654,676	9,606,100	27,358	10,860,046
Trolleybus (TB)	82,018,000	85,863,908	81,807,925	258,608	116,138,523
Totals	132,704,000	135,552,456	130,745,897	417,068	233,628,407

B. Route Descriptions

Guideway Mode	Route# Designation	Origin/ Destination	Yr. Start of Rev. Service	Direction of Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
LRV	J-Church	30th/Church-Embarcadero	1917	4.6	4.6	37	6	30	24-Hours
LRV	K-Ingleside	San Jose/Geneva-Embarcadero	1918	8.4	8.4	42	10	30	24-Hours
LRV	L-Taraval	47th Wawona-Embarcadero	1919	8.6	8.6	58	6	30	24-Hours
LRV	M-Oceanview	San Jose/Geneva-Embarcadero	1925	9.4	9.4	57	10	20	5:40-11:52
LRV	N-Judah	Judah/La Playa-Embarcadero	1928	7.7	7.7	60	6	30	24-Hours
CC	59-Powell/ Mason	Powell/Mrkt-Bay/ Taylor	1880's	1.6	1.6	51	6	12	6:33-12:42
CC	60-Powell/ Hyde	Powell/Mrkt-Hyde/ Beach	1880's	2.2	61	61	6	12	6:09-12:30
CC	61-California	Calif/Mrkt/Calif/ Van Ness	1880's	1.4	1.4	371	6	20	6:22-12:44
TB	1-California	Clay/Drumm-Geary/ 33rd	1944	5.9	-	104	6	20	5:20-1:20
TB	3-Jackson	Sansome/Sutter/ Pres/Cal	1944	3.7	-	58	10	20	7:04-12:59
TB	4-Sutter	Sansome/Sutter-6th/Cornwall	1944	4.5	-	66	10	20	5:28-5:59
TB	5-Fulton	Transbay Terminal-La Playa/Balboa	1944	7.2	-	97	4	60	24-Hours
TB	6-Parnassus	Transbay Terminal-Quintara/14th	1944	6.1	-	108	8	20	6:19-12:20
TB	7-Haight	Ferry Terminal-Stanyan/Waller	1944	4.1	-	61	9	20	5:57-6:58
TB	8-Market	Ferry Terminal-Collingwool/19th	1944	3.5	-	51	8	20	6:06-12:35
TB	14-Mission	Ferry Terminal-Mission/ San Jose	1944	7.8	-	110	4	30	24-Hours
TB	21-Hayes	Ferry Terminal-8th/Cabarillo	1944	5.6	-	80	6	20	5:40-12:50
TB	22-Fillmore	Fillmore/Bay-3rd/20th	1944	5.8	-	96	6	30	24-Hours
TB	24-Divisadero	Webster/Jackson--3rd Oakdale	1941	7.1	-	123	8	20	5:10-1:43
TB	30-Stockton	Broderick/Beach-4th/Townsend	1951	4.7	--	80	4	20	5:40-1:22
TB	33-Stanyan	Sacramento/Cherry-25th/Hampshire	1947	6.2	--	93	20	20	6:00-12:40

Continued

B. Route Descriptions

Guideway Mode	Route # Designation	Origin/ Destination	Year Start of Rev. Service	Directional Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
TB	47-Van Ness	Van Ness/North Point-Howard/11th	1950	4.4	--	51	9	20	5:40-12:58
TB	49-Van Ness/ Mission	Van Ness/North Point-Ocean/ Phelan	1981	7.2	--	103	8	20	6:00-12:51

C. Facilities

Light Rail

Curtis E. Green Light Rail Center - servicing, running repair, heavy repair, unit repair, 297,371 sq. ft.

Geneva Carhouse - Preventive maintenance, paint and body and main storage for Muni's historic rail vehicles, 72, 255 sq. ft.

Cable Car

Cable Car Barn - all maintenance functions and the Cable Car Museum, 83,741 sq. ft.

Woods Carpentry Shop - major reconstruction.

24th & Utah - truck manufacturing.

Trolley Bus

Presidio Trolley Coach Division and Muni Headquarters - servicing, preventive maintenance, running repair, heavy repair and body shop for approximately 160 buses, 254,440 sq. ft.

Potrero Trolley Coach Division - servicing, preventive maintenance, running repair, heavy repair, body shop for approximately 185 buses, 256,876 sq. ft.

Curtis E. Green Light Rail Center - unit repair.

Overhead Lines Maintenance

1401 Bryant St. Facility, 48,000 sq. ft.

Ways & Structures Maintenance (includes Track Dept.)

24th & Utah facility, 86,706 sq, ft.

Signal Maintenance

Occurs at the Civic Center Station, Central Control and 24th & Utah facility.

Subway Stations

The Market Street subway has nine stations at the Market Street Subway and Twin Peaks Tunnel.

Transit Shelter Program

Since October 1987, almost 1000 transit shelters have been placed at transit stops through the city. The shelters are built and maintained by a private company at no cost to the City, in return for the company's right to place commercial advertising in the shelters located in commercial and high-density areas.

D. Finance and Personnel (1992/1993)

Guideway Mode	1992/93 OPERATING REVENUE SOURCES ($ in millions)								1992/93 Operating Expense ($ in millions)	1992/93 # of Personnel
	Passenger Fares	Agency Non Fare Rev.	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS		
Motor Bus									117.1	1,225
Light Rail									63.0	624
Cable Car									17.4	257
Trolley Bus	--	--	--	--	--	--	--	--	71.1	846
System Wide Totals	$ 89.5	$ 12.7	$ 17.6	$ 20.3	$ 115.5	$ 10.0	$ 7.6	$ 273.0	$268.6	2,952

Muni does not aggregate data by mode. Above are system totals and include figures for Motor Bus in those totals.

E. Fare Structure

Basic.....$1.00	Sr. Discount.....$0.35	Youth.....$0.35
Cable Car.....$2.00	Sr. Discount Pass....$8.00	Youth Cable Car $2.00
Day Pass.....$6.00		Youth Pass.....$8.00
Fast Pass $35.00		

The basic fare covers all service. Ball park express fares are additional. Exact change is necessary. Transfers are issued at the time the fare is paid and are valid for 90 minutes for two boardings in any direction. Passes are good on all Muni vehicles, including cable cars, and are valid for reduced ball park fares. Fast passes are also valid for BART and CalTrain within San Francisco. One and three day passes are available. All Muni passes are good for discounts on SamTrans.

F. System Integration

Muni's Urban Guideway system is fully integrated with all other transit systems and transportation modes that operate within Muni's operational boundaries. Muni Metro and BART subway stations align. Many Muni lines provide feeder service to BART in the Metro as well as BART surface stations. CalTrain's San Francisco terminal has Muni express buses and a local feeder loop service. Muni provides significant service via Market Street lines and other Downtown lines to the Transbay Terminal where AC Transit operates. Muni serves lines and stops for both Golden Gate and SamTrans, including direct service to Golden Gate Transit Bus stops at the Golden Gate Bridge. Additionally, Muni Metro service, motor and trolley bus lines terminate near the Ferry Building for access to the Golden Gate Bridge Ferry service to Marin.

System passes good on both rail and bus routes as well as other transit systems are described below.

A. Muni has several ongoing transfer arrangements which were implemented in past years with AC Transit, BART, Caltrans, and Golden Gate.

1. BART/Muni Single-Ride Transfer (at all SF BART stations except Daly City)
2. BART/Muni Single-Ride Transfer (at Daly City BART)
3. AC Transit Monthly Pass with Muni Sticker
4. Fast Pass on BART
5. Golden Gate Ferry Transfer
6. Eastbay Ferry Transfer Arrangement
7. Vallejo Ferry Monthly Pass with Muni Sticker
8. Peninsula Pass on CalTrain
9. Fast Pass on CalTrain

B. Bay Area transit operators are required by law (SB 602) to develop interoperator transfer arrangements between all connecting carriers.

1. Golden Gate Transit Commute Book Tickets with Muni Sticker
2. SamTrans Pass with Muni Stickers
3. BART Plus

G. Access for the Disabled

The Accessible Services Program provides transportation for disabled persons who otherwise would not be able to use public transit. This is accomplished by incorporating accessibility features in Muni's fixed route services and by contracting for door-to-door paratransit services. A variety of services support this function, including issuance of Regional Transit Connection Discount Cards and dissemination of public information materials. In addition, staff services are provided for Muni's Accessibility Advisory Committee and for the Paratransit Coordinating Council.

Trolley Coaches

There are no accessible articulated trolley coaches (TC) in the existing fleet. All newly acquired trolley coaches will be wheelchair accessible. Planning is now underway for the deployment of 60 lift-equipped articulated trolley coaches scheduled to arrive in late 1993. It is expected that funding will permit the purchase of additional accessible trolley coaches by 1995-1996.

1993/94: 60 articulated TCs arrive. They will provide full accessibility on three articulated TC lines. At this point 24 percent of the articulated TC fleet will be accessible.

1995/96: 30 articulated TCs and 100 standard TCs will arrive. They will provide accessibility on six to seven more articulated TC lines. At this point over 60 percent of the articulated TC fleet will be accessible.

1997/01: 50 new articulated TCs will arrive. All articulated TC lines will be fully accessible as of January 2001.

Light Rail (LRV and PCC)

While all nine Muni Metro underground stations are accessible, Metro is generally not accessible at streetside locations. To address this situation, Muni constructed wayside wheelchair-accessible platforms at nine key on-street sites between 1983 and 1991. Design has begun for an additional wayside platform on the J-line at Church and 18th Streets. The Muni Metro Extension, which will provide service to the South Embarcadero and Mission Bay areas, will add seven accessible high level platforms to the Metro System. New high level accessible platforms will also be built at San Francisco State and Stonestown as part of the 19th Avenue Platform and Track Improvement Project.

These sites, in combination with Metro underground stations and accessible bus lines form an extensive and integrated network of accessible public transit serving most San Francisco neighborhoods and major trip generators for disabled patrons. Lift-van services are provided for wheelchair users in areas not served by accessible Muni service.

Muni, in conjunction with the disabled community, has been addressing the transportation requirements of the American with Disabilities Act, with emphasis on planning for additional key stations access to the surface portion of the Metro system. Muni's "Key Station Identification and Accessibility Integration Plan" was submitted to FTA in July of 1992. Fourteen additional surface stops will be made accessible for LTVs, along with six stops along the new F-Market line to be served by PCC cars (streetcars).

A survey is being conducted of all nine underground stations and the existing wayside platforms in order to develop a plan to upgrade the accessibility in terms of a tactile edging, signage, audible announcements, TDD telephones, and other measures to bring these stations into compliance with the ADA key station provisions.

The design and testing of a prototype wayside lift at a surface platform is being planned as part of the track reconstruction project at San Jose and Geneva. In addition, specifications for Muni's next generation of LRVs include significant accessibility improvements.

III. Ten Year Capital Program (1993/94 through 2002/03)

A. Rehabilitation Program

LRV Modifications: These modifications to the Boeing LRVs are designed to improve service reliability and operating efficiency and reduce on-going maintenance requirements.

Motor Coach Rehab Program: Of the 474 motor coaches in the fleet, 280 will be 12 years old in 1996 and eligible for replacement. In order to phase their replacement over four years, it is necessary to replace some after they are 12 years old. This project will provide some overhaul work, which will be required in order to keep 100 M.A.N. articulated vehicles operating beyond their normal useful life.

Cable Car Reconstruction Program: This project provides for the phased reconstruction of the cable car fleet. Two to three cars will be reconstructed each year.

Historic Rail Car Rehabilitation Program: This project provides for the phased rehabilitation of the historic rail car fleet, which will enhance system reliability and productivity.

Geneva Facility Modifications: When PCCs are reintroduced into Muni service on the F-Market line, they will be stored and maintained at the Geneva Carhouse and Yard, which was designed to store and maintain LRVs. Some facility and overhead modifications are necessary in order to accommodate the PCCs. Much of the trackway in and adjacent to the yard is deteriorated and will be replaced as a part of this project.

1401 Bryant Street Facility Rehabilitation: This project involves the rehabilitation and expansion of the facility at 1401 Bryant Street, which houses the Overhead Lines Department. This facility which is a 100-year old, unreinforced masonry building in need of both seismic and cosmetic repairs, provides an ideal location to which certain related Muni functions could be relocated.

Track Replacement Program: This project provides for the replacement of one section of track each year, which will enhance system reliability and productivity, and help reduce operating problems.

Overhead Reconstruction Program: This project provides for the replacement of one section of overhead (including trolley wire, special work, and poles) each year, which will enhance system reliability and productivity, and help reduce operating problems.

Projects to meet ADA, Environmental and Health & Safety Regulations: This includes projects to modify existing facilities in order to meet ADA, environmental, health, or safety regulations.

Fixed Facilities Rehabilitation: This project provides for various infrastructure rehabilitation and improvements, which are essential to provide a safer, healthier, and more efficient operating environment.

Escalator Rehabilitation and Elevator upgrade: This project will rehabilitate the 28 escalators serving the Metro subsystem, and upgrade the 20 elevators located in subway stations and facilities.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions

Guideway Mode	Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# of Stops	Projected Passenger Trips (after 5 Yrs)
LRV	MMX - 6th	Extended	Embarc/Folsom-6th/King	Constr.	1996	2.0	2.0	5	6,000,000
LRV	MMX - 6th - 16th	Extended	6th/King	Concept-Eng.	2000-2005	1.0	2	2	9,000,000
LRV	Bayshore Corridor	New	TBD	Corridor Analysis	2000-2005	TBD	TBD	TBD	TBD
PCC	F-Market	New	Castro/Market Transbay Terminal	Constr.	1995	2.2	2.2	34	4,000,000
PCC	F-Embarca-dero	New	Fremont/Market Jefferson/Jones	Design	1998	2.0	2.0	25	3,000,000
TC	71-Noriega	New	Ferry Terminal Noriega/48th Ave	Planning	1996	8.5	-	67	3,800,000
TC	Mission Bay	Extended	4th/Townsend Mission Bay	Planning	2000-2005	TBD	-	30	1,750,000

TBD - To be determined

2. Financial Data

Guideway Mode	Route Designation	First Year Projected Annual Operating Expense ($ in millions)(1)	Capital Costs ($ 1993)(2)				
			Proposed Funding Sources ($ in millions)				
			Local	State	Federal	Other	TOTALS
LRV	MMX - 6th	.91	$11.0	$26.0	--	$15.0	$52.0
LRV	MMX - 6th - 16th	.47	12.0	11.5	--	--	23.5
LRV	Bayshore Corridor	TBD	TBD	TBD	TBD	74.3	TBD
PCC	F-Market	.59	23.3	24.5	25.9	--	73.7
PCC	F-Embarcadero	.32	29.8	26.9	--	--	56.7
TC	71-Noriega	.16	1.1	1.1	11.5	--	13.7
TC	Mission Bay	1.68	.89	.84	15.1	--	16.8
Totals		$4.13	$78.1	$90.8	$52.5	$89.3	310.7

(1) Includes operating expense in 1993 $.
(2) Includes costs in 1993 $ for route construction, right-of-way, rolling stock and related facilities.
TBD - To be determined

C. New Improvement Projects

Trolley Coach

Presidio Division Redevelopment: Presidio Division was built in 1912 as a streetcar facility, and its last major renovation was in the late 1950's for conversion to trolley coach operation. Today it is overcrowded, lacks sufficient drive-through maintenance capability, and has no maintenance bays large enough for articulated vehicles. Additionally, the growth of trolley coach storage needs resulting from a larger number of articulated vehicles and possible future electrification of motor coach lines makes a major reconstruction and expansion project essential.

Light Rail

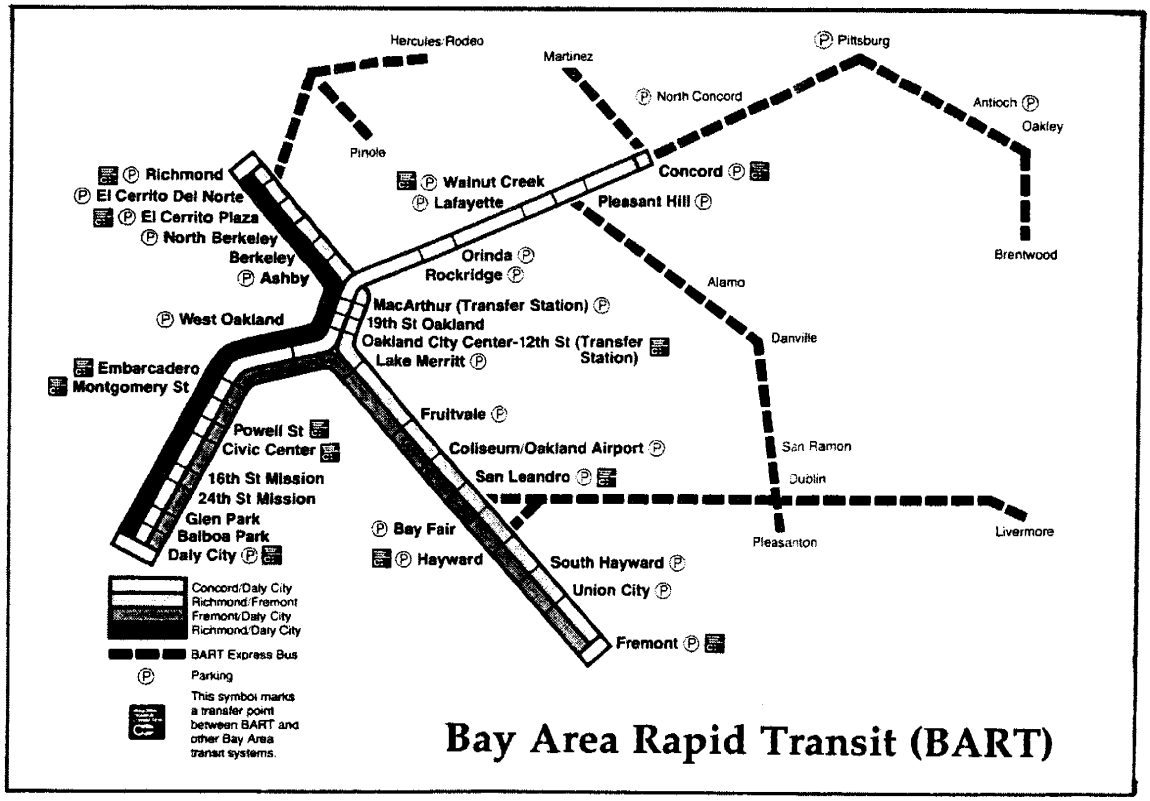
Muni Metro Turnback: The current design involves the construction of the Muni Metro subway tunnel extension east of the BART/Muni Embarcadero station and under Justin Herman Park, coming to grade via a portal in the median of a realigned and rebuilt Embarcadero Boulevard. The portal will be built between Howard and Folsom Streets, leaving space underground between Mission and Howard Streets for a high capacity turnback operation. Surface tracks will be extended in the Embarcadero median to a trail track for disabled train storage south of Folsom Street. The Turnback will significantly improve the reliability and cost-effectiveness of Metro subway

operations by removing the bottleneck created by the two-track storage and inspection capabilities for disabled vehicles.

LRV Expansion: This project would provide for the purchase of 52 LRVs to be used for the Muni Metro Extension, to provide additional service on the existing J, K, L, M, and N-lines, and to provide new service on the Bayshore line.

Metro East LRV Maintenance and Storage Facility: This project involves the design and construction of a new LRV operating division at Metro East, growth of the LRV fleet and the addition of PCCs will increase the rail fleet by 70 cars. Since the Green Light Rail Center and Geneva Yard are already beyond their design capacity for vehicle storage and maintenance, thus causing certain functional inadequacies, a new rail maintenance and storage facility (referred to as Metro East) must be built. The construction of Metro East will also involve some rehabilitation to both Green Center and Geneva.

Figure 13F


Hercules-Rodeo
Martinez
Pittsburg
North Concord
Antioch
Oakley
Pinole
Richmond
El Cerrito Del Norte
El Cerrito Plaza
North Berkeley
Berkeley
Ashby
Walnut Creek
Lafayette
Concord
Pleasant Hill
Brentwood
Orinda
Rockridge
Alamo
MacArthur (Transfer Station)
19th St Oakland
Oakland City Center-12th St (Transfer Station)
Lake Merritt
West Oakland
Danville
Embarcadero
Montgomery St
Fruitvale
Powell St
Civic Center
Coliseum/Oakland Airport
San Ramon
16th St Mission
24th St Mission
San Leandro
Dublin
Glen Park
Balboa Park
Daly City
Bay Fair
Hayward
Pleasanton
Livermore
South Hayward
Union City
Fremont
Concord/Daly City
Richmond/Fremont
Fremont/Daly City
Richmond/Daly City
BART Express Bus
Parking
This symbol marks a transfer point between BART and other Bay Area transit systems.
Bay Area Rapid Transit (BART)

Bay Area Rapid Transit (BART)

I. System Wide Information

Agency Name: Bay Area Rapid Transit District
Address: P.O. Box 12688
800 Madison Street
Oakland, CA 94604-2688
Public Affairs Phone Number (510) 464-6000

A. Agency History and Organization

BART service began in September 1972. The three-county district is served by a nine-member elected board. BART is currently a 71.5 mile rail system and a 140 mile express bus system. BART's Phase I extensions program is currently under construction. This program will add 10 new stations to the system's existing 34 stations and will add 35 miles of trackway.

B. Area Currently Served

Counties and Major Incorporated Cities Served: BART serves all cities in Alameda, Contra Costa and San Francisco Counties and northern San Mateo County.

Population: 3.5 million including all of San Mateo County
2.9 million excluding San Mateo County

C. System Summary (1992/1993)

Mode	Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Guideway Miles	Miles of Guideway Track
Heavy Rail	589	406	5,843,026	7	142	196.5
Bus	45	35	--	--	--	--
Totals	634	441	--	--	142	196.5

II. Guideway Information

A. Ridership (1992/1993)

Guideway Mode	Annual Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
	90/91	91/92	92/93	92/93	92/93
Heavy Rail	76,098,529	77,247,092	78,301,800	263,570	931,234,916

B. Route Descriptions (1992/1993)

Guideway Mode	Route # Designation	Origin/ Destination	Year Start of Rev Service	Directional Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
Heavy Rail	A-Line	Fremont/Lake Merrit	--	23	--	9	--	--	4:45 am-8:30pm
Heavy Rail	M-Line	Daly City/Oakland West	--	15	--	10	--	--	5am-8:30pm
Heavy Rail	R-Line	Richmond/MacArthur	--	12	--	7	--	--	4am-12:45am
Heavy Rail	C-Line	Concord/12 St. Oakland	--	21.5	--	9(1)	--	--	4am-1am

(1) Includes MacArthur which is also on the R-line.

C. Facilities

BART has 34 stations and maintenance yards at Hayward, Daly City, Richmond, and Concord.

D. Finance and Personnel (1992/1993)

1992/93 OPERATING REVENUE SOURCES ($ in millions)								1992/93 Operating Expense ($ in millions)	1992/93 # of Personnel
Passenger Fares	Agency Non Fare Revenue	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS		
101.2	7.5	.5	89.6	11.4	.2	0	210.4	210.4	2,498

E. Fare Structure

BART's fare structure is based on three components: trip length, a surcharge for the transbay and Daly City components of trips, and a differential charge for trips that are faster or slower than average. Regular fares range from $.80 to $3.00. The average fare before discounts is $1.56, and after discounts is $1.35.

BART has special fares for a number of categories. Children under five years ride free. Children five through 12 years, persons 65 and over and disabled persons receive a 90 percent discount. Regular adults may buy a ticket with a $32 value for $30.

Fares for BART express buses for a regular adult range from $.75 to $1.15. Similar discounts as on BART are offered for children, seniors and the disabled.

F. System Integration

BART is served by every major feeder bus agency in the three-county district and by SamTrans in San Mateo County. To encourage the use of feeder bus service as a mode of access to BART, BART offers a discounted "BART Plus" and "BART Plus Premium" ticket which allows the holder unlimited bus trips within a bi-weekly period.

Discounted one-way transfers are offered at BART stations for BART express buses, Contra Costa County Transit and Union City Transit buses. Discounted round-trip transfers to/from BART are offered at BART stations for AC transit, SF Muni within San Francisco, and SF Muni from the BART Daly City station. BART connects directly to SF Muni at the Embarcadero, Montgomery, Powell, Civic Center and Balboa Park stops. BART offers a monthly Rail/SF Muni "Fast Pass" which allows unlimited monthly use of BART and Muni within San Francisco. At the multi-modal station at Richmond, BART connects directly to Amtrak's intercity rail *Capitol* and *San Joaquin* services.

G. Access for the Disabled

The existing BART system is fully accessible. Improvements are scheduled for key stations and automatic fare collection equipment.

III. Ten Year Capital Program (1993/94 through 2002/03)

A. Rehabilitation Program

BART is currently pursuing funding for its $1.044 billion system rehabilitation program. This program will include revenue vehicles, control and communication, automatic fare collection, maintenance equipment, station and mainline trackway, maintenance facilities, and core systems.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions

Guideway Mode	Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# of Stops	Projected Passenger Trips (after 5 Yrs)
Heavy Rail	C-Line	Extended	Concord/ W. Pittsburg	Constr.	1997	15.6	--	2	12,000
Heavy Rail	R-Line	Extended	Bayfair/ E. Dublin	Constr.	1997	28	--	2	22,480
Heavy Rail	R-Line	Extended	Fremont/ Warm Springs	Design	1999	10.8	--	2	10,100
Heavy Rail	M-Line	Extended	Daly City/ Colma	Constr.	1997	3.2	--	1	18,000
Heavy Rail	M-Line	Extended	Colma/SFO	Design	2000	12.8	--	3	43,000

2. Financial Data

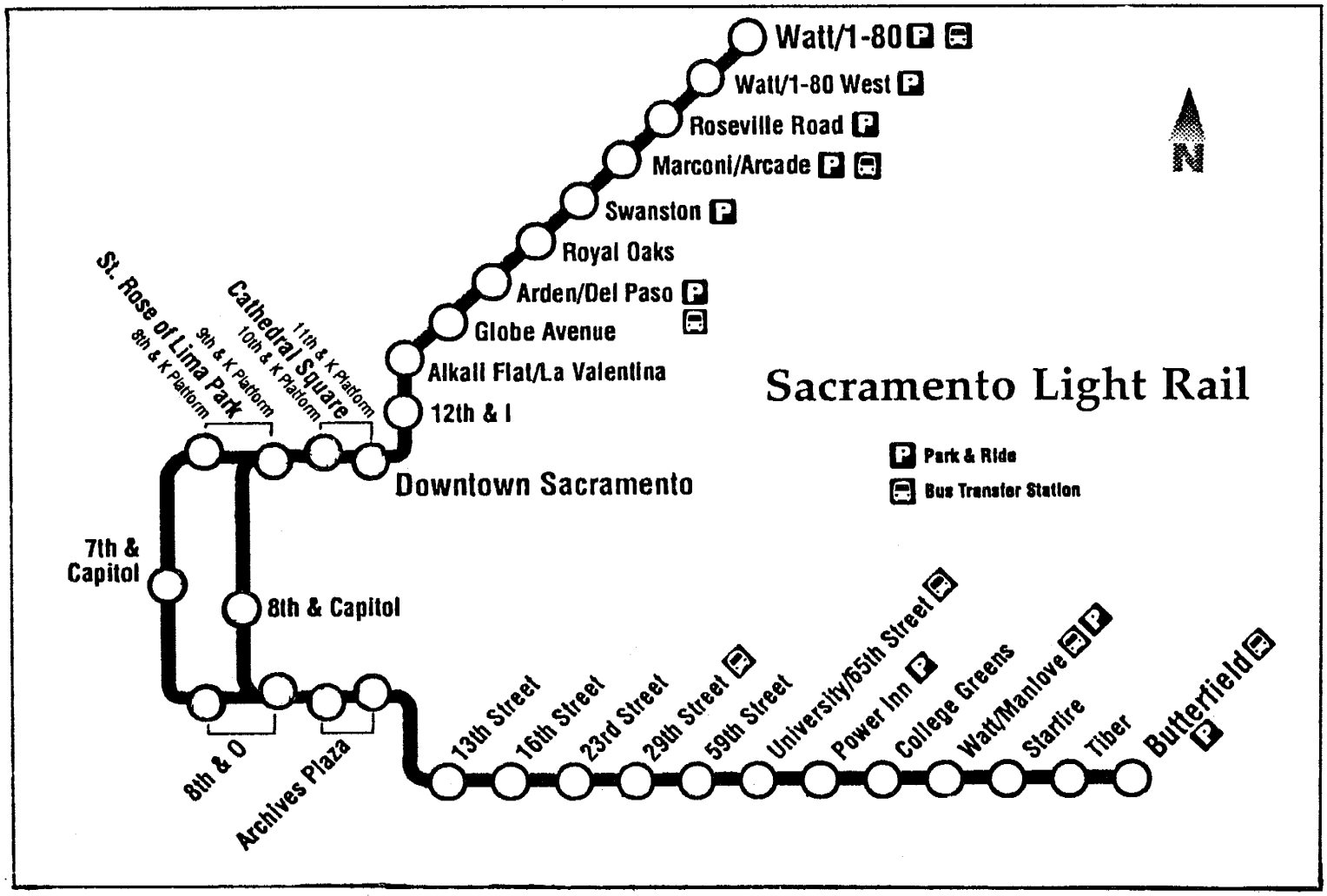
Guideway Mode	Route Designation	First Year Projected Annual Operating Expense	Capital Costs ($ 1993)(1)				
			Proposed Funding Sources ($ in millions)				
			Local	State	Federal	Other	TOTALS
Heavy Rail	C-Line Concord/W. Pittsburg	N/A	$378	$127	--	--	$505
Heavy Rail	R-Line Bayfair/E. Dublin	N/A	319	195	--	--	514
Heavy Rail	R-Line Fremont/Warm Springs	N/A	191	147	--	$130	468
Heavy Rail	M-Line Daly City/Colma	N/A	24	18	$128	--	170
Heavy Rail	M-Line Colma/SFO	N/A	111.6	88	598.8	--	798.4
Totals		N/A	$1,023.6	$575	$726.8	$130	$2,455.4

(1) Includes costs route construction, right-of-way, rolling stock and related facilities.

C. New Improvement Projects

New improvement projects include the El Cerrito parking garage estimated to cost $10 million and West Oakland parking improvements estimated to cost $8 million. Also planned are Oakland Airport suspended light rail connector, advanced automatic train control, and electric station cars.

Figure 13G


Watt/1-80
Watt/1-80 West
Roseville Road
Marconi/Arcade
Swanston
Royal Oaks
Arden/Del Paso
Globe Avenue
Alkali Flat/La Valentina
12th & I
Downtown Sacramento
St. Rose of Lima Park
8th & K Platform
9th & K Platform
Cathedral Square
10th & K Platform
11th & K Platform
7th & Capitol
8th & Capitol
8th & O
Archives Plaza
13th Street
16th Street
23rd Street
29th Street
59th Street
University/65th Street
Power Inn
College Greens
Watt/Manlove
Starfire
Tiber
Butterfield
N
Sacramento Light Rail
Park & Ride
Bus Transfer Station

Sacramento Light Rail

I. System Wide Information

Agency Name: Sacramento Regional Transit District (RT)
Address: 1400 29th Street
Sacramento, CA 95816
Public Affairs Phone Number (916) 321-2811

A. Agency History and Organization

Regional Transit and its predecessors have provided public transit in the Sacramento area for over 130 years. A series of private carriers operated transit until 1955 when transit became a public entity operated by the City of Sacramento. In 1973 the current Sacramento Regional Transit District began operation with a new sales tax-based funding mechanism and a greatly expanded service area which included most of the urbanized portions of Sacramento County. RT is governed by a seven member Board of Directors, four appointed by the City and three by the County. The Board establishes policy which is implemented by the General Manager and his staff.

RT has about 60 bus lines. RT opened an 18.3 mile Light Rail System in 1987. Current plans call for a significant increase in light rail and bus routes plus the eventual addition of electric trolley buses and historic trolleys.

B. Area Currently Served

Counties and major incorporated cities served: Sacramento City and County.

Square Miles: 340

Population: 1,000,000

C. System Summary (1992/1993)

Mode	Vehicles in Fleet	Vehicles Operated in Maximum Service	Annual Vehicle Revenue Miles	Number of Routes	Directional Route Guideway Miles	Miles of Guideway Track
Light Rail	36	32	828,560	1	36.2	32.6
Motorbus	202	159	6,676,258	60	-	-

II. Guideway Information

A. Ridership (1992/1993)

Guideway Mode	Annual Unlinked Passenger Trips			Average Weekday Unlinked Passenger Trips	Annual Passenger Miles
	90/91	91/92	92/93	92/93	92/93
Light Rail	6,592,504	6,781,165	6,571,393	22,349	31,507,873

B. Route Descriptions (1992/1993)

Guideway Mode	Route # Designation	Origin/ Destination	Year Start of Rev. Service	Direction Route Guideway Miles	Miles of Guideway Tracks	# of Stops	Headway Min	Headway Max	Weekday Hours of Operation
Light Rail	Starter Line	Watt-Butterfield	1987	36.2	32.6	28	15	30	0430-2400

C. Facilities

Maintenance Facility

The light rail operations and maintenance facility, located on the Northeast line adjacent to the main line between El Camino Avenue and Marconi-Arcade Boulevard, can accommodate up to 50 light rail vehicles (LRVs). The 100-employee facility includes car-maintenance facilities, work areas for maintenance of way, parts, storage and offices. A body repair and paint booth shop and maintenance-of-way building were completed in December 1993.

Storage Facilities

Six yard tracks located at the light rail operations and maintenance facility can accommodate up to 50 LRVs. Three additional storage tracks, accommodating up to 11 LRVs, are located at the 13th Street Station on the Folsom Line. These tracks are used to store peak-period cars during the midday period on weekdays. Additional peak-period storage capacity for up to four LRVs is available at the Watt/I-80 and Butterfield terminal stations.

Stations

A total of 28 passenger stations is provided with at-grade platforms and provisions for wheelchair access via a small ramp and raised platform. The stations provide ticket vending machines, money changers, telephones and transit system information. Bus transfer facilities are provided at six stations and automobile park and ride lots located at nine stations can accommodate 3,713 cars. In addition, bicycle lockers located at 10 stations provide storage for 60 bicycles, and outdoor racks located at 18 stations can accommodate 62 bicycles. A new station at 39th Street and another at 48th Street are scheduled for completion in June 1994.

D. Finance and Personnel (1992/1993)

Guideway Mode	1992/1993 OPERATING REVENUE SOURCES ($ in millions)								1992/93 Operating Expense ($ in millions)	1992/93 # of Personnel
	Passenger Fares	Agency Non Fare Rev.	TDA	Local Sales Tax	Other Local	State	Federal	TOTALS		
Light Rail										114
Motorbus										370
System Wide Totals (1)	$13.58	$0.90	$23.05	$11.24	-	$1.30	$3.54	$53.60	$53.60	764 (2)

(1) Operating revenues not available by mode.
(2) Includes Administrative personnel and other staff positions.

E. Fare Structure

The basic one-way fare is $1.25. Between 9 am and 3:30 pm Monday through Friday a one-way fare of $.25 is available in the central business district. Discount one-way fare of $.50 is available to seniors, the disabled and youth ages five through 12. Basic and discount daily and monthly passes are offered. The fare collection method is barrier free, with roving ticket inspectors.

F. System Integration

As the Sacramento region's largest transit operator, RT provides accessible, fully integrated multimodal transit service. RT provides multimodal transfer connections with designated transit centers. Coordinated transfer connections are made with these locations between RT's bus and light rail systems, other public transportation operators and private operators, including taxis and shuttles. Additionally RT provides automobile and bicycle access to both LRV and bus facilities. All RT passes and fare media are valid on buses and light rail and RT has transfer and pass agreements with a number of other transit operators.

RT extended its J Street bus routes (#30, 31, and 32) to make trackside connections to all Amtrak trains including the *Capitols, Coast Starlight,* and *California Zephyr* and bus connection to the *San Joaquins.* RT service connects to private airport shuttle service.

G. Access for the Disabled

All Light Rail stations provide accessibility to trains via mini-high platforms with ramps or wayside lifts. LRVs accommodate up to three wheelchairs. Station platforms are equipped with 12" wide "truncated dome" detectable warnings and station identification/fare information in braille.

Braille and raised print information, as well as regular signs at all stations, are being upgraded to meet new ADA standards by the end of 1993. Nine

key stations will also get upgraded detectable warnings and other ADA features. Fifteen non-key stations will be modified for consistency in the future, as the budget permits.

III. Ten Year Capital Program (1993/1994 through 2002/2003)

A. Rehabilitation Program

In order to implement planned trolley-bus service, RT would need to modify its existing maintenance facility to accommodate these vehicles. Maintenance facility modifications would be minor, including bus rack modification, supplying traction power inside the shop and restriping bus storage facilities.

B. New or Extended Routes (Presently Under Development and/or Planned)

1. Route Descriptions

Guideway Mode	Route Designation	New or Extended	Origin/ Destination	Project Status	Start-up Yr.	Directional Route Guideway Miles	Miles of Guideway Track	# of Stops	Projected Passenger Trips (after 5 Yrs)
Light Rail	Roseville Corridor	Phase 2 Ext	MP 8.5 to 15.5	ON HOLD	ON HOLD	ON HOLD	ON HOLD	---	ON HOLD
Light Rail	Folsom Corridor	Phase 2 Ext	MP 9.5 to 11.7	FINAL DESIGN	1997	4.4	4.1	1	3,260 (1)
Light Rail	Folsom Corridor	Phase 3 Ext	MP 11.9 to 14.6		ON HOLD	ON HOLD	ON HOLD	---	ON HOLD
Light Rail	South Corridor	Phase 1 New	R St. to Calvine Road	AA/EIS	1999	22.6	22.6	8	22,600
Electric Trolley	Broadway	Phase 1 New	Downtown to CSUS	ON HOLD	ON HOLD	ON HOLD	ON HOLD	n/a	ON HOLD
Electric Trolley	Freeport	Phase 1 New	Downtown to Florin/ Greenhaven	ON HOLD	ON HOLD	ON HOLD	ON HOLD	n/a	ON HOLD
Electric Trolley	Stockton	Phase 1 New	Downtown to Florin Mall	ON HOLD	ON HOLD	ON HOLD	ON HOLD	n/a	ON HOLD
Electric Trolley	J Street	Phase 1 New	Downtown to CSUS via J St.	ON HOLD	ON HOLD	ON HOLD	ON HOLD	n/a	ON HOLD

(1) Ridership for both phases of Folsom corridor extension.

2. Financial Data (1992/1993)

Guideway Mode	Route Designation	First Year Projected Annual Operating Expense ($ in millions)(1)	Capital Costs ($ 1993)(2)				
			Proposed Funding Sources ($ in millions)				TOTALS
			Local	State	Federal	Other	
Light Rail	Roseville Corridor	---	---	---	---	---	(6)
Light Rail	Folsom Corridor	(5)	$6.6	$14.9	$12.5	---	$34.0
Light Rail	Folsom Corridor	---	---	---	---	---	(6)
Light Rail	South Corridor	$37.2	38.6	38.5	308.5	---	385.6
Electric Trolley	Broadway	(3)	3.0 (4)	6.0 (4)	48.0 (4)	$3.0 (4)	60.0 (4)
Electric Trolley	Freeport	(3)	---	---	---	---	---
Electric Trolley	Stockton	(3)	---	---	---	---	---
Electric Trolley	J Street	(3)	---	---	---	---	---
Totals		N/A	$48.2	$59.4	$369.0	$3.0	$479.6

(1) Includes operating expense in 1993 $.
(2) Includes costs in 1993 $ for route construction, right-of-way, rolling stock and related facilities.
(3) Cost to operate electric trolley bus is less than or equal to current operating cost.
(4) Totals for all four lines.
(5) No measurable increase in operating expense for the addition of the short extension.
(6) Unknown at this time.

C. New Improvement Projects

To complement the service expansion, a major capital facility development program will be needed. Major capital facility development will include new maintenance and operating facilities, transit center/station development, and expanded administrative facilities.

Alameda-Contra Costa Transit District

AC Transit is operated by the Alameda-Contra Costa Transit District. Presently, AC Transit operates a bus system that serves the Alameda and Contra Costa counties, including a commuter bus service to San Francisco.

In 1993, a consultant retained by AC Transit completed an Alternative Modes Analysis designed in part to respond to the California Clean Air Act amendments. These amendments, which took effect in 1993, mandated major reductions in particulate matter tailpipe emissions from the District's existing all-diesel bus fleet.

Seven major corridors were identified in this Study and ranked in terms of existing ridership base, anticipated development within the corridor and the relative construction feasibility. Of the seven corridors, four were selected for further analysis for conversion from diesel bus to light rail or electric trolley bus. They include:

San Pablo Avenue-Light Rail

This corridor connects downtown Oakland's business district to Berkeley, Albany, El Cerrito, Richmond and San Pablo. San Pablo Avenue north of I-580 is State Route 123.

East 14th Street-Light Rail

This corridor connects downtown Oakland to southern Oakland neighborhoods, San Leandro and Hayward. East 14th Street between 42nd Avenue and I-238 is State Route 185. Mission Boulevard between I-238 and C Street is State Route 185.

Telegraph Avenue-Electric Trolley Bus

This corridor connects downtown Oakland and its northern suburbs to south Berkeley and the UC Campus.

Foothill Boulevard/Bancroft Avenue-Electric Trolley Bus

This corridor serves similar areas to East 14th Street.

With service on each of these corridors, AC Transit's existing interface with connecting bus, Bay Area Rapid Transit (BART) and rail lines would be maintained.

Funding Sources

Based on conclusions in the Alternative Modes Analysis, AC Transit has submitted applications for funding to the Alameda County and Contra Costa County Congestion Management Agencies (CMAs). These applications request Intermodal Surface Transportation Efficiency Act (ISTEA) funds for the following projects:

(1) A federally-required Major Metropolitan Transportation Investment Analysis (MMTIA) for the 30-mile corridor comprising San Pablo Avenue and East 14th Street from Hilltop Mall in Richmond to Hayward BART station,

(2) Implementation of an electric trolley bus line on Telegraph/Bancroft/Foothill corridor.

The Alameda County CMA has included these projects in its draft Congestion Management Plan and is recommending them for funding to the Metropolitan Transportation Commission (MTC). The Contra Costa County CMA has not yet adopted its funding recommendations. AC Transit has requested that the CMA recommend a MMTIA on that portion of San Pablo Avenue where the light rail project would operate in Contra Costa County.

If MTC recommends AC Transit's trolley bus project for federal funding, the project will be submitted to FHWA and FTA as part of the Bay Area's Transportation Improvement Plan (TIP). Following FHWA and FTA approval, MTC will adopt the TIP. AC Transit is working with MTC staff to identify the source for the 20 percent local match required should its projects be approved.

Should the MMTIA determine that light-rail technology would be feasible on the studied corridors, AC transit will investigate the following funding sources as possibilities for the local match: general fund revenues, property tax rate increase, sales tax rate increase, development fee increase, property tax increment, and benefit assessment.

Watsonville Junction-Santa Cruz-UC Santa Cruz

Santa Cruz County Regional Transportation Commission and Santa Cruz Metropolitan Transit District are currently investigating the feasibility of fixed guideway/rail service between the Watsonville urbanized area and the Santa Cruz urbanized area, including downtown Santa Cruz and the University of California, utilizing existing and new rail rights-of-way and self-propelled rack and adhesion rail cars.

Three major planning studies undertaken are as follows:

Santa Cruz Fixed Guideway Project Urban Corridor System Planning Study-1989

This study investigated the feasibility of fixed guideway service alternatives between downtown Santa Cruz and the University of California, Santa Cruz. The study identified cable driven technologies as a cost effective means to serve the corridor.

Santa Cruz Fixed Guideway Project Suburban Corridor System Planning Study-1989

This study investigated the feasibility of fixed guideway service alternatives in corridors starting from downtown Santa Cruz to Felton, Davenport, and Watsonville. The study identified self-propelled rail vehicle technologies as a cost-effective means to serve the Santa Cruz-Watsonville corridor.

Santa Cruz Fixed Guideway/Rail Project Corridor Refinement Study-1993

This study investigated the feasibility of fixed guideway service in an integrated UC, Santa Cruz-Downtown Santa Cruz- Watsonville corridor in accordance with Federal systems planning guidelines. The study also identified self-propelled rack and adhesion rail vehicle technologies as a cost-effective means to serve the integrated corridor.

The proposed fixed guideway projects would interface with the existing local transit feeder service. Connection would be provided at Santa Cruz to Highway 17 Express Bus service. At Watsonville, connection would be provided to Monterey-Salinas Transit Service Junction, or to existing or expanded intercity rail service between the San Francisco Bay Area and Los Angeles, Salinas, or Monterey.

Planned Route service concepts include operation of eight bi-directional vehicles, 22.3 miles of single track route with passing sidings, and 19 stations. Ten of the stations would offer parking facilities. The system would operate seven days a week and service during the weekday would be from 6:00 a.m. to 8:00 p.m. The service frequency would be 15 minutes and 30 minutes south of Seacliff. Service frequency would be reduced during the weekend.

Estimated Costs:

The capital cost for the proposed service is estimated at $147,400,000 and the annual operating cost is projected to be $4,400,000.

Funding Sources

Various funding sources have been identified for the proposed fixed guideway projects, including Federal Section 3 New Rail Starts Program, Proposition 116, Congestion Mitigation and Air Quality Improvement Program, Transit Capital Improvement Program, Local Sales Tax, Transportation Impact Fees, Local Parking Tax and Fares.

Chapter XIV
High Speed Ground Transportation and Other Technology Improvements

This Chapter will provide background on high-speed ground transportation systems, including rail electrification. A discussion will follow on Caltrans efforts to plan and implement rail technology improvements. These efforts include (1) a program to upgrade State-supported 403(b) routes to speeds up to 110 mph, (2) planning for the development of an ultra high-speed ground transportation system, including the 20-year High-Speed Intercity Ground Transportation Plan to be produced under SCR 6, (3) a rolling stock procurement program for high-speed rail cars and diesel electric locomotives, (4) participation in federal high-speed grant programs and (5) the Transit Systems Research Program. Finally, a discussion of private high-speed ground transportation efforts in California will follow.

BACKGROUND

The background section includes a definition of high speed ground transportation, a discussion of high speed ground transportation systems, magnetic levitation and electrification in California.

Definition of High Speed Ground Transportation

There is no universally accepted definition of what constitutes high speed ground transportation (HSGT). Amtrak considers "high-speed" rail (HSR) to be the "operation of passenger trains at speeds from 100 mph to not over 150 mph on existing railroad tracks and rights-of-way." Amtrak considers "ultra high-speed" to involve "rail or magnetic levitation operations at speeds in excess of 150 mph; they may operate as fast as 200-300 mph. Ultra-high speed operations will require the construction of an entirely new railroad or maglev guideway and are not suitable for operation on existing freight or passenger lines." HSGT systems can be either high speed or ultra high speed and include the four existing steel-wheel on-steel rail systems described below, as well as magnetic levitation (maglev).

High Speed Ground Transportation Systems

This section includes descriptions of existing HSGT systems, the characteristics of HSGT systems and the economic and market framework of existing ultra HSR systems.

System Descriptions

The only operating HSR system in the United States is on Amtrak's Northeast Corridor (NEC). The corridor is electrified between New Haven, Connecticut, New York City and Washington D.C. On portions of the 233-mile NEC between New York and Washington, speeds of up to 125 mph are reached. (When the

X-2000 tilting train was recently tested on the corridor, speeds of up to 135 mph were reached.) On nonstop runs the trip can be as short as two hours and 35 minutes for an average speed of 90 mph. Roughly $2.5 billion in federal funds have been spent to upgrade the NEC, mostly between New York and Washington. (In 1985 Amtrak's Metroliner became the leading commercial passenger carrier between New York and Washington, surpassing air shuttle traffic in the corridor.)

Amtrak plans to complete the electrification of the route between New Haven and Boston by 1997. The New York-Boston segment is 208 miles and currently the trip is approximately four hours. This segment has a considerably lower average speed than the New York-Washington leg. The current cost estimate for this project is $1.35 billion, including infrastructure improvements and rolling stock. To date $450 million in federal funds have been allocated for the project.

A number of European countries have upgraded portions of their rail systems to HSR. In Italy and Sweden, tilting train technologies are used on these systems. The Swedish X-2000 runs between Stockholm and Gothenburg at a maximum speed of 125 mph on conventional tracks. In Italy, the ETR-450 train operates between Rome, Florence and Milan, mostly on conventional tracks. Another example is British Rail's Intercity 125 and 225. Both run on conventional upgraded tracks at speeds up to 125 mph. The Intercity 125 is diesel-hauled, while the Intercity 225 uses electric locomotives.

Ultra HSR is a mature technology currently used in Japan (Shinkansen), France (Trains a' Grande Vitesse - TGV), Germany (Intercity Express - ICE) and Spain. This transportation mode is a sophisticated application of the steel-wheel on steel-rail concept developed over 150 years ago.

Ultra HSR was first introduced in Japan in 1964 when the Shinkansen began operations with speeds of up to 131 mph. Since then the Japanese have improved their technology and expanded their system. There are now four lines in operation; the trains on the newest line reach speeds of 172 mph. All four routes operate on completely dedicated track.

The second generation of ultra HSR was introduced in France in 1981. The original TGV provides high speed rail service at speeds of up to 168 mph between Paris and Lyon. A second TGV line connecting Paris and southwest France opened in 1990 and now operates at top speeds of 186 mph. The third route connecting Paris to Lille in northern France opened in May 1993. It will be the trunk of a network connecting Paris to Brussels, Belgium and via the Channel Tunnel to London. This second phase of the line is projected to open in 1994. The entire line will eventually have maximum operating speeds of 200 mph. The TGV operates on a combination of dedicated and nondedicated track.

In 1991 Germany initiated service on the Intercity Express (ICE). It currently operates at speeds up to 160 mph on a combination of dedicated high speed

tracks and previously existing conventional lines. Plans call for extensions of service throughout Germany and linkage with other European high speed rail services.

Spain opened an ultra HSR line in 1992. It uses technology similar to the TGV. The line uses dedicated tracks from Madrid to Seville. It is capable of traveling at speeds comparable to the newest TGV line, but in practice it is operating at lower speeds.

System Characteristics

The NEC is considered an HSR system. It was developed by substantially upgrading a conventional rail system and speeds are below 150 mph. Shinkansen, TGV and ICE are considered to be ultra high speed technologies. Generally they consist of a newly constructed track system that interfaces with an upgraded conventional system, with speeds exceeding 150 mph.

Key components of HSR and ultra HSR are substantially upgraded track structure and partially or completely dedicated right-of-way (with ultra HSR), both of which can support high speeds. All vehicle-grade crossings on the dedicated right-of-way are grade separated. On the nondedicated right-of-way grade crossings are minimized and modern grade protection technology is used at these crossings. Generally only passenger rail and light freight is permitted on dedicated right-of-way, as heavy freight would cause considerable wear and tear to the track infrastructure and create operational and safety issues.

At higher speeds, sophisticated signal systems are needed to allow trains to operate safely. The vehicle propulsion system must be able to quickly reach and maintain high speeds. Additionally, the vehicle suspension system must be able to provide a smooth ride at high speeds, particularly around curves.

Upgraded track, completely or partially dedicated right of way and sophisticated signal systems are all prerequisites for the higher speeds that can be obtained in an electrified ultra HSR system. An electrified system provides the horsepower needed to reach high speeds. Additionally, it provides greatly improved acceleration, is essentially non-polluting except at the source of generation and is generally more cost-effective to operate at higher frequencies.

Ultra high speed rail has reached very high speeds. In 1990 a nonrevenue TGV trainset was clocked at 320.2 mph. One reason why HSR in scheduled service falls far short of its speed potential is that aerodynamic forces cause a severe reduction in energy efficiency at higher speeds. Thus, a trade-off must be made between higher speeds and increased operating costs.

Economic and Market Framework of Existing HSGT Systems

The three countries that have well established HSR systems (France, Germany and Japan) share some economic and market characteristics but also vary significantly in some areas. For example, auto travel is expensive in all three of the countries because of high fuel prices and tolls on the express highways.

In Germany, the National Government aggressively sets overall transportation strategies, which includes the strong promotion of HSR. The ICE is currently owned and operated by the German Federal Railway (DB). The Government partially funds the DB; the capital costs of the HSR lines were primarily government funded but the high speed network is expected to produce more revenue than costs. The national airline (Lufthansa) is also owned by the government. Germany has a policy to phase out domestic air travel and replace it with HSR.

While the Japanese and French Governments have strong national transportation policies, the transportation system is not as centrally controlled as in Germany. For example, in Japan and France there is direct air competition by private carriers on certain of the HSR corridors.

As in Germany, the rail system in France is owned and operated by the National Railway (SNCF). However, there is less direct government support for the HSR system than in Germany. The Paris-Lyon HSR line was built without direct support from the French government. The $1.6 billion in capital costs came from internally-generated funds and loans from private capital markets. The debt on the private loans is paid from operating surplus. In contrast, the French government provided about 30 percent of the capital costs of the southwest HSR line.

In all three countries, a substantial intercity rail passenger market existed prior to the introduction of HSR. Thus, the public had already accepted the rail mode. In Japan, the corridors upgraded to HSR had previously enjoyed very high ridership when a conventional rail system was in place. This is partly because Japan has a very simple corridor structure by virtue of its population density and the concentration of its markets along its eastern coast.

By comparison, in France and Germany there are many complex travel corridors, thus a simple HSR network without connection to other transit networks might have had difficulty capturing a large market. Partly for this reason, some of the corridors in these countries did not become important rail corridors until HSR was introduced.

All three countries maximized use of established transportation hubs or created new hubs to provide reliable links to the conventional rail and transit systems. Germany, the nation with the most auto-oriented development, has devoted the most effort to developing new hubs and providing timed connections at many ICE stations.

Magnetic Levitation

Magnetic levitation (maglev) is a HSGT system that has reached over 300 mph in tests. Maglev requires its own guideway, usually elevated, and is propelled either by electromagnetic or electrodynamic power units. Maglev has not yet been proven in revenue service and thus far is considered more expensive than ultra high speed rail to construct. Unlike ultra high speed rail, maglev is

not compatible with existing conventional electrified rail services. For maglev to penetrate city centers, a new right-of-way must be acquired or "air rights" obtained for a superstructure to be built over an existing transportation corridor.

Currently both a Japanese and German maglev system are in the test phases. The German system has been in the test phase for approximately 15 years. The guideway acts as the motor system for the train. In tests, vehicles have reached a maximum speed of 271 mph. The Japanese system has been in the test phase since 1977. The train is propelled by on-board super conducting magnets. Vehicles in this system have reached speeds of 323 mph on a test track.

In Florida, a Maglev project is in the early planning phases. The 13-mile line is planned to run from near the Orlando International Airport to International Drive, near Disney World.

National Maglev Initiative

The final Report on The National Maglev Initiative, a unique interagency cooperative effort of the Federal Railroad Administration, the U.S. Army Corps of Engineers and the Department of Energy was issued September 1993. The report states the findings are based on a series of comprehensive studies conducted over a three-year period to evaluate the potential for maglev in future U.S. transportation and the role of the federal government in achieving that potential. The principal conclusions of these studies are:

- U.S. industry can develop an advanced U.S. Maglev (USML) system.
- A USML system has the potential for revenues to exceed life cycle costs in one corridor and to cover operating costs and a substantial portion of capital costs in others. The high initial investment will require substantial public assistance.
- A USML system would provide an opportunity to develop new technologies and industries with possible benefits for U.S. businesses and the work force.
- A USML system is not likely to be developed without significant federal government investment.

Electrification In California

This section includes a discussion on the relationship of speed to electrification and two recent California electrification studies.

Relationship to Speed

In North America, electrification is used for speeds over 110 mph in order to generate the horsepower needed to rapidly accelerate into the higher speed ranges and maintain speeds over 110 mph. (Diesel-electric locomotives currently provide a maximum of 1,000 horsepower per axle, while electric locomotives can produce almost 2,000 continuous horsepower per axle.)

However, in Europe, diesel-electric locomotives have run above 110 mph because they rarely share the track with freight. Thus, the vehicles can be of lighter construction because they do not have to withstand potential impact from a heavy freight train.

Technology innovations under research and development may be able to increase the feasible speed of diesel-electric locomotives in a North American environment to 125 mph. Amtrak, under the direction of Congress, has been working since 1991 on the development of a high-speed fossil fuel locomotive. In 1992 Amtrak developed specifications and solicited bids for a locomotive capable of operating on fossil fuel at high speeds as well as electrically in areas requiring electric power (a "duel-powered" locomotive). No bids were received that complied with the specifications.

Amtrak is continuing to work on a high-speed fossil fuel locomotive and is now planning to include in its procurement of new trainsets to be used on the NEC the requirement for development of two locomotives with a power system capable of being powered by both electricity and fossil fuel. In the fossil fuel mode speeds of 125 mph should be reached, while in the electric mode speeds would be approximately one-half of the speeds in fossil fuel mode. Electric operation is intended solely for use in terminals areas and certain urban environments where a ventilation problem exists for non-electric operations.

Electrification Studies

Recently, public agencies in California have shown a strong interest in rail electrification. This has been particularly true in regions that are under pressure to comply with federal and State requirements to reduce emissions and improve air quality. In response to this interest, two major electrification studies have been completed for public agencies during the past two years.

First, the "Southern California Accelerated Rail Electrification Program" prepared for the Southern California Regional Rail Authority (SCRRA) in 1992 is a comprehensive report covering all phases of rail electrification in the Los Angeles Basin. This report was initiated because of concern that the implementation of the Metrolink Commuter Rail system would worsen Oxides of Nitrogen (NOx) emissions in the South Coast Air Basin. This Basin is under stringent State and federal requirements to reduce NOx and other emissions.

The SCRRA Report estimated the cost of electrifying the 418-mile SCRRA commuter network at $1.45 billion in 1992 dollars. Additionally, the Report estimated the cost of electrifying all 806 miles of rail network in the Los Angeles Basin, including track used for intercity, commuter and freight services, at $3.3 billion in 1992 dollars. These costs include electrification infrastructure costs only; costs for electric locomotives are not included.

The Report estimated rail related NOx emissions would make up four percent of total NOx emissions in 2010 (assuming no other emission sources add additional emission controls). Additionally, commuter rail operations in the year 2010 would only account for five percent of total rail source emissions. Thus, electrification of commuter rail service would have an insignificant impact on air quality. On the other hand, electrification of the entire rail network, including freight operations, would reduce rail related emissions by 76 percent by the year 2010.

Second, Caltrans prepared the "Feasibility Study for Electrifying the CalTrain/PCS Railroad" in October 1992. The cost of electrification of the Peninsula Commute Service from the Fourth and Townsend Streets Station in San Francisco to Gilroy (over 75 route miles) was estimated to be approximately $185 million in 1993 dollars. This includes costs for the catenary system, electrical substations, electric locomotives and related equipment, and credits for the resale of the diesel locomotives. The Study concluded electrification would be cost effective at a service level roughly double the current 66 trains per day when annualized capital costs are included.

Any funding and decisions on electrifying the PCS service are the responsibility of the Peninsula Corridor Joint Powers Board which now manages this service.

Two important areas related to electrification not looked at in detail in the studies are air quality impacts of alternative fuels and the implications of electrification on freight operations. Preliminary research on natural gas as a locomotive fuel shows that it has the potential to reduce NOx and particulate exhaust emissions by up to 80 percent over diesel fuel. Also, improvements in diesel locomotive technology may allow major reductions in emissions. Thus alternative fuels and improved diesel technology may be able to achieve major reductions in NOx and particulate emissions at a much lower cost than electrification.

Electrification raises many issues for freight operations. These include: cost and time for freight trains operating both inside and outside the electrified system to change from electric locomotives to diesel locomotives; capital and operating costs of maintaining separate diesel and electric fleets of locomotives; and adequate vertical clearance to allow freight railroads to operate double stack container trains in the electrified areas.

CALTRANS HSGT PROGRAM

The Caltrans HSGT program includes (1) a program to upgrade State-supported 403(b) routes to speeds up to 110 mph, (2) planning for the development of a ultra high speed ground transportation system, including the 20-year High-Speed Intercity Ground Transportation Plan to be produced under SCR 6, (3) a rolling stock procurement program for high speed rail cars and diesel locomotives, (4) participation in federal high speed grant programs and (5) the Transit Systems Research Program.

Caltrans Program to Upgrade Intercity Rail Service Speeds to 110 mph

At this time, California supplements Amtrak's nationwide basic system network with State-supported trains 403(b) in the *San Diegan, San Joaquin* and *Capitol* corridors. On portions of their routes, the *San Diegans* currently travel at speeds up to 90 mph and the *San Joaquins* and the *Capitols* operate at speeds up to 79 mph.

Caltrans strategy is to incrementally upgrade these routes to speeds up to 110 mph where the track configuration and operational constraints allow. As discussed above, the key components to upgrading a conventional rail system to 110 mph are improvements to track standards, signal systems and grade crossings. Upgrading of routes in conjunction with changes in operating strategies, such as a reduction in stops, could significantly reduce running times on the State-supported routes.

Chapter V of the Report describes Caltrans current efforts to develop a 110 mph capital program.

Caltrans Ultra High Speed Rail Planning

Over the past five years Caltrans has participated in two studies related to ultra high speed rail at the direction of the Legislature. Also, Caltrans has funded significant research on HSGT done at the University of California at Berkeley. These activities have primarily formed the basis of Caltrans current HSGT program.

Chapter 197/88 (AB 971, Costa) required the establishment of the Los Angeles-Fresno-Bay Area/Sacramento High-Speed Rail Corridor Study Group. The "AB 971 Los Angeles-Fresno-Bay Area/Sacramento High-Speed Rail Corridor Study" was published in June 1990. The study identified the corridor as a unique statewide corridor and placed high priority on its "full and early development." The study stated that an incremental approach to improving the corridor was the most viable strategy. The study estimated that it would cost over $7 billion to create a service level on the Corridor comparable to the current services in France, Germany and Japan. The scope of the Study did not allow for a detailed analysis of market demand of the type needed to support decisions to invest public or private funds. No State funds were provided to implement the study's high speed recommendations. However, the near-term improvements recommended in the AB 971 study formed the basis for Caltrans capital program recommendations on the Corridor which were reflected in the STIP for Proposition 108 rail bond funds and in Caltrans plans for use of Proposition 116 funds.

Chapter 1104/90 (SB 1307, Garamendi) required Caltrans to develop a work plan and contract for a feasibility study for the development of an integrated public, private, or combined public/private high speed intercity and commuter rail system. Caltrans completed the work plan and the California Transportation Commission (CTC) adopted it in April 1991. The work plan estimated that a

feasibility study would take approximately two years and cost about $3 million. No funds were subsequently allocated for this study.

The University of California at Berkeley published its California High Speed Rail Project (CalSpeed) study in June 1992 titled "High Speed Trains for California". A portion of the funding for this project came from Caltrans. The Report describes the potential for a high-speed passenger train service in California. Previous CalSpeed studies assessed seven different high-speed technologies. The June 1992 study first summarizes these previous studies. It then describes a possible high speed network for California, including physical profiles of the route, construction cost estimates and running times. The University is now conducting a second stage of the CalSpeed study on the market prospects of a high-speed system and financing mechanisms.

SCR 6

In July 1993, SCR 6 was passed by the Legislature. This concurrent resolution requests the Governor to establish an Intercity High-Speed Ground Transportation Commission composed of nine members. Four members are appointed by the Governor, two members by the Senate Committee on Rules and two members by the Speaker of the Assembly. The Secretary of the Business, Transportation and Housing Agency is the chairperson. The Commission's first meeting was held in Los Angeles on December 10, 1993.

Under the direction of the Commission, Caltrans, with the use of experts from outside Caltrans, will prepare a 20-year High-Speed Intercity Ground Transportation Plan. The Draft Plan is required to be completed by July 1, 1995. After a full public review process, the final report will be issued by December 31, 1995. The Plan should "identify corridors to be served, and financing and implementation strategies for the development, construction, operation, and maintenance of the high-speed ground transportation system".

SCR 6 requires that the Los Angeles to San Francisco Bay Area High-Speed Corridor be the first corridor to be developed and "that all feasible routes be considered". Thus, Caltrans will include in the analysis consideration of both the Coast Route and the Valley Route. The measure states "the objective of the high-speed ground transportation system is to serve intermediate intercity travel, leaving local and commute trips to urban transit systems and long intercity travel to air carriers".

The Plan should include a financing plan that considers a number of revenue sources including, but not limited to: construction, operation and maintenance by a private entity using private funds; State general obligation bonds; revenue bonds backed by incremental increases in gasoline tax and airport funds freed up by the elimination of airport expansion needs as a result of the new rail network. It should also "include an operation plan with recommendations as to the entities that should be responsible for operation, maintenance, fare schedules and safety regulations".

The SCR 6 study will include an "environmental constraints analysis" to identify significant environmental issues for various alignment options and particularly those environmental issues likely to make a project unfeasible.

The measure states construction on the Los Angeles to San Francisco Bay Area High-Speed Ground Transportation Corridor should start by the year 2000. By the year 2020 service should be operating between Sacramento, the San Francisco Bay Area, the Los Angeles area, the San Bernardino/Riverside area, Orange County area and San Diego.

The Budget Act of 1993 provides $4.275 million from the State Highway Account to be used exclusively for the support of the Intercity High-Speed Ground Transportation Commission.

Proposition 116 - Los Angeles to Bakersfield via the Tehachapi Mountains

The Clean Air and Transportation Improvement Act of 1990 (Proposition 116) authorizes up to $5 million for a preliminary engineering and feasibility study of HSGT service between Los Angeles and Bakersfield. This Study will evaluate alignments over the Tehachapi Mountains for the application of ultra high speed rail and maglev HSGT technologies, as well as an alignment to link electrified HSR with current conventional rail services at Bakersfield and Los Angeles.

The Study will investigate the potential for conventional (including tilt train technology) electrified rail as an alternative to ultra high speed rail. Also, the feasibility and cost of freight service compatible with high speed passenger service in the corridor will be examined.

Information provided by the Los Angeles-Bakersfield Study will be combined with the products of studies mandated by SCR 6. This information will be provided to the High-Speed Ground Transportation Commission and will lay the foundation for a 20-year High-Speed Ground Transportation Plan.

The CTC approved the project funding application for the Los Angeles-Bakersfield Study in February 1993. In May 1993, Caltrans received eight consultant proposals for the study. Parsons Brinckerhoff was selected to lead a consortium of consultants to undertake the project, which got underway in October 1993. The study is to be completed by October 1994.

Caltrans High Speed Rolling Stock Procurement Program

Caltrans contracted in 1992 with Morrison-Knudsen Corporation for procurement of new, state-of-the-art passenger cars. These California Cars are the first bi-level intercity cars in the United States designed for operation at speeds up to 125 mph. (See Chapter V for a further discussion of the California Car.)

Caltrans is also procuring new locomotives to be used with the California Cars. In this effort, Caltrans recognized the need to be responsive to the mandate for improved air quality. A number of agencies which have responsibility for

regulating locomotive emissions have been encouraging the introduction of low emission locomotives. The U.S. Environmental Protection Agency has authority to regulate locomotive emissions and a regulation to reduce emissions is scheduled to be issued in late 1995. The State Air Resources Board (ARB) has the authority to establish in-use locomotive emission standards and other requirements affecting design and specifications for engines that are not new. ARB expects to release a regulation developed in cooperation with the railroads, Caltrans, air districts, engine manufacturers and others, setting emission limits or caps in 1994. Also, the South Coast Air Quality Management District has included in their air quality plans a proposal to require electrification of locomotives. Further consideration of costs, viability of alternative fuels and feasibility will be made before such a rule is adopted.

Prior to issuing a Request for Proposal (RFP) to furnish and deliver new passenger locomotives, Caltrans surveyed the industry to determine current emission technology. Some research had been performed, but no consideration had been given to the operational differences between freight and passenger locomotives. In order to obtain emission exhaust information for the most recent generation of passenger locomotives, Caltrans entered into a contract with Southwest Research Institute (SwRI). SwRI tested 2 locomotives: a General Electric Dash 8-32BWH and a General Motors F-59. The testing represented the first verifiable emissions data for the engines tested. The results of these tests are published in the November 1992 report prepared by SwRI titled "Exhaust Emissions From Two Intercity Passenger Locomotives".

The results of the testing were used by Caltrans to develop an RFP for procurement of the diesel locomotives which contained a requirement for a locomotive with reduced NOx emission levels. This represents an industry first in challenging manufacturers to offer state-of-the-art intercity passenger locomotives with emission reduction capability.

In January 1993 Caltrans awarded a contract to the Electro-Motive Division of General Motors for procurement of 9 locomotives. These locomotives will comply with the stringent emissions standards required in the procurement RFP. The locomotives will be able to operate at 110 mph. The first locomotives are scheduled for delivery in Summer 1994.

Caltrans is also participating in the Gas-Fueled Railway Research Program - Feasibility Study. This study, to be conducted by SwRI, is a joint program with industry, government and research organizations to determine the feasibility and environmental and economic benefits of using natural gas as a locomotive fuel in California. Natural gas has the potential to reduce NOx and particulate exhaust emissions by up to 80 percent over diesel fuel.

If the results of the study are positive, one of the nine locomotives currently under procurement may be fitted to be powered by natural gas. Additionally, Caltrans will be able to use the results of this study in future locomotive procurements and in determining the feasibility and benefits of retrofitting existing locomotives.

Federal Funding for California's High Speed Program

Section 1010 of the Intermodal Surface Transportation Efficiency Act (ISTEA) may aid Caltrans in its HSGT Program. The Section 1010 grant program provides funds for elimination of hazards at grade crossings on federally designated high speed rail corridors. California was recently awarded a grant of $1.2 million in ISTEA Section 1010 funds to upgrade or eliminate grade crossings in the San Diego-Los Angeles-San Francisco Bay Area/Sacramento Corridor - via the San Joaquin Valley. For the purpose of this grant, HSR is defined as speeds in excess of 90 mph. This Corridor was designated by the federal government as one of five high speed rail corridors in the United States. Caltrans anticipates funding will be provided through this Program for five years. (For more information on this Program, see Chapter V.)

Currently proposed federal programs may also in the future provide funding to Caltrans. The Clinton Administration in the Spring of 1993 sent to Congress a comprehensive $1.3 billion program to support state, local and private efforts to develop high speed rail and advanced transportation technology. These funds would be distributed over five years to eligible high speed rail corridors nationwide. The proposed program is scheduled to begin in federal Fiscal Year 1994, but funding has not yet been provided.

Caltrans is committed to participating in the ongoing federal HSGT development process. Caltrans will make every effort to ensure California receives the maximum possible share of federal assistance for the development and construction of HSGT systems.

Transit Systems Research Program

The Transit Systems Research Program is part of the Caltrans New Technology Development Program, a unit within the Division of New Technology, Materials and Research. It represents a significant effort by Caltrans to explore technological potentials in transit by conducting research, development, testing and demonstration in partnership with other governmental agencies, universities, non-profit organizations and private industry. The Transit Systems Research Program is budgeted at $700,000 for Fiscal Year 1993/94.

The goals of the program are to:

- Identify new technological opportunities, market opportunities, stakeholders and funding needs and resources.
- Develop innovative methods and approaches for transit planning, analysis and implementation.
- Pursue appropriate State-sponsored initiatives and roles in the planning, development, testing, demonstration, technology transfer and implementation of new transit system technologies.

- Advocate new technology as a partial solution to transportation problems and as a catalyst for California's economic growth and development.
- Formalize methods of cooperation between Caltrans, local, State and federal government; the academic community; the private sector; and other stakeholders for new transit systems research, training and technology transfer.

Program activities include:

- A Memorandum of Understanding with the Region IX University Transportation Center for a collaborative Transit Systems Research Program between the University of California Transportation Research Center (UCTC) and the Caltrans New Technology Development Program. This cooperative arrangement offers an opportunity for multi-disciplinary research, training and technology transfer to be conducted by University faculty and staff, Caltrans staff, staff from transit and other organizations, visiting fellows, graduate students and post-doctoral researchers. The program serves as a catalyst to engage many interested parties in directed research, seminars, workshops and other joint activities. Research efforts have included:

  High Speed Ground Transportation: a portion of the University of California at Berkeley CalSpeed study described above is being funded under this program.

  Transit Linked Land Developments: a study to examine the ridership impacts of existing developments near rail transit stations in California as well as assess the market potential and existing barriers to clustered housing and mixed-use development around transit stations.

  Mass Transportation Systems with "Access on the Fly": a study to identify the feasibility and service characteristics of a mass transportation system of modular self-propelled cars that can be assembled/disassembled while in motion.

- Collaborative research projects with Caltrans Division of Rail include:

  Emissions Reduction Technologies and Techniques for Passenger Locomotives: a study to identify technologies to reduce emissions from diesel passenger locomotives. The diesel emissions testing that lead to the Caltrans purchase of diesel locomotives which is described above (in the section titled "Caltrans High-Speed Rolling Stock Procurement Program") was part of this project.

  Gas-Fueled Railway Research Project: a research program to demonstrate the environmental and economic benefits of using natural gas as a locomotive fuel. This project is

described above in more detail (in the section titled "Caltrans High-Speed Rolling Stock Procurement Program").

- Co-sponsoring the California Maglev Development Partnership Conference on July 30, 1992. The objectives of the conference were to: 1) introduce California business and research to the opportunities of ISTEA's high speed ground transportation programs, 2) determine interest in the programs and 3) identify how the State could help further these interests. The conference provided a valuable forum for Caltrans, the Department of Commerce, the California Council on Science and Technology and the California Institute for Federal Policy Research to help define California's role in HSGT, particularly as it relates to ISTEA.
- A study identifying new transit technology options and systems and recommending transit initiatives that the State might pursue in the transit area. The Transit Systems Research Program will incorporate these study results in its research agenda.

PRIVATE HIGH-SPEED GROUND TRANSPORTATION EFFORTS

This section will include a discussion of the Southern California-Las Vegas Maglev Project and the Los Angeles International Airport-Palmdale Corridor Project.

Southern California-Las Vegas Maglev Project

Chapter 1259/87 (AB 1839, Katz) and Ch 149/88 (AB 671, Katz) created the California-Nevada Super Speed Ground Transportation Commission (with eight members from each state) and authorized it to award a franchise for private development of a HSGT system. In addition, this California legislation stipulated that the Commission would result in no public cost to the State of California or any of its political subdivisions. Figure **14A** is a map of the proposed system.

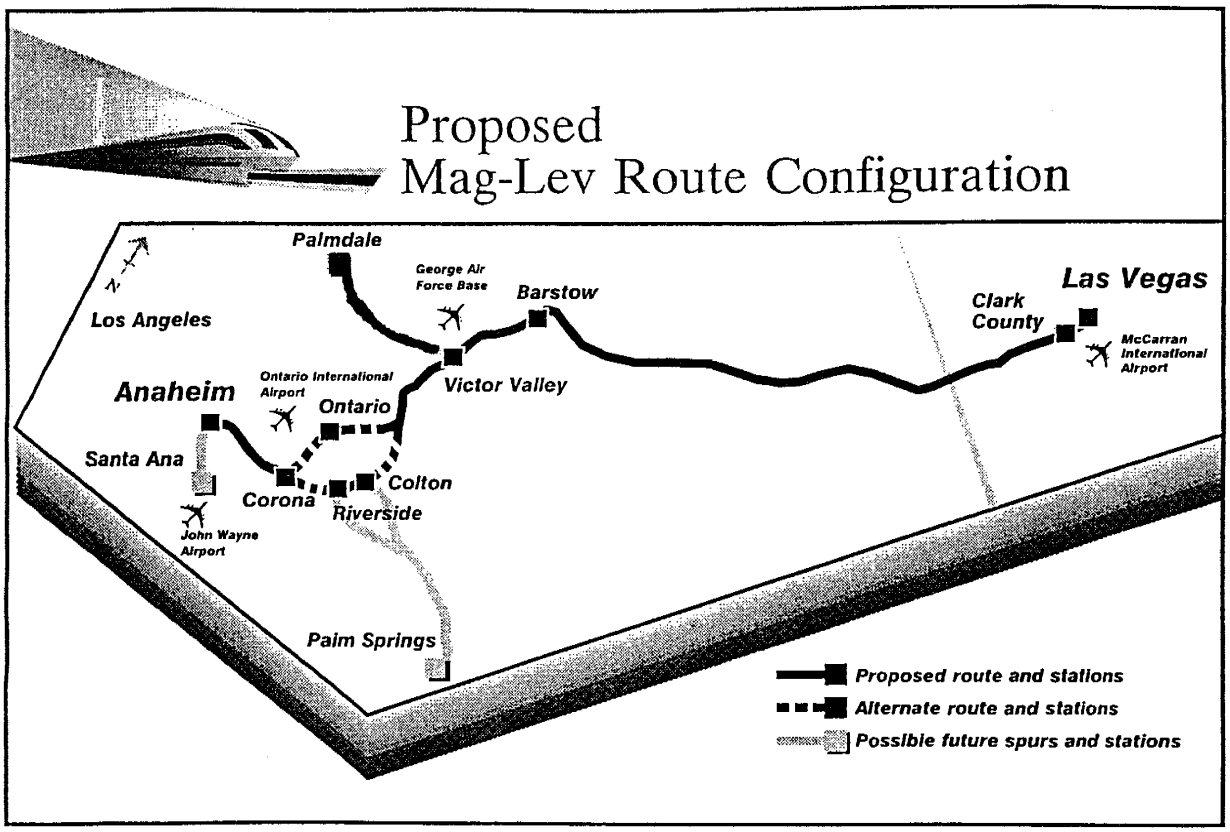
According to Commission staff, the initial Commission's plan was to develop a HSGT system that would not only link two major tourism markets but create commuter travel opportunities as well and lay the groundwork for future expansion throughout the Pacific Southwest region. Such a system would also reduce traffic congestion and pollution.

The bi-state Commission solicited worldwide interest in building the system, but only three North American companies responded. In July 1990, the Bechtel Corporation submitted a proposal to the Commission to build a maglev line between Southern California and Las Vegas, Nevada. However, in February, 1991, Bechtel advised the Commission that completion of the project would be delayed due to lack of financing.

Since 1991, there has been no significant advancement toward development of a maglev system on this Corridor. However, the California Legislature agreed

to extend the life of the Commission, as was done by its Nevada counterpart, until July 1, 1996.

Figure **14A**



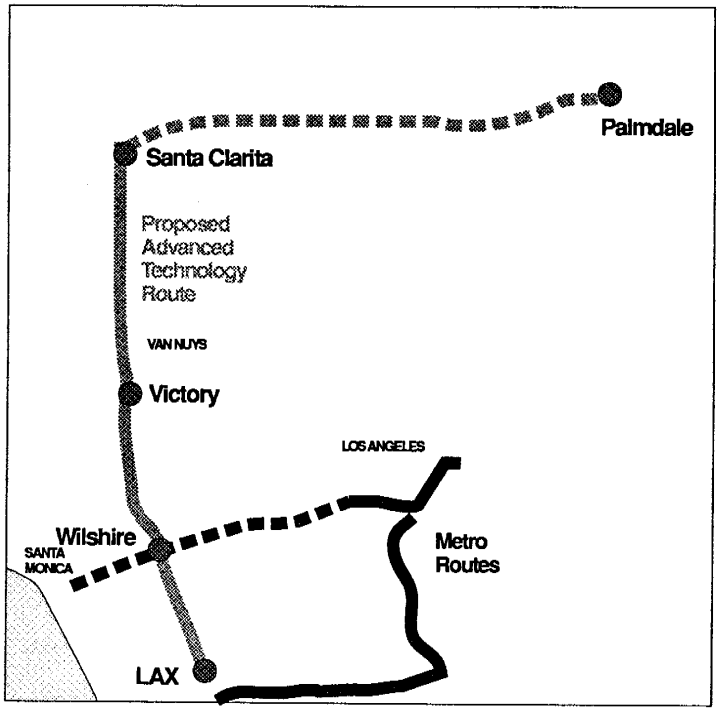
Los Angeles International Airport-Palmdale Corridor

The Los Angeles County Transportation Commission (now the Los Angeles County Metropolitan Transportation Authority - LACMTA) issued a RFP in the Summer of 1991 to identify developer teams to fund, design, supply, test, deliver and at the LACMTA's option, operate and maintain an advanced technology transportation system. The RFP allowed for the deployment of steel-wheel, rubber-tired, monorail or maglev technologies.

The proposed system would operate between Los Angeles International Airport (LAX) and Palmdale Regional Airport, a distance of about 70 miles, and would also provide passenger service at intermediate stops. The envisioned route would utilize right of way of the San Diego Freeway (I-405), the Golden State Freeway (I-5) and the Antelope Valley Freeway (State Route 14). Figure **14B** is a map of the proposed system.

Four private sector proposals were submitted in November 1992 for an advanced technology transportation system with technologies ranging from steel-wheel rail to maglev. As of late 1993, the LACMTA was deciding whether to advance to a preliminary engineering and conceptual design phase. This phase would cost around $8 million, take from 18 to 24 months and determine if the proposed system is viable.

Figure **14B**



Map of Proposed Advanced Technology Route Between Los Angeles International Airport and Palmdale

PUBLIC REVIEW

See Appendix A - Public Review for general comments not directly related to specific chapters. The section in Chapter I titled "Public Participation in this Report" describes the public review process.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

Low Emission Locomotives

We fully support Caltrans Division of Rail efforts to procure low emission locomotives. As well, the U.S. EPA, the ARB, and the South Coast Air Quality Management District (SCAQMD), as regulatory agencies, have significant roles in the introduction of low emission locomotives. Their roles as described below should be recognized in Chapter XIII.

Under the Federal Clean Air Act (ACT), the U.S. EPA has authority to regulate emissions from locomotives and engines, and a regulation to reduce emissions is scheduled to be issued in late 1995. Under the 1988 Act, and subsequent to a Federal Clean Air Act waiver, the ARB has authority to establish in-use locomotive emission standards and other requirements affecting design and specifications for engines that are not new, and a regulation setting emission limits or caps is expected in 1994. This regulation is being developed in cooperation with the railroads, Caltrans, air districts, engine manufacturers, and other interested parties. The SCAQMD has included in their air quality plans a proposal to require electrification of locomotives. Further consideration of costs, viability of alternative fuels, and feasibility will be made before such a rule is adopted.

In response to your comments, we added a brief discussion in Chapter XIV - High Speed Ground Transportation in the section on "Caltrans High-speed Rolling Stock Procurement Program" on the various regulatory agencies' roles in low emission locomotive requirements.

Environmental Concerns

Although the relationship between rail projects and clean air is addressed, other environmental issues are not. The expansion of the rail system will have to consider and mitigate effects on other parts of the environment, such as water, sensitive habitats, loss of farm land and wetlands, land use effects, etc. The other environmental issues that will be considered in the expansion plans should be called out in the report. There is reference to this requirement only in the discussion of Tahoe intercity rail (page 138).

In the final Report, the discussion on SCR 6 and the Intercity High-Speed Ground Transportation Commission in Chapter XIV mentions the SCR 6 study will include a "environmental constraints analysis" to identify significant environmental issues for various alignment options and particularly those environmental issues likely to make a project infeasible. In the 1995/96 Report, Caltrans will discuss the environmental issues related to the expansion of the State-supported intercity rail network.

CALIFORNIA ENVIRONMENTAL ASSOCIATES COMMENTS

The California freight railroads and Amtrak would like to take the opportunity to comment on your draft *California Rail Passenger Program: 1993/1994 - 2002/2003.* The section "Electrification in California" (pages 152-154) covers alternative fuel and electrification issues associated with freight and passenger rail in California - a subject with which the California railroads have been both publicly and privately involved.

We would first like to express appreciation of your clear description of the *Southern California Accelerated Rail Electrification Program* (Study). As you indicated, the Study reveals that construction costs for passenger and freight electrification in the Los Angeles Basin (Basin) would cost $3.3 billion ($1992), not including the purchase of a dedicated electric locomotive fleet, which the Study estimated to cost approximately $1.5 billion ($1992). These cost figures do not include the incremental operations and maintenance costs of the catenary system and locomotive fleet for an electrified system (which were not covered in the Study). Electrification would require *dual* diesel and electric maintenance facilities, as local and switch operations could not be electrified or abandoned.

Additionally, we would like to make several general points about rail electrification and one specific comment on hybrid locomotives used in passenger rail operations.

General Comments

First, as you indicated, a primary motivation for electrification is to reduce emissions from locomotives. The Study indicated that a 76% reduction in NOx should be achievable from the electrification of line-haul locomotives. This reduction percentage recognized that switch and local engine operations could not be electrified.

Even so, we believe that the freight rail traffic deemed to be captured by electrification is too optimistic. There are line-haul trains that provide service to customers en route, acting like local trains. Thus, it is possible that the reductions achievable from electrification could be lower than 76%.

Second, recent assessments of the implementation costs of electrification provide a range of $4 to $7 billion. [1] If these assessments are correct, it is broadly accepted that electrification could not move forward without substantive public funding.

[1] The range of $4-6 billion has been generally accepted in SCAG's Regional Railroad Air Quality Emissions Reduction Program until cost estimates for unassessed cost elements are completed. A $7 billion estimate has been suggested recently by CARB's consultant on rail emissions control technologies.

As you indicated, our Report summarizes the findings of the SCRRA's Southern California Accelerated Rail Electrification Program. We did not make an independent analysis of these findings. Concerns about the findings should be given to the SCRRA.

Third, we wish to comment on the usefulness of electrification for high speed travel in the Basin. While your statement on the bottom of page 152 asserts that "in North America, electrification is used for speeds over 110 mph in order to generate the horsepower needed to accelerate into the higher speed ranges," we would clarify this and state that "electrification in North America is used for rapid acceleration and an ability to sustain a speed of 110 mph." Additionally, it is likely that the high number of current and proposed commuter stations in the Basin, combined with the large volume of high tonnage freight traffic traveling on the same trackage, will make consistent speeds of 110 mph for passenger rail difficult.

In response to your comment, we revised this sentence to clarify that electrification provides rapid acceleration and an ability to sustain speeds over 110 mph.

Finally, we believe that your opening statement on page 153 - that "public agencies have shown a strong interest in rail electrification in California" - is too broad. Neither the U.S. EPA nor CARB (those agencies with specific authority to regulate locomotives under the Federal and California Clean Air Acts) has expressed that electrification is a preferred scenario for freight rail emissions reduction.

In response to your comment, we have revised the sentence in question to read "Recently, public agencies in California have shown strong interest in rail electrification." We believe that some of this interest is generated by a desire to use the potential benefits of electrification (such as improved acceleration) to improve rail passenger service. However, we do not state in the Report that Caltrans or any regulatory agency has stated that "electrification is a preferred scenario for freight rail emissions reduction." In fact, the last paragraph in the "Electrification" section discusses specific issues electrification raises for freight operations.

Specific Comment

We have one comment concerning the discussion of hybrid locomotives used in passenger rail operations. For clarification, the last sentence on the top paragraph on page 153 should be deleted and replaced with the following text:

> *Further, Amtrak is incorporating the development of hybrid locomotives (fossil fuel/electric) into the NEC trainset acquisition. Two hybrid locomotives are to be acquired and will be able to achieve speeds close to or exceeding 125 mph. It should be noted, however, that in the "electric" mode, maximum power is reduced to appoximately 50% of that in the "fossil fuel" mode. Electric operation is intended solely for use in the terminal areas and urban environments where air quality or real estate overbuild have created a venilation problem.*

In response to your comment, we have revised this section to reflect the additional information you present.

In closing, we appreciate the opportunity to comment on your draft report. We also wish to remind you that Amtrak has already provided extensive comments regarding rail passenger service throughout California, as a response to your draft *California Rail Passenger Program.* If we you have any questions or comments, pease do not hesitate to call.

COUNTIES OF FRESNO AND MADERA COMMENTS

Chapter VIII of the CRPPR fails to list the important Tehachapi study now in progress among those "in progress or under way". This is a serious defect because.

1. The Legislature in AB 971 declared the tehachapi to be a missing link in the State's Rail Network, and urged its immediate study. Caltrans has now signed a contract in the approximate amount of $4.5 million for the study required to be completed in 1994.

2. The CRPPR gives no indication that Caltrans proposes to pursue the study of the direct new Fresno-San Jose route proposed via Panoche Pass, (some prefer Pacheco Pass) in

the AB 971 Study Report. This new alignment, like the new Tehachapi link is of critical statewide rail importance, especially for high speeds.

The Tehachapi Study is mentioned in Chapter VII under "Los Angeles Extension" and is discussed in Chapter XIV under "Proposition 116 - Los Angeles to Bakersfield via the Tehachapi Mountains".

Studies called for under SCR 6 will investigate all potentially viable corridors connecting Northern and Southern California. As staff to the SCR 6 Committee, Caltrans will ensure both the Panoche and Pacheco Pass Routes are considered but it seems premature to attempt to list or discuss all such routes now.

The Steering Committee believes the general thrust of CRPPR Chapter Thirteen on "High Speed Ground Transportation" is an unsound approach and indicates a general misunderstanding of California's total rail needs for the following reasons:

• There is serious question that the CRPPR reflects the need for any High Speed service to be on tracks that will also accommodate freight service carrying Trucks/Trailers/ & Containers rapidly to promote commerce as well as fast passenger trains. This is a public need we have already described.

• Caltrans efforts to conduct research on natural gas powered locomotives ignores the fact, acknowledged world wide, that reciprocating engines generating power on board are unable to match in power and performance all electric locomotives powered from overhead catenary systems no matter what fuel they may use.

• The fact that Caltrans will be the "staff" to the SCR 6 Committee is of concern to us because we support the AB 971 Study.

The Tehachapi Study, for example, will examine the potential for freight service compatible with high speed passenger service although not, perhaps, to the degree the County of Fresno would prefer. This issue will also be addressed in the studies to be conducted pursuant to SCR 6.

Caltrans is conducting research and development efforts on all forms of state-of-the art rail propulsion, involving both fossil fuels and electrification. It would be ill advised to ignore developments affecting any technology that offers the potential for improved, more efficient and less polluting operations. While electrification offers the potential for implementation on certain routes, particularly in a high-speed mode, costs and lead times indicate Caltrans must be prepared to implement improved non-electric propulsion systems as needed.

The language of SCR 6 directs Caltrans to provide staff to the High Speed Rail Commission.

SUMMARY / CONCLUSIONS / RECOMMENDATIONS

In summary the Steering Committee of Caltrans Rail Task Force respectfully concludes the Caltrans Draft Report should be rewritten to include our suggestions, and recommends that these Comments be given to the Governor, the Legislature, and to the California Transportation Commission, and where applicable, printed as part of the Final Report.

LOS ANGELES - SAN DIEGO RAIL CORRIDOR AGENCY COMMENTS

Page 155: All High Speed Rail study efforts covering Los Angeles to San Francisco should include the LOSSAN corridor. The *San Diegan* section should reflect the desire of the

LOSSAN Rail Corridor Agency to have representation on the SCR 6 High Speed Rail Commission.

Chapter XIV - High Speed Ground Transportation includes a section on "Federal Funding for California's High-Speed Program" which discusses the fact that the San Diego-Los Angeles-San Francisco Bay Area/Sacramento corridor has been designated under ISTEA as a high speed rail corridor. Also, our discussion of SCR 6 (Chapter IX-High-Speed Ground Transportation) states the resolution in SCR 6 that high-speed service be provided to San Diego and Orange County by the year 2020. The Intercity High-Speed Ground Transportation Commission will, therefore, include consideration of the *San Diegan* Route in its studies.

All members of the Commission have already been appointed pursuant to SCR 6.

SAN JOAQUIN COUNTY DEPARTMENT OF PUBLIC WORKS COMMENTS

Page 155: The AB 971 discussion should be corrected to reflect STIP and Prop. 108 and 116 funds which have been programmed to implement many of the study's recommendations for speed enhancements.

We have added a statement to this paragraph that the near-term improvements recommended in the AB 971 study formed the basis for Caltrans capital program recommendations which were reflected in the STIP for Proposition 108 rail bond funds and in Caltrans plans for use of Proposition 116 funds.

Formal legislative findings and statewide political consensus have supported the designation of the Los Angeles-Fresno-Bay Area/Sacramento High Speed Rail Corridor. Furthermore, this corridor has achieved federal designation as one of 5 high speed alignments in the United States. Any revision or modification of this primary alignment, should only occur if SCR 6 findings and recommendations support a change in the preferred HSR California Corridor.

We agree with your comments. The Report reflects the fact that the *San Joaquin* corridor has been identified by the federal government as a high speed rail corridor pursuant to Section 1010 of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). One of the primary criteria for the high speed designation is for those "rail lines where railroad speeds of 90 miles per hour are occurring or can reasonably be expected to occur in the future." Caltrans remains committed to that goal as reflected in our 1993/94 Federal Fiscal Year ISTEA application containing six projects on the corridor designed to eliminate hazardous conditions at grade crossings.

The SCR 6 High Speed Ground Transportation Commission will develop a high speed ground transportation plan sufficiently detailed to include corridors, project financing alternatives, and make recommendations for operation and maintenance of the system.

SAN JOAQUIN STEERING COMMITTEE COMMENTS

The Steering Committee believes the general thrust of CRPPR Chapter Thirteen on "High Speed Ground Transportation" is an unsound approach and indicates a general misunderstanding of California's total rail needs for the following reasons:

There is serious question that the CRPPR reflects the need for any High Speed service to be on tracks that will also accommodate freight service carrying Trucks/Trailers/&Containers rapidly to promote commerce as well as fast passenger trains. This is a public need we

have already described and may be the only way high speed passenger service can be afforded.

Caltrans efforts to conduct research on natural gas powered locomotives ignores the fact, acknowledged world wide, that reciprocating engines generating power on board are unable to match in power and performance all electric locomotives powered from overhead catenary systems no matter what fuel may be used. Why reinvent the wheel?

We are concerned that the SCR 6 Committee may be mislead if the conclusions of the AB971 Study are not adhered to.

The Tehachapi Study, for example, will examine the potential for freight service compatible with high speed passenger service although not, perhaps, to the degree the Steering Committee would prefer. This issue will also be addressed in the studies to be conducted pursuant to SCR 6.

Caltrans is conducting research and development efforts on all forms of state-of-the art rail propulsion, involving both fossil fuels and electrification. It would be ill advised to ignore developments affecting any technology that offers the potential for improved, more efficient and less polluting operations. While electrification offers the potential for implementation on certain routes, particularly in a high-speed mode, costs and lead times indicate Caltrans must be prepared to implement improved non-electric propulsion systems as needed.

The SCR 6 High Speed Ground Transportation Commission will have available to it all previous relevant studies, including the AB 971 Study. The Commission will be able to draw on the AB 971 Study as it deems appropriate.

SOUTHERN PACIFIC LINES COMMENTS

Development of High Speed Rail System

In addressing a High Speed Rail System the report addresses capital investments in rail corridors and the "California Car", yet it ignores proven tilt technology. The report points out the ultimate goal of the state is to develop a high speed rail passenger network. The realistic incremental first step is to upgrade existing intercity rail corridors so as to increase speeds up to 110 mph increasing frequency and expanding routes.

In discussing the State's efforts to reach the 110 mph program the report points out that capital improvements which increase speeds at the lower end of the speed spectrum result in the greatest time savings thereby requiring capital investments often much less than at the higher end.

The report unfortunately fails to point out that the capital expenditures could be further reduced in some rail corridors with the utilization of tilt technology.

The Report states the X-2000 tilting train has reached speeds of up to 135 mph on Amtrak's Northeast Corridor. We have augmented Chapter XIV (High Speed Ground Transportation) to provide additional information on use of the X-2000 tilt-train in Europe. Also, in Chapter V (The State Intercity Rail Capital Program) we added a reference in the section on the 110 mph Program to tilt-train technology (such as the X-2000) and its potential for use to provide speeds to up to 110 mph in California.

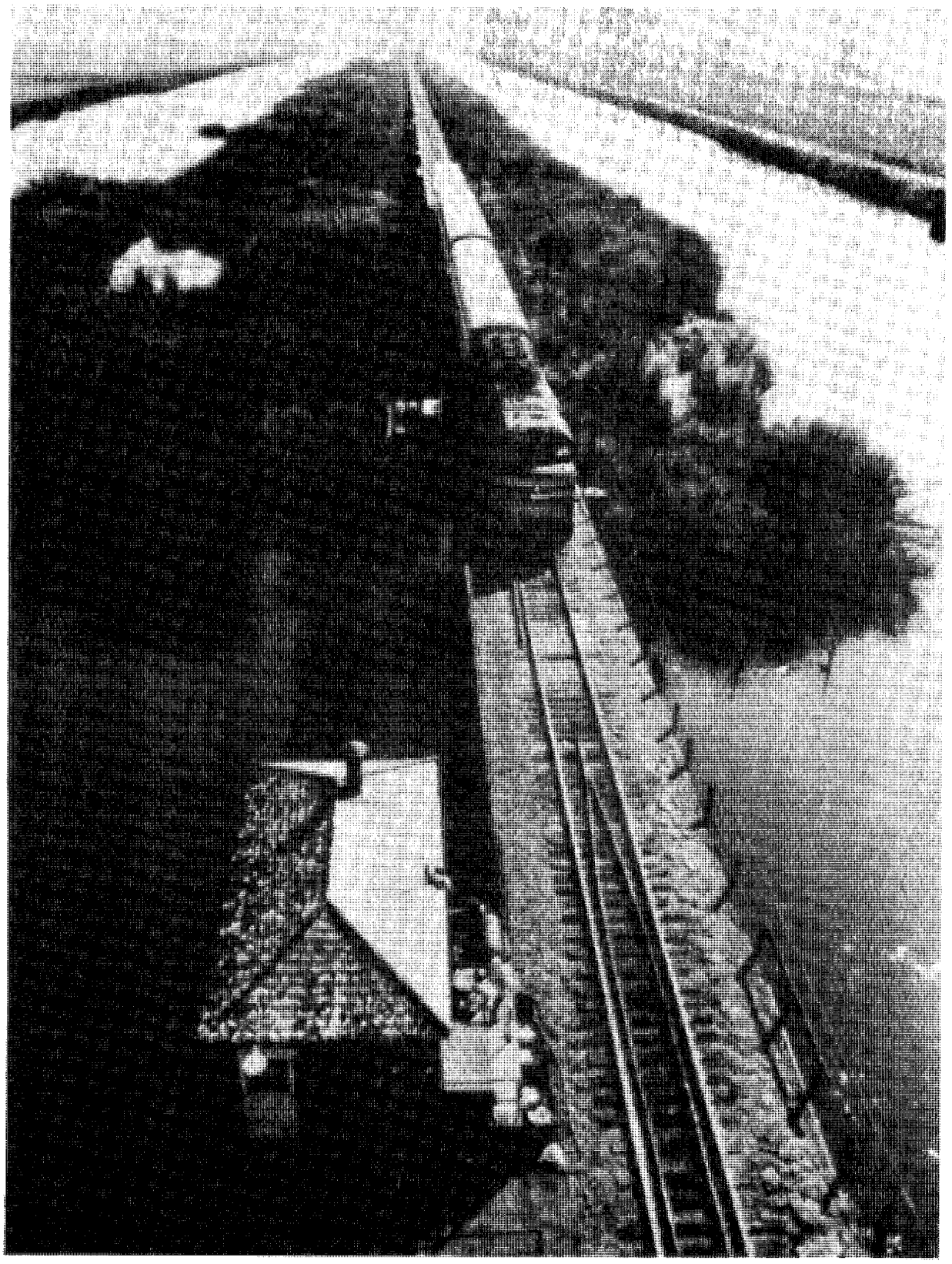
It would be our recommendation that the report be revised so as to allow for tilt technology to be incorporated in future orders of the "California Car".

Further we would recommended that the state establish a procedure for including the latest technological advances in each order of the "California Car".

Caltrans will continue to examine all available technologies in future potential orders of new cars for State-supported service in California.

In closing, Southern Pacific is pleased that the report gives the impression that the coast route is worthy of serious consideration as a high speed route.

Southern Pacific looks forward to working with the State to make a comprehensive High Speed Rail System become a reality.



A San Joaquin train traversing the Delta between Stockton and Antioch

Appendix A - Public Review

The section in Chapter I titled "Public Participation in this Report" describes in detail the public participation process. Included in this Report are all agency letters Caltrans received commenting on the Report, as well as Caltrans responses to these letters. Where comments were associated with a particular chapter in the Report, the comments and Caltrans responses may be found at the end of the appropriate chapter alphabetized according to agency name. Where comments are general, the comments and responses may be found in this Appendix. The comments are printed in normal type and the responses in **bold** type. Also, the tenses of the verbs in Caltrans responses have been modified to indicate what was done. The matrix below relates chapters to agency comments.

AGENCY NAME	FOR COMMENTS SEE END OF CHAPTER BELOW (Chapters in Arabic numerals)												
	1	2	3	4	5	6	7	8	9	10	12	14	APP
Amtrak		•		•	•	•	•	•					•
Ass'n. of Monterey Bay Area Governments								•			•		
California Air Resources Board	•		•	•			•	•				•	•
California Energy Commission													•
California Environmental Associates												•	
California Public Utilities Commission	•	•		•	•	•	•	•	•	•			•
Catholic Charities of Orange County				•									
East Bay Bicycle Coalition													•
Counties of Fresno and Madera				•	•	•	•		•			•	•
City of Galt							•						
Senator Gary K. Hart										•			
Los Angeles-San Diego Rail Corridor Agency					•	•						•	
Metropolitan Transit Development Board	•				•	•							•
Assemblyman Jack O'Connell										•			
San Francisco Bicycle Coalition													•
San Joaquin County Dep't. of Public Works							•					•	
San Joaquin Steering Committee					•		•		•			•	•
San Luis Obispo Council of Governments					•	•		•	•	•			•
Santa Barbara County Ass'n. of Governments						•							
Santa Cruz County Regional Transp. Comm.		•			•				•	•	•		•
Assemblywoman Andrea Seastrand										•			
Southern Pacific Lines												•	•
Transportation Agency for Monterey County										•			

AMTRAK COMMENTS

This refers to your letter dated September 21, 1993, which included a draft copy of the Califomia Rail Passenger Report 1992/93 - 2002/03 for review and comments.

Attached on a separate sheet are Amtrak's comments relative to the draft report. Overall, Caltrans has done an outstanding job in producing such a comprehensive and thorough planning document. The report is concise, and provides a well-planned and definitive process for achieving Caltrans rail passenger objectives.

Thank you for the opportunity in having Amtrak review and comment on the draft report.

CALIFORNIA AIR RESOURCES BOARD COMMENTS

Thank for the opportunity to comment on the draft of the Califomia Passenger Program Report 1992/93 - 2002/03.

My office is charged with developing strategies to reduce mobile source emissions with emphasis on reducing single occupant vehicle travel. As you know, reducing vehicle emissions requires mass transportation, including buses and trains, be accessible and attractive to potential riders. Consequently, we are very interested in Caltrans' strategies for future rail improvements.

We have comments on several issues that relate to air quality improvement and some general comments, including the following:

- Customer service
- Air quality planning and air quality/transportation conformity process
- Low emission locomotives
- Environmental concerns
- General comments
- Report presentation and readability

Report Presentation

The report is very well organized and comprehensive. You are to be congratulated on the preparation of a report where a great deal of pertinent information is assembled in a way the reader can easily follow. The report is very readable, which will result in its being read!

We appreciate the attention paid to air quality issues in general, and the recognition that air quality improvement is tied directly to reduced emissions from mobile sources, and that intermodality is an integral part of the transportation picture. We appreciate the recognition in the report that federal transportation funding through the ISTEA is dependent on the conformity process. The references to the necessity for cooperation between state agencies and regional agencies is also an important contribution.

There are air quality benefits in addition to transportation benefits to some of your policies and recommendations, such as additional grade separations which eliminate vehicular idling emissions, that have not been cited in your report. However, attempts to list societal benefits beyond transportation improvement may be beyond the scope of your report.

We have not received a copy of Chapter XI - Commuter Rail Services or Chapter X11 - Urban Guideway Services, which will be included in the final report. We are looking forward to receiving a copy of the final report upon publication.

CALIFORNIA ENERGY COMMISSION COMMENTS

In response to your request, I asked my staff to review the draft report you sent entitled California Rail Passenger Program Report 1993/94-2002/03. Your report was most informative, and we applaud your efforts to develop a comprehensive reference document for state and local planning organizations.

Overall, we found the report to be clearly organized, thorough in its discussions, and well written. The draft report does an excellent job of describing the existing California rail network, the rail planning and funding process, and the expansion plans for California rail services.

We have only one substantive comment on this draft version. Your report provides, for each rail route, a table displaying the number of riders and the ratio of passenger miles to train miles for each fiscal year; it would be helpful to us if this table also gave total person-miles traveled for each year. On the same note, we would like the report to provide person-miles traveled data for the connecting bus routes.

We have not published data on actual train miles and passenger miles in the tables referenced in this Report because there have been few requests for it. The data is available from Amtrak billings, however, and we will be glad to share it with you upon request.

Amtrak is now making changes to its ridership and revenue reporting system to begin collection of passenger-mile data for the connecting buses. Unfortunately, prior years' data is not available.

Your report promises to be a valuable source of California rail services information for our agency. We urge you to continue with your efforts, and we ask that you keep us apprised of future work.

CALIFORNIA PUBLIC UTILITIES COMMISSION COMMENTS

The California Public Utilities Commission staff has reviewed the above document.

We found the report informative, well thought out, and professionally prepared. Suggestions on freight issues and safety aspects of the report draw from staff's expertise in these areas, and all comments are furnished to either correct or update the information in the document.

We appreciate your efforts to improve intercity rail passenger transportation in our state.

EAST BAY BICYCLE COALITION COMMENTS

For over twenty years, the *East Bay Bicycle Coalition* has represented the interests of bicyclists. Our organization represents over 300 individuals and six bicycle clubs in Alameda and Contra Costa Counties. The clubs we represent have over seventeen-hundred members.

Because intercity transportation options for bicyclists are few, the appeal of rail transportation to bicyclists is particularly great. We are naturally interested in the proposed expansion of passenger rail service in our area and wish to insure that bicyclists are included in the planning process for these proposals. Please include the *EBBC* on your

mailing list for passenger rail public meetings. We are optimistic that the proposed new intercity passenger rail service will accommodate the needs of bicyclists. More specifically we seek well-designed bicycle route access to all stations, secure bicycle parking at stations, and bicycle transport on the trains. Our position on all existing and proposed passenger rail transport has three simple goals:

1) Bicycle access on all passenger trains

2) Bicycle access is defined as the carriage of bikes for any passenger requesting transport

3) No permits, boxing requirements, nor schedule restrictions.

The above goals are in accordance with the Federal transportation policy to improve intermodal transportation. We look forward to working with you on improving California's rail transportation.

We appreciate the interest of your group in supporting improved bicycle access to rail passenger service in California. Caltrans does not manage or operate commuter or urban rail services. Therefore, you should continue to work with the local entities running these services to help improve bicycle access.

Caltrans administers the State's role in supporting certain intercity rail passenger service in California operated by Amtrak, such as the *Capitol* and *San Joaquin* Routes, both of which serve the Bay Area. As part of our role to improve rail passenger service in California, Caltrans is working to provide enhanced bicycle accessibility to these routes. At stations, we are providing bicycle lockers as part of station renovation projects and where new station facilities are constructed. Our new California Cars will include on-board racks which will accommodate four bicycles per car. We do not anticipate schedule restrictions or required permits. We are also considering the feasibility of providing additional storage facilities for bicycles in those California Cars which will have special baggage storage sections.

COUNTY OF FRESNO RESOLUTION

Resolution No. 93-606

RESOLUTION SUPPORTING THE COMMENTS OF THE STEERING COMMITTEE OF CALTRANS RAIL IN TASKS FORCE ON THE DRAFT RAIL PASSENGER PROGRAM REPORT 1993/94-2002/03

WHEREAS the Fresno County Rail Transportation Committee considered the attached draft comments of the Steering Committee of the Caltrans Rail Task Force to the Califomia Transportation Commission and Caltrans on the Draft California Rail Passenger Program Report 1993/94-2002/03, and took action urging the Board of Supervisors to support the said draft comments; and

WHEREAS the Madera County Board of Supervisors adopted a resolution endorsing the said draft comments and urging local and regional govemmental entities and committees within the Central Valley to take a similar action to support said comments.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Fresno, State of California, hereby supports the said draft comments to the Caltrans Draft Report.

COUNTY OF MADERA RESOLUTION

Resolution No. 93-311

A RESOLUTION ENDORSING THE COMMENTS OF THE STEERING COMMITTEE OF CAL-TRANS RAIL TASK FORCE ON THE DRAFT CALIFORNIA RAIL PASSENGER PROGRAM REPORT 1993/94-2002/03.

BE IT HEREBY RESOLVED that the Board of Supervisors of the County of Madera, State of California, hereby endorses and adopts as its own the attached draft of the Steering Committee of Cal-Trans Rail Task Force comments to the California Transportation Commission and Cal-Trans on the "DRAFT" California Rail Passenger Report 1993-93 - 2002-03 and urges local and regional governmental entities and committees within the Central Valley to take similar action to support said comments.

BE IT FURTHER RESOLVED that the Clerk of the Board of Supervisors is authorized and directed to provide copies of this Resolution to all interested parties.

COUNTIES OF FRESNO AND MADERA COMMENTS

The Steering Committee Caltrans Rail Task Force

COMMENTS

to

The California Transportation Commission and Caltrans

on the "DRAFT"

California Rail Passenger Program Report

1993/94-2002/03

FORWARD/BACKGROUND

The Steering Committee of Caltrans Rail Task Force was created in 1987 in order to provide Caltrans with Local and Regional Government input on the improvement of passenger rail service on the Central Valley Rail Route connecting Southern California-Central California-the Bay Area/ Sacramento before decisions on this route were taken by Caltrans.

The "Draft Report" on which the Committee now comments contains important proposals that seriously and adversely affect our Corridor, and on which we had no significant prior input to Caltrans. The Committee has been given a hurried deadline to make Comments by November 1, 1993.

Approximately six weeks were provided for review and comment on the Report; we believe this was fair and reasonable considering the tight schedule to produce the documents. If additional time is required for future reports, we are receptive to lengthening the review period.

The public meetings Caltrans has scheduled for the afternoon and early evening in three cities, (Fresno October 14), appear to seek "public input" on the Report, but are an inadequate substitute for the substantial prior review with the Steering Committee and its counterparts in other regions.

The informal public meetings have been used in recent years to provide an additional opportunity for citizens to communicate with staff. The public meetings are meant as an alternative for some or as a supplement for others in order to allow for a thorough review of the Report.

Our comments are divided into two parts. Part I deals with overall aspects of Statewide goals and practices, largely omitting detailed review of geographical areas represented by other committees. Part II gives specific comments on the Los Angeles-Fresno-Bay Area/Sacramento Corridor served by the "San Joaquin" trains.

NOTE: Most comments appear in the Public Review sections at the end of individual chapters.

The Steering Committee considers the "California Rail Passenger Program Report of 1993/94 - 2002/03", (the CRPPR), to be an inadequate response to rail needs in California for numerous reasons listed in numbered paragraphs that follow.

The Report (CRPPR) is too narrowly based on rail "passenger" service and ignores the CTC/Caltrans responsibility to assure the availability of efficient transportation for "goods" (freight) and people (passengers).

The final words in CRPPR Chapter One refer to Caltrans need to plan for "goods movement", but the final words in Chapter II declare that freight is the "responsibility of the private railways".

Most California passenger trains use tracks owned by the freight railroads, thus, though separately operated, passenger and freight share a common infra-structure, and can do so at high speeds.

California's greatest need is for a multi purpose rail network that can move both people and freight efficiently at higher speeds.

The CRPPR over emphasizes rail passenger service and takes too little notice of California's freight needs for more rapid service.

The Report was intended, as defined in the original legislation, to solely cover rail passenger service; however, your comment is a good one and in 1995, the Report will be expanded to address freight issues in which the State has a role.

METROPOLITAN TRANSIT DEVELOPMENT BOARD COMMENTS

Redundancies should be avoided to ease in reading the report. In many instances, the introduction to a section is repeated in the subsection.

Although this style is redundant, it allows the reader to easily determine the content of chapters without reading the entire chapter.

Words such as "carefully" and "closely" should be avoided, since it is assumed Caltrans is careful about its work.

Your comments are well taken; these phrases will only be used where appropriate.

This report offers a unique opportunity to gather all rail information within California. With the information collected from Chapters XI and XII, we suggest a rail information package be put together for public information and distribution. We are not aware of any other publication that would include maps, stations, and fares of all the rail operators in the state.

Thank you for complimentary remarks on our comprehensive coverage of rail passenger service in California. Once the Report is completed, we will assess the cost and demand for the kind of rail information package you suggest for the public. However, the full Report itself will receive wide distribution.

Right-of-way should be spelled consistently throughout the report. In some instances the phrase is correctly hyphenated, and others it is not and should be.

We made the necessary editing corrections in the Report as pertains to "right-of-way."

Revenue/cost is defined as "farebox"; this is normally referred to as the "farebox recovery ratio."

The ratio of revenue to cost is referred to in a number of ways, including farebox, farebox return and farebox recovery ratio.

We appreciate the opportunity to comment on this important and much needed document. If you have any questions, please call me at (619) 557-4514.

SAN FRANCISCO BICYCLE COALITION COMMENTS

Intermodally accessible mass transit is a goal of proposition 116, ISTEA and other funding sources, policy guidelines and laws. The San Francisco Bicycle Coalition and allied bicycle groups across the state require three elements be added to the Caltrans Rail Passenger program.

1. immediate access to all trains and interurban mass transit

2. reasonable access to be defined as carriage of bicycles for all passengers who bring them

3. no permits, boxing requirements or hour restrictions

Our needs are simple. They are no more than what any other passenger with carry on luggage expects. We are currently working with several transit agencies on their intermodal programs and want to help with yours. Please keep us informed of all meetings and actions on this and related subjects.

We appreciate the interest of your group in supporting improved bicycle access to rail passenger service in California. Caltrans does not manage or operate commuter or urban rail services. Therefore, you should continue to work with the local entities providing these services to help improve bicycle access.

Caltrans administers the State's role in supporting certain intercity rail passenger service in California operated by Amtrak, such as the *Capitol* and *San Joaquin* Routes, both of which serve the Bay Area. As part of our role to improve rail passenger service in California, Caltrans is working to provide enhanced bicycle accessibility to these routes. At stations we are providing bicycle lockers as part of station renovation projects and where new station facilities are constructed. Our new California Cars will include on-board racks which will accommodate four bicycles per car. We do not anticipate schedule restrictions or required permits. We are also considering the feasibility of providing additional storage facilities for bicycles in those California Cars which will have special baggage storage sections.

SAN JOAQUIN STEERING COMMITTEE COMMENTS

The Steering Committee of the Caltrans Rail Task Force was created in 1987 in order to provide Caltrans with Local and Regional Government input on the improvement of passenger rail service on the Central Valley Rail Route connecting Southern California-Central California-Bay Area/Sacramento.

The "Draft Report" on which the Committee comments contains important proposals that seriously and adversely affect the San Joaquin Corridor.

The public meetings Caltrans has scheduled on the public review of this document is an inadequate substitute for the substantial review needed to satisfy their concerns. The Steering Committee and its counterparts in other regions of the state are entitled to observe and comment in order to provide a document that addresses their concerns as well as our own. If this is indeed a plan to guide us ten years into the future, it requires adequate review by all parties.

Approximately six weeks were provided for review and comment on the Report; we believe this was fair and reasonable considering the tight schedule to produce the document. If additional time is required for future reports, we are receptive to lengthening the review period

Our comments are divided into two parts. Part I deals primarily with the overall aspects of State wide goals and practices, largely omitting detailed review of geographical areas represented by other regional committees. Part II gives specific comments on the Los Angeles-Fresno-Bay Area/Sacramento Corridor served by the "San Joaquin" trains.

NOTE: Most comments appear in the Public Review sections at the end of individual chapters.

The Steering Committee considers the "California Rail Passenger Program Report 1993/94 -2002/03" (the CRPPR), to be an inadequate response to all rail needs in California for reasons listed as follows:

The Report (CRPPR) is narrowly based on rail "passenger" service and ignores the CTC/Caltrans assurance of the availability of efficient transportation for "goods" (freight) and people (passengers).

- Most California passenger trains use tracks owned by the freight railroads, thus, though separately operated, passenger and freight rail systems share a common infrastructure. This infrastructure can be shared at high speeds efficiently, effectively and economically.

- California's greatest need is for a multi-purpose rail network that can move both people and freight efficiently at higher speeds.

- We support passenger and freight rail expansion throughout the State, but agree with the Legislature's assertion in AB971 that the Los Angeles-Fresno-Bay Area/Sacramento line is an urgent priority.

The Report was intended, as defined in the original legislation, to solely cover rail passenger service; however, this comment is a good one and in 1995, the Report will be expanded to address freight issues in which the State has a role. We agree that the development of the *San Joaquin* Route is of great importance.

SUMMARY / CONCLUSIONS / RECOMMENDATIONS

In summary the Steering Committee of the Caltrans Rail Task Force respectfully concludes that the Caltrans Rail Passenger Program Report 1993/94 - 2002/03 should be written to include our suggestions and recommends that these comments be given to the Governor, the Legislature, and to the California Transportation Commission, and where applicable, printed as part of the Final Report.

SAN LUIS OBISPO COUNCIL OF GOVERNMENTS COMMENTS

While the following recommendations do not specifically relate to critiquing the Report, they are included for your information:

(Page 75) Improve through-ticketing capabilities to *Caltrain* - RECOMMENDED SERVICE IMPROVEMENT

Amtrak ticketing agents in San Luis Obispo currently cannot issue through-tickets for *Coast Starlight* passengers connecting to *Caltrain.* Passengers are forced to purchase another ticket in the San Jose station. Providing through-ticketing services would greatly improve rider convenience and system efficiency.

This is an excellent suggestion. We are working with Amtrak and the Peninsula Corridor Joint Powers Board (which administers CalTrain) to install through ticketing between the *Coast Starlight* and CalTrain.

SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION COMMENTS

SCCRTC staff would also like to support Caltrans' efforts to coordinate a passenger rail "hub" in San Jose. It is our belief that San Jose is a prime location for basing passenger rail services. By virtue of its location, existing and proposed rail services to San Francisco, the East Bay and the Central Valley to the north, and Monterey Bay, the Central Coast and Los Angeles to the south can be implemented with maximum efficiency and potential.

We concur with the importance of San Jose as a "hub" for rail passenger service and will continue to work to coordinate rail services serving this important location.

SOUTHERN PACIFIC LINES COMMENTS

This letter is in response to your request for comments on the Draft California Rail Passenger Program Report.

It is encouraging to see the state attempt to bring together its programs and goals for intercity, commute and urban rail in California into one document. In reviewing the report, there are two major areas the report only touches on or eludes to the possibilities of developing.

Networking

The report mentions six key elements, but does not address the potential savings in combining the elements. This has the result of reducing market potential, under utilization of crew and equipment and would cause an increase in transit time between points.

The key elements are:

1. Construction of maintenance facility at San Jose
2. The extension of San Joaquin service to San Jose
3. Expansion of San Joaquin service to the 6/10 train service levels
4. Expansion of Capitol Corridor service to the 6/10 train service levels
5. New service from Stockton to Sacramento
6. New service via UP-Altamont and SP from Stockton to the Bay Area

The following is a example of how these elements could be brought together.

1. Capitol Corridor equipment and crew upon arrival in Sacramento would continue on to Stockton, Fresno and Bakersfield (with a reverse turn)
2. Existing San Joaquin core route service from Oakland to Bakersfield via Martinez and Stockton (with a reverse turn)
3. San Joaquin service Bakersfield to San Jose via Stockton, SP/UP Altamont/SP upon arrival San Jose equipment and crew would continue on in Capitol Corridor service (with reverse turn)

note: (Option #3) would reduce transit time for those passengers wishing to travel between the San Joaquin Valley, East Bay and San Jose considerably. Also, for the first time there could be direct rail access to San Francisco via the Dumbarton Bridge.

It is recommended that the report be modified so as to outline a process whereby these and other emerging service opportunities can be explored and evaluated.

We appreciate Southern Pacific's (SP) expressed support for the six service improvement elements shown in I(A) above. SP's cooperation will be critical to ensuring Caltrans ability to implement these service improvements. (Number 6 is proposed by local entities for commuter rail service). Caltrans will make every effort to coordinate them to create the best possible train service "network" for Northern California. At this time, it is not certain what the sequence of improvements will be, or what will be the exact nature of the ultimate network that will be created. Caltrans will continue to work closely with SP to provide improved rail passenger service in California.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Division of Rail

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