



California State Rail Plan 2005-06 to 2015-16

**December 2005
California Department
of Transportation**

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December 29, 2005

Honorable Alan Lowenthal, Chairman
Senate Transportation and Housing Committee
State Capitol, Room 2209
Sacramento, CA 95814

Honorable Jenny Oropeza, Chair
Assembly Transportation Committee
1020 N Street, Room 112
Sacramento, CA 95814

Dear: Senator Lowenthal
Assembly Member Oropeza:

On behalf of the California Transportation Commission, I am transmitting to the Legislature the 10-year California State Rail Plan for FY 2005-06 through FY 2015-16 by the Department of Transportation (Caltrans) with the Commission's resolution (#G-05-11) giving advice and consent, as required by Section 14036 of the Government Code.

The ten-year plan provides Caltrans' vision for intercity rail service. Caltrans' 10-year plan goals are to provide intercity rail as an alternative mode of transportation, promote congestion relief, improve air quality, better fuel efficiency, and improved land use practices. This year's Plan includes: standards for meeting those goals; sets priorities for increased revenues, increased capacity, reduced running times; and cost effectiveness.

The plan:

- describes California's intercity rail network and connecting bus service.
- presents Caltrans' ten-year recommendations regarding the level of state-supported service on specific routes, as well as the capital and operational funding needed to support such service.
- discusses rail planning and marketing, programming, funding processes for operations and capital improvements, freight rail, and potential new service and routes.

In reviewing Caltrans' Draft 2006 ten-year plan, the Commission at its November 2005 meeting advised Caltrans, which Caltrans has included in its final ten-year plan, to:

Honorable Alan Lowenthal
Honorable Oropeza
December 27, 2005
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discuss the benefits of a stable funding source and increased funding to address future capital and operating requirements.

discuss the need for a dedicated and reliable funding source to perform the major overhaul of locomotives and passenger cars and acquisition of new equipment.

The Commission adopted its Advice and Consent resolution (attached) at its November 2005 meeting. (Caltrans is responsible for transmitting the ten-year plan, after it has prepared the plan for publication.) The Commission appreciates the opportunity to give advice and consent on Caltrans' 2005 10-year California State Rail Plan. The Commission intends its advice to be constructive in producing a plan that identifies current and potential future issues for the Administration and the Legislature. The Commission intends to continue, in cooperation with Caltrans and local agencies, to implement and expand intercity rail service in California.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Tavaglione". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Joseph Tavaglione
Chair
California Transportation Commission

Attachment

adviceandconsent06 transmittaltr.doc



CALIFORNIA TRANSPORTATION COMMISSION
Commission Consent to the Department's
Ten-Year California State Rail Plan
Resolution G-05-11

- 1.1 WHEREAS, the California Transportation Commission (Commission) is required by Government Code Section 14036 to give its advice and consent on the Department of Transportation (Department) 10-year State Rail Plan; and
- 1.2 WHEREAS, the Department has prepared the 2005 California State Rail Plan for FY 2005-06 through FY 2015-16 in order to provide a comprehensive 10-year plan; and
- 1.3 WHEREAS, the Commission has reviewed the California State Rail Plan at its November 2005 meeting; and
- 1.4 WHEREAS, the Commission advised the Department that the State Rail Plan should include:
 - a discussion of the benefits of a stable funding source and increased funding to address future capital and operating requirements.
 - a discussion on the need for a dedicated and reliable funding source to perform the major overhaul of locomotives and passenger cars and acquisition of new equipment.
- 1.5 WHEREAS, the Department has agreed to incorporate the Commission's advice into its final ten-year report.
2. NOW, THEREFORE BE IT RESOLVED that the Commission does hereby consent to the information contained in the California State Rail Plan and directs the Department to transmit to the Legislature, the Governor, and the Public Utilities Commission the 10-year State Rail Plan for FY 2005-06 through FY 2015-16.

CALIFORNIA STATE RAIL PLAN

2005-06 TO 2015-16

December 2005

California Department of Transportation

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Executive Summary **California State Rail Plan** 2005-06 to 2015-16

**December 2005
California Department
of Transportation**

ARNOLD SCHWARZENEGGER, Governor
SUNNE WRIGHT McPEAK, Secretary
Business, Transportation and Housing Agency
WILL KEMPTON, Director
California Department of Transportation



Executive Summary

PART I

Passenger Rail Element

Government Code Section 14036 requires the California Department of Transportation (Department) to complete a ten-year State Rail Plan with both passenger and freight rail elements. The law also provides that the State Rail Plan be updated every two years. The passenger rail element of the California State Rail Plan 2005-06 to 2015-16 (State Rail Plan) examines intercity passenger rail transportation in California, and reviews the current operations of state-supported intercity rail passenger service and outlines ten-year plans for capital improvements and service expansions. The passenger rail element of the State Rail Plan is covered in Part I (Chapters I through XIII); the freight rail element is contained in Part II (Chapters XIV through XX).

Chapter I—California’s Vision for Intercity Passenger Rail

GoCalifornia

Transportation in California is guided by the Administration’s comprehensive *GoCalifornia* vision, which guides the FY 2005-06 transportation budget and capital and operating programs.

GoCalifornia’s vision statement is:

Improve mobility and accessibility for people, goods, services, and information through a safe, integrated, multimodal, world-class transportation system that achieves the “3-E’s”:

- Prosperous Economy
- Quality Environment
- Social Equity

GoCalifornia’s goal is:

Mobility that continues to attract capital investment in California to generate jobs.

GoCalifornia’s objectives in its ten-year investment plan for mobility are:

- Address 20-year needs and reduce congestion below today’s levels.
- Deploy demand-management strategies, use existing capacity more efficiently, and expand capacity.
- Build a world-class transportation system that incorporates best research and technology.

The linkage between transportation, housing, and land use are also important themes in the strategies and implementation of the *GoCalifornia* vision.

THE DEPARTMENT'S MISSION AND GOALS

The Department's mission—"Caltrans Improves Mobility across California" and its five strategic goals: safety, mobility, delivery, flexibility, and stewardship, support the *GoCalifornia* vision.

INTERREGIONAL STRATEGIC PLANNING

The Department's Interregional Transportation Strategic Plan (ITSP) is the strategic planning document for interregional capital projects, and relies heavily upon the State Rail Plan for its intercity rail portion.

THE DEPARTMENT'S VISION FOR INTERCITY RAIL

The Department's Intercity Passenger Rail Vision supports the *GoCalifornia* vision, the Department's mission and goals, and the ITSP. It includes the following elements:

- Provide relief to highway and airway congestion.
- Provide a rail transportation alternative to other travel modes.
- Improve air quality, conserve fuel, and contribute to efficient and environmentally superior land use.

Chapter II—Capital Program

CAPITAL PROGRAM GOALS

- Expand capacity on existing routes for increased frequencies and reliability.
- Reduce train running times to attract riders and to provide an efficient service.
- Improve equipment, stations, and facilities.
- Increase farebox ratio to reach or exceed 50 percent.
- Improve the safety of state-supported intercity rail service, including grade crossings.
- Implement projects to allow new cost-effective routes.

TEN-YEAR INTERCITY RAIL CAPITAL PROGRAM

The Department's ten-year \$3.1 billion capital program for the three existing state-supported routes and for new routes represents an unconstrained program based on project needs, and not funding expectations. Full implementation of this capital program would require major federal funding. Key projects in the program are listed in the chapter.

If sufficient funding for the unconstrained program is unavailable, a constrained program would be implemented with state funds from future State Transportation Improvement Program (STIP) programming cycles, as supplemented by other funding. This program is represented in the Department's constrained \$770 million ten-year capital program. The program includes \$60 million per year in STIP funds and \$170 million in Transportation Congestion Relief Program (TCRP) funds.

CAPITAL PROGRAM FUNDING

To date, over \$2.8 billion has either been invested or reserved for capital funding for California intercity rail passenger service. The State has provided about 62 percent of



the total investment and local entities, the Federal government, Amtrak, and the private railroads have also made major contributions.

However, adequate State funding is not projected to be available to fund the unconstrained capital program. The only ongoing capital funding source is a limited portion of the STIP. The lack of a stable and adequate funding source for the capital program is a major concern and the Department will continue to explore mechanisms for stable funding. Rail equipment does not have access to the State Highway Account (SHA) funding in the STIP because Article XIX of the State Constitution prevents rail equipment from being funded by the SHA.

INTERCITY RAIL ROLLING STOCK PROGRAM

The State has an intercity rail rolling stock program unparalleled by any other state in the nation. The State owns its own fleet of 88 cars and 17 locomotives and has spent over \$300 million on the design and acquisition of cars and locomotives since the early 1990s with the majority of funding from bonds. In addition to equipment procurement, the Equipment Program also includes warranty, rework, and modification of procured equipment; scheduled maintenance; heavy equipment overhaul; equipment modernization; inspection and safety monitoring; and rehabilitation of damaged equipment.

RAIL-HIGHWAY GRADE CROSSING IMPROVEMENT AND SEPARATION PROGRAMS

The Department has a number of programs to improve safety at rail-highway grade crossings as well as improve rail and road operations. The Federal Section 1010/1103 Program and the Federal Section 130 Program focus on improving safety and operations at grade crossings. The State Section 190 Program focuses on constructing grade separations. These programs combined receive, in general, approximately \$35 million a year in funds.

Chapter III—Operations Program

OPERATIONS PROGRAM GOALS

- Provide cost-effective service that will reach or exceed the Department’s 50 percent farebox ratio standard.
- Provide safe, reliable, and convenient intercity rail and connecting bus service with enough schedule flexibility to meet a wide range of traveler’s needs.
- Increase service attractiveness and customer satisfaction through improved on-time performance, operations, and service amenities.
- Create a “seamless” network where intercity rail services and schedules are well connected to commuter and urban rail, and transit.

TEN-YEAR INTERCITY RAIL SERVICE LEVELS AND FINANCIAL PLAN

This chapter presents the Department’s ten-year proposed intercity passenger rail ridership and service levels; projected revenue, expense, and farebox ratio for existing routes; and projected state costs for existing and new routes. In developing increased

service levels, service extensions, and new services the Department considers:

- Ridership demand based on actual train ridership, or in the case of extensions or new routes, based on bus ridership and overall travel demand in the corridor.
- Improved cost-effectiveness of existing services, and positive cost-effectiveness of new routes.
- Feasibility of increased service based on route capacity, equipment availability, and infrastructure quality.
- Local support for the service.

Also, the Department's progress in meeting principal route objectives is assessed. Actual results and future objectives in the prior California State Rail Plan are compared with those in the current State Rail Plan.

OPERATIONS PROGRAM

The operations, marketing, and capital programs are all interrelated. The Operations Program includes operational efficiency which is heavily dependent on capital improvements and also includes schedule planning and cost and revenue analysis. The Department is continually working to improve on-board and station amenities and passenger information. All three routes have connecting Amtrak bus service, with the San Joaquins including an extensive network of buses that is an essential element of the Route. Improving multi-modal connectivity to the routes is also an important focus of operations.

Chapter IV—Marketing Program

MARKETING PROGRAM GOALS

- Establish a position for California train travel in consumers' minds. Market rail travel as fun, easy-to-use, relevant to travel needs - in short "Travel made simple."
- Emphasize Amtrak's everyday low fares and implement fare promotion campaigns.
- Develop ridership in specific primary target markets, such as the "mature market" (persons over 50), families, and Hispanic persons. Secondary markets include business travelers and college students.
- Promote important recent improvements to the corridors.
- Work with local agencies to market special events where train travel is an option.
- Promote new train and feeder bus services.

DEPARTMENT'S MARKETING PROGRAM

The Marketing Program has a number of components. Advertising is a joint program with Amtrak and focuses on the "Travel made simple" concept. Public Relations/ Outreach includes special promotions, media relations, printed materials, and special events. There are group travel programs for kids, seniors, and students. The Department coordinates its rail safety activities with California Operation Lifesaver, and contracts for market research. The Capitol Corridor Joint Powers Agency (CCJPA) has its own marketing program, which includes a combination of grassroots local marketing efforts and broad-based joint media campaigns. The CCJPA coordinates its marketing efforts with the State, Amtrak, and CCJPA member agencies.





Chapter V—The California Rail Network

THE STATE'S ROLE IN RAIL PASSENGER SERVICE

The State rail system combines intercity, commuter, and freight rail. Intercity rail includes State-supported corridor routes and Amtrak long-distance routes. All three systems share the same infrastructure that is generally owned by private railroads, and in some cases, public entities. The State Rail Plan focuses on these rail systems because they share the same infrastructure. The State supports: the Pacific Surfliner operating between San Diego and San Luis Obispo, the San Joaquin between Bay Area/Sacramento and Bakersfield, and the Capitol Corridor between San Jose and Auburn. Services intended to meet primarily local needs are developed as commuter and urban rail services rather than intercity. In California, Amtrak currently operates all state-supported intercity rail service under the provisions of the Federal Rail Passenger Service Act (49 U.S.C. 24101).

Chapter VI—Pacific Surfliner Route

SAN LUIS OBISPO-SANTA BARBARA-LOS ANGELES-SAN DIEGO

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

Improve on-time performance to 90 percent by 2015-16.

Improve passenger comfort, convenience, and information with improved services on-board and at stations.

Improve intermodal connectivity:

- Cross-ticketing and coordinated schedules with Metrolink and Coaster.
- Improved coordination with urban transit.
- Improved Amtrak Thruway service.

Reduce Travel Times:

- San Diego to Los Angeles - 2 hours, 30 minutes (15 minute reduction).
- Los Angeles to San Luis Obispo - 5 hours, 8 minutes (20 minute reduction).

Increase annual ridership 40 percent from 2,578,000 to 3,611,000.

Increase annual revenues 60 percent from \$28.4 million to \$45.4 million for the state-supported 70 percent of the Route.

Increase revenue/cost (farebox) ratio from 58.0 percent to 65.0 percent.

Increase Service Frequency:

- From 11 to 13 daily round-trips between San Diego—Los Angeles.
- From 5 to 6 daily round-trips between Los Angeles—Santa Barbara.
- From 2 to 3 daily round-trips between Santa Barbara—San Luis Obispo.

Extend Service:

- San Francisco—San Luis Obispo, first daily round-trip in 2007-08, second daily round-trip in 2013-14.

RECENT PERFORMANCE:

In FFY 2004-05, ridership for all trains was 2,520,000 and the farebox ratio was 57.1 percent. On-time performance averaged 72.9 percent.

PROPOSED TRAIN SERVICE EXPANSION:

- 2009-10 Los Angeles–San Diego, twelfth round-trip.
- 2012-13 Los Angeles–San Diego, thirteenth round-trip.
- 2013-14 Los Angeles–Goleta, sixth round-trip.
Goleta–San Luis Obispo, third round-trip.

Chapter VII–San Joaquin Route

BAY AREA/SACRAMENTO-FRESNO-BAKERSFIELD-(L.A.)

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

Improve on-time performance to 90 percent by 2015-16.

Improve passenger comfort, convenience, and information with improved services on-board and at stations.

Improve intermodal connectivity:

- Improved coordination with urban transit.
- Improved Amtrak Thruway service.

Reduce Travel Times:

- Oakland to Bakersfield 5 hours, 51 minutes (20 minute reduction).
- Sacramento to Bakersfield 5 hours, 5 minutes (14 minute reduction).

Increase annual ridership 47 percent from 773,000 to 1,133,000.

Increase annual revenues 70 percent from \$23.9 million to \$40.7 million.

Increase revenue/cost (farebox) ratio from 46.8 percent to 49.1 percent.

Increase Service Frequency:

- From 4 to 5 daily round-trips between Oakland to Bakersfield.
- From 2 to 3 daily round-trips between Sacramento to Bakersfield.

Expand Service:

- Study options to extend rail service from Stockton to Oakland and from Bakersfield to Los Angeles.

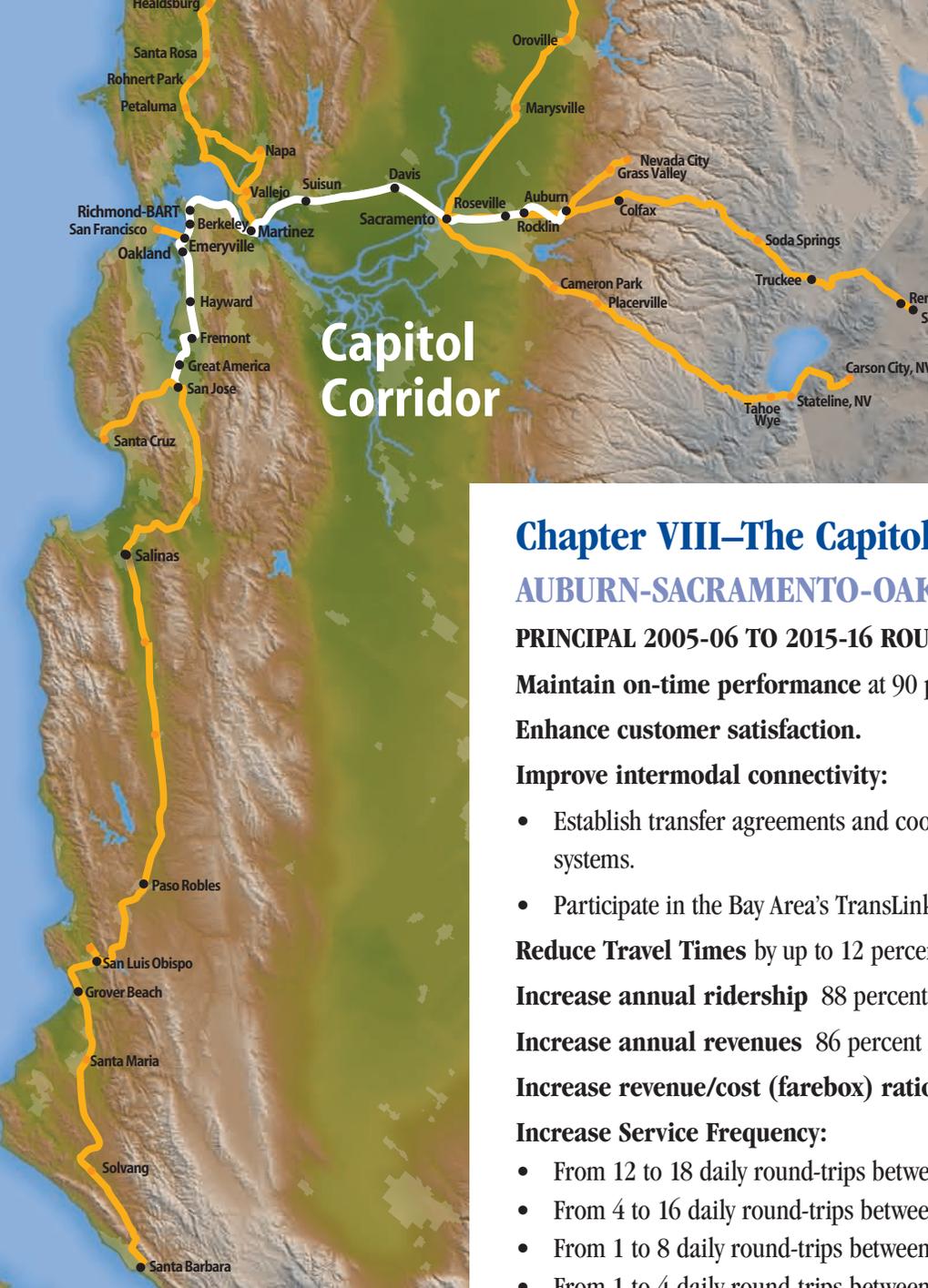
RECENT PERFORMANCE:

In FFY 2004-05, ridership for all trains was 756,000 and the farebox ratio was 45.9 percent. On-time performance averaged 63.5 percent.

PROPOSED TRAIN SERVICE EXPANSION:

- 2010-11 Bakersfield-Sacramento, third daily round-trip from Stockton to Sacramento (seventh round-trip on route).
- 2014-15 Bakersfield-Oakland, fifth daily round-trip from Stockton to Oakland (eighth round-trip on route).





Chapter VIII—The Capitol Corridor

AUBURN-SACRAMENTO-OAKLAND-SAN JOSE

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

Maintain on-time performance at 90 percent throughout the ten-year period.

Enhance customer satisfaction.

Improve intermodal connectivity:

- Establish transfer agreements and coordinated schedules with all local transit systems.
- Participate in the Bay Area's TransLink program.

Reduce Travel Times by up to 12 percent.

Increase annual ridership 88 percent from 1,323,000 to 2,483,000.

Increase annual revenues 86 percent from \$16.0 million to \$29.8 million.

Increase revenue/cost (farebox) ratio from 38.9 percent to 44.6 percent.

Increase Service Frequency:

- From 12 to 18 daily round-trips between Oakland and Sacramento.
- From 4 to 16 daily round-trips between San Jose and Oakland.
- From 1 to 8 daily round-trips between Sacramento and Roseville.
- From 1 to 4 daily round-trips between Roseville and Auburn.

Expand Service:

- Sacramento-Reno—first daily round-trip in 2008-09, second in 2010-11.
- Support Auburn-Oakland Regional Rail Service commuter system planning.
- Coordinate with Caltrain in the Dumbarton Rail corridor commuter expansion.

RECENT PERFORMANCE:

In FFY 2004-05, ridership for all trains was 1,260,000 and the farebox ratio was 38.7 percent. On-time performance averaged 84.7 percent.

PROPOSED TRAIN SERVICE EXPANSION:

2006-07 San Jose-Oakland, fifth, sixth and seventh round-trips. Sacramento-Roseville, second and third round-trips. Roseville-Auburn, second round-trip.

- 2008-09 San Jose-Oakland, eighth and ninth round-trips. Oakland-Sacramento, thirteenth and fourteenth round-trips.
- 2010-11 San Jose-Oakland, tenth and eleventh round-trips. Oakland-Sacramento, fifteenth and sixteenth round-trips. Sacramento-Roseville, fourth round-trip. Auburn-Oakland, third round-trip.
- 2012-13 San Jose-Oakland, twelfth and thirteenth round-trips. Oakland-Sacramento, seventeenth and eighteenth round-trips. Sacramento-Roseville, fifth and sixth round-trips. Roseville-Auburn, fourth round-trip.
- 2014-15 San Jose–Oakland, fourteenth, fifteenth, and sixteenth round-trips. Sacramento-Roseville, seventh and eighth round-trips.



Chapter IX—Commuter Rail Services

COASTER COMMUTER RAIL (OCEANSIDE—SAN DIEGO)

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

- Increase ridership and improve mobility in the region.
- Implement timed transfers at various stations and transit centers.
- Initiate and continue implementation of the Customer Amenities Program.
- Implement incremental service increases, if feasible, including: supplementary mid-day service, reverse peak service, evening service, and weekend service.
- Construct Oceanside passing track.
- Construct new mainline track between O’Neil and Flores.
- Replace single-track San Dieguito River and Santa Margarita bridges with new two-track concrete bridges.
- Replace other timber bridges with new concrete bridges.
- Upgrade sidings and add second main track segments.
- Continue stabilization of Del Mar Bluffs.
- Construct new parking garage at Oceanside Transit Center.
- Extend platforms at Old Town and Poinsettia Stations.
- Build 500-space parking structure at Solana Beach Station for mixed-use development.

METROLINK COMMUTER RAIL (LOS ANGELES, ORANGE, RIVERSIDE, SAN BERNARDINO, AND VENTURA COUNTIES)

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

- Improve customer service and accessibility.
- Improve integration with other transit modes.
- Purchase 43 to 66 new rail cars.
- Initiate a study of Sealed Corridor safety improvements on SCRRA-owned lines.
- Complete systemwide rail line rehabilitation/renovation projects.
- Design and construct Eastern Area maintenance facility.
- Perform various projects to improve system performance.

(continued)





- Purchase and rebuild used locomotives.
- Install Lincoln Avenue double track.
- Construct fifth lead track at Los Angeles Union Station.
- Construct new rolling stock storage facility at Keller Street in Los Angeles.
- Implement Perris Valley extension, Redlands extension, Santa Paula branch line, and Fullerton-Laguna Niguel/Mission Viejo service enhancements.



CALTRAIN COMMUTER RAIL (SAN FRANCISCO–GILROY)

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

- Evaluate and fine-tune the newly inaugurated Baby Bullet service.
- Increase parking at stations impacted by initiation of Baby Bullet service.
- Increase employer bus shuttles as demand grows.
- Implement Translink regional ticketing system.
- Reduce costs and gain productivity and performance through automated ticket purchasing and track and system capital improvements.
- Plan and design service extensions to downtown San Francisco, across the Dumbarton Bridge, and to Salinas.
- Complete Centralized Maintenance Facility.
- Improve operations capacity at targeted stations and other route locations, including outside boarding platforms and additional crossovers.
- Complete customer service improvements, including improved station access, and amenities at selected stations.
- Improve right-of-way by designing various grade separations in San Mateo County, and rehabilitate bridges, culverts, tracks, and tunnels.
- Prepare design plans, specifications and estimates to electrify the route between San Francisco and Gilroy.
- Implement Dumbarton and Salinas extensions.

ALTAMONT COMMUTER EXPRESS (STOCKTON–SAN JOSE)

PRINCIPAL 2005-06 TO 2015-16 ROUTE OBJECTIVES:

- Continue service improvements.
- Improve on-time performance.
- Increase ridership on existing routes.
- Improve service coordination with other service providers such as BART, Caltrain, Capitol Corridor, and shuttle service providers.
- Acquire right-of-way, perform engineering work, and begin construction of rail maintenance and layover facility in San Joaquin County.
- Upgrade signal system between Stockton and Fremont.

(continued)



Northern California Commuter Rail

- Replace ties between Niles Junction and Santa Clara.
- Upgrade diamond at Lyoth and replace switch at Hunter Street.
- Upgrade passenger cars and locomotives.
- Evaluate potential extensions and new services in the Central Valley.

PROPOSED COMMUTER RAIL ROUTES

VENTURA AND SANTA BARBARA COMMUTER RAIL SERVICE

The Department has expanded its LOSSAN North Strategic Plan to study the potential for commuter rail service in Ventura and Santa Barbara Counties.

SONOMA-MARIN AREA RAIL TRANSIT (SMART)

SMART is planning service in a 70-mile corridor from Cloverdale to the Larkspur Ferry Terminal on existing track.

AUBURN-OAKLAND REGIONAL RAIL SERVICE

Six agencies have partnered to develop a service concept plan for a new regional commuter rail service extending from Auburn to Oakland that would be integrated with the Capitol Corridor.

Chapter X–Potential New Services

PROPOSED INTERCITY RAIL ROUTES

The Department proposes four routes for service in the ten-year period.

- **Downtown San Francisco to San Luis Obispo (and Los Angeles) via Coast Route.** One round-trip between San Francisco and San Luis Obispo, starting in 2007-08, with a second round-trip in 2013-14.
- **Sacramento to Reno.** Extension of one round-trip of the Capitol Corridor from Sacramento to Reno/Sparks in 2008-09, and a second round-trip in 2010-11.
- **Sacramento to Redding.** One round-trip between Sacramento and Redding in 2009-10, with a second round-trip starting in 2013-14.
- **Los Angeles to Coachella Valley.** One round-trip between Los Angeles and Indio in 2010-11 and a second round-trip in 2013-14.

The chapter also discusses potential intercity rail service from San Francisco to Monterey and from Los Angeles to Las Vegas.

HIGH-SPEED RAIL

California High-Speed Rail Authority

In 1996, The California High-Speed Rail Act established the California High-Speed Rail Authority (CHSRA) to direct the development and implementation of intercity high-speed rail service. In 2000, the CHSRA completed its Business Plan, “Building a High-Speed Train System for California.” The CHSRA certified the Final Environmental Impact Report/Environmental Impact Study (FEIR/EIS) on November 2, 2005. The FEIR/EIS identifies a high-speed train system as the preferred system alternative to meet California’s future intercity travel demand. Service to urban centers would be on shared tracks with other passenger rail services at moderate speeds. Stations would be in close proximity to most major airports, and there would be station connections with major transit hubs in metropolitan areas. The FEIR/EIS identifies preferred alignments.



MAGNETIC LEVITATION

Southern California Maglev Project

The Southern California Maglev Project's initial operating segment that is under development extends 54 miles from West Los Angeles to the Ontario Airport. The Southern California Association of Governments (SCAG) is the project sponsor. Additional feasibility studies are focusing on other heavily congested corridors in the SCAG region.

Las Vegas–Anaheim Maglev Project

The California-Nevada Super Speed Train Commission was formed in 1988 to promote the development of a 269-mile maglev system connecting Las Vegas with Anaheim, and has completed several feasibility studies on this project. With Federal funding, Nevada is undertaking environmental studies of this proposed maglev route.

Chapter XI–Amtrak

AMTRAK STATE–SUPPORTED SERVICE

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, group of states, or a regional or local agency. In California, Amtrak operates the Pacific Surfliners, San Joaquins, and the Capitol Corridor and the Department provides operating funding. The Department directly administers the Pacific Surfliners and San Joaquins. Since July 1998, the CCJPA has administered the Capitol Corridor service under an interagency transfer agreement with the State.

AMTRAK PLANNING

In April 2005, Amtrak released its Amtrak Strategic Reform Initiatives and FY 06 Grant Request. This document included comprehensive reform initiatives the railroad is undertaking as corporate actions and others it intends to pursue in legislative actions to “revitalize U.S. passenger rail service.” Legislative initiatives included an 80 percent Federal/20 percent state capital grant program and competition among operators, including Amtrak for route operation. Amtrak's 2004 Strategic Business Plan released in June 2004, includes \$90.1 million for projects which impact California, of which \$41.5 million is for projects wholly in California and \$48.6 million is for multi-state projects that partially impact California.

AMTRAK FFY 2006 FEDERAL FUNDING

In late November, 2005, the President signed the Transportation and Related Agencies Appropriations Bill for FFY 06. It includes \$1.315 billion in funding for Amtrak.

Chapter XII—Intercity Rail Funding

FUNDING SOURCES

Public Transportation Account (PTA). The PTA is the exclusive source of intercity rail operating funds and a potential source of intercity rail capital funds. The TCRP, enacted in 2000, and then Proposition 42, passed in March 2002, added additional funds to the PTA.

State Highway Account (SHA). The bulk of the SHA supports the State's highway system, but a portion of the account also supports rail projects in the STIP. In the 1996 STIP through 2002 STIP biennial cycles, \$468.6 million was programmed for intercity rail projects and \$331.3 million has been allocated.

Traffic Congestion Relief Fund (TCRF). The program established in 2000 included \$206.5 million for specific intercity rail capital projects, of which \$129.4 million has been allocated.

Tribal Compact Bonds. In 2004, the issuance of bonds secured by Indian gaming revenue was authorized. Although the revenue is uncertain, the PTA could receive additional funds.

State Bond Funds. In 1990 the voters approved the Passenger Rail and Clean Air Bond Act (Proposition 108), which provided \$1 billion in rail bonds, including \$225 million for intercity rail capital projects. The 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, including about \$382 million for intercity rail passenger capital projects. Most of these bond funds have been allocated.

State General Funds. The 1999-00 and 2000-01 State Budgets provided General Fund money for intercity rail capital projects. The 1999-00 and 2000-01 Budgets included \$175 million and \$30 million respectively for new intercity rail rolling stock.

Local Funds. Although intercity rail passenger services are funded primarily by the State, a substantial amount of local funds have also been invested, mainly on the Pacific Surfliner Route, to fund commuter rail development. Further, intercity rail stations are often owned by cities and funded with local funds in addition to STIP funding.

Federal Funds. Federal transportation funds from various programs benefit intercity rail service, particularly through station projects. However, Federal flexible transportation funds, like those provided through the Surface Transportation Program, are generally not available for intercity rail projects.

Amtrak Funds. Amtrak develops and funds certain California intercity rail capital projects. The largest investment has been for maintenance facilities and rolling stock, including the purchase of 40 new passenger cars and 14 locomotives for the Pacific Surfliner Corridor at a cost of about \$135 million.

Railroad Funds. The State and the railroads owning the right-of-way of intercity rail passenger routes sometimes share in the cost of track and signal improvement projects.



Chapter XIII—Environment and Land Use

ENVIRONMENTAL GOALS

By 2016, as the result of intercity rail travel:

Congestion Relief—cut annual vehicle miles traveled in the State by a total of 433 million miles (a net reduction of 178 million vehicle miles traveled compared with 2005).

Travel Mode Share—increase the intercity rail mode share by 2 1/2 to 3 times.

Air Quality:

- Continue to cause a net annual decrease in pollution from hydrocarbons and carbon monoxide in the State.
- Continue to keep emissions below State and Federal maximum allowable levels for all pollutants, and pursue funding for research and development into cleaner locomotive engines.

Energy Efficiency—save the State a net of almost 11 million gallons of gasoline annually.

LAND USE

The Department supports efforts by cities and counties to promote transit-oriented development projects near Amtrak stations that enhance community livability by providing housing options, jobs, retail, and services within easy walking distance of the station. Recent or planned transit-oriented developments at 12 key Amtrak stations are described.

PROGRESS IN MEETING ENVIRONMENTAL AND LAND USE GOALS

The Department's progress in meeting its environmental and land use goals is assessed for both current years and future years.

PART II

Freight Rail Element



Chapter XIV—Introduction

The freight rail element of the State Rail Plan provides a detailed account of California's freight rail system, how it operates and serves the people living in the Golden State. This document was developed as part of the State's overall planning process to provide information to transportation officials, policy makers, railroad managers, and transportation planners. The freight rail element begins with an overview of the State's rail system. It discusses the routes operated by the Union Pacific and Burlington Northern and Santa Fe Railroads. The plan looks at the one regional railroad and 28 short line railroads operating on 28 percent of California's rail mileage. It points out the important role they play in moving international freight to and from California's seaports. The plan also discusses the various types of commodities shipped by rail in and out of California.

Chapter XV—Major Freight Issues

GoCalifornia is the Administration's major effort to improve mobility and accessibility for people, goods, services, and information through a safe, integrated, multimodal, world-class transportation system. A significant element of *GoCalifornia* is to invest in rail infrastructure in partnership with public and private sector interests to enhance capacity of the freight rail system. Funding critical freight rail improvements to allow more goods to be shipped by rail will produce substantial public benefits from congestion relief on freeways and local roads, environmental benefits, and continued economic growth. Rail improvements are a major element of the Goods Movement Action Plan (GMAP), a statewide strategy for goods movement capacity expansion. Freight rail system improvements with substantial public benefits will be identified in the GMAP and incorporated into the California State Rail Plan.

This chapter discusses issues that impact the railroads' ability to move freight efficiently, including: mainline choke points caused by geographic restrictions, mainline congestion caused by growth in intermodal traffic, and the sharp increase in the number of passenger trains operating on freight railroads. California Ports show a doubling of container shipments over the past ten years from seven million in 1995 to 15 million in 2004. Container shipments are expected to more than double again by 2025. Capacity issues are a growing concern among California's railroads and rail shippers.



Short line railroad issues include the industry's movement to heavier rail cars to try to keep transportation costs down and take advantage of the economies of scale. The problem is most short line railroads do not have the infrastructure to accommodate these heavier 286,000-pound rail cars. Short line railroads operate on a very tight budget and do not have the revenue base to make these major capital improvements. Without some kind of financial assistance to make these capital improvements, these shipments will have to be moved by truck at a greater cost to the shipper and an increase in highway maintenance and congestion cost to the State.

Rail shipper concerns are also discussed. Their issues include: congestion at intermodal terminals, lack of equipment, lost rail cars, delays to rail shipments due to increased passenger trains, and grade crossing accidents.

Chapter XVI—Short Line Analysis

Short line railroads play an important role in California's overall transportation system, especially for rural communities not served by Class I railroads. There are 28 short line railroads operating on 1,697 miles or 28 percent of the State's rail mileage. The results of a survey of California's short line railroads are included in this section. Key issues of concern include: the inability to upgrade their infrastructure to accommodate 286,000-pound rail cars on their lightweight track and bridge infrastructure, the need for improved grade crossing protection devices, and the need for the State to take a more active role in preserving rail service to rural areas of California.

Commodities shipped by short lines are identified in the survey with wood products making up the largest proportion at 24 percent followed by food products at 22 percent. The survey estimated upgrade costs for all California short lines using a methodology developed specifically to handle 286,000-pound cars. The total statewide short line upgrade cost is estimated on the order of \$190 million to \$210 million. Potential impacts to highway congestion and maintenance costs due to railroad closures are also discussed.

Chapter XVII—Funding

In 1999, California short line railroads handled over 750,000 carloads of international freight. Many California short lines serve industries along the I-5, I-10, I-40 and I-80 corridors. They also provide switching services to the Ports of Los Angeles, Long Beach, Oakland, Hueneme, and Stockton. Short line railroads also provide services to business in the rural portions of California who would otherwise have to rely strictly on trucks to move their freight.

The American Association of State Highway and Transportation Officials (AASHTO) estimates that the ten-year nationwide infrastructure needs for American short lines total between \$8 and \$12 billion, of which 19 to 23 percent can be funded by the railroads themselves. Federal rail funding programs include: Local Freight Rail Assistance (LFRA), Light Density Line (LDL), Rail Rehabilitation and Improvement and Financing (RRIF), Congestion Mitigation and Air Quality Improvement (CMAQ), National Coordinated Planning and Development (NCPD), Coordinated Border Infrastructure

(CBI), Transportation and Community System Preservation (TCSP), Highway Rail Crossing (Section 130) and Transportation Infrastructure Finance Assistance (TIFA). State funding programs for railroads are examined noting that when the LDL program was not funded under TEA 21, thirty other states began or continued to provide state funds for loan or grant programs to assist short line railroads in making infrastructure improvements. Of the \$2.1 billion made available to short line railroads during the period of 1976 to 1995, 28 percent was from federal grants, 40 percent was from state grants, 24 percent from local funds and eight percent from state loans.

Chapter XVIII—Environmental Review

Environmental issues are discussed in detail to stress the need for an integrated planning effort to better address the needs of California's transportation system. Topics include: noise impacts, vibration, at grade highway/railroad crossing incidents, and locomotive emission air quality. The impacts to local communities from locomotive horn blowing at grade crossings are discussed as well as the US Environmental Protection Administration's (EPA) standards for noise emissions. The Federal Railroad Administration is charged with enforcing these noise standards.

Delays at railroad crossings and accidents due to the increase in train traffic are also discussed. The Alameda Corridor project eliminated 200 grade crossings improving safety and reducing traffic delays between Long Beach and Los Angeles. Locomotive emissions are discussed in detail noting the new EPA standards.

Chapter XIX—New Technology

Eight new technology areas are discussed:

- Global positioning system applications
- Positive train control
- Information technology applications
- Electronic commerce
- Alternating current locomotive technology
- Electronic braking
- Increased car capacity
- Rolling stock improvements

Chapter XX—Future Needs

California's rail system is rapidly running out of capacity due to a large increase in passenger train activity as well as tremendous growth in international trade moving by rail. While the needs of passenger rail operations are being addressed by the State, the landside freight transportation system is not. In order for California to remain competitive in a global economy, more funds need to be devoted to improving the State's system of highways and railroads that handle this international cargo.

The case for funding for short line railroads is a compelling one. Without outside assistance, many of the State's short line railroads will be unable to accommodate the heavier rail cars forcing more freight to move by truck and impacting the railroads ability to stay in business. The environmental, economic, safety, and mobility benefits need to be considered when evaluating infrastructure projects.

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INTRODUCTION

Government Code Section 14036 requires the California Department of Transportation (the Department) to complete a ten-year State Rail Plan with both passenger rail and freight rail elements. The law also provides that the State Rail Plan be submitted to the California Transportation Commission by October of odd-numbered years, and to the Legislature, Governor, and the Public Utilities Commission by March 1, of the following year.

Part I of the California State Rail Plan 2005-06 to 2015-16 (State Rail Plan) is the Passenger Rail Element and examines intercity and commuter passenger rail services in California and reviews their current operations. It also outlines ten-year plans for capital improvements and service expansions. The Passenger Rail Element is covered in Part I, Chapters I through XIII.

Part II of the State Rail Plan is the Freight Rail Element. It provides an explanation of freight railroads in California – including short line railroads, discusses major freight issues, funding, environmental issues related to freight railroads, and new technology – particularly for equipment. The Freight Rail element is covered in Part II, Chapters XIV through XX.

PART I

PASSENGER RAIL ELEMENT

CHAPTER I

CALIFORNIA'S VISION FOR INTERCITY PASSENGER RAIL

This chapter provides an overview of the Administration's comprehensive *GoCalifornia* vision for California's transportation system, the California Department of Transportation's (Department) vision, mission, and goals and their relationship to the Department's vision for intercity passenger rail service.

GOCALIFORNIA

Transportation in California is guided by the Administration's comprehensive "*GoCalifornia*" vision for California's transportation system. This vision guides the Fiscal Year (FY) 2005-06 transportation budget and capital and operating programs.

GoCalifornia's **vision statement** is:

Improve mobility and accessibility for people, goods, services, and information through a safe, integrated, multimodal, world-class transportation system that achieves the "3-Es":

- Prosperous Economy
- Quality Environment
- Social Equity

GoCalifornia's **goal** is:

Mobility that continues to attract capital investment in California to generate jobs.

GoCalifornia's **objectives** in its ten-year investment plan for mobility are:

- Address 20-year needs and reduce congestion below today's levels.
- Deploy demand-management strategies, use existing capacity more efficiently, and expand capacity.
- Build a world-class transportation system that incorporates best research and technology.

The linkage between transportation, housing, and land use are also important themes in the strategies and implementation of the *GoCalifornia* vision.

THE DEPARTMENT’S MISSION AND GOALS

The Department’s **mission**, “Caltrans Improves Mobility across California”, supports the *GoCalifornia* vision.

The Department has five **strategic goals** to implement its mission.

- Safety
- Mobility
- Delivery
- Flexibility
- Stewardship

The relationship of the Department’s five strategic goals to the intercity rail vision is detailed below.

INTERREGIONAL STRATEGIC PLANNING

The Department’s Interregional Transportation Strategic Plan (ITSP) is the strategic planning document for interregional capital projects and the framework for implementing the Department’s interregional transportation funding program. The Department’s Intercity Rail Program, as described in this Plan, furthers the goals and objectives of the ITSP. The ITSP addresses the development of both the State highway interregional road and intercity rail systems in California; it includes strategies for other eligible fund uses such as interregional mass transit guideways and grade separations. The ITSP relies heavily upon the State Rail Plan for its intercity rail portion. The ITSP framework and continuing statewide and interregional mobility studies and assessments, as well as monitoring progress in meeting the ITSP objectives, serve to keep the importance of sustained, strong interregional transportation systems in the forefront as the State experiences rapid growth and development.

THE DEPARTMENT’S VISION FOR INTERCITY PASSENGER RAIL

The Department’s Intercity Passenger Rail Vision as shown in this Plan, supports *GoCalifornia*, the Department’s mission and goals, the ITSP, and summarizes and guides the Department’s efforts in relation to intercity rail.

To achieve the vision for intercity rail in California, service must be frequent and reliable, and available for trips to major intercity destinations with travel times competitive with the auto. Capital projects to increase capacity allow frequencies to be added; projects to improve on-time performance (OTP), increase reliability and to reduce running time attract riders and provide an effective service.

The vision for intercity passenger rail has three key goals that are discussed as follows:

Provide Relief to Highway and Airway Congestion – In many intercity corridors highway demand is near or has already exceeded capacity, and in many instances, it is not financially or environmentally feasible to add capacity. Intercity rail currently provides congestion relief in corridors where capacity has already been exceeded, and rail service can be expanded to provide additional congestion relief. Intercity rail thus provides an alternative to building new highway capacity. Current investment in rail facilities and infrastructure will protect rail capacity so it is available in the future to provide critical relief to highway and airway systems.

Concerning the air transportation network, it is also environmentally and financially difficult to build additional airport capacity. Intercity rail provides an effective alternative to short haul air travel, such as from the Central Valley to the Bay Area and Southern California, helping to relieve congestion at airports by eliminating the need for some short distance flights.

Provide a Rail Transportation Alternative to Other Travel Modes – Rail service provides a safe, efficient and cost-effective alternative to auto, bus and air travel. There has never been a passenger fatality on State-supported Amtrak service in California. For trips between certain cities, rail provides the only alternative travel mode to the auto. Rail travel often provides the only viable mode of travel for disabled, senior and low-income travelers. Business and leisure travelers may choose rail for cost efficiency, and ease of travel. Rail can provide a cost-effective alternative to all travelers in some short haul air markets characterized by high fares, such as for air travel within the San Joaquin Valley.

Improve Air Quality, Conserve Fuel, and Contribute to Efficient and Environmentally Superior Land Use – Rail service contributes to improved air quality by reducing vehicle miles traveled and vehicle emissions, by reducing fuel consumption, and by helping to limit dependence on foreign petroleum. It also helps to reduce the need for highway construction, which often causes the loss of economically, environmentally, and historically valuable land, and can contribute to inefficient land use patterns.

RELATIONSHIP OF DEPARTMENT’S GOALS TO INTERCITY PASSENGER RAIL

The five Department-wide transportation goals relate to the intercity passenger rail vision as follows:

- **SAFETY – Provide the safest transportation system in the nation for users and workers.**

The Rail Program strives for an excellent safety record on its intercity passenger rail services. All capital and equipment projects and operational initiatives have a strong safety component. The Operation Lifesaver rail safety campaign’s goal is improved safety at rail crossings. The Federal Section 130 Crossing Improvement Program and the Section 190 State Grade Separation Program to improve and construct rail/vehicle crossings also increase safety.

- **MOBILITY – Optimize transportation system throughput and provide dependable travel times.**

The Rail Program strives to enhance throughput in two ways: first, capital projects and service improvements make the intercity passenger rail system more efficient; and second, intercity passenger rail travel improves the efficiency of the highway system by reducing highway travel. The Rail Program has OTP goals for its intercity passenger rail routes; most capital projects and many operating initiatives are focused on improving OTP.

- **DELIVERY – Improve delivery of projects and services.**

The Rail Program delivers excellent performance in its capital program. The State’s intercity rail capital program is by far the largest of any State-funded program in the nation.

- **FLEXIBILITY – Provide mobility choices through strategic partnerships.**

The Rail Program focuses on the goal of flexibility, by developing the intercity passenger rail travel option as one of several mass transit options available to the traveling public and improving intercity rail connectivity to other transportation options.

- **STEWARDSHIP – Preserve and enhance California’s resources and investments.**

The Rail Program preserves California’s investment in State-owned rail cars and locomotives. California has the largest fleet of State-owned rail equipment in the country.

CHAPTER II

CAPITAL PROGRAM

This chapter describes the intercity rail capital program which includes the unconstrained and constrained ten-year capital program funding levels and project list, a discussion of historical funding for the capital program, and a discussion of the equipment, grade-crossing, and station programs.

CAPITAL PROGRAM GOALS

The Department's goals for its Capital Program are as follows:

- Increase capacity on existing routes to allow increased frequencies and improved reliability as a result of better on-time performance.
- Reduce train-running times to attract riders and to provide an efficient service, with travel times directly competitive with the automobile.
- Improve operational functioning and attractiveness of equipment, stations and facilities, including improved multimodal connectivity.
- Increase the farebox ratio to reach or exceed the Department's 50 percent standard. (Furtherance of the three above goals will result in improved cost-effectiveness through an increase in revenues and a reduction in costs, with the resulting increase in farebox ratio.)
- Improve the safety of State-supported intercity rail service, including grade crossings.
- Implement projects to allow new cost-effective routes.

These goals are used to guide the development of the ten-year capital program described below. Every capital project furthers one or more of these goals.

UNCONSTRAINED TEN-YEAR CAPITAL PROGRAM

Figure 2A presents the Department's ten-year capital program for the three existing State-supported routes and for new routes. This \$3.1 billion capital program represents an unconstrained program based on project needs, and not funding expectations. (See Figure 2B below for a constrained capital program consistent with prior State funding levels.)

The unconstrained Ten-Year Intercity Rail Capital Program was developed from a number of sources. The first five-year increment of the program (2006-2010) is based on the latest Corridor Assessment Initiatives prepared for Amtrak by the Department for the *Pacific Surfliner* and *San Joaquin* Routes and the Capitol Corridor Joint Powers Authority (CCJPA) for the *Capitol Corridor*. The Amtrak Corridor Initiatives is a five-year capital program that will become part of the next

Amtrak Strategic Plan. The initiative assumes an 80 percent Federal, 20 percent state match Federal intercity passenger rail capital grant program is initiated. The program was developed by the State and the CCJPA based on reasonably expected State funds to satisfy the 20 percent State match over the next five years. Funding programs include the State Transportation Improvement Program (STIP) [Public Transportation Account (PTA) and State Highway Account (SHA)], Traffic Congestion Relief Program (TCRP), and the remaining funding from Proposition 116. The State funds included have been programmed, appropriated, allocated, or reserved, but not yet expended. (See Chapter XI for more detail on the State Corridor Initiatives and proposed Federal intercity rail capital grant programs.)

For the *Pacific Surfliner* Route, the second five-year increment of the program (2011-2015) is based on the LOSSAN Corridor Strategic Plan (Los Angeles to San Diego) and the LOSSAN North Corridor Strategic Plan (both of which are discussed below in more detail). For the *San Joaquin* Route, until the Route Strategic Plan is completed (see below for more detail), no new projects are anticipated beyond the first five-year increment. For the *Capitol Corridor*, the second five-year increment was based on the CCJPA’s Vision Plan updated June 2005.

Receipt of a large portion of the Federal funding and/or receipt of funds from tax credit bonds is critical for timely implementation of this \$3.1 billion ten-year capital program. If such Federal funding is unavailable, implementation of this capital program will have to be delayed to reflect the level of State funding made available from future STIP programming cycles, as supplemented by any other available funding sources.

Figure 2A

Ten-Year Intercity Rail Capital Program Project Costs					
FY 2006-07 through FY 2015-16					
(\$ in millions)					
Route	Track and Signal	Stations	Grade Crossings	Rolling Stock and Maintenance Facilities	Total Cost
EXISTING ROUTES					
<i>Pacific Surfliner</i> - North	\$ 497.0	\$ 18.0	\$ -	①	\$ 515.0
<i>Pacific Surfliner</i> - South	\$ 725.4	\$ 46.7	\$ 295.6	\$ 110.6	\$ 1,178.3
<i>San Joaquin</i>	\$ 298.9	\$ 45.2	\$ -	\$ 43.8	\$ 387.9
<i>Capitol Corridor</i>	\$ 216.0	\$ 105.8	\$ 60.0	\$ 56.0	\$ 437.8
Subtotal	\$ 1,737.3	\$ 215.7	\$ 355.6	\$ 210.4	\$ 2,519.0
PROPOSED ROUTES ②					
Coast	\$ 494.2	\$ 9.4	\$ 16.4	\$ 30.0	\$ 550.0
TOTAL	\$ 2,231.5	\$ 225.1	\$ 372.0	\$ 240.4	\$ 3,069.0
① Included in Pacific Surfliner - South.					
② Based on Amtrak's California Passenger Rail 20-Year Improvement Plan. Capital Costs for other proposed routes (Redding, Reno, and Coachella Valley) were not studied in the Amtrak Plan, and current comparable cost estimates are not available.					

PROJECTED CAPITAL PROJECTS

The following is a summary of key projects in the unconstrained ten-year capital program on the three existing State-supported routes (summarized in Figure 2A above). This list does not represent a priority listing of projects. The constrained program would include the higher priority projects on this list, as funding allows.

Pacific Surfliner Route

- Three new sets of train equipment
- San Luis Obispo-Santa Barbara signal upgrades
- Santa Barbara County new siding and siding extension projects
- Moorpark-Simi Valley rail replacement
- Ventura County second main track projects
- Second main track near Chatsworth
- Los Angeles Union Station (LAUS) run-through tracks and fifth lead track
- Los Angeles, Orange, and San Diego County grade separation projects
- Los Angeles-Orange County double and triple-track projects
- San Diego County bridge and grade separation projects
- Del Mar Bluffs stabilization project
- San Diego County double-track projects
- San Diego layover facility
- Station improvement projects (including parking)
- Ticket vending machines

San Joaquin Route

- Two new sets of train equipment
- Port Chicago-Oakley double-track
- Figarden and Belmont sidings
- Sidings and siding extensions (near Fresno)
- Second main track Shafter to Jastro (near Bakersfield)
- Track and signal improvements in various locations
- New Elk Grove, Stockton, and Madera stations
- Station improvement projects (including parking)

Capitol Corridor

- Three new sets of train equipment
- Grade separation and crossing projects in Alameda County
- Sacramento-Roseville-Auburn track improvements
- Solano County track improvements
- Embarcadero (Oakland) third main track
- Hayward double-track
- Dumbarton Rail Project/Union City Intermodal Station
- Santa Clara double-track
- San Jose fourth track
- New Hercules, Swanston (Sacramento light-rail connection) and Fairfield/Vacaville (Peabody Road) stations
- Station improvement projects

CORRIDOR STRATEGIC PLANNING

Pacific Surfliner Route

In November 2003, the Department released the LOSSAN Corridor Strategic Plan Los Angeles to San Diego Proposed Rail Corridor Improvement Studies. This Plan analyzes rail improvements from a corridor wide perspective and is meant to complement the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) process discussed below. The Plan included background on the corridor and served as the project screening process to determine which alternatives and design options should be examined in the EIR/EIS.

The work on the EIR/EIS started in 2002, when the Department, in cooperation with the Federal Railroad Administration (FRA), California High-Speed Rail Authority (CHSRA), Amtrak and regional and local planning agencies, participated in technical studies that analyzed alternatives and opportunities for rail corridor improvements between Los Angeles and San Diego. As part of these studies, the Department and FRA jointly undertook a program level EIR/EIS to evaluate potential rail corridor improvements. The EIR/EIS was completed in the Spring 2005. This document will facilitate environmental reviews of specific project improvements under both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

In June 2005, the Draft LOSSAN North Corridor Strategic Plan was prepared; it covers the Route from Los Angeles to San Luis Obispo. The Department, in cooperation with regional planning agencies, Amtrak, Southern California Regional Rail Authority (SCRRA), Union Pacific Railroad (UP) and other

stakeholders, completed this Plan. The Plan outlines a list of capital projects required to improve rail service for the immediate period (up to three years), near-term (four to eight year), and vision (nine to 20 years). A series of public workshops and agency meetings were held to obtain input for rail service improvements and to identify community issues and concerns.

Please note that the term LOSSAN now refers to the entire *Pacific Surfliner* corridor from San Diego to San Luis Obispo, even though the term originally referred to only the Los Angeles-San Diego segment. LOSSAN also refers to the Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency.

San Joaquin Route

In the fall of 2005, the Department was in the process of developing a *San Joaquin* Strategic Business Plan. The Department issued a request for proposal for the preparation of this Plan. The Plan is expected to be completed by the end of 2007.

Capitol Corridor Route

The CCJPA has issued a new Vision Plan, updated June 2005. This updates the original Vision Plan, issued in May 2002. The Plan provides objectives, implementing strategies and actions for continued growth and expansion on the Corridor. The Plan, in conjunction with the 2005-06 CCJPA Business Plan includes Tier I (1-5 year) capital projects and Tier II (6-20 year) capital projects. (The CCJPA identified which Tier II projects are within the ten-year timeframe of the State Rail Plan.)

CONSTRAINED CAPITAL PROGRAM

Figure 2B shows the constrained \$770 million ten-year capital program. This program funding level assumes:

- \$60 million a year in STIP funding is made available over the ten-year period (from 2006 through 2014 STIP cycles).
- \$170 million in remaining TCRP intercity rail project funding is made available.

This annual projected STIP amount is less than the average annual STIP funding programmed since 1996. The 1996 STIP provided \$117 million in funding for intercity rail projects, while the 1998 STIP, as augmented, provided an additional \$181 million. However, the 2000 STIP provided \$46 million more. The 2002 STIP increased funding by \$106 million. But no additional funds were made available in the 2004 STIP.

The TCRP specified a list of projects to be funded, including over \$200 million for specific intercity rail capital projects. Through July 2005, \$43 million was allocated from the Traffic Congestion Relief Fund (TCRF) to intercity rail projects. Then, in August 2005, an additional \$86.8 million was allocated.

As a result of the Proposition 42 transfer in 2005-06 (see Chapter XII for more detail), it is expected that other TCRP rail projects will be funded. Thus the constrained program includes \$170 million in TCRP funds, which includes the August 2005 allocation and unallocated funds.

Figure 2B

Constrained Ten-Year Intercity Rail Capital Program Project Costs					
FY 2006-07 through FY 2015-16					
(\$ in millions)					
Route	Track and Signal	Stations	Grade Crossings	Rolling Stock and Maintenance Facilities	Total Cost
<i>Pacific Surfliner - North</i>	\$ 156.4	\$ 5.5	\$ -	\$ -	\$ 161.9
<i>Pacific Surfliner - South</i>	\$ 220.2	\$ 14.2	\$ 89.7	\$ 33.6	\$ 357.7
<i>San Joaquin</i>	\$ 90.7	\$ 13.7	\$ -	\$ 13.3	\$ 117.7
<i>Capitol Corridor</i>	\$ 65.5	\$ 32.1	\$ 18.2	\$ 16.9	\$ 132.7
Total	\$ 532.8	\$ 65.5	\$ 107.9	\$ 63.8	\$ 770.0

CAPITAL PROGRAM FUNDING

BACKGROUND

Figure 2C provides a summary of all capital funding for intercity rail in California since the beginning of State-supported rail service. The summary reflects all expended and allocated funds, including funds from Propositions 108 and 116, funds provided by the TCRP, and funds from all sources programmed in the 1996, 1998, 2000, and 2002 STIPs and carried over to the 2004 STIP. To date, over \$2.8 billion has been invested or reserved, including projects for stations, track and signal improvements, maintenance and layover facilities and rolling stock. Although the State has provided about 63 percent of the total investment, local entities, the Federal government, Amtrak, and the private railroads have made major contributions. The Department’s publication, the California Intercity Rail Capital Program, December 1, 2005 (IRCP), details the projects shown in Figure 2C.

The intercity rail capital program was originally funded from special legislation and the Intermodal Facilities Program. This program was then broadened to become the Transit Capital Improvement (TCI) Program, which used both Transportation Planning and Development Account funds (which subsequently became the PTA) and SHA funds. In the late 1980s, some capital funding was provided through direct appropriations in the Budget Act or in other legislation.

Figure 2C

Intercity Rail Capital Program Funding History							
July 1976 through December 2005							
Expended and Reserved Funds							
SUMMARY OF PROJECTS BY PROJECT TYPE							
(\$ in Millions)							
Route	Project Type				Total		
	Stations	Track and Signal	Maintenance and Layover Facilities	Rolling Stock			
<i>Pacific Surfliner - North</i>	\$ 103.8	\$ 240.6			\$ 344.4		
<i>Pacific Surfliner - South</i>	\$ 143.9	\$ 666.1			\$ 810.0		
<i>Total Pacific Surfliner</i>	\$ 247.7	\$ 906.7			\$ 1,154.4		
<i>San Joaquin</i>	\$ 150.5	\$ 392.7			\$ 543.2		
<i>Capitol Corridor</i>	\$ 100.0	\$ 196.9			\$ 296.9		
<i>Other Routes</i>	\$ 44.3	\$ 24.4			\$ 68.7		
Maintenance and Layover Facilities			\$ 143.8		\$ 143.8		
Rolling Stock				\$ 609.6	\$ 609.6		
Grand Total	\$ 542.5	\$ 1,520.7	\$ 143.8	\$ 609.6	\$ 2,816.6		
SUMMARY OF PROJECTS BY FUNDING SOURCE							
(\$ in Millions)							
Route	Funding Source						Total
	State	Local	Federal	Amtrak	Railroad	Other	
<i>Pacific Surfliner - North</i>	\$ 229.5	\$ 85.4	\$ 25.1	\$ 3.1	\$ 1.3		\$ 344.4
<i>Pacific Surfliner - South</i>	\$ 516.2	\$ 104.9	\$ 153.3	\$ 16.1	\$ 7.1	\$ 12.4	\$ 810.0
<i>Total Pacific Surfliner</i>	\$ 745.7	\$ 190.3	\$ 178.4	\$ 19.2	\$ 8.4	\$ 12.4	\$ 1,154.4
<i>San Joaquin</i>	\$ 395.3	\$ 33.1	\$ 32.7	\$ 2.0	\$ 78.4	\$ 1.7	\$ 543.2
<i>Capitol Corridor</i>	\$ 198.6	\$ 51.4	\$ 31.1	\$ 1.2	\$ 14.5	\$ 0.1	\$ 296.9
<i>Other Projects</i>	\$ 30.3	\$ 7.8	\$ 21.4	\$ 3.0	\$ 6.2		\$ 68.7
Maintenance and Layover Facilities	\$ 80.8	\$ 0.5		\$ 62.5			\$ 143.8
Rolling Stock	\$ 306.3		\$ 0.5	\$ 296.5		\$ 6.3	\$ 609.6
Grand Total	\$ 1,757.0	\$ 283.1	\$ 264.1	\$ 384.4	\$ 107.5	\$ 20.5	\$ 2,816.6

In 1990, capital funding for intercity rail increased dramatically. First, legislation passed that authorized the placement on the ballot of a bond measure in 1990, identified as Proposition 108, for \$1 billion in bond funds for rail projects, including about \$225 million for intercity rail. This bond issue passed. In addition, another measure was placed on the same ballot, Proposition 116, an initiative measure, and it also was approved. It provided \$2 billion for rail, including about \$382 million for intercity rail. To date, practically all available Proposition 108 and 116 funds for intercity rail have been used.

The new bond programs allowed the Department to begin its intercity rail equipment acquisition program. Proposition 116 specifically required that the Department design and acquire intercity rail equipment and provided a source of funding for rail equipment. Before the bond measures were enacted, there was limited available funding for rail equipment. This is because Article XIX of the State Constitution does not allow rail equipment to be funded from SHA funds

that are generated by excise taxes on fuel. The SHA is the primary funding source for the STIP and transportation capital projects.

Then Chapter 622, Statutes of 1997 [Senate Bill (SB) 45-Kopp], was passed which gives intercity rail projects a minimum of nine percent of the interregional portion of the STIP as part of the Interregional Transportation Improvement Program (ITIP). Intercity rail projects can also be funded in the Regional Transportation Improvement Program (RTIP). As a result, in the 1996 STIP, 1998 STIP, the 1998 STIP Augmentation, the 2000 STIP, and the 2002 STIP a total of \$450 million was programmed for intercity rail projects. Of that amount, \$323 million has been allocated. Due to severe funding constraints, the 2004 STIP did not program any new funding for intercity rail projects. It includes only projects previously programmed in the 2002 STIP, but not yet allocated.

Since the passage of SB 45 in 1997, most intercity rail funding provided by the State has come from projects proposed by the Department in the ITIP, which receives only 25 percent of all STIP funding. The RTIP, for which projects are proposed by the Regional Transportation Planning Agencies (RTPAs), receives the remaining 75 percent of STIP funding. However, as part of the partnership between the Department and the RTPAs, significant intercity rail expansions will require funding commitments from RTPAs in the RTIP.

Chapter 91, Statutes of 2000 [Assembly Bill (AB) 2928 – Torlakson], established the Governor's TCRP to be funded from the TCRF. The TCRP contained \$201.5 million for specific intercity rail capital projects, including \$148.5 million for the *Pacific Surfliners* for the Los Angeles run-through tracks project to reduce running times through Union Station in Los Angeles, a triple-track project in Los Angeles County, double-track projects in San Diego County, a new San Diego area maintenance facility, and a parking structure at Oceanside. Also, \$25 million was reserved to double-track portions of the *San Joaquins*, and \$28 million was reserved for the *Capitol Corridor* for track and signal improvements between Oakland and San Jose, for track improvements at the Emeryville and Oakland stations, and for a new station at Hercules.

Two recent State Budgets provided funding from the General Fund (GF) for intercity rail capital projects. The 1999-00 Budget provided \$17.5 million for equipment acquisition. The 2000-01 Budget included \$30 million for equipment, and \$20 million for track improvements on the *San Joaquin* Route.

Also in 1999-00, \$17 million in proceeds from leveraged leaseback of the existing California Car and locomotive fleet was received for purchase of new intercity rail equipment. The 2001-02 Budget included \$91 million in PTA funds for track improvements on all three State-supported routes.

OUTLOOK

The intercity rail program has received significant capital funding, as is discussed above. However, as it also mentioned above, adequate State funding is not projected to be available to fund the unconstrained capital program presented in Figure 2A. The only ongoing and guaranteed capital funding source is the nine percent of the ITIP that was provided by SB 45. Other major intercity rail capital funding sources, such as Proposition 108 and 116 bond funds and TCRP funds did not provide ongoing funding. And funding from sources such as the GF was on a project specific basis. There have been a number of proposals on the Federal level for an ongoing intercity rail capital grant program, but to date, no program has been enacted.

The lack of a stable and adequate ongoing funding source for the intercity rail capital program is a major concern. It is difficult to develop long-range service plans that are dependant upon new equipment and capital projects when funding levels are uncertain. Also, it is difficult to determine what are the most cost-effective capital projects in the short-term, when the magnitude of the long-term capital program is uncertain. The Department will continue to explore mechanisms for a stable intercity rail capital funding source.

Stable funding for equipment acquisition is of particular concern. This is because Article XIX of the State Constitution does not allow rail equipment to be funded from SHA funds that are generated by excise taxes on fuel. Equipment has in the past been funded from special sources, such as one-time budget appropriations from sources such as the GF. Currently, virtually all new frequencies or extensions of the existing three intercity rail routes and any new routes will require new equipment. As there is a very limited supply of existing equipment that could be available for lease, new intercity rail service is dependant on the State purchasing new equipment.

Additionally, existing equipment requires funding for maintenance and overhaul. To date, PTA funds have been used for this purpose. However, as existing equipment ages and new equipment is acquired, overhaul needs will increase, and additional funds will be needed.

Funding for intercity rail operations is considerably more stable than capital funding. The PTA, which is designed under law as a trust fund for transportation planning and mass transportation purposes, has been the exclusive source for intercity rail operations. Under Proposition 42, enacted in March 2002, the transfer of certain gasoline sales tax revenue to the PTA will significantly increase PTA funding available for expansion of intercity rail operations.

ROLLING STOCK PROGRAM

ROLLING STOCK FLEET

The State has an intercity rail rolling stock program unparalleled by any other state in the nation. The State owns its own fleet of 88 cars and 17 locomotives. The State has spent over \$300 million on the design and acquisition of cars and locomotives since the early 1990's. Proposition 116, passed by the voters in 1990, provided the initial funds for the design and purchase of equipment. This fleet has allowed significant frequency increased on all three routes.

In the mid-1990s, the State designed and acquired the innovative 66 unit California Car fleet, plus nine locomotives. The cars were delivered between 1995 and 1997, and the locomotives were delivered between 1994 and 1995. The cars are bi-level cars, and were some of the first rail cars to bring a new level of comfort to passengers with many improved amenities. The cars are fully compliant with the Americans with Disabilities Act (ADA). The General Motors F59PHI locomotives have a maximum operating speed of 110 mph, emission reduction technology, and features to improve operational and functional safety. Two additional General Electric Dash-8 locomotives were purchased from Amtrak in 1994.

In 2002, the State purchased and placed in service an additional 22 cars and six locomotives. The cars were acquired as an option to Amtrak's 40-car *Pacific Surfliner* fleet order for Southern California. Twelve of the State-owned cars were for Northern California operations, and ten cars were for *Pacific Surfliner* operations. The locomotives are General Motors model F59PHI.

The Northern California fleet, which is used on both the *San Joaquins* and *Capitol Corridor*, is entirely State-owned. It includes 78 cars – the original 66 California cars and 12 new *Pacific Surfliner* cars, and 17 locomotives – 15 General Motors F59PHI and two General Electric Dash-8. The *Pacific Surfliner* fleet includes 50 cars and 14 locomotives. Only ten cars, and none of the locomotives of this fleet are State-owned.

ROLLING STOCK MAINTENANCE AND OVERHAUL PROGRAM

In addition to equipment procurement, the equipment program also includes warranty, rework, and modification of procured equipment; scheduled maintenance; heavy equipment overhaul; equipment modernization; inspection and safety monitoring; and repair of damaged equipment.

In 2001-02, the Department started its heavy equipment overhaul program for its fleet of California Cars and locomotives. Different components of the equipment need to be overhauled on a cyclical basis. The overhaul cycle varies from two to eight years depending on the component being serviced. The principal overhaul is

at eight years and is called the mid-life overhaul. Thus, the overhaul program is ongoing, and in each year different cars and components receive an overhaul.

Funding for the overhaul program varies by budget year based on the specific overhauls planned for that particular budget year. The overhaul program has been funded through PTA funds appropriated each year by the Budget Act. Article XIX of the State Constitution prohibits the use of SHA funds for mass transit vehicle acquisition or maintenance. Thus, SHA funds cannot be used for the overhaul program, nor is there any dedicated funding source for the overhaul work needed in the future as the equipment ages.

In 2003-04, the Department contracted for the mid-life (eight-year) overhaul of the original 66 California Cars. Design, engineering and the completion of the overhaul and testing of the four pilot (prototype) cars (cab, coach, foodservice and baggage) was completed in 2004-05. Regular production completed in 2007. This overhaul cycle includes many mechanical components; heavy cleaning of vehicle interior including upholstery and carpets; rebuilding and new flooring in toilet rooms; new side door and end door operating systems; 110 volt convenience outlets at every seat; as well as other additions and improvements to the cars. The Department oversees and inspects the contractor's overhaul work.

In early 2004, the Department completed the mid-life overhaul of the nine original F59PHI locomotives acquired in 1994-95. This project improved both the reliability and appearance of the locomotives, with graphics that match the new F59PHIs. Additionally, the locomotives were upgraded to the same standard as the new locomotives. Also, the remote locomotive health monitoring system currently in place on the six new F59PHI locomotives was installed on the nine locomotives in 2003-04.

In future years, the newer 22 cars (12 in the Northern California fleet and ten in the Southern California fleet) will need their mid-life overhaul as will the remaining eight locomotives.

Figure 2D provides information on the overhaul program. For the ten-year period, it shows annual funding needs and the number of vehicles needing overhaul. The funding includes costs for all overhaul cycles – the eight year mid-life cycle as well as other cycles for specific components. The figure also shows the number of cars and locomotives scheduled for heavy overhaul each year under the various overhaul cycles. The figure assumes that equipment purchases projected in the ten-year capital plan will be made and overhaul of this equipment will begin within the ten-year period.

Figure 2D

Intercity Rail Rolling Stock Overhaul Program		
(\$ in millions)		
Fiscal Year	Projected Overhaul Funding Needs	Projected Number of Units for Overhaul
2005-06	\$ 13.8	48
2006-07	\$ 14.4	52
2007-08	\$ 13.8	66
2008-09	\$ 9.3	43
2009-10	\$ 13.2	36
2010-11	\$ 12.7	72
2011-12	\$ 13.5	53
2012-13	\$ 13.8	58
2013-14	\$ 14.1	64
2014-15	\$ 14.5	66
2015-16	\$ 16.5	74

In addition to the mid-life overhaul and separate overhaul of specific components, the Department periodically updates or replaces specific equipment systems to improve passenger amenities, safety, or function of the equipment. For example, the Department is planning to replace the outdated destination sign system on the California Car fleet with a new destination sign and automated passenger information system that incorporates up-to-date passenger information system technology. These new signs meet all current standards for audible and visual messaging (including ADA requirements), real-time service messages, automated train location and text uploading, diagnostics, and animated graphics. This system will be applied to all 78 railcars in the Northern California fleet by 2006-07.

The 22 new *Pacific Surfliner* cars will have completed their three-year warranty period in 2005. During the warranty period, the Department conducts regular inspections, documents equipment failures, evaluates defects to determine fleet-wide impacts, and coordinates with Amtrak for repairs. In 2005, the Department conducted a final three-year audit on the cars.

After the warranty period, the cars enter into Amtrak's preventative maintenance program with overhauls at four, six, and eight years. The Department oversees this program.

RAIL-HIGHWAY GRADE CROSSING IMPROVEMENT AND SEPARATION PROGRAMS

The Department has a number of programs to improve safety at rail-highway grade crossings as well as improve rail and road operations. Locations where a railroad track and a street or road cross each other at the same grade are called rail-highway grade crossings. The Federal Section 1010/1103 Program and the Federal Section 130 Program focus on improving safety and operations at grade crossings. Locations where a railroad track and a street or road cross each other at separate grades are called rail-highway grade separations. The State Section 190 Program focuses on constructing grade separations. These programs combined receive, approximately \$35 million a year in funds.

FEDERAL SECTION 1010/1103(C) RAILWAY-HIGHWAY CROSSING HAZARD ELIMINATION IN HIGH SPEED RAIL CORRIDORS PROGRAM

Section 1010 of the Intermodal Surface Transportation Efficiency Act (ISTEA) (23 U.S.C. 104(d)), which was enacted in 1991, provides \$5 million per year for elimination of hazards at railway-highway crossings. When ISTEA was reauthorized in 1998 as the Transportation Efficiency Act for the 21st Century, or TEA-21, Section 1010 was revised as Section 1103(c). In order for rail corridors to be eligible to compete for Section 1010 funding, they must include rail lines where railroad speeds of 90 mph are occurring or can reasonably be expected to occur in the future. California's existing State-supported intercity passenger rail routes, plus the Coast Route between San Jose and San Luis Obispo, together comprise one of the nationally designated corridors eligible to compete for the Section 1010 funding. Since FY 1992-93, the Department has received \$6.3 million in Federal funds from the program. The Department uses the Section 1010 funds for improvements in signaling at grade crossings, private grade crossing closures, and other grade crossing safety improvements.

FEDERAL SECTION 130 CROSSING IMPROVEMENT PROGRAM

Section 14036.4 of the Government Code requires the Department to report on the amount of funds available to the State under the Federal rail-highway crossing program (23 U.S.C. 130), including the cash balance, funds encumbered during the last year, and amounts anticipated to be received during the subsequent year. This information is included in Figure 2E.

Prior to Federal Fiscal Year (FFY) 2005-06, the Federal Section 130 Program provided about \$10.2 million per year in Federal highway funds for grade crossing safety projects. Starting in FFY 2005-06, pursuant to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU), this amount increased to \$16.2 million. The Department supplements this program each year with other Federal funds to pay for grade

crossing improvements on State routes. With the supplemental Federal funds, the total statewide financial commitment to grade crossing improvements will range from about \$19 million to \$21 million per year, with \$16 million allocated to projects to eliminate hazards at rail crossings on local streets and roads and the balance (three to five million) allocated to projects on State routes. Improvements include the installation of grade crossing safety devices such as flashers, gates, cantilevered flashing lights, constant time warning devices, surface improvements, crossing closures and coordinated traffic signal preemption at crossings.

Figure 2E

Section 130 Federal Crossing Improvement Program Funding Status Federal Fiscal Year 2004-05 – 2005-06 (\$ in thousands)				
Total Apportionment Funds Available on Oct. 1, 2004 (Roll-Over and New Funds)	Cumulative Obligations (Obligations and Deobligations)	Total Unobligated Balance Sept. 30, 2005	Anticipated Apportionments Oct. 1, 2005 through Sept. 30, 2006	Total Apportionment Funds Available on Oct. 1, 2005 (Roll-Over and New Funds)
\$ 14,123	\$ 2,744	\$ 11,380	\$ 16,263	\$ 27,643

The California Public Utilities Commission (CPUC), in consultation with the railroads, the Department and the appropriate State and local agencies, determines proposed improvements and priority order. Based on available funds, the Department selects projects from the prioritized list for inclusion in the Multi-Year Section 130 Program Funding Plan approved by the CPUC and the Department.

The program funds 90 percent of the cost of the improvements, including all signal and surfacing work projects. The other ten percent is usually paid by the local entity responsible for the road or highway involved, generally a city or county. On State highways, the State will pay the ten percent non-Federal share. However, projects involving railroad-protective devices only are 100 percent federally funded. Under Federal law, the annual grade crossing improvement program must be included in the Transportation Improvement Programs (TIPs) of the appropriate Metropolitan Planning Organizations prior to obligation of funding.

The Department administers Section 130 funding for projects involving railroad crossings of both State highways and local streets and roads. Program staff develops the financing for the construction of eligible projects; ensures that Federal and State law, policies, practices and standards are observed; issues agreements to railroad companies and local agencies; provides follow-up on project delivery for grade crossing projects; monitors Section 130 expenditures; and publishes a listing of planned Section 130 projects.

STATE SECTION 190 GRADE SEPARATION PROGRAM

The Section 190 Grade Separation Program is a State-funded safety program that provides for the elimination of existing at-grade railroad crossings. Most projects funded under this program are grade separations. However, consolidations or track removal projects that eliminate grade crossings can also be considered. Eligible projects are identified on the basis of the priority list established by the CPUC. This list is developed every two years, and becomes effective in July of even numbered years. Local agencies, railroad companies or the Department can nominate projects. Nominated projects are prioritized on the basis of a formula that incorporates such factors as traffic volumes (both roadway and railroad), projected State contribution, accident history, and physical conditions at the crossing to be eliminated.

Once the CPUC list has been established, the Department administers the program. The annual amount of State funding for the program is \$15 million, with a maximum amount of \$5 million per project. In general, the State contribution for any one project is limited to 80 percent of the project cost if the grade crossing to be eliminated has been in existence for at least ten years prior to the date of allocation of the funds. The railroad must contribute a minimum of ten percent of the total cost of the project, and the lead agency must cover the rest. (Note: if the lead agency elects to use Federal funding for a portion of the project, the railroad contribution requirement is reduced to five percent, in accordance with Federal regulations.) If the grade crossing to be eliminated has been in existence for less than ten years prior to the allocation date, the project may receive up to 50 percent State funding, with a 50 percent matching-fund requirement. As above, the railroad must contribute a minimum of ten percent of the total cost of the project.

The total project cost includes design, right-of-way (ROW) acquisition, utility relocation, environmental clearance, and all construction elements (structures, approaches, ramps, connections, drainage, etc.) required to make the grade separation operable.

Projects that include multiple grade separations are eligible to receive up to \$20 million if they provide projected cost savings of at least 50 percent to the State and/or local jurisdiction by eliminating the need for future projects, and if they alleviate traffic and safety problems or provide improved rail service not otherwise possible. Such projects are funded over a multiyear period lasting up to five years, with up to \$5 million allocated each year.

Requests for allocations are due to the Department on April 1 of each FY. Within the limits of available funding, allocations are made by the Department, pursuant to a delegation from the California Transportation Commission, in priority order to all projects that meet the requirements. If a project only receives a partial allocation because of limited funding, it will be automatically eligible for the balance of its funding in the following FY. Projects that do not receive an

allocation within the two-year life of the CPUC priority list must be re-nominated in order to remain eligible. Grade separation projects are also eligible for STIP funding.

STATION PROGRAMS

PARKING FACILITIES AT INTERCITY RAIL STATIONS

Section 14036.2 of the Government Code requires the identification of those rail passenger stations which require upgraded parking facilities to encourage automobile drivers to utilize available rail passenger service. Below is a description of the status of parking facilities at stations on the three intercity passenger rail routes.

Much progress has been made in providing additional parking at stations on the *San Joaquin* Route. Projects were completed in conjunction with the construction of new stations at Modesto in 1999, Bakersfield and Merced in 2000, and Martinez in 2001. A new parking structure was completed at Lodi in 2002.

A number of parking projects are now planned for *San Joaquin* stations. For the Emeryville station, funds are programmed to construct a 337-space parking garage. For the Richmond station, funds have been allocated to design a new 800-space parking garage. For the Martinez station, funds are programmed to acquire land for additional parking. At the Sacramento station, a project started in the spring 2005 to upgrade surface parking lots, auto and bus circulation, and security and lighting to support the new extension of light rail service to the Amtrak station, scheduled to begin by late 2006.

On the *Pacific Surfliners* progress has also been made in adding parking. At existing stations, additional parking was completed in 2000 in Santa Ana, and Oceanside, and in 2001 at San Luis Obispo. The Surf station, opened in 2000, included parking. A number of parking projects are now planned for *Pacific Surfliner* stations. The Camarillo station improvement project, scheduled to be completed in 2006, includes parking improvements. For the Fullerton station, funds are programmed for a multi-level parking structure. At Irvine, funds are reserved to construct a parking structure at the station. For the Oceanside station, funds are programmed for a 450-space parking structure. And Oxnard has received funds to add additional parking to the station.

On the *Capitol Corridor*, significant additional parking capacity has also been added in the recent past to meet growing ridership. A satellite parking facility of about 80 spaces was constructed at the Roseville station in summer 2004. The interim parking lot at the Rocklin station was replaced in fall 2004 with 70 permanent parking spaces and an improved access road. A new parking lot with over 100 spaces and an improved access road were constructed at the Santa Clara/Great America station in summer 2004. At the Auburn station, the

second phase of parking (about 50 spaces) was added in summer 2005. While the primary upgrades at the Berkeley station that were completed in August 2005 focused on a new platform and landscaping, the project also includes improved access for transit and parking. The new Oakland Coliseum station opened in June 2005 and includes parking as well as connections to Bay Area Rapid Transit (BART) and the Oakland International Airport. Funds are also programmed for a second parking lot at the Fremont-Centerville station.

DECREPIT STATIONS

Section 14036.2 of the Government Code requires the identification of the three most decrepit intercity rail passenger stations in the State used by trains operated by Amtrak. Webster's New World Dictionary, Third College Edition, copyright 1988, defines decrepit as "broken down or worn out by old age or long use." The following stations are those identified by the Department as the three most decrepit:

Dunsmuir (5750 Sacramento Avenue): This station serves Amtrak's *Coast Starlight*. It is an old building with the paint peeling extensively on the outside. The rain gutters are rusty and deteriorating. One of the walls has a brick section that looks deteriorated. The waiting room has two chairs and the only heater visible is in the restroom.

Madera (Avenue 15½ at 29th Road): This station is a shelter in a residential industrial area. It is unattractive, with only a transit-type bench in disrepair and covered with graffiti. There is no lighting in the shelter or landscaping at the station. The parking lot is paved but deteriorated with many potholes, and many of the lights are broken. Representatives of the City, County, Amtrak and the Department are planning to move the station to a new location that is near a major road serving Madera's population center and is more convenient for passengers than the existing station location in a warehouse area. The project will include purchase of ROW, construction of a two-lane access road, a new parking lot, platform, and shelter for the new station. The project is planned for completion in 2006-07.

Needles (900 Front Street): This station serves Amtrak's *Southwest Chief*. The station is boarded up and fenced off from the adjacent park. Nearly \$1.2 million in State and other funds are available for the planned rehabilitation of the station. Additional funding, however, is needed and is being pursued for the rehabilitation. Under Amtrak's operating agreement, only the platform is used for passenger service at this station.

CHAPTER III

OPERATIONS PROGRAM

This chapter describes the State’s intercity rail operations program, which includes ten-year service levels and the operations financial plan. The program includes the following four components: operational efficiency and schedule planning, passenger amenities, connecting Amtrak bus services, and multimodal connectivity.

OPERATIONS PROGRAM GOALS

The Department’s goals for its Operations Program are as follows:

- Provide cost-effective service that will reach or exceed the Department’s 50 percent farebox ratio standard. (Furtherance of the three goals below will increase revenues and reduce costs, with the resulting increase in farebox ratio.)
- Provide safe, reliable, and convenient intercity rail and connecting bus service on the three existing routes with enough schedule flexibility to meet a wide range of travelers’ needs; this means frequent service (up to hourly as demand requires) during business hours, and adequate coverage for leisure travelers in the evenings and weekends.
- Increase service attractiveness and customer satisfaction through improved OTP, and operations and service amenities.
- Create a “seamless” network where intercity rail services and schedules are well connected to commuter and urban rail, transit, and airports to provide feasible trips to all major urban destinations and many tourist and rural destinations.

These goals are used to guide the development of the Operations Program described below. Operations projects further one or more of these goals.

TEN-YEAR INTERCITY RAIL SERVICE LEVELS AND OPERATIONS FINANCIAL PLAN

Figure 3A presents the Department’s ten-year projected intercity passenger rail ridership and service levels (as well as actual ridership and service levels for 2003-04 and 2004-05). The Department developed the service levels for the *Pacific Surfliners*, *San Joaquins*, and in conjunction with the CCJPA for the *Capitol Corridor*. The Department is proposing the service levels for route extensions and new routes. The ridership estimates for the three existing routes were developed with Amtrak.

Figure 3A shows that in 2015-16, combined ridership on the three routes is projected to be 7.2 million. Projected service frequencies are: 13 San Diego-Los Angeles round-trips on the *Pacific Surfliner*, eight round-trips on the *San Joaquins* and 18 Oakland-Sacramento round-trips on the *Capitol Corridor*.

In developing increased service levels, service extensions, and new services the Department considers:

- Identified ridership demand based on actual train ridership, or in the case of extensions or new routes, based on bus ridership and overall travel demand in the corridor.
- Improved cost-effectiveness of existing services, and positive cost-effectiveness of new routes.
- Feasibility of increased service based on route capacity, equipment availability, and infrastructure quality.
- Local support for the service.

It is important to note that implementation is subject to demonstrated ridership demand, approval from Amtrak and the relevant railroad(s), availability of operating and capital funding and equipment, and completion of necessary capital projects. The service expansions are described in more detail in later chapters. Chapters VI, VII, and VIII describe the increased frequencies and service expansions for each route. Chapter X describes the new routes the Department is recommending.

Figure 3B summarizes the ten-year operations financial plan. Figure 3B presents: revenue, expense and farebox ratio for existing routes; and projected State costs for existing and new routes for the ten-year period from 2006-07 through 2015-16. This data was developed based on the Department's service levels shown in Figure 3A. (Lease costs for required new equipment are included in operations costs.) The Figure also shows actual data for 2003-04 and 2004-05 and current data for 2005-06. Figure 3B shows that combined revenue is projected to be \$115.9 million. The farebox ratio on the *Pacific Surfliners* is projected to be 65 percent, on the *San Joaquins* 49.1 percent and on the *Capitol Corridor* 44.6 percent. State costs for the three existing routes are projected to be \$115.9 million, and new routes, \$38.4 million.

Figure 3C shows in graph form the projected trend of the three key performance measures (ridership, revenue and farebox ratio) on each route. These performance measures are projected to improve on all three routes over the ten-year period.

Figure 3D shows in graph form the State cost per passenger, per passenger mile and per train mile for each of the three State-supported routes over the ten-year period. During this period State-cost per passenger is projected to increase slightly on the *San Joaquins* and decrease slightly on the *Pacific Surfliners* and

Capitol Corridor. The cost per passenger is projected to be highest on the *San Joaquins* because the average trip length per passenger on this Route is the longest of the three routes. The State cost per passenger mile and per train mile is projected to decrease on all three routes over the ten-year period.

PROGRESS IN MEETING ROUTE OBJECTIVES

Figure 3E assesses the Department's progress in meeting its principal route objectives. The Figure first compares the route objectives in the 2003-04 Plan for the 2005-06 year with actual results. In general, the goals for 2005-06 and actual results were consistent. However, actual OTP on the *Pacific Surfliners* and *San Joaquins* was below projected OTP, primarily as the result of increased freight traffic on the routes. On the *Capitol Corridor*, three additional Oakland-San Jose trains were projected for 2005-06 that are now projected to start in 2006-07. Projected ridership for 2005-06 was higher than actual on the *Capitol Corridor*, in part due to the delay in the start of the Oakland-San Jose trains.

Next, the figure compares the route objectives for 2013-14 presented in the 2003-04 California State Rail Plan with those in the current 2005-06 California State Rail Plan. These objectives are similar, although on the *Pacific Surfliner* Route, one less Los Angeles to San Diego round-trip is projected for 2013-14 in the 2005-06 Plan than in the 2003-04 Plan. On the *San Joaquins* one less Oakland to Bakersfield round-trip is projected for 2013-14 in the 2005-06 Plan than in the 2003-04 Plan. And on the *Capitol Corridor*, four more Oakland to San Jose round-trips are projected in the 2005-06 Plan than in the 2003-04 Plan.

Figure 3A

INTERCITY RAIL RIDERSHIP AND SERVICE LEVELS Federal Fiscal Years 2003-04 - 2015-16														
	Actual			Current			Projected							
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
RIDERSHIP (thousands) #														
Pacific Surfliners (total)	2,345	2,520	2,578	2,637	2,698	2,760	2,912	2,979	3,048	3,213	3,451	3,530	3,611	
San Joaquins	739	756	773	791	809	828	847	943	965	987	1,010	1,108	1,133	
Capital Corridor	1,165	1,260	1,323	1,429	1,500	1,650	1,733	1,906	2,001	2,201	2,311	2,427	2,483	
Total Ridership	4,249	4,536	4,674	4,857	5,007	5,238	5,492	5,828	6,014	6,401	6,772	7,065	7,227	
FREQUENCIES														
Pacific Surfliners (total)														
San Diego-Los Angeles	11	11	11	11	11	11	12	12	12	13	13	13	13	
Los Angeles-Goleta	4	5	5	5	5	5	5	5	5	5	6	6	6	
Goleta-San Luis Obispo	1	2	2	2	2	2	2	2	2	2	3	3	3	
Total	11	11	11	11	11	11	12	12	12	13	13	13	13	
San Joaquins														
Oakland-Bakersfield	4	4	4	4	4	4	4	4	4	4	4	5	5	
Sacramento-Bakersfield	2	2	2	2	2	2	2	3	3	3	3	3	3	
Total	6	7	7	7	7	8	8							
Capital Corridor														
San Jose-Oakland	4	4	4	7	7	9	9	11	11	13	13	16	16	
Oakland-Sacramento	12	12	12	12	12	14	14	16	16	18	18	18	18	
Sacramento-Roseville	1	1	1	3	3	3	3	4	4	6	6	8	8	
Roseville-Auburn	1	1	1	2	2	2	2	3	3	4	4	4	4	
Total	12	12	12	12	12	14	14	16	16	18	18	18	18	
Route Extensions														
San Francisco-San Luis Obispo					1	1	1	1	1	1	2	2	2	
Sacramento-Reno						1	1	2	2	2	2	2	2	
New Routes														
Sacramento-Redding							1	1	1	1	2	2	2	
Los Angeles-Indio								1	1	1	2	2	2	

- Does not include ridership for route extensions, only included is ridership for existing and additional frequencies.

Figure 3B

INTERCITY RAIL OPERATIONS FINANCIAL PLAN Federal Fiscal Years 2003-04 - 2015-16 (Dollars in Millions)*																
	Actual				Current		Projected									
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16			
REVENUES																
Pacific Surfliners \$	\$ 24.7	\$ 28.1	\$ 28.4	\$ 29.4	\$ 30.5	\$ 31.6	\$ 33.2	\$ 34.3	\$ 35.4	\$ 37.9	\$ 42.5	\$ 43.9	\$ 45.4			
San Joaquins	\$ 21.9	\$ 23.3	\$ 23.9	\$ 25.0	\$ 26.1	\$ 27.3	\$ 28.6	\$ 31.6	\$ 33.0	\$ 34.5	\$ 36.1	\$ 38.9	\$ 40.7			
Capitol Corridor	\$ 13.2	\$ 15.2	\$ 16.0	\$ 16.9	\$ 17.7	\$ 19.4	\$ 20.4	\$ 22.3	\$ 23.4	\$ 25.6	\$ 26.8	\$ 28.4	\$ 29.8			
Total Revenues	\$ 59.8	\$ 66.6	\$ 68.3	\$ 71.3	\$ 74.3	\$ 78.3	\$ 82.2	\$ 88.2	\$ 91.8	\$ 98.0	\$ 105.4	\$ 111.2	\$ 115.9			
EXPENSES																
Pacific Surfliners \$	\$ 45.1	\$ 49.2	\$ 49.0	\$ 49.2	\$ 49.4	\$ 49.7	\$ 52.4	\$ 53.9	\$ 55.6	\$ 59.4	\$ 65.8	\$ 67.7	\$ 69.8			
San Joaquins	\$ 49.3	\$ 50.8	\$ 51.1	\$ 52.7	\$ 54.4	\$ 56.2	\$ 58.0	\$ 65.7	\$ 67.8	\$ 70.0	\$ 72.2	\$ 80.4	\$ 83.0			
Capitol Corridor	\$ 35.9	\$ 39.3	\$ 41.1	\$ 43.5	\$ 44.8	\$ 48.2	\$ 49.7	\$ 53.5	\$ 55.1	\$ 59.4	\$ 61.2	\$ 64.8	\$ 66.7			
Total Expenses	\$ 130.3	\$ 139.3	\$ 141.2	\$ 145.4	\$ 148.6	\$ 154.1	\$ 160.1	\$ 173.1	\$ 178.5	\$ 188.8	\$ 199.2	\$ 212.9	\$ 219.5			
FAREBOX RATIO																
Pacific Surfliners \$	54.8%	57.1%	58.0%	59.8%	61.7%	63.6%	63.4%	63.6%	63.7%	63.8%	64.6%	64.8%	65.0%			
San Joaquins	44.4%	45.9%	46.8%	47.4%	48.0%	48.6%	49.3%	48.1%	48.7%	49.3%	50.0%	48.4%	49.0%			
Capitol Corridor	36.8%	38.7%	38.9%	38.9%	39.5%	40.2%	41.0%	41.7%	42.5%	43.1%	43.8%	43.8%	44.7%			
STATE COSTS*																
Existing Routes																
Pacific Surfliners \$	\$ 20.7	\$ 21.2	\$ 20.9	\$ 20.9	\$ 19.2	\$ 18.4	\$ 19.5	\$ 21.7	\$ 22.1	\$ 23.5	\$ 25.3	\$ 25.8	\$ 26.4			
San Joaquins	\$ 27.7	\$ 27.4	\$ 27.8	\$ 27.8	\$ 29.5	\$ 30.4	\$ 31.4	\$ 36.0	\$ 39.1	\$ 40.3	\$ 41.5	\$ 48.8	\$ 50.2			
Capitol Corridor	\$ 23.1	\$ 24.1	\$ 24.4	\$ 24.4	\$ 26.3	\$ 29.6	\$ 30.1	\$ 33.5	\$ 33.9	\$ 37.4	\$ 37.9	\$ 39.8	\$ 40.3			
Sub Total	\$ 71.5	\$ 72.7	\$ 73.1	\$ 73.1	\$ 75.0	\$ 78.4	\$ 81.0	\$ 93.2	\$ 95.1	\$ 101.2	\$ 104.7	\$ 114.4	\$ 116.9			
Equipment-Heavy Overhaul	\$ 10.1	\$ 13.5	\$ 13.8	\$ 14.0	\$ 13.8	\$ 9.3	\$ 13.1	\$ 12.6	\$ 13.6	\$ 14.6	\$ 15.6	\$ 16.0	\$ 16.0			
Total	\$ 81.6	\$ 86.2	\$ 86.9	\$ 87.1	\$ 88.8	\$ 87.7	\$ 94.1	\$ 105.8	\$ 108.7	\$ 115.8	\$ 120.3	\$ 130.4	\$ 132.9			
Route Extensions																
San Francisco-San Luis Obispo				\$ 7.3	\$ 7.4	\$ 7.4	\$ 7.5	\$ 7.6	\$ 7.8	\$ 7.9	\$ 13.5	\$ 13.8	\$ 13.8			
Sacramento-Reno					\$ 5.3	\$ 5.3	\$ 5.3	\$ 5.3	\$ 8.2	\$ 8.2	\$ 8.3	\$ 8.4	\$ 8.4			
New Routes																
Sacramento-Redding				\$ 4.6	\$ 4.6	\$ 4.6	\$ 4.6	\$ 4.6	\$ 4.7	\$ 4.8	\$ 7.4	\$ 7.4	\$ 7.5			
Los Angeles-Indio				\$ 7.3	\$ 7.3	\$ 7.3	\$ 7.3	\$ 7.3	\$ 7.3	\$ 7.3	\$ 8.7	\$ 8.7	\$ 8.7			
Total				\$ 7.3	\$ 12.7	\$ 12.7	\$ 17.4	\$ 21.7	\$ 24.9	\$ 25.1	\$ 37.9	\$ 38.3	\$ 38.4			
Existing and New Routes																
Grand Total	\$ 81.6	\$ 86.2	\$ 86.9	\$ 87.1	\$ 96.1	\$ 100.4	\$ 111.5	\$ 127.5	\$ 133.6	\$ 140.9	\$ 158.2	\$ 168.7	\$ 171.3			

* - Current year dollars shown.
 • - Lease costs for equipment needed to operate additional frequencies and routes are included.
 § - Reflects Farebox Ratio and State Costs for state supported 70% portion of service. (67% in 2003-04).

Figure 3C

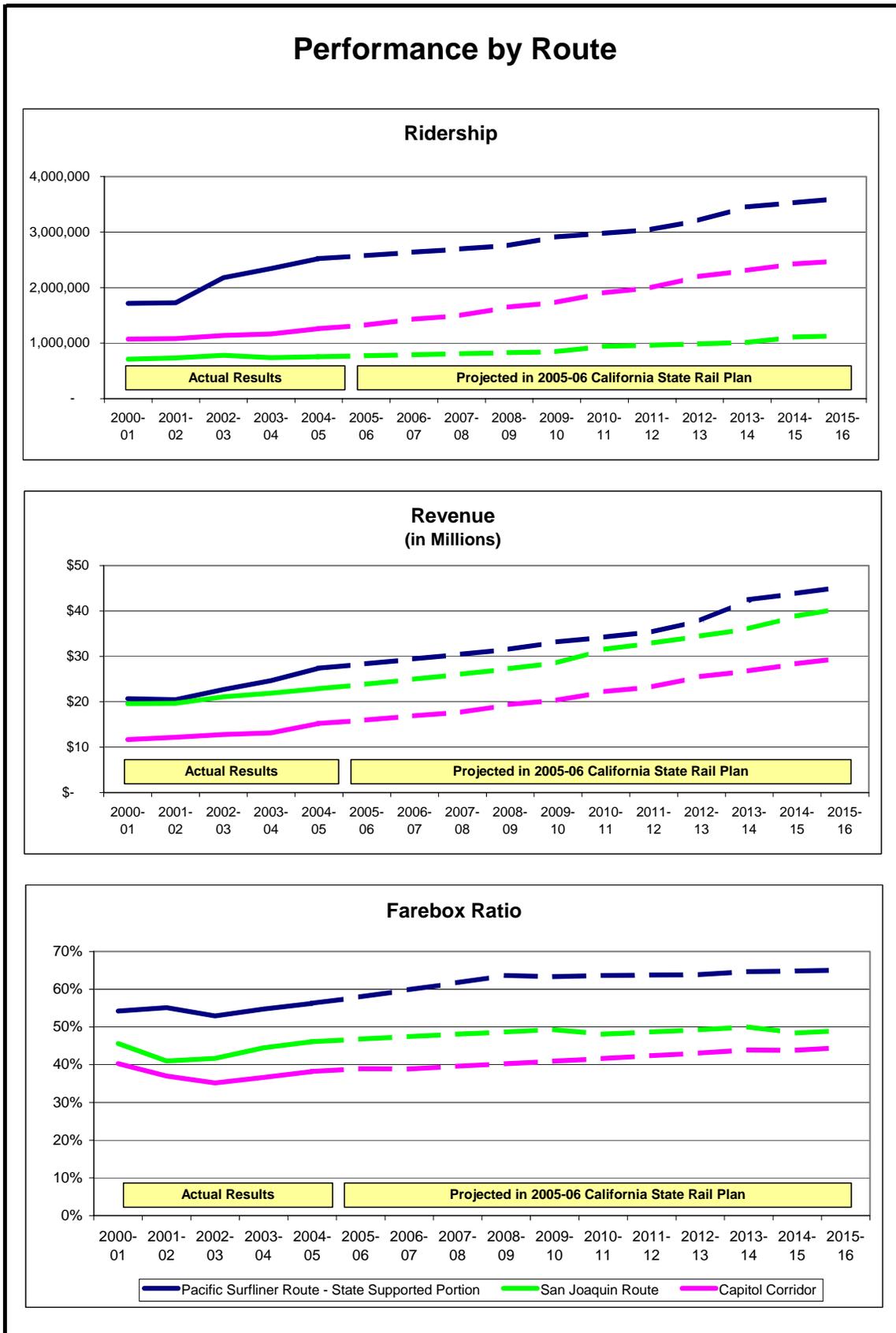


Figure 3D

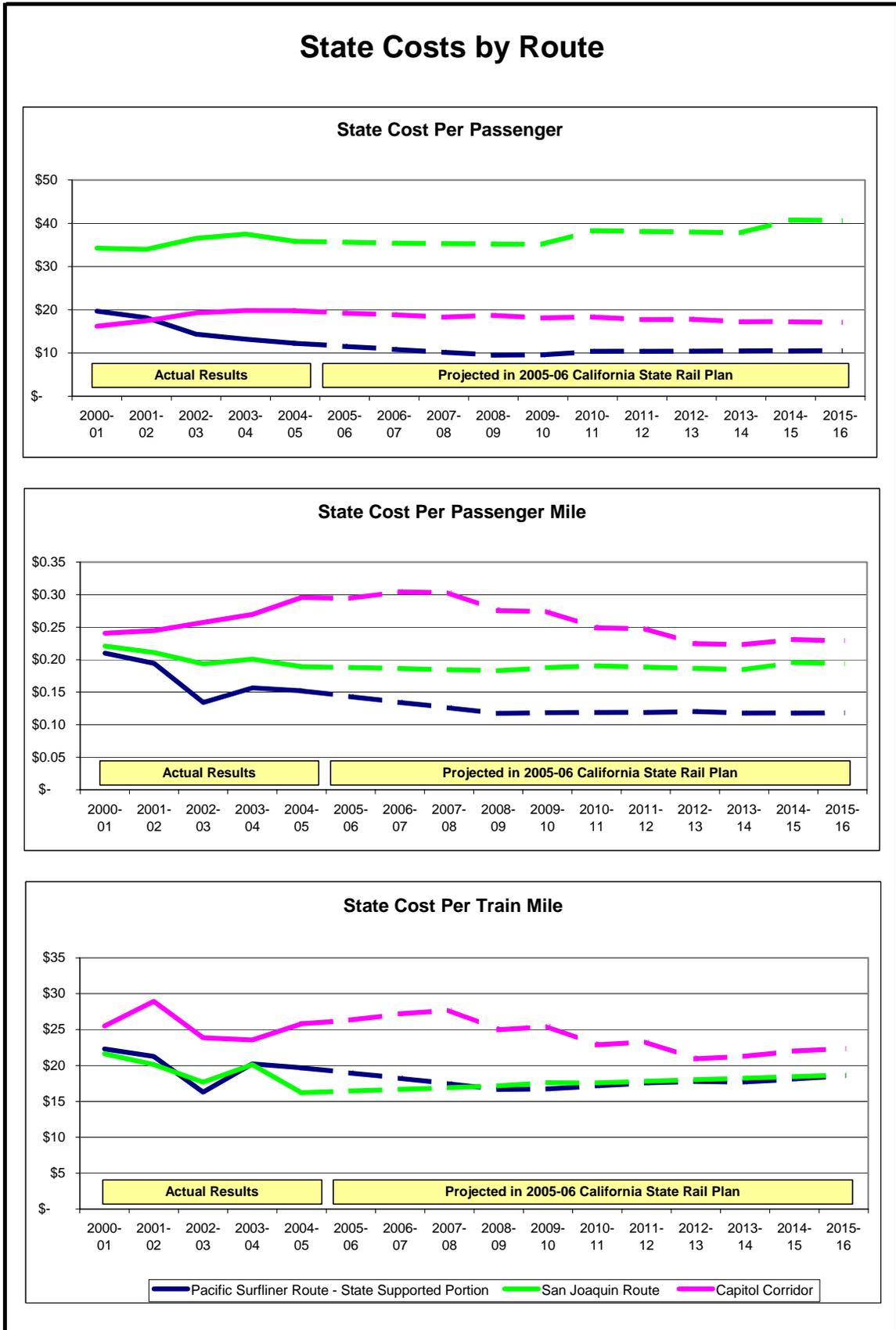


Figure 3E

ROUTE OBJECTIVES BY CORRIDOR						
FFY	2003-04	2005-06		2013-14		2015-16
	Actual Results	2003-04 Rail Plan	Actual Results	2003-04 Rail Plan	2005-06 Rail Plan	2005-06 Rail Plan
<i>Pacific Surfliner Route</i>						
Ridership (thousands)	2,345	2,548	2,578	3,503	3,451	3,611
Revenue (millions)	\$24.7	\$28.7	\$28.4	\$43.6	\$42.5	\$45.4
Farebox Ratio	54.8%	59.1%	58.0%	61.2%	64.7%	65.0%
On Time Performance	87%	83%*	73%	90%	90%	90%
Frequency:						
Los Angeles-San Diego	11	11	11	14	13	13
Los Angeles-Goleta	4	5	5	6	6	6
<i>San Joaquin Route</i>						
Ridership (thousands)	739	773	773	1,082	1,010	1,133
Revenue (millions)	\$21.9	\$23.4	\$23.9	\$33.9	\$36.1	\$40.7
Farebox Ratio	44.5%	44.6%	46.8%	42.4%	50.0%	49.1%
On Time Performance	56%	85%*	64%	90%	90%	90%
Frequency:						
Oakland-Bakersfield	4	4	4	5	4	5
Sacramento-Bakersfield	2	2	2	3	3	3
<i>Capitol Corridor</i>						
Ridership (thousands)	1,165	1,557	1,323	2,352	2,311	2,483
Revenue (millions)	\$13.2	\$16.9	\$16.0	\$29.2	\$26.8	\$29.8
Farebox Ratio	36.8%	41.4%	38.9%	46.9%	43.9%	44.6%
On Time Performance	86%	90%*	85%	90%	90%	90%
Frequency:						
Sacramento-Oakland	12	12	12	18	18	18
Oakland-San Jose	4	7	4	9	13	16

* Data from 2005-06 Corridor Business Plans

ADMINISTRATION AND MARKETING COSTS

Figure 3F shows State support levels for administration and marketing costs for 2003-04 through 2005-06. These costs have remained constant over the three-year period.

Figure 3F

Intercity Rail Administration and Marketing Costs				
(\$ in Millions)				
	FFY	Actual		Current
		2003-04	2004-05	2005-06
STATE SUPPORT				
<i>Pacific Surfliners</i>				
	Administration	\$1.5	\$1.5	\$1.5
	Marketing	\$2.3	\$2.3	\$2.3
	Totals	\$3.8	\$3.8	\$3.8
<i>San Joaquins</i>				
	Administration	\$1.3	\$1.3	\$1.3
	Marketing	\$1.5	\$1.5	\$1.5
	Totals	\$2.8	\$2.8	\$2.8
<i>Capitol Corridor</i>				
	Administration	\$1.3	\$1.3	\$1.3
	Marketing	\$1.2	\$1.2	\$1.2
	Totals	\$2.5	\$2.5	\$2.5
Totals - All Routes				
	Administration	\$4.1	\$4.1	\$4.1
	Marketing	\$5.0	\$5.0	\$5.0
	Grand Total	\$9.1	\$9.1	\$9.1

OPERATIONS PROGRAM

The operations, marketing and capital programs are all interrelated. The specific focus of the operations program is: operational efficiency and schedule planning, passenger amenities, connecting Amtrak bus services, multimodal connectivity, the Rail 2 Rail Program, and airport access. Each of these areas is discussed below.

OPERATIONAL EFFICIENCY AND SCHEDULE PLANNING

Improvements in operational efficiency are heavily dependent on the implementation of the ten-year capital improvement program discussed in Chapter II. For example, improved OTP is closely connected to completion of track projects to increase capacity. The ten-year OTP goal for all three routes is 90 percent. On the *Capitol Corridor* where much of the Route is already double-track, the goal is to maintain OTP at 90 percent. However, on the *Pacific Surfliners* and *San Joaquins*, certain double or triple-track and siding projects will need to be completed before consistently high OTP will be possible.

Although recent OTP has been negatively impacted by increased freight traffic statewide; capital projects are planned on all three Routes to increase capacity and OTP. Operational efficiency will also be improved in the ten-year period with capital projects to purchase equipment, construct new or improve existing stations, build maintenance facilities, and improve track and signal infrastructure.

Schedule planning is an important component of the operations program. The Department reviews train schedules to improve ridership, yield, and operational efficiency, particularly in regard to equipment usage and crew schedules. Train schedules should provide optimum flexibility and coverage given the number of round-trips on the route. For example, passengers should be able to make convenient business or day trips to the major urban destinations such as San Francisco, Oakland, Los Angeles, Sacramento, and San Diego.

Travel patterns have become much more complex with population growth and business centers moving out of cities. To serve traveler's needs, it has become much more important for intercity rail to connect to other systems in order to serve a variety of travel patterns. Thus, the Department works to coordinate with other rail and transit providers and adjust schedules whenever possible to improve connections.

The Department also works with Amtrak to increase yields and contain costs through analysis of segment profitability, yield pricing and other mechanisms, and establish fares that maximize yields and ridership. This effort is coordinated with the market research and ridership/revenue modeling work described in Chapter IV. Additionally, the Department monitors Amtrak billings for accuracy.

Another potential avenue for reducing costs and increasing service quality is the competitive bidding of either the entire intercity rail service function or of specific ancillary services. The Department has examined these options in the past and will continue to study the feasibility of competitively bidding rail services. This is a timely issue as there has been strong pressure from the Federal administration and many in Congress to introduce competition to Amtrak. Amtrak's own strategic reform initiatives concerning competition are discussed in the "Amtrak Planning Section" of Chapter XI.

PASSENGER AMENITIES

On Board Amenities

Important on board passenger amenities include: food service, reserved seating, and checked baggage. Food service varies on each of the three routes, however all trains have a food service car that provides table seating, and snacks, drinks and beer and wine. The *San Joaquins* also offer full meals. The food is oriented towards quality at an affordable price. Food service is evaluated and adjusted on an ongoing basis to improve quality and yield. Reserved seating is provided on the *San Joaquins* and in Business Class Service on the *Pacific Surfliners*.

On the *San Joaquins*, seating reservations are made at the time of ticket purchase. The *Pacific Surfliners* offer Business Class Service, which includes deluxe reserved coach service with large reclining seats and extra legroom. At seat service includes food, beverages, and a newspaper. The *Capitol Corridor* offers a “quiet car” per train to be reserved for passengers wanting to sleep or relax. The CCJPA is also exploring a Business/Custom Class car. Checked baggage is available on the *San Joaquins* at all staffed stations and on the *Pacific Surfliners* at most staffed stations.

Passenger amenities are also determined by rolling stock design. The Northern California car fleet of California Cars and the Surfliner cars on the *Pacific Surfliner* Route were designed with superior passenger amenities including on board bicycle facilities, and full handicapped accessibility. Current upgrades on the California Car fleet include 110-volt convenience outlets at every seat and replacement of the outdated destination sign system with new destination signs and an automated passenger information system. Also, the Department is exploring the feasibility of providing on board internet access. The CCJPA has initiated a Wi-Fi wireless internet access pilot program. In the longer term, the Department is working with Amtrak to design “next-generation” equipment that will increase on board amenities as well as operational efficiency.

Station Passenger Amenities

Passenger amenities at stations are also very important. The ten-year capital program has a number of station improvement and parking projects and some key new station projects such as Stockton on the *San Joaquins*. Over the years, most stations have been rebuilt or significantly upgraded, thus the current focus is now on upgrades, not new stations. Near-term projects involve next-generation ticket machines on the *Pacific Surfliners* to allow cross ticketing between Amtrak and Metrolink. Also, the Department is supportive of mixed-use development at or near stations that can improve access to food, entertainment and transportation services.

Passenger Information

Passenger information serves both a marketing and operational function. The Department is continually looking for new ways to inform customers and potential customers about: rail service; transit, air and auto connections to trains and connecting buses; and locations served by trains and connecting buses. Passenger information devices include printed materials; signage and displays at stations, bus stops and on streets and highways; an Internet web site; and telephone information. In the last few years, additional emphasis has been placed on providing information on the “total trip” including extensive information on destinations.

The train timetable for all three routes provides the most essential passenger information. The timetable is updated with every schedule change and provides extensive passenger information including: train and connecting Amtrak bus schedules; listing of connecting transit services, including detailed information on commuter rail connections; and station information.

Passenger information is provided at train stations and bus stops. The timetable is displayed on “Info Posts” at all train stations (on the platform) and bus stops (at the stop). In the fall of 2003, new passenger information displays were installed at all staffed and unstaffed stations on the *San Joaquins* in the Valley. These displays include local area maps showing hotels, restaurants, rental car agencies and other services near the station along with phone numbers.

To improve passenger information at stations, electronic Passenger Information Display Systems on all three routes have been installed or will be completed by the end of 2005. They provide real-time audio and visual information on train arrivals and departures. This system is especially helpful at unstaffed stations.

To direct persons to Amtrak stations, the Department is upgrading pathfinder signs that direct automobile drivers from adjacent State highways and local roads to Amtrak stations. The Department has been installing new signs on State highways pointing to train stations on all three State-supported routes. The Department places signs along local streets and roads in coordination with local agencies.

On the trains, passenger information is also being improved. The Department is planning to replace the outdated destination sign system on the California Car fleet with new destination signs and an automated passenger information system. The new system will incorporate up-to-date passenger information system technology that meets all current standards for audible and visual messaging, real-time service messages, automated train location and text uploading, diagnostics, and animated graphics. This system will be applied to all 78 railcars in the Northern California fleet. The Department plans to complete the work by 2006-07.

In 1996, the Department established its Amtrak California web site, www.amtrakcalifornia.com, which contains information specifically oriented towards the California routes. Information on fare promotions and discounts, Amtrak California news, an easy-order publications page, and downloadable timetables is included. Also local information to aid trip planning, including station information, local transit information and links to local transit operators are included. In 2005, the web site was redesigned with a “new look” and to be more user-friendly. The Amtrak California web site provides direct links to Amtrak’s national web site, www.amtrak.com for general information, on-line reservations and ticket purchase for all Amtrak trains, and Amtrak tour and vacation package information. The Amtrak California web site also has a direct link to our partner the CCJPA’s web site, www.amtrakcapitols.com.

Amtrak's national telephone information number, 1-800-USA-RAIL, is the most widely used source of information for Amtrak California customers. Amtrak has converted all calls within California's major markets to a Voice Response Unit (VRU) automated system designed to eliminate inaccuracies and cut costs. As a result, complaints about routine errors have dropped significantly.

CONNECTING AMTRAK BUS SERVICES

All three routes have connecting Amtrak bus service. On the *San Joaquins*, the bus network is an essential element of the system, with at least 65 percent of *San Joaquin* passengers using at least one connecting bus at the beginning or end of their trips. Buses are used to reach markets not served by rail. The Amtrak buses provide guaranteed connections; if a train is late, the bus connection is guaranteed. The buses are required to have a high standard of comfort, including ample legroom and reclining seats.

The Department is continually evaluating new Amtrak connecting 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 that influence ridership, such as economic trends and competing modes, are considered. The Department is also working to increase customer amenities on the buses.

Figure 3G shows the performance of currently operated bus routes for FY 2003-2004 and 2004-2005. The column headed Net Generated Revenue requires an explanation: few connecting 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. 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. Amtrak estimates that, of all bus trips operated, only 2.8 trips per day operated without any passengers, representing 1.2 percent of all trips.

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, the Department 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 3G

AMTRAK CONNECTING BUS PERFORMANCE IN CALIFORNIA							
Bus Route Number	Bus Route End Points	Note	Bus Passengers	One-Way Bus Trips	Passengers per Bus Trip	Net Generated Revenue	Net Generated Revenue per Bus Passenger
October 2004 through September 2005							
1	Los Angeles-Bakersfield		236,860	18,290	13.0	\$ 5,497,381	\$ 23.21
3	Stockton-Redding		74,904	7,450	10.1	\$ 896,418	\$ 11.97
4	Los Angeles-Santa Barbara		11,344	766	14.8	\$ 208,982	\$ 18.42
6	Stockton-San Jose		20,727	4,746	4.4	\$ (99,660)	\$ (4.81)
7	Martinez-McKinleyville		39,341	7,329	5.4	\$ 164,179	\$ 4.17
9	Bakersfield-Las Vegas		13,634	1,461	9.3	\$ (26,982)	\$ (1.98)
10	Bakersfield-Santa Barbara		25,800	2,923	8.8	\$ 196,037	\$ 7.60
12	Bakersfield-Palmdale		11,346	1,460	7.8	\$ (3,261)	\$ (0.29)
17A	Santa Barbara-Paso Robles		25,748	2,239	11.5	\$ 350,057	\$ 13.60
17B	Paso Robles-San Francisco		16,587	733	22.6	\$ 711,423	\$ 42.89
18	Hanford-San Luis Obispo		14,771	1,462	10.1	\$ 53,786	\$ 3.64
19	Bakersfield-Indio		33,255	2,924	11.4	\$ 265,069	\$ 7.97
20A	Sacramento-Nevada City/Auburn	1	5,817	3,650	1.6	\$ (46,460)	\$ (7.99)
20B	Sacramento-Sparks		44,831	4,380	10.2	\$ 256,556	\$ 5.72
21A	San Jose - Monterey	2	2,570	496	5.2	\$ (25,699)	\$ (10.00)
21B	Oakland - San Jose		17,697	2,552	6.9	\$ (51,956)	\$ (2.94)
21C	San Jose- Santa Barbara		11,947	730	16.4	\$ 54,754	\$ 4.58
23	Sacramento-Carson City		16,472	2,190	7.5	\$ (93,699)	\$ (5.69)
34	Stockton-San Francisco Ferry		6,226	1,460	4.3	\$ (109,399)	\$ (17.57)
36	Oakland - San Luis Obispo	3	11,912	662	18.0	\$ 275,635	\$ 23.14
TOTALS			641,789	67,903		\$ 8,473,162	
October 2003 through September 2004							
1	Los Angeles-Bakersfield		225,388	12,158	18.5	\$ 5,783,724	\$ 25.66
3	Stockton-Redding		94,073	6,833	13.8	\$ 1,499,361	\$ 15.94
4	Los Angeles-Santa Barbara		11,170	735	15.2	\$ 198,677	\$ 17.79
6	Stockton-San Jose/Santa Cruz	4	44,883	5,125	8.8	\$ (22,372)	\$ (0.50)
7	Martinez-McKinleyville		37,980	5,899	6.4	\$ 15,890	\$ 0.42
9	Bakersfield-Las Vegas		15,154	1,465	10.3	\$ 49,380	\$ 3.26
10	Bakersfield-Santa Barbara		25,777	2,257	11.4	\$ 244,833	\$ 9.50
12	Bakersfield-Palmdale		8,683	1,098	7.9	\$ (53,143)	\$ (6.12)
17A	Santa Barbara-Paso Robles		24,236	2,685	9.0	\$ 261,488	\$ 10.79
17C	Paso Robles-San Francisco		19,474	732	26.6	\$ 157,916	\$ 8.11
18	Hanford-San Luis Obispo		15,151	1,473	10.3	\$ 5,250	\$ 0.35
19	Bakersfield-Indio		32,671	2,935	11.1	\$ 320,302	\$ 9.80
20A	Sacramento-Nevada City		6,656	3,660	1.8	\$ (153,915)	\$ (23.12)
20B	Sacramento-Sparks		43,139	3,540	12.2	\$ 363,227	\$ 8.42
20C	Sacramento-Roseville/Auburn	5	3,883	852	4.6	\$ 17,743	\$ 4.57
21A	San Jose - Monterey		1,996	732	2.7	\$ (58,945)	\$ (29.53)
21B	Oakland - San Jose		17,164	3,496	4.9	\$ (41,483)	\$ (2.42)
21C	San Jose- Santa Barbara		11,439	732	15.6	\$ 31,979	\$ 2.80
22	San Jose-Santa Cruz	4	5,118	3,920	1.3	\$ (141,803)	\$ (27.71)
23	Sacramento-Carson City		18,147	2,196	8.3	\$ (14,837)	\$ (0.82)
34	Stockton-San Francisco Ferry		8,764	1,465	6.0	\$ 47,541	\$ 5.42
TOTALS			670,946	63,988		\$ 8,510,814	
<p>1 - Effective June 2005, Nevada City service discontinued. Auburn-Grass Valley service provided by Highway 49 Express (Gold Country Stage).</p> <p>2 - Effective June 2005, Route 21A was discontinued.</p> <p>3 - Effective November 2004, Route 36 service was inaugurated.</p> <p>4 - Effective April 2004, San Jose-Santa Cruz service discontinued (Route 22 and the San Jose-Santa Cruz portion of Route 6). San Jose-Santa Cruz service provided by Highway 17 Express Route (Santa Cruz Metropolitan Transit District).</p> <p>5 - Effective July 2004, Route 20C combined with Route 20A.</p>							

MULTIMODAL CONNECTIVITY

The Department strives to make the intercity passenger rail system as “seamless” as possible with excellent connectivity to other transportation systems. Designing for connectivity enters into virtually every aspect of operations, marketing and capital planning. The Department will continue to improve connectivity wherever possible by expanding the programs discussed below, and implementing new programs.

Amtrak: The State-supported routes connect with each other and with Amtrak’s national intercity rail passenger network. Many passengers use the State-supported routes as part of a longer rail trip. Coordination of schedules with other services generates additional ridership and can improve overall efficiency. The *Pacific Surfliners* connect to the: *San Joaquins* and *Capitol Corridor* (via Amtrak bus), *Coast Starlight*, *Southwest Chief*, and *Sunset Limited*. The *San Joaquins* connect to the: *Pacific Surfliner* (via Amtrak bus), *Capitol Corridor*, *Coast Starlight*, *California Zephyr*, *Sunset Limited*, and *Southwest Chief*. The *Capitol Corridor* connects to: the *San Joaquins*, *Pacific Surfliners* (via Amtrak bus), *Coast Starlight* and *California Zephyr*.

Commuter and Urban Rail: The Department and the CCJPA work to provide convenient connections between Amtrak services and with commuter rail and urban transit services. The Rail 2 Rail Program connecting the *Pacific Surfliners* to Metrolink and Coaster is the most comprehensive connectivity program and is discussed below. The *Pacific Surfliners* also stop at stations with connections to: Los Angeles Metro Rail, San Diego Trolley, and Caltrain in San Jose (via Amtrak bus service). The *San Joaquins* stop at stations with connections to Caltrain, BART, San Francisco Muni, Santa Clara Valley Transit Authority (VTA), and Sacramento Regional Transit (fall 2006). In addition, the network of commuter rail and transit systems in Southern California is accessible to *San Joaquin* Route passengers by utilizing the dedicated connecting bus service at Bakersfield. The *Capital Corridor* stops at stations with connections to Caltrain, Altamont Commuter Express (ACE), BART, VTA and Sacramento Regional Transit (fall 2006).

Transit: Both the Department and the CCJPA have a program where free transfers to local transit are offered to train passengers on the following services:

Pacific Surfliner Route:

- San Luis Obispo Regional Transit (SLO Transit)
- Regional Transit Authority [San Luis Obispo, Santa Maria, Atascadero, Paso Robles]
- South County Area Transit [Grover Beach]
- Guadalupe Transit

San Joaquin Route:

- Fresno Area Express
- Sacramento Regional Transit
- Merced County Transit
- Alameda-Contra Costa Transit District (AC Transit)
- County Connection (service in central Contra Costa County)

Capitol Corridor:

- AC Transit
- County Connection
- Fairfield/Suisun Transit
- Sacramento Regional Transit
- Davis Unitrans
- Yolobus [Davis]
- VTA

The goal is to expand this program to all major transit providers with connections to the State-supported routes.

Streets and Highways: Finally, the Department works to ensure that the trains are well connected to streets and highways through proper design of stations and signage, including pathfinder signs on local streets and roads and highways that guide passengers to Amtrak stations.

RAIL 2 RAIL PROGRAM

The Rail 2 Rail Program that was introduced in 2002, began an era of dramatically improved interconnectivity between intercity and commuter rail and increased mass transportation mobility in Southern California. The ultimate goal of the Program is to coordinate schedules, ticketing and fares between Amtrak and Metrolink and Coaster. The first phase of the Program involving Metrolink and Amtrak allowed Amtrak ticket holders and Metrolink monthly ticket holders (for the Orange County and Ventura County lines) to have access to both Amtrak and Metrolink trains within the geographical limits of their tickets. Then, starting in 2004, the Program was expanded to the Coaster, where Amtrak ticket holders and Coaster monthly ticket holders have access to both Amtrak and Coaster trains between Oceanside and San Diego. Also, Metrolink and Coaster monthly ticket pass holders can use Amtrak trains on the weekends.

This Program has been a breakthrough in the implementation of a truly seamless rail system in Southern California. Today, over 25,000 Metrolink monthly ticket holders and 5,000 Coaster monthly ticket holders a month take advantage of the Program to ride Amtrak trains. *Pacific Surfliner* ridership jumped 16 percent in the first year of the program, 14 percent in the second year, and six percent in the

third year, mostly due to the Rail 2 Rail Program. This is a phenomenal ridership increase for a long-established service, (41 percent increase between 2001-02 and 2004-05) with almost no increases in train frequencies.

The next step in coordination between Amtrak and Metrolink will involve through ticketing between the two operators when new ticket vending machines are installed in 2006. For instance, a passenger will be able to purchase a through ticket at the Amtrak station in Santa Barbara for travel on the *Pacific Surfliner* to Los Angeles, and then on to San Bernardino on Metrolink. Conversely, passengers will be able to purchase tickets from the Metrolink ticket machine in Lancaster that will take them to Los Angeles on Metrolink, and then on to San Diego on Amtrak. The Department also intends to continue efforts to make schedules connect and market Metrolink-Amtrak through service.

AIRPORT ACCESS

Section 14036.7 of the Government Code requires that the Department 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.

Virtually all major airports in California can be reached by intercity rail with a transit connection. Figure 3H shows the intercity and commuter rail stations and transit connections that provide access to the major California airports. The AmtrakCalifornia.com web site provides detailed information on access from California Amtrak services to California airports.

Three airports in California are served directly by Amtrak service or connecting feeder bus service. The Bob Hope Airport [BUR] in Burbank is the only airport in California directly served by Amtrak rail service. The rail station, which provides both Amtrak and Metrolink service, is a short walk from the main airport terminal. The station integrates airport shuttles, Amtrak *Pacific Surfliner* trains, *San Joaquin* feeder bus service, Metrolink trains, and local transit service. Currently, five daily round-trip *Pacific Surfliners* and 18 weekday Metrolink round-trip trains serve this station. Also, the Arcata-Eureka and Palm Springs Airports are directly served by a *San Joaquin* bus stop at the airport.

Figure 3H

Rail Access to Major California Airports			
Airport (Code)	Rail Corridor*	Station	Public Transit Connection between Rail Station and Airport
Arcata-Eureka [ACV]	<i>San Joaquin Bus</i>	McKinleyville	(Bus stops at airport terminal.)
Bob Hope [BUR]	<i>Pacific Surfliner/ San Joaquin Bus/ Metrolink</i>	Burbank Airport	Airport shuttle (or within walking distance)
Fresno-Yosemite International [FYI]	<i>San Joaquin</i>	Fresno	Fresno Area Express
John Wayne [SNA]	<i>Pacific Surfliner/ Metrolink</i>	Santa Ana	Orange County Transit Authority
Long Beach [LGB]	<i>San Joaquin Bus</i>	Long Beach	Long Beach Transit
Los Angeles International [LAX]	<i>Pacific Surfliner/ Metrolink</i>	Los Angeles	Los Angeles Metropolitan Transit Authority bus
	<i>San Joaquin Bus</i>	Van Nuys Flyaway	Flyaway bus shuttle
San Jose Mineta International [SJC]	<i>Capitol Corridor/ San Joaquin Bus/ Caltrain</i>	San Jose	Valley Transportation Authority
Oakland International [OAK]	<i>Capitol Corridor</i>	Oakland Coliseum	AirBART Shuttle or AC Transit
	<i>San Joaquin</i>	Oakland-Jack London Square	BART or AC Transit
Ontario International [ONT]	<i>San Joaquin Bus</i>	Ontario	Omnitrans
	Metrolink	Fontana	Omnitrans
Palm Springs [PSP]	<i>San Joaquin Bus</i>	Palm Springs	(Bus stops at airport terminal.)
Sacramento International [SMF]	<i>Capitol Corridor/ San Joaquin trains and buses</i>	Sacramento	Yolobus
San Diego International [SAN]	<i>Pacific Surfliner/ Coaster</i>	San Diego	San Diego Transit bus
San Francisco International [SFO]	<i>San Joaquin/ Capitol Corridor</i>	Richmond	BART
	Caltrain	Millbrae	BART

* - A bus in the “Rail Corridor” column indicates dedicated Amtrak feeder bus connection from an Amtrak station.

CHAPTER IV

MARKETING PROGRAM

This chapter describes the State’s intercity rail marketing program for the *Pacific Surfliner* and *San Joaquin* Routes. The program includes advertising, public relations/outreach, group travel, rail safety, and market research. Following, the *Capitol Corridor*’s marketing program is described.

MARKETING PROGRAM GOALS

The Department’s goals for its Marketing Program are as follows:

- Establish a position for California train travel in consumers’ minds because research shows most California travelers do not consider the rail option when making travel decisions. Market rail travel as a fun, easy-to-use option, relevant to travel needs - in short “Travel made simple.”
- Emphasize Amtrak’s everyday low fares and implement fare promotion campaigns to increase price-sensitive ridership, as appropriate.
- Develop ridership in specific primary target markets, such as the “mature market” (persons over 50), families, and Hispanic persons. Secondary markets include business travelers and college students.
- Promote important recent improvements to the corridors including the opening of new and renovated stations.
- Work with cities and other local agencies to market special events where train travel can be a viable transportation option and coordinate with a wide variety of local entities to promote use of the train.
- Promote new train and feeder bus services.

MARKETING BUDGET

The Department expends \$5 million annually on intercity rail marketing. Amtrak supplements the Department’s annual budget with an additional contribution for media advertising, which in 2004-05 was \$1.2 million. Amtrak contributed \$800,000 of this for the *Pacific Surfliners*, with \$200,000 each going to the *San Joaquins* and the *Capitol Corridor*. Amtrak plans similar California advertising expenditures in 2005-06.

The marketing funds are divided between the three State-supported routes. \$4,826,800 (\$3,826,200 in State funds and \$1 million in Amtrak funds) is expended on marketing for the *San Joaquins* and *Pacific Surfliners*. Typically, media advertising receives about \$3.8 million of this and the remainder,

approximately \$1 million, is divided between public relations, rail safety, passenger information, and market research. The CCJPA and the State have agreed that \$1,173,800 of State funds annually goes to the CCJPA for marketing. Together with the Amtrak advertising supplement, \$1,373,800 is available for the *Capitol Corridor*.

DEPARTMENT'S MARKETING PROGRAM

The Department's marketing program for the *Pacific Surfliners* and *San Joaquins* has several major components: advertising, public relations/outreach, rail safety and market research.

ADVERTISING

The Department and Amtrak combine resources to create a single advertising program for California services. In October 2004, the Department renewed a two-year contract with Glass-McClure Advertising of Sacramento for 2004-05 and 2005-06. Contract services include strategic planning, media planning, production and creative services, and media buys. Glass-McClure's agreement with the Department maximizes the State's commitment to rider-producing media by paying a lower-than-standard commission rate on media buys, and no mark-up is paid for production or creative work.

The Department has formulated, in conjunction with Amtrak, a detailed plan for the FY 2005-06. The plan includes seasonal fare promotion campaigns that are coordinated with Amtrak's national campaigns. The plan also continues a successful strategy of targeting constituent groups with high likelihood of riding the train. These groups have been selected through research that shows that they are underrepresented in the train population. Primary markets include the "mature market", families, and Hispanic persons. Important secondary targets include business travelers and college students. These groups will be targeted with campaigns and media addressing their particular travel needs.

The Department's advertising focuses on the virtues of train travel. This approach uses the "Travel made simple" concept for Amtrak California that combines an emotional element reflecting train travel as a unique experience with price and destination messages. This overall advertising concept will be adjusted when tailoring specific messages for each of the different target groups listed above.

PUBLIC RELATIONS/OUTREACH

The public relations/outreach program is a personal and hands-on part of the advertising program designed to work in conjunction with and support advertising efforts. This allows for a customized, corridor-specific program to be constructed from an array of the following activities.

Special Promotions - Promotions have the advantage of using a tailored message to spotlight aspects of service of particular appeal to a corridor audience. Promotions will continue to include ticket giveaways in conjunction with media buys on local radio stations; arrangements with destinations that may include overnight accommodations and tickets to a special event/theme park; and a variety of cooperative efforts with well known promotional partners. These partnerships offer the chance for both parties to obtain exposure for their products while sharing an audience and the cost of that exposure. Amtrak California partners have included Holiday Inn, Sea World, Yosemite, Disneyland Resort, the Oakland Raiders, California State Railroad Museum, Six Flags Marine World, and similar organizations. An Amtrak-funded promotion includes sponsorship of selected college and professional sports teams whose team demographics coincide with potential train riders. This promotion allows the Amtrak California train message to be communicated to sports fans in new and previously unused advertising media.

Media Relations - The contractor conducts press tours, produces press kits for special events, conducts media familiarization trips, and otherwise generates travel and rail-related articles for publication. These activities are coordinated with Amtrak, the Department's Public Information Office, and district offices where appropriate.

Printed Materials - Each quarter, the contractor produces Making Tracks, the on board rider newsletter, and prints approximately 40,000 for distribution in station racks and by mail statewide. The contractor also produces collateral pieces such as flyers and coupons on demand that are designed to highlight various aspects of the service. Examples of these are posters promoting *San Joaquin* trains, a brochure advertising special packages to Yosemite, rack cards for special events and the *San Joaquin* Route guide.

Special Events - In any given year, as State-sponsored rail facilities and services have grown, ceremonial events marking this growth have been staged under the public relations banner. Such events introduce potential Amtrak customers to the product, but they also generate important free publicity that is frequently more effective at reaching an audience than paid advertising. Each of these service changes affords the opportunity to stage an appropriate special event to the program's marketing benefit. The Department works with Amtrak to organize these events.

GROUP TRAVEL

Kids 'N Trains – This program on the *San Joaquins* and *Pacific Surfliners* promotes group travel for youths on field trips at highly discounted fares. The dual goals of the program are to increase ridership at off-peak periods and introduce kids and their adult chaperones to the train as a means of promoting train ridership to kids' families. In 2005-06, the program is in its sixth year of

operation. This program continues to be very popular, and the Department continues to make refinements to it to make it more user-friendly and cost-effective.

Senior Travel Program - In January 2004, the Department began a new senior group travel program on the *San Joaquins* (“All Aboard Seniors!”) patterned after the “Kids ‘N Trains” program. In 2005, 15 trips accounted for 1,000 boardings to a variety of destinations, showing a positive response to the program. For 2006, plans have been developed to partner with Merced County Transit to offer expanded destinations. Similar partnerships will be explored in future years.

Student Travel Program – In the fall of 2005, the Department and Amtrak launched a trial college student discount program. The discount program provides a 20 percent discount to students who show a student card from selected colleges. Like most other discounts on Amtrak, a minimum three-day advance purchase and blackout days apply. In 2004, the Department had conducted market research that showed (1) a strong market of potential student riders, and (2) students desire a simple and straightforward discount program. The program launched in 2005 was based on the results of the prior market research.

On the *San Joaquins*, students from Fresno City College, California State University, Fresno, and the new University of California at Merced, are now eligible for the student discount. On the *Pacific Surfliners*, students from California Polytechnic State University at San Luis Obispo are eligible for the student discount. The discount program was widely promoted in the fall of 2005 with new student orientation materials, campus information booths, and in collaboration with university officials. Fall 2005 ridership (September-December 2005) yielded over 800 passengers and almost \$14,000 in revenue.

Additional universities under consideration for possible expansion of the program are California State Universities in Bakersfield, San Diego and Turlock; University of California campuses in Santa Barbara and Irvine; and the University of the Pacific in Stockton.

RAIL SAFETY

Rail passenger service expansion in California has meant significantly increased traffic along largely privately owned railroad tracks. To help ensure that the increase occurs without a corresponding increase in hazard, the Department budgets \$70,000 annually toward rail safety information and education programs. These dollars are used to place warning signs near schools adjacent to railroad tracks; to develop safety programs designed to educate Californians on the dangers of trespassing on rail ROW and ignoring grade crossing warning devices; and to conduct public service advertising campaigns on these subjects. The CCJPA also participates in safety activities with the Department.

The Department coordinates its rail safety activities with California Operation Lifesaver, the State affiliate of the national nonprofit organization. The State organization is a coalition of railroads; Federal, State and local agencies (such as the FRA, the CPUC, local police organizations and transit operators); and private businesses and individuals concerned about promoting safety. The Department is a member of the California Operation Lifesaver Board of Directors. Their major focus is encouraging safe behavior at railroad grade crossings and discouraging, for safety reasons, trespassing on railroad property.

MARKET RESEARCH

The Department contracts with Amtrak for \$500,000 per year in market research services. With the Department's participation, Amtrak contracts with various market research firms to measure customer attitudes, desires and preferences in order to match services to customer needs. Past market research has included seasonal on board surveys; telephone surveys of non-users; license plate surveys to obtain data for ridership, modeling, and advertising; and promotion tracking studies. Specifically, the Department has examined alternative family fare structures, participated in Amtrak's Pacific Coast Market Study conducted research into the usage of the California Rail Pass, studied the *Pacific Surfliners'* Pacific Business Class, surveyed Metrolink and Coaster users of the "Rail 2 Rail" program, and performed the *Pacific Surfliner* parking analysis.

In addition, each year's research plan includes a contingency fund designed to conduct spot research on subjects that arise during the course of a given year. In this category, the Department and Amtrak have conducted research on timetable formats that resulted in a redesign of the State's public timetable folders. A branding exercise soliciting customer attitudes about the *San Diegan* brand name and its possible replacements resulted in the new *Pacific Surfliner* name for the corridor.

Rail Ridership/Revenue Forecasting Model

The Department contracts with Amtrak for operation and development of the Rail Ridership/Revenue Forecasting Model. It is used by the Department, Amtrak and CCJPA in conjunction with Amtrak's consultant, AECOM Consult, an affiliate of DMJM Harris, to estimate the ridership and revenue impacts of major service changes, such as new services, route extensions or truncations, frequency changes, and fare changes.

The first stage of the model predicts automobile and rail travel volumes for each origin-destination pair. The second stage predicts the share of intercity travel that is expected to use each available modal alternative (automobile, rail) in the future. Both model stages are conditional on the characteristics of the modal services to be offered and the characteristics of the population.

CAPITOL CORRIDOR MARKETING PROGRAM

The CCJPA's FY 2005/06-FY 2006/07 Business Plan Update states that:

The CCJPA uses a combination of grassroots local marketing efforts and broad-based joint media campaigns to build awareness of the *Capitol Corridor* service. Marketing dollars and impact are maximized through joint promotions and advertising as well as reciprocal marketing programs with the State, Amtrak, CCJPA member agencies, and other selected partners. A primary objective is to promote the service to key markets and attract riders to trains with available capacity.

The CCJPA will pursue the following initiatives in 2005-06 and 2006-07:

FY 2005-06 Marketing Program

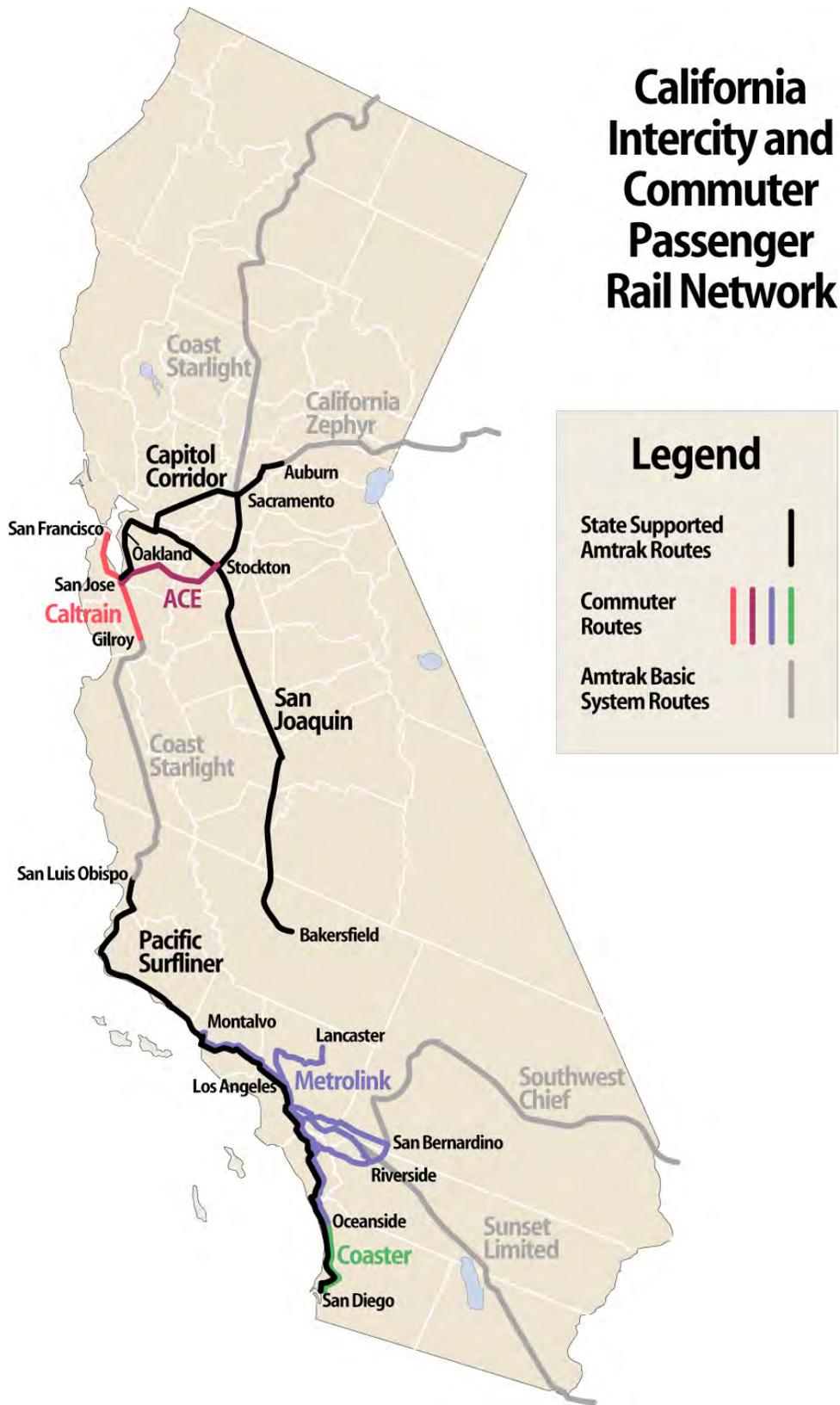
- In the past, the CCJPA, Amtrak, and Caltrans collaborated on refining the "Travel made simple" campaign to preserve the freshness and clarity of the advertising message. This campaign, which will continue through 2005-06, emphasizes the convenience of modern train travel.
- Continue development of Strategic Marketing Partnership Programs to maximize media dollars, aligning the *Capitol Corridor* with valuable organizations and expanding market reach.
- Reciprocal marketing with tourism industry members such as hotels, airports, and convention/visitor bureaus.
- Targeted marketing to school groups, senior citizens, special interest groups, and new residential communities.
- Expand promotional partnerships with high-profile entities to maximize media dollars and visibility.
- Focus on business travel, especially in the Placer and Santa Clara County areas, as service to those areas increases.
- Coordinate outreach and public relations efforts in Silicon Valley/San Jose area to coincide with service expansion.

FY 2006-07 Marketing Program

In addition to continuing our most successful programs, the CCJPA will also consider new approaches for future implementation:

- Refinement of the *Capitol Corridor* brand to emphasize local character and personalize the service, including possible image modifications.
- Explore gradual shift towards *Capitol Corridor*-specific regional marketing, to increase regional brand awareness and test for advertising effectiveness.

Figure 5A



CHAPTER V

THE CALIFORNIA RAIL NETWORK

This chapter describes the California rail network and the State’s responsibility vis-à-vis this network. Figure 5A is a map of the intercity and commuter rail passenger systems in California, Figure 5B summarizes all of the intercity, commuter, and urban rail services in California, and Figure 5C is a summary of intercity and commuter rail ridership in California from 1974-2005.

RAIL SERVICES IN CALIFORNIA

The State rail system combines intercity, commuter, and freight rail. Intercity rail includes state-supported corridor routes and Amtrak long-distance routes. All three systems share the same infrastructure that is generally owned by private railroads, and in some cases, public entities. Because these systems share the same infrastructure, joint planning and policy development will increase the efficiency and effectiveness of the system, and help to make infrastructure development and maintenance more cost effective. For this reason, this Plan focuses on these rail components of the larger mass transportation system in California.

Amtrak funds and operates “basic system” long-distance (usually interstate) rail routes. Four long-distance routes operate in California (*Coast Starlight*, *California Zephyr*, *Southwest Chief*, and *Sunset Limited*). The State funds the three State-supported intercity rail routes. The Department administers the *Pacific Surfliners* and *San Joaquins* and the CCJPA administers the *Capitol Corridor*. Amtrak operates these routes under contract with either the State or the CCJPA. Regional agencies fund and administer the four commuter rail systems in California (Caltrain, ACE, Metrolink, and Coaster).

The freight rail system in California is primarily operated by two privately owned Class I railroads: the Union Pacific Railroad (UP) and the BNSF Railway (BNSF). Also, one Class II regional railroad and 27 Class III shortline railroads operate freight rail service in California.

Amtrak’s long-distance routes are discussed in more detail later in this Chapter. The three State-supported intercity rail routes are discussed in Chapters VI, VII, and VIII and commuter rail services are discussed in Chapter IX. Freight rail is discussed in detail in Part II of this Plan (Chapters XIV – XX).

Figure 5B

RAIL PASSENGER SERVICES IN CALIFORNIA				
Service	Type	Operator	Service Name	Service Area
Intercity Rail	Railroad	Amtrak (100% State Supported)	<i>Pacific Surfliner</i> *	San Luis Obispo-Santa Barbara-Los Angeles-San Diego
			<i>San Joaquin</i>	Bay Area/Sacramento-Fresno-Bakersfield
			<i>Capitol Corridor</i>	Auburn-Sacramento-Oakland-San Jose
		Amtrak Basic System (100% Amtrak Supported)	<i>Coast Starlight</i>	Los Angeles-Oakland-Sacramento-Seattle
			<i>California Zephyr</i>	Emeryville-Sacramento-Denver-Omaha-Chicago
			<i>Southwest Chief</i>	Los Angeles-Kansas City-Chicago
		<i>Sunset Limited</i>	Los Angeles-Houston-New Orleans-Orlando	
		<i>Pacific Surfliner</i> *	San Luis Obispo-Santa Barbara-Los Angeles-San Diego	
Commuter Rail	Railroad	Peninsula Corridor Joint Powers Board	Peninsula Commute Service (Caltrain)	San Francisco-San Jose-Gilroy
		San Joaquin Regional Rail Commission	Altamont Commuter Express (ACE)	Stockton-Livermore-Fremont-San Jose
		Southern California Regional Rail Authority	Metrolink: Ventura County Line Antelope Valley Line San Bernardino Line Riverside Line Orange County Line Inland Empire- Orange County Line 91 Line	Los Angeles-Oxnard-Montalvo Los Angeles-Palmdale-Lancaster Los Angeles-Claremont-San Bernardino Los Angeles-Pomona-Riverside Los Angeles-Santa Ana-Oceanside San Bernardino-Santa Ana-Oceanside Los Angeles-Fullerton-Riverside
		North County Transit District	Coaster	Oceanside-Solana Beach-San Diego
Urban Rail Transit	Heavy Rail Transit	San Francisco Bay Area Rapid Transit District	BART	Richmond-Oakland-San Francisco-Daly City Fremont-Oakland-San Francisco-Daly City Richmond-Oakland-Fremont Pittsburg/Bay Point-San Francisco-Daly City Dublin/Pleasanton-Coliseum/Oakland Airport- San Francisco-San Francisco Airport-Millbrae
		Los Angeles County Metropolitan Transportation Authority	Metro Rail: Red Line Red Line	Los Angeles-Hollywood/Vine-North Hollywood Los Angeles-Wilshire/Western
	Light Rail Transit	Sacramento Regional Transit District	RT Light Rail: Gold Line Blue Line	Sacramento-Sunrise-Folsom Watt/I-80-Sacramento-Meadowview
		San Francisco Municipal Railway	Muni Metro: F - Market-Wharves J - Church K - Ingleside L - Taraval M - Oceanview N - Judah	Fisherman's Wharf-Castro Ferry Building-Noe Valley-Balboa Park Ferry Building-Ingleside District-Balboa Park Ferry Building-San Francisco Zoo Ferry Building-Oceanview District-Balboa Park Caltrain Station-Ocean Beach
		Santa Clara Valley Transportation Authority	VTA Light Rail	Alum Rock-Tasman-San Jose-Santa Teresa Mountain View-Tasman-San Jose-Winchester Oholne/Chynoweth-Almaden
		Los Angeles County Metropolitan Transportation Authority	Metro Rail: Blue Line Gold Line Green Line	Los Angeles-Compton-Long Beach Los Angeles-Highland Park-Pasadena Redondo Beach-Aviation/LAX-Lynwood-Norwalk
		San Diego Trolley, Inc.	San Diego Trolley: Blue Line Orange Line Green Line	Old Town-San Diego-San Ysidro San Diego-El Cajon-Gillespie Field Old Town-Qualcomm Stadium-SDSU-Santee
	Cable Car	San Francisco Municipal Railway	Muni Cable Car	California Street Powell-Mason/Hyde

* - State supports 70% of all service; Amtrak supports 30%.

Figure 5C

ANNUAL INTERCITY AND COMMUTER RAIL RIDERSHIP IN CALIFORNIA										
DOES NOT INCLUDE RIDERSHIP ON AMTRAK LONG DISTANCE TRAINS NOT SUPPORTED BY THE STATE OF CALIFORNIA										
Calendar Year	INTERCITY ROUTES					COMMUTER SERVICES				
	Pacific Surfliner ①	San Joaquin	Capitol Corridor	Total	Caltrain	MetroLink	Coaster	ACE	Total	Grand Total
1974	392,170	75,360		467,530 ②	--					
1975	353,590	64,110		417,700 ②	--					
1976	465,250	73,070		538,320 ②	--					
1977	688,260	86,584		774,844 ②	--					
1978	817,566	78,345		895,911	4,341,011				4,341,011	5,236,922
1979	1,169,978	96,399		1,266,377	5,699,406				5,699,406	6,965,783
1980	1,253,387	155,587		1,408,974	6,112,890				6,112,890	7,521,864
1981	③ 1,188,681	183,235		1,371,916	5,895,129				5,895,129	7,267,045
1982	③ 1,216,327	180,030		1,396,357	5,195,819				5,195,819	6,592,176
1983	③ 1,259,188	214,928		1,474,116	5,009,130				5,009,130	6,483,246
1984	1,215,026	257,633		1,472,659	5,232,827				5,232,827	6,705,486
1985	1,335,007	286,105		1,621,112	5,384,013				5,384,013	7,005,125
1986	1,432,700	282,414		1,715,114	5,416,303				5,416,303	7,131,417
1987	1,530,728	324,627		1,855,355	5,540,630				5,540,630	7,395,985
1988	1,744,576	355,768		2,100,344	5,600,582				5,600,582	7,700,926
1989	1,690,248	361,258		2,051,506	5,790,712				5,790,712	7,842,218
1990	1,690,759	538,061		2,228,820	6,970,696				6,970,696	9,199,516
1991	1,562,282	507,242	10,220	2,079,744	7,111,365				7,111,365	9,191,109
1992	1,665,158	510,279	271,959	2,447,396	6,833,290	165,466			6,998,756	9,446,152
1993	1,638,159	530,257	300,409	2,468,825	6,889,941	1,889,980			8,779,921	11,248,746
1994	1,578,946	561,674	371,919	2,512,539	7,021,182	4,132,625			11,153,807	13,666,346
1995	1,441,925	518,737	357,123	2,317,785	7,143,091	4,645,561	514,453		12,303,105	14,620,890
1996	1,574,896	578,059	480,555	2,633,510	7,765,115	5,688,814	850,999		14,304,928	16,938,438
1997	1,650,411	715,103	488,150	2,853,664	8,367,683	6,314,368	945,739		15,627,790	18,481,454
1998	1,559,997	665,067	464,903	2,689,967	8,643,158	6,745,282	1,132,445	67,222	16,588,107	19,278,074
1999	1,547,049	675,713	552,063	2,774,825	8,990,864	7,229,677	1,251,238	424,988	17,896,767	20,671,592
2000	1,594,189	683,889	878,960	3,157,038	10,267,000	8,062,573	1,183,058	714,259	20,226,890	23,383,928
2001	1,737,532	713,087	1,063,994	3,514,613	10,497,640	8,522,555	1,258,263	922,976	21,201,434	24,716,047
2002	1,796,442	741,497	1,104,274	3,642,213 ④	8,978,675	8,979,107	1,300,047	803,522	20,061,351	23,703,564
2003	2,228,042	783,096	1,140,561	4,151,699 ④	8,107,324	9,099,985	1,366,479	607,017	19,180,805	23,332,504
2004	2,431,085	747,574	1,192,152	4,370,811 ④	8,768,157	9,786,531	1,474,360	640,753	20,669,801	25,040,612
2005	2,520,444	755,851	1,260,249	4,536,544	9,867,498	10,245,609	1,485,125	667,029	22,265,261	26,801,805

① Designated the San Diegan Route prior to May 21, 2000.

② Data not available.

③ Pacific Surfliner ridership shown above includes the following Spirit of California ridership: 1981 (17,533), 1982 (80,360) and 1983 (64,751).

④ To facilitate the implementation of "Baby Bullet" service, Caltrain suspended weekend service between July 3, 2002 and June 4, 2004, resulting in a drop in ridership. Weekend service was reestablished on June 5, 2004.

Urban rail transit systems in California do not share the same infrastructure with intercity, commuter and freight rail. For this reason, as discussed above, planning for these systems is not covered in this Plan. These systems include five different light rail systems (Sacramento, San Francisco, San Jose, Los Angeles, and San Diego), BART, the Los Angeles County Metropolitan Transit Association (LACMTA) Metro Rail Red Line, and San Francisco Municipal Railway Cable Car. These systems are locally funded.

In order to further the implementation of a safe, integrated, multi-modal, world-class transportation system, it is essential that the intercity and commuter rail systems be well integrated with the urban transit rail and bus systems. Thus the State encourages local and regional planning agencies to share their ideas and concerns regarding intercity rail service in their respective service areas. And multi-modal integration and connectivity is discussed throughout this Plan.

THE STATE’S ROLE IN RAIL PASSENGER SERVICE

INTERCITY RAIL SERVICES

Intercity passenger rail service is a component of the State’s overall transportation system and operates between several regions of the State. Service is provided between metropolitan areas and to rural areas in the State. In California, Amtrak currently operates all State-supported intercity rail service under the provisions of the Federal Rail Passenger Service Act (49 U.S.C. 24101). All three intercity rail routes were funded, planned and administered by the State until July 1998 when the CCJPA assumed administration of the *Capitol Corridor*. The State continues to fund the operation of the *Capitol Corridor*, and fund and administer the *Pacific Surfliner* and *San Joaquin* Routes. For more information on Amtrak’s relationship with the Department and the CCJPA in regards to operations funding see Chapter XI. For more information on the intercity rail operations budget see Chapter III.

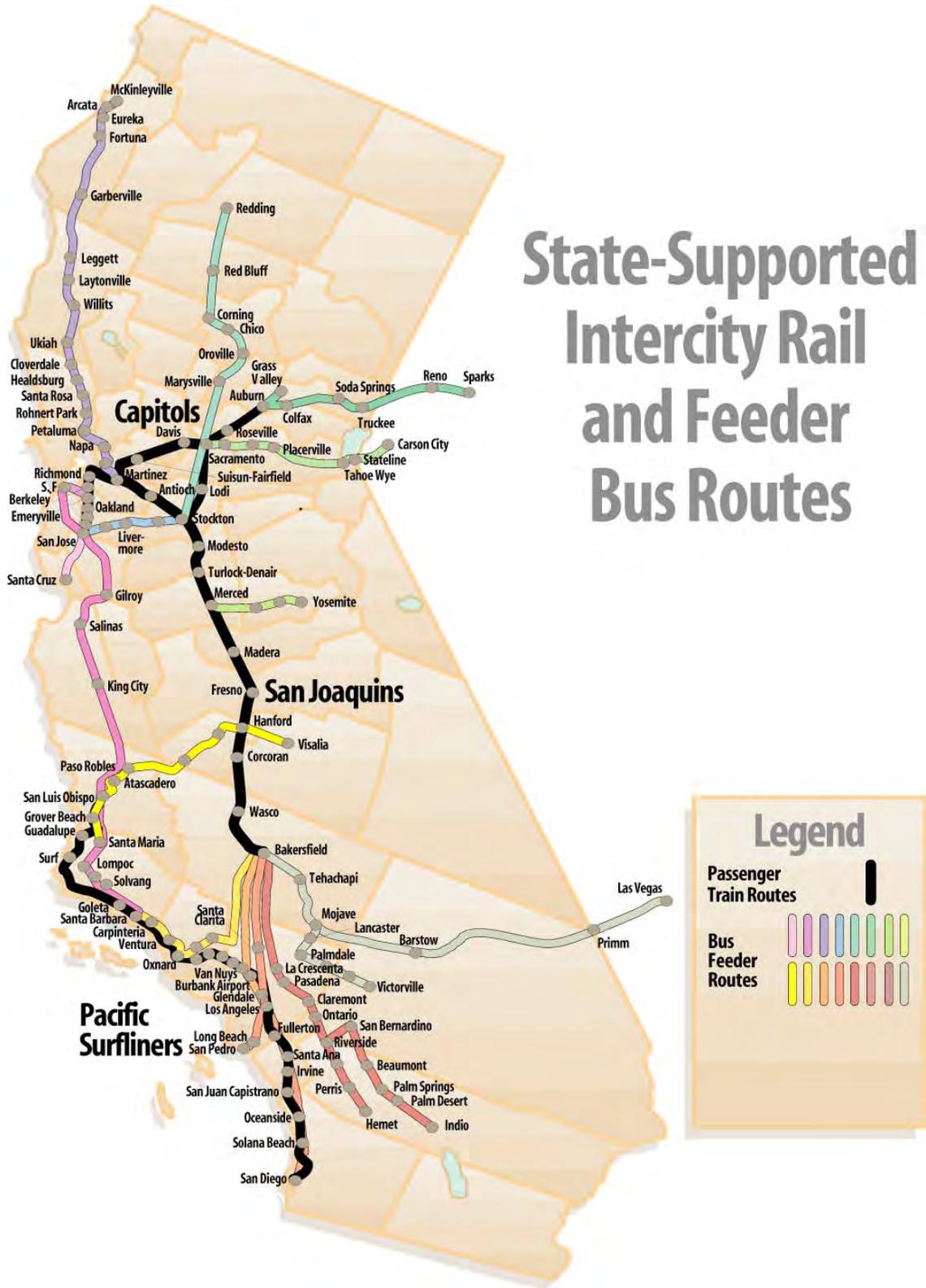
The State also pays for the majority of capital improvements to intercity rail services. For detailed information on the intercity rail capital program see Chapter II. For information on intercity rail funding sources see Chapter XII.

Figure 5D is a map of the three State-supported routes.

COMMUTER RAIL SERVICES

Commuter rail operates primarily within a single region of the State, serving regional and local transportation needs. Because commuter rail services primarily serve local and regional transportation needs, they are planned and administered by local and regional transportation agencies. Various sources of funding are available at the local, State, and Federal levels. Some capital funding is provided by the State through the State Transportation Improvement Program, and other sources, but operating funding is provided by the local and regional agencies.

Figure 5D



DEFINITION OF COMMUTER VERSUS INTERCITY RAIL

The Federal Rail Passenger Service Act (RPSA) and subsequent legal decisions define commuter and intercity rail service.

The RPSA (49 U.S.C. 24102) states that:

“Commuter rail passenger transportation” means short-haul rail passenger transportation in metropolitan and suburban areas usually having reduced fare, multiple-ride, and commuter tickets and morning and evening peak period operations.

The Penn Central Transportation Company Discontinuance decision (338 ICC 318) 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:

- 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.
- The service is usually characterized by operations performed at morning and evening peak periods of travel.
- 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.
- The service makes several stops at short intervals either within a zone or along the entire route.
- The equipment used may consist of little more than ordinary coaches.
- 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 this exclusion.

The RPSA (49 U.S.C. 24102) also states that:

“Intercity rail passenger transportation” means rail passenger transportation, except commuter rail passenger transportation.

Thus, both the RPSA 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. The inclusion of State-supported rail services under the RPSA definition of "intercity" is critical because Amtrak has

the right under the RPSA to access freight railroad tracks at incremental cost for the operation of intercity rail passenger services.

Currently, there is no definition in State law for commuter or intercity rail service. Prior definitions, which essentially referred to the Federal definitions, were deleted under Chapter 622, Statutes of 1997 (SB 45 - Kopp).

AMTRAK BASIC SYSTEM SERVICES

Currently, Amtrak operates basic system long-distance trains on five routes in California that link California with other states. Basic system trains are fully funded by Amtrak and also provide varying levels of intrastate service within California. The *Pacific Surfliner* Route is unique because it is partially a basic system service and partially State-supported.

The following describes the basic system routes serving California and their significance to the State's transportation needs. Ridership figures are for FFY 2004-05 and include the total route ridership, not just the portion in California. Figure 5E is a map displaying the Amtrak basic system routes in California.

ROUTE DESCRIPTIONS

***Pacific Surfliner* Route** (San Luis Obispo-Los Angeles-San Diego)

Ridership on the *Pacific Surfliner* Route is only exceeded by service in the Northeast Corridor operating between Boston, New York, and Washington, D.C. Eleven round trips operate on Monday through Thursday, and twelve operate on Friday through Sunday between Los Angeles and San Diego. Five daily round-trips are extended north between Los Angeles and Santa Barbara, with two continuing on to San Luis Obispo. Amtrak pays for 30 percent of the entire service as part of Amtrak's basic system, while the State pays for the remaining 70 percent of the service. Ridership in FFY 2004-05 was 2,520,444, an increase of 7.5 percent from the previous year. Chapter V discusses this route in detail.

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

The *Coast Starlight's* daily round-trip is the most popular long distance train in the Amtrak system. For many years, demand has often outstripped capacity during summer and holiday travel periods. A substantial portion of the Route's ridership is generated by intrastate California travel. The Route provides the only rail service north from Sacramento to Redding and Oregon, and the only through rail service from the Bay Area to Los Angeles. Direct connections with the *Pacific Surfliner* at Los Angeles effectively extend the route south to San Diego. Connections with the *San Joaquin* at Sacramento and Martinez provide Central Valley access for travelers to and from the north. Portland and Seattle are key stops to the north. Ridership in FFY 2004-05 on the service's one daily round-trip totaled 372,304, a decrease of 10.4 percent from the previous year.

Figure 5E



The California Zephyr (Emeryville-Reno-Denver-Chicago)

The *California Zephyr* provides daily round-trip regional service in the Emeryville-Sacramento-Reno corridor; extra coaches are often operated on this portion of the route to handle heavy loads to and from Reno. Connecting buses link Emeryville with San Francisco. A stop in Truckee serves Lake Tahoe and nearby Sierra ski areas. Salt Lake City, Denver, Lincoln and Omaha are also stops on the route to Chicago. Ridership in FFY 2004-05 was 347,856, an increase of 3.6 percent from the prior year.

The Southwest Chief (Los Angeles-Albuquerque-Kansas City-Chicago)

The daily round-trip *Southwest Chief* provides the only rail service in California from Los Angeles east to Victorville, Barstow and Needles. The Route continues to the Grand Canyon at Flagstaff and to Albuquerque, Kansas City, and Chicago. Ridership was 295,515 in FFY 2004-05, an increase of 1.9 percent from the prior year.

The Sunset Limited (Los Angeles-San Antonio-New Orleans-Orlando)

The *Sunset Limited* operates three days a week in each direction and is the only rail service to Palm Springs. It continues east, connecting California to Tucson, El Paso, San Antonio, Houston, New Orleans, Mobile, Jacksonville and Orlando. It is Amtrak's only transcontinental passenger train. The *Texas Eagle*, which links Chicago with San Antonio, carries through-cars to and from the *Sunset Limited*. Ridership in FFY 2004-05 was 81,348, a decrease of 15.6 percent from the previous year.

AMTRAK RIDERSHIP BY STATION

Figure 5F shows ridership at each Amtrak train and bus station in California for FFYs 2001-02 through 2004-05. This table includes ridership on State-supported trains and buses as well as Amtrak's basic system routes. Stations with ticket agent or checked baggage services are also identified.

Figure 5F

AMTRAK TRAIN AND BUS RIDERSHIP BY STATION IN CALIFORNIA FEDERAL FISCAL YEARS 2001-02 TO 2004-05 (See Note)													
04-05 Rank	Station	County	Ridership 2004-05	Ridership 2003-04	Ridership 2002-03	Ridership 2001-02	Routes Serving Station *						Services
							PS	SJ	CC	CS	CZ	SC	
1	L. A. Union Station	Los Angeles	1,576,145	1,489,170	1,440,484	1,202,612	TB	B	T	T	T	T	A, Bg
2	Sacramento	Sacramento	1,072,278	1,016,058	1,007,172	913,525	TB	T	T	T			A, Bg
3	San Diego	San Diego	855,493	796,288	753,406	661,290	TB	B					A, Bg
4	Emeryville	Alameda	691,523	651,715	678,675	671,830	T	T	T	T			A, Bg
5	Bakersfield	Kern	681,034	666,635	697,573	663,916	B	T					A, Bg
6	Irvine	Orange	565,147	474,125	350,955	213,983	T						A
7	Fullerton	Orange	405,654	378,717	332,288	254,516	T				T		A, Bg
8	Solana Beach	San Diego	400,981	378,530	346,069	294,771	TB	B					A, Bg
9	Davis	Yolo	344,696	318,299	315,072	290,044	B	T	T	T			A, Bg
10	Martinez	Contra Costa	341,555	328,026	333,146	319,995	T	T	T	T			A, Bg
11	Oakland	Alameda	331,488	321,045	329,092	326,847	T	TB	T	B			A, Bg
12	Anaheim	Orange	317,022	291,261	248,636	174,046	T						A, Bg
13	Oceanside	San Diego	305,136	310,590	329,517	272,420	TB	B					A, Bg
14	Stockton	San Joaquin	277,769	265,870	279,619	288,372	TB						A, Bg
15	Santa Barbara	Santa Barbara	270,080	294,358	284,976	244,469	TB	B	B	T			A, Bg
16	Fresno	Fresno	260,657	242,931	261,541	229,213	T	B					A, Bg
17	San Juan Capistrano	Orange	258,243	262,412	268,290	234,734	TB	B					A
18	Richmond	Contra Costa	223,029	203,687	170,477	148,103	T	T					
19	San Jose	Santa Clara	209,683	205,753	221,103	237,852	B	TB	T				A, Bg
20	San Francisco	San Francisco	208,716	196,634	196,892	196,892	B	B	B	B			A, Bg
21	Santa Ana	Orange	175,530	174,824	180,514	140,028	TB	B					A, Bg
22	Hanford	Kings	158,359	151,125	159,515	149,758	T						A, Bg
23	Suisun-Fairfield	Solano	117,240	108,825	101,716	92,721		T					
24	San Luis Obispo	San Luis Obispo	109,538	89,985	90,391	88,296	TB	B	B	T			A, Bg
25	Merced	Merced	88,930	86,774	94,646	87,191	T						A, Bg
26	Oxnard	Ventura	81,423	92,044	95,295	83,957	TB	B	T				A, Bg
27	Great America	Santa Clara	75,127	72,570	82,095	94,434		TB					
28	Berkeley	Alameda	73,993	63,840	63,603	73,198		T					
29	Van Nuys	Los Angeles	72,252	79,425	78,404	74,998	TB	B					A, Bg
30	Modesto	Stanislaus	71,986	73,296	73,658	68,475	T						A, Bg
31	Roseville	Placer	70,373	66,189	66,377	64,085		TB		T			
32	Goleta	Santa Barbara	66,531	45,666	30,299	24,452	T						
33	Chatsworth	Los Angeles	44,432	46,365	41,749	24,920	TB						
34	Auburn	Placer	43,239	45,773	46,213	40,228		B	TB				
35	Glendale	Los Angeles	42,734	47,902	51,290	47,087	TB	B		T			
36	Ventura	Ventura	37,898	38,002	34,581	29,795	TB	B					
37	Simi Valley	Ventura	36,512	41,455	48,029	41,578	TB	B		T			
38	Burbank Airport	Los Angeles	36,130	36,989	38,988	31,194	T	B					
39	Rocklin	Placer	32,645	34,982	39,582	35,233		B	TB				
40	Fremont	Alameda	30,919	28,001	26,496	29,401		B	TB				
41	Salinas	Monterey	25,425	27,920	28,352	29,867		B	B	T			A, Bg
42	Hayward	Alameda	23,764	23,776	23,670	25,598		TB					
43	Corcoran	Kings	23,469	22,817	23,831	26,908		T					
44	Camarillo	Ventura	21,309	18,730	13,911	8,325	T						
45	Antioch-Pittsburg	Contra Costa	21,204	20,732	20,463	21,047		T					
46	Grover Beach	San Luis Obispo	18,882	16,836	16,927	16,137	TB	B	B				
47	Old Town San Diego	San Diego	18,295	1,505	--	--	T						
48	Chico	Butte	18,155	17,177	16,808	17,068		B	B	T			
49	San Bernardino	San Bernardino	16,069	19,112	20,354	21,664		B			T		
50	Carpinteria	Santa Barbara	15,880	17,211	14,086	12,539	TB	B					

* Route and Symbol Key

PS Pacific Surfliner (San Luis Obispo-Los Angeles-San Diego)	CZ Calif. Zephyr (Emeryville-Chicago)
SJ San Joaquin (Bay Area/Sacramento-Fresno-Bakersfield)	SC Southwest Chief (Los Angeles-Chicago)
CC Capitol Corridor (Auburn-Sacramento-Oakland-San Jose)	SL Sunset Limited (Los Angeles-Orlando)
CS Coast Starlight (Los Angeles-Oakland-Sacramento-Seattle)	

T Train at this location TB Train and bus at this location B Connecting bus at this location
A Ticket Agent at this location Bg Checked baggage at this location

NOTE: Official Amtrak ridership data for four Federal Fiscal Years (October 2001 through September 2005). Includes all rail and bus passengers originating or terminating at each station on all routes shown above.

Figure 5F (Continued)

AMTRAK TRAIN AND BUS RIDERSHIP BY STATION IN CALIFORNIA													
FEDERAL FISCAL YEARS 2000/01 TO 2004/05													
04-05 Rank	Station	County	2004-05 Ridership	2003-04 Ridership	2002-03 Ridership	2001-02 Ridership	Routes Serving Station *						Services
							PS	SJ	CC	CS	CZ	SC	
51	Redding	Shasta	15,462	18,168	18,049	14,522		B	B	T			
52	Turlock-Denair	Stanislaus	15,083	13,576	13,888	14,123		T					
53	Wasco	Kern	13,936	14,557	14,370	15,975		T					
54	Paso Robles	San Luis Obispo	13,551	13,997	13,802	14,030	B	B	B	T			
55	Riverside	Riverside	13,319	11,692	11,534	8,254		B					
56	Needles	San Bernardino	13,045	19,669	19,153	18,084						T	
57	Madera	Madera	12,121	12,406	13,202	12,679		T					
58	Truckee	Nevada	11,992	11,212	11,355	11,051		B	B		T		
59	Yosemite Natl. Park	Marijosa	11,023	13,368	16,792	14,250		B					
60	Long Beach	Los Angeles	9,193	7,684	7,076	8,607	B	B					
61	Moorpark	Ventura	9,177	8,146	8,453	5,905	TB						
62	Santa Rosa	Sonoma	9,126	9,653	10,199	11,030		B	B				
63	Santa Maria	Santa Barbara	8,701	8,408	7,810	7,398	B	B	B				
64	South Lake Tahoe	El Dorado	8,313	9,788	9,131	6,423		B	B				
65	Victorville	San Bernardino	7,296	6,505	5,206	4,354						T	
66	Lodi	San Joaquin	7,024	7,718	7,900	5,565		TB					
67	Guadalupe	Santa Barbara	6,981	6,362	6,537	5,408	TB						
68	SLO-Cal Poly	San Luis Obispo	6,833	4,377	3,492	3,285		B					T
69	Ontario	San Bernardino	6,802	6,613	6,381	6,254		B					T
70	San Clemente	Orange	6,763	6,135	5,015	3,862		T					
71	San Pedro	Los Angeles	5,406	6,663	4,909	2,509		B					
72	Napa	Napa	5,286	5,253	5,376	6,303		B	B				
73	Pasadena	Los Angeles	5,224	4,762	5,939	5,427		B					
74	Surf/Lompoc	Santa Barbara	5,067	3,961	7,034	7,646	TB						
75	Santa Clarita-Newhall	Los Angeles	4,520	3,953	3,886	3,569	B	B					
76	Dunsmuir	Siskiyou	4,517	4,667	4,187	4,593				T			
77	Colfax	Placer	4,334	4,102	4,309	3,850		B	B		T		
78	Claremont	Los Angeles	4,256	4,051	4,211	4,176		B					
79	Barstow	San Bernardino	4,171	4,288	4,174	3,546		B				T	
80	Monterey	Monterey	4,101	5,573	5,491	8,284		B	B				
81	Arcata	Humboldt	3,905	4,202	3,894	3,837		B	B				
82	Stateline	El Dorado	3,702	3,848	249	976		B	B				
83	Vallejo-Marine World	Solano	3,690	4,008	5,987	6,814		B	B				
84	Lancaster	Los Angeles	3,491	3,178	2,925	2,842		B					
85	Marysville	Yuba	3,253	2,924	2,977	2,649		B	B				
86	Eureka	Humboldt	3,123	3,216	3,280	3,379	B	B					
87	Solvang	Santa Barbara	2,922	3,071	4,421	4,545	B		B				
88	Oroville	Butte	2,717	2,662	2,645	2,614		B	B				
89	Nevada City	Nevada	2,571	4,572	8,292	5,928		B	B				
90	Placerville	El Dorado	2,481	2,363	2,090	2,681		B	B				
91	McKinleyville	Humboldt	2,300	1,863	1,990	1,344		B	B				
92	Vallejo	Napa	2,226	2,058	1,980	578		B	B				
93	Palm Springs	Riverside	2,216	1,649	1,948	1,713							T
94	Petaluma	Sonoma	2,126	2,066	2,052	2,201		B	B				
95	Ukiah	Mendocino	2,065	2,141	1,683	1,799		B	B				
96	Oakland Coliseum	Alameda	1,924	1,223	2,051	1,050			T				
97	Hemet	Riverside	1,806	1,644	1,811	1,482		B					
98	Rohnert Park	Sonoma	1,742	1,834	1,947	1,986		B	B				
99	Visalia	Tulare	1,705	1,100	1,204	957		B					
100	Palmdale	Los Angeles	1,666	1,429	1,240	1,192		B					

* Route and Symbol Key:			
PS	Pacific Surfliner (San Luis Obispo-Los Angeles-San Diego)	CZ	Calif. Zephyr (Emeryville-Chicago)
SJ	San Joaquin (Bay Area/Sacramento-Fresno-Bakersfield)	SC	Southwest Chief (Los Angeles-Chicago)
CC	Capitol Corridor (Auburn-Sacramento-Oakland-San Jose)	SL	Sunset Limited (Los Angeles-Orlando)
CS	Coast Starlight (Los Angeles-Oakland-Sacramento-Seattle)		
T	Train at this location	TB	Train and bus at this location
A	Ticket Agent at this location	B	Connecting bus at this location
		Bq	Checked baggage at this location

Figure 5F (Continued)

AMTRAK TRAIN AND BUS RIDERSHIP BY STATION IN CALIFORNIA													
FEDERAL FISCAL YEARS 2000/01 TO 2004/05													
04-05 Rank	Station	County	Ridership 2004-05	Ridership 2003-04	Ridership 2002-03	Ridership 2001-02	Routes Serving Station *						Services
							PS	SJ	CC	CS	CZ	SC	
101	Dublin-Pleasanton	Alameda	1,606	1,397	1,254	1,325		B					
102	Lompoc	Santa Barbara	1,582	1,982	3,017	4,418	B						
103	Tehachapi	Kern	1,545	1,815	1,768	1,231		B					
104	Palm Springs Airport	Riverside	1,454	1,349	1,293	1,615		B					
105	Mojave	Kern	1,135	865	867	956		B					
106	Red Bluff	Tehama	1,093	1,010	925	1,053		B	B				
107	Grass Valley	Nevada	1,089	1,747	3,407	3,485		B	B				
108	Indio	Riverside	1,052	1,254	911	1,092		B					
109	Santa Paula	Ventura	1,019	891	873	799		B					
110	Livermore	Alameda	1,016	791	760	932		B					
111	Garberville	Humbolt	1,003	822	670	767		B	B				
112	Atascadero	San Luis Obispo	988	1,086	919	990	B	B					
113	Fortuna	Humbolt	905	965	803	863		B	B				
114	Willits	Mendocino	823	848	782	1,125		B					
115	Tracy	San Joaquin	807	735	820	763		B					
116	Pomona	Los Angeles	771	786	679	679						T	
117	Corning	Tehama	708	533	591	653		B	B				
118	Perris	Riverside	677	490	351	386		B					
119	Carmel	Monterey	561	863	865	1,079		B	B				
120	Moreno Valley	Riverside	522	557	332	332		B					
121	La Crescenta	Los Angeles	464	414	498	444		B					
122	Healdsburg	Sonoma	406	357	333	333		B	B				
123	Fillmore	Ventura	385	446	387	369		B					
124	Palm Desert	Riverside	378	404	449	431		B					
125	Mariposa	Mariposa	331	363	326	342		B					
126	Gilroy	Santa Clara	330	307	368	507		B	B				
127	Buellton	Santa Barbara	321	350	344	220		B					
128	Beaumont	Riverside	303	256	244	252		B					
129	Laytonville	Mendocino	273	171	205	120		B	B				
130	Rosamond	Kern	264	268	261	266		B					
131	Soda Springs	Nevada	226	180	235	259		B	B				
132	Adelanto Jct.	San Bernardino	216	130	156	76		B					
133	King City	Monterey	205	156	72	72		B	B				
134	Midpines	Mariposa	176	141	142	342		B					
135	Cloverdale	Sonoma	160	237	199	225		B	B				
136	Rio Dell-Scotia	Humbolt	140	214	162	132		B	B				
137	Littlerock	Los Angeles	103	37	58	42		B					
138	El Portal	Mariposa	91	62	92	49		B					
139	Lemoore	Kings	90	34	64	44		B					
140	Leggett	Mendocino	52	68	65	49		B	B				
141	Baker	San Bernardino	39	26	--	--		B					
142	Kettleman City	Kings	32	12	30	25		B					
143	Sonora	Tuolumne	26	605	164	--		B					

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CS	Coast Starlight (Los Angeles-Oakland-Sacramento-Seattle)		
T	Train at this location	TB	Train and bus at this location
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		Bq	Checked baggage at this location

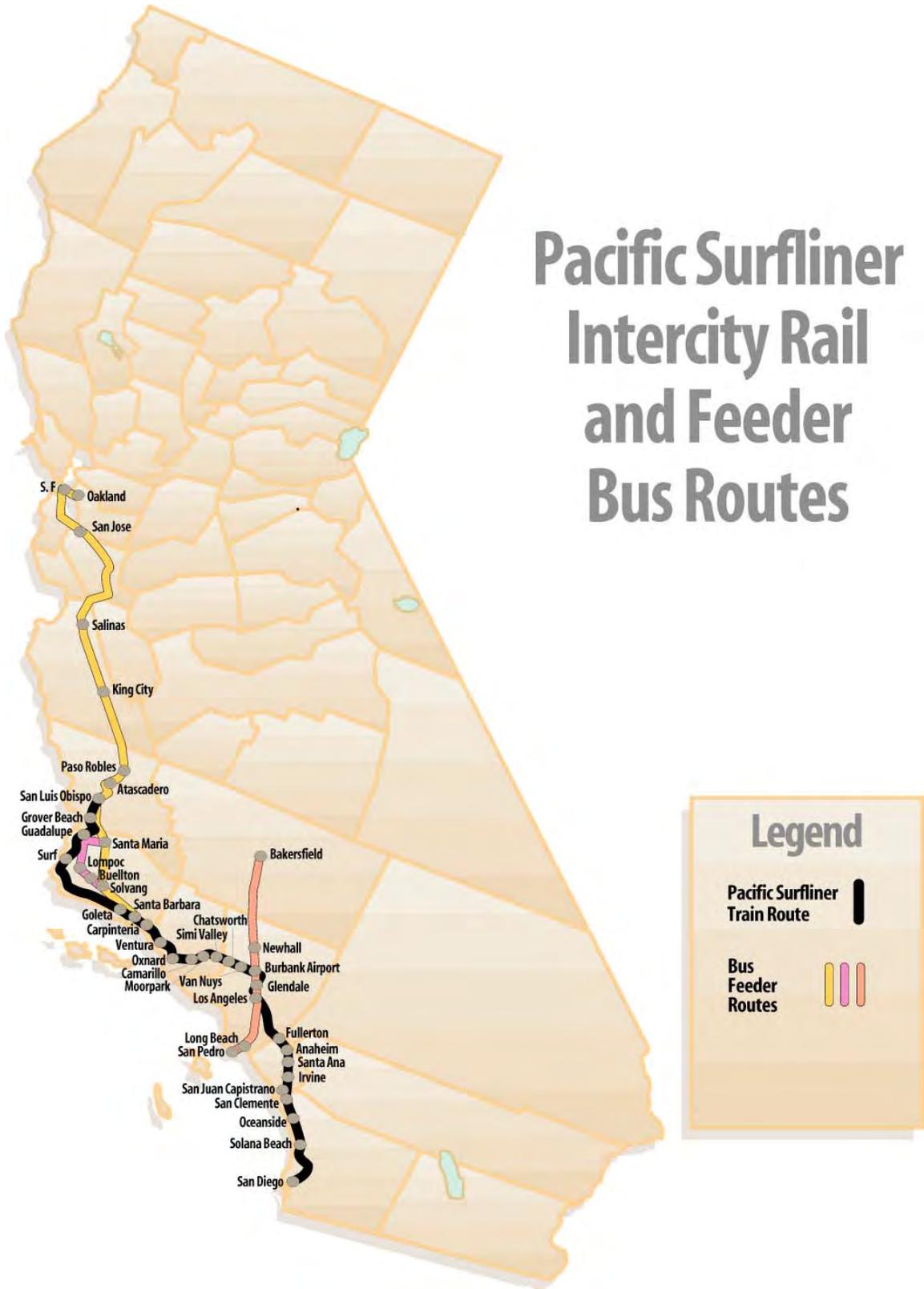
OTHER PASSENGER RAIL SERVICES

Other railroads in California offer limited rail passenger service, which is generally tourist oriented. These non-Amtrak intercity rail passenger services remain subject to the regulatory jurisdiction of the CPUC, FRA, and the Surface Transportation Board (STB).

The Sierra Railroad (formally the California Western Railroad) between Fort Bragg and Willits in Mendocino County has been the principal privately owned railroad in California offering regularly scheduled rail passenger service. Sierra Railroad acquired the line and opened it in May 2004 for passenger excursion service. Excursion related passenger traffic on the 40-mile route is the primary business. The Sierra Railroad has begun an ongoing acquisition and rehabilitation program for stations, track and rolling stock. The contact phone number for the “Skunk Train” is 1-800-866-1690.

Other railroads offer rail passenger tourist service generally only during summer and holiday periods. For additional information on rail passenger tourist service, call California Tourism at 1-800-862-2543 or access their website at www.visitcalifornia.com.

Figure 6A



CHAPTER VI

PACIFIC SURFLINER ROUTE

SAN LUIS OBISPO-SANTA BARBARA- LOS ANGELES-SAN DIEGO

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- **Improve On-Time Performance** to 90% by 2015-16.
- **Improve passenger comfort, convenience, and information with improved services on board and at stations.**
- **Improve intermodal connectivity:**
 - Cross-ticketing and coordinated schedules with Metrolink and Coaster.
 - Improved coordination with urban transit.
 - Improved Amtrak Thruway service.
- **Reduce Travel Times:**
 - San Diego to Los Angeles - 2 hours-30 minutes (15 minute reduction).
 - Los Angeles to San Luis Obispo - 5 hours-5 minutes (20 minute reduction).
- **Increase annual ridership** 40% from 2,578,000 to 3,611,000.
- **Increase annual revenues** 60% from \$28.4 million to \$45.4 million for the State-supported 70% of the Route.
- **Increase revenue/cost (farebox) ratio** from 58.0% to 65.0%.
- **Increase Service Frequency:**
 - From 11 to 13 daily round-trips between San Diego – Los Angeles.
 - From 5 to 6 daily round-trips between Los Angeles – Santa Barbara.
 - From 2 to 3 daily round-trips between Santa Barbara – San Luis Obispo.
- **Expand Service:**
 - San Francisco – San Luis Obispo – first daily round-trip in 2007-08, second daily round-trip in 2013-14.

This Chapter presents the ten-year operational and service improvement and train service expansion plans for the *Pacific Surfliner* Route. The Chapter also provides information on route history, route performance, route description, and route administration. Figure 6A is the *Pacific Surfliner* route map, including the connecting buses.

TEN-YEAR OPERATIONAL AND SERVICE IMPROVEMENT PLANS

ON-TIME PERFORMANCE

The Department's goal is to increase OTP to 90 percent by the end of the Plan period. This goal is based on the full implementation of the unconstrained capital program described in Chapter II. Increased OTP provides improved service reliability and faster running times. Since 2001-02 OTP has been about 87 percent, due to the completion of key capital projects and an improved preventative maintenance program for locomotives. However, two factors caused the OTP to fall to 72.9 percent in 2004-05. First, serious winter storms damaged track – interrupting and delaying service. Second, there has been a significant increase in freight traffic and in the length of freight trains. OTP has been severely affected by the increase in freight traffic, particularly from Los Angeles to San Luis Obispo, where it is almost entirely single track and many sidings are not long enough to accommodate the new longer freight trains.

In the near term, the completion of on-going track projects will somewhat improve OTP. Further into the ten-year period, projects on the north end to add sidings, increase the length of existing sidings, and upgrade the signaling system will improve OTP. The LAUS Run-Through Track project also will improve OTP. Additionally, the Department will work with the UP, BNSF, Metrolink, and Amtrak to identify and implement measures to enhance schedule reliability.

PASSENGER SAFETY, COMFORT, CONVENIENCE, AND INFORMATION

In the short-term the Department has a number of projects to improve passenger amenities, including improved: real-time signage at stations and on board, food service, and electronic passenger information. The Department will continue to explore the latest technology to improve passenger safety, comfort, convenience, and information.

INTERMODAL CONNECTIVITY

The next phase in intermodal connectivity between the *Pacific Surfliners* and Metrolink and Coaster is cross-ticketing and improved schedule coordination. “Next-generation” ticket vending machines are planned to be in the initial stages of operation by 2006. These machines will allow the purchase of a ticket for a combined Amtrak/Metrolink rail trip. The program is also planned to be expanded to the Coaster. Once the machines are in operation, schedules will be further coordinated and joint trip destinations will be marketed.

In 2005, the Department initiated a program on the *Pacific Surfliners* where conductors offer free transfers to participating transit services. Currently SLO Transit, Regional Transit Authority, South County Area Transit, and Guadalupe

Transit are participating. Within the ten-year period, the Department plans to expand this program to additional transit agencies. In conjunction with the free transfer program, marketing and passenger information programs will be expanded to provide additional information on intermodal connectivity with local transit.

The Department plans to expand and improve Amtrak Thruway bus service on the Route, including additional connections north to the San Francisco Bay Area.

TRAVEL TIMES

Current San Diego to Los Angeles travel times average 2 hours, 45 minutes; Los Angeles to Goleta (just north of Santa Barbara) averages 2 hours, 58 minutes; and Goleta to San Luis Obispo averages 2 hours, 27 minutes. The travel time goals below assume that the unconstrained capital program described in Chapter II is fully implemented. The Department's goal is to reduce travel times as follows:

- San Diego to Los Angeles - 2 hours, 30 minutes (15 minute reduction).
- Los Angeles to San Luis Obispo - 5 hours, 5 minutes (20 minute reduction).

Between San Diego and Los Angeles reductions will be accomplished through the completion of capital projects that will reduce actual run times as well as reduce the recovery time in the schedule. These projects include double-tracking in North San Diego County, triple-tracking between Los Angeles and Fullerton, and the LAUS Run-through Track project that will greatly improve the efficiency of operations at Union Station. On the north end between Santa Barbara and San Luis Obispo, updating signaling to Centralized Traffic Control (CTC), increasing siding lengths, new siding construction, and upgrading track will also reduce running times and allow for a reduction in schedule recovery time. (See Chapter II, for additional information about the capital projects.)

RIDERSHIP, REVENUE, AND FAREBOX RATIO

The Department's goals for ridership, revenue and farebox will be achieved through the capital, operational, and service improvements and service expansions discussed in this Chapter as well as Chapters II, III, and IV. They are as follows:

- Increase annual ridership 40 percent from 2,578,000 to 3,611,000.
- Increase annual revenues 60 percent from \$28.4 million to \$45.4 million for the State-supported 70 percent of the Route.
- Increase revenue/cost (farebox) ratio from 58.0 percent to 65.0 percent.

TEN-YEAR PLANNED TRAIN SERVICE EXPANSION PLANS INCREASED SERVICE FREQUENCIES

The Department anticipates there will be eventual demand for 13 round-trips on the *Pacific Surfliners* between San Diego and Los Angeles.

It is important to note that the start-up dates for service are based on projected service needs. Demonstrated ridership demand, approval from Amtrak and the relevant railroad(s), availability of capital funding and equipment, completion of necessary capital projects, and availability of additional operating funding will affect when each of the service improvements can be implemented.

The Department's proposed expansion of the *Pacific Surfliner* Route is as follows:

- 2009-10 Los Angeles-San Diego, twelfth round-trip.
- 2012-13 Los Angeles-San Diego, thirteenth round-trip.
- 2013-14 Los Angeles-Goleta, sixth round-trip,
 Goleta-San Luis Obispo, third round-trip.

SAN FRANCISCO TO SAN LUIS OBISPO (AND LOS ANGELES) EXTENSION

The extension of the *Pacific Surfliners* from San Luis Obispo to San Francisco via the Coast Route would close a key gap in the State-supported intercity rail system by providing direct train service from San Francisco to Los Angeles. The Department plans one round-trip train between San Francisco and San Luis Obispo, starting in 2007-08, with a second train in 2013-14. The first train would be operated from San Luis Obispo to Los Angeles as an extension of the new *Pacific Surfliner* train added on November 17, 2004, and would provide through train service between San Francisco and Los Angeles. The second train would operate as an extension of the planned third Los Angeles-San Luis Obispo round-trip. Direct train connections to San Diego at Los Angeles would be available on most trips. Regional transportation planning agencies have led the planning for this extension. The Department expects that both regional and local agencies will continue to provide an important role in the planning and operation of this extension. For more detailed information on this route expansion see Chapter X.

ROUTE HISTORY AND PERFORMANCE

Amtrak was created in 1971 to revitalize passenger rail service. Its *San Diegan* Route operated on tracks owned by Atchison Topeka and Santa Fe Railway (ATSF) between Los Angeles and San Diego. These trains functioned primarily as a connection to long-haul trains, as opposed to a local transportation network for passengers traveling within the corridor. By the end of 1971, service was three daily round-trips, and remained at this level until State involvement began in 1976.

The segment north of Los Angeles to Santa Barbara and San Luis Obispo, on Southern Pacific Transportation Company (SP) tracks, was served by Amtrak by a daily round-trip between Los Angeles and Oakland, with this train operating through Oakland to Seattle three times per week. This train was eventually named the *Coast Starlight*.

State support of the route began in 1976. This corridor has been unique among State-supported routes in California because some individual trains were entirely supported by Amtrak, since they were part of their basic system. However, the State paid most of the costs of the other trains, which were considered State-supported service. In October 1995, the cost allocation system changed and the State began support of 64 percent of all service, instead of supporting individual trains. This support level increased to 70 percent in November 2004.

In 1988, the *San Diegan* Route was extended to Santa Barbara with a further extension to San Luis Obispo in 1995. In 2000, the route was renamed the *Pacific Surfliner* in recognition of its expanded service area. A second round-trip between Los Angeles and San Luis Obispo was added on November 17, 2004.

Service on the *Pacific Surfliners* between Los Angeles and San Diego increased from the original three round-trips to the current level of eleven round-trips on Monday through Thursday and twelve round-trips on Friday through Sunday as follows:

- 9/1/76 Los Angeles-San Diego: fourth round-trip added, State-supported.
- 4/24/77 Los Angeles-San Diego: fifth round-trip added, State-supported.
- 2/14/78 Los Angeles-San Diego: sixth round-trip added, State-supported.
- 10/26/80 Los Angeles-San Diego: seventh round-trip added, Amtrak basic system.
- 10/25/81 State-supported *Spirit of California* Los Angeles-Sacramento round-trip overnight train provided Los Angeles to Santa Barbara service. Service discontinued October 1, 1983.
- 10/25/87 Los Angeles-San Diego: eighth round-trip added, State-supported.
- 6/26/88 First train extended to Santa Barbara, State-supported.
- 10/28/90 Second train extended to Santa Barbara, State-supported.
- 10/25/92 Los Angeles-San Diego: ninth round-trip added, Amtrak basic system.
- 2/1/94 Third train extended to Santa Barbara, State-supported.
- 5/15/95 Los Angeles-San Diego: ninth round-trip discontinued.
- 10/29/95 Los Angeles-San Luis Obispo: first round-trip (fourth round-trip, Los Angeles-Santa Barbara).

- 10/26/97 Los Angeles-San Diego: ninth round-trip restored and tenth round-trip added.
- 10/25/98 Los Angeles-San Diego: eleventh round-trip added.
- 5/21/01 Los Angeles-San Diego: twelfth Friday through Sunday round-trip added.
- 11/17/04 Los Angeles-San Luis Obispo: second round-trip added (fifth round-trip, Los Angeles-Santa Barbara).

HISTORICAL PERFORMANCE

Figure 6B shows ridership and financial performance data on an annual basis from the start of State-supported service in 1976-77 through 2004-05. Ridership and farebox return climbed steadily, with the years 1987-88 through 1992-93 experiencing particularly strong ridership growth and financial strength. The farebox ratio was near or over 100 percent for these six consecutive years, and ridership peaked at 1.8 million in 1992-93, and did not again reach this level until 2002-03.

However, introduction of Metrolink commuter rail service in the Los Angeles basin in October 1992 and Coaster commuter rail service in the San Diego area in 1995 had a negative effect on ridership. In 1995, Amtrak also increased the amount and type of costs charged to the State, with a negative effect on farebox return. Farebox return reached a low of 33.9 percent in 1997-98.

But overall ridership on the corridor has increased significantly in recent years, offsetting the initial impacts of the new commuter services. Ridership reached two million in 2002-03, and farebox return has been over 50 percent since 2000-01. The introduction of the “Rail 2 Rail” Program on Amtrak and Metrolink service in September 2004 and in April 2004 on the Coaster has caused a large increase in ridership. The program allows joint ticket honoring between Amtrak and commuter rail services. Ridership reached a peak of 2.5 million in 2004-05, a 40 percent increase over 2001-02 ridership (the year before the introduction of Rail 2 Rail).

Figure 6B

PACIFIC SURFLINER Route
Annual Operating Performance - State Fiscal Years

State Fiscal Year	Notes	Ridership Data			Financial Data for Operations - State Supported Train and Bus Service Only*						
		All Trains		State Supported ⁺	Revenue	Expense	Loss	State Cost	Amtrak Cost	Train Loss per PM	Farebox Ratio
		Ridership	PM/TM (F1)	Ridership							
1973-74 (S1)		381,844									
1974-75		356,630									
1975-76		376,900									
1976-77 (S2)		607,976	146	101,572	\$ 598,140	\$ 1,662,714	\$ 1,064,574	\$ 548,534			36.0%
1977-78 (S3)		753,246	128	258,800	\$ 1,446,036	\$ 3,768,065	\$ 2,322,029	\$ 1,325,087			38.4%
1978-79		967,316	163	415,865	\$ 2,203,403	\$ 4,333,602	\$ 2,130,199	\$ 1,178,667			50.8%
1979-80		1,218,196	177	557,113	\$ 3,341,561	\$ 5,536,840	\$ 2,195,279	\$ 1,064,713			60.4%
1980-81 (S4)		1,238,135	152	555,418	\$ 4,032,480	\$ 6,572,539	\$ 2,540,059	\$ 1,233,490			61.4%
1981-82		1,167,718	144	533,093	\$ 4,097,254	\$ 6,607,395	\$ 2,510,141	\$ 1,217,418		6.3e	62.0%
1982-83		1,131,146	138	488,606	\$ 4,094,750	\$ 6,928,334	\$ 2,833,584	\$ 1,374,097		8.3e	59.1%
1983-84		1,221,256	143	524,857	\$ 4,842,400	\$ 6,337,083	\$ 1,494,683	\$ 1,452,450		4.1e	76.4%
1984-85		1,240,003	152	568,902	\$ 5,410,502	\$ 6,411,308	\$ 1,000,806	\$ 1,212,261		2.5e	84.4%
1985-86		1,394,320	167	597,025	\$ 5,658,915	\$ 6,424,634	\$ 765,719	\$ 1,097,966		1.8e	88.1%
1986-87		1,461,003	173	624,618	\$ 6,072,523	\$ 6,510,113	\$ 437,590	\$ 955,509		1.0e	93.3%
1987-88 (S5)		1,661,512	174	749,996	\$ 8,223,462	\$ 7,859,783	\$ (363,679)	\$ 1,145,330		(0.7e)	104.6%
1988-89		1,717,539	164	865,003	\$ 11,458,084	\$ 10,563,459	\$ (894,625)	\$ 794,159		(1.2e)	108.5%
1989-90		1,746,673	174	882,167	\$ 12,189,942	\$ 11,808,251	\$ (381,691)	\$ 988,847		(1.4e)	103.2%
1990-91 (S6)		1,791,781	159	946,988	\$ 13,306,307	\$ 13,364,150	\$ 57,843	\$ 1,170,448		(0.7e)	99.6%
1991-92		1,673,107	161	884,224	\$ 13,152,063	\$ 13,245,924	\$ 93,861	\$ 1,012,564		(0.5e)	99.3%
1992-93 (S7)		1,810,572	155	951,987	\$ 13,692,612	\$ 13,254,709	\$ (437,903)	\$ 958,857		(0.8e)	103.3%
1993-94 (S8)		1,699,882	133	876,766	\$ 12,725,094	\$ 14,017,591	\$ 1,292,497	\$ 1,525,074	\$ 727,987	0.9e	90.8%
1994-95 (S9)		1,464,577	119	790,781	\$ 11,805,859	\$ 16,061,849	\$ 4,255,990	\$ 3,642,588	\$ 1,700,424	5.0e	73.5%
1995-96 (S10)		1,480,674	125	912,905	\$ 13,553,553	\$ 23,983,026	\$ 10,429,473	\$ 11,107,071	\$ 863,230	11.4e	56.5%
1996-97		1,617,641	134.7	1,035,290	\$ 14,804,355	\$ 39,563,546	\$ 24,759,191	\$ 16,189,103	\$ 10,020,544	24.5e	37.4%
1997-98 (S11)		1,624,693	120.4	1,069,547	\$ 15,194,498	\$ 44,769,723	\$ 29,575,225	\$ 20,369,417	\$ 10,600,767	29.1e	33.9%
1998-99 (S12)		1,563,275	101.9	1,047,394	\$ 16,401,625	\$ 40,391,845	\$ 23,990,220	\$ 22,078,192	\$ 4,014,071	25.3e	40.6%
1999-00		1,567,318	99.3	1,050,103	\$ 17,883,725	\$ 37,497,489	\$ 19,613,764	\$ 20,806,672	\$ 1,381,986	19.8e	47.7%
2000-01 (S13)		1,661,704	106.2	1,113,342	\$ 20,430,153	\$ 38,215,732	\$ 17,785,579	\$ 21,911,398	\$ 335,197	16.6e	53.5%
2001-02 (S14)		1,742,768	108.3	1,167,655	\$ 20,922,453	\$ 39,374,190	\$ 18,451,737	\$ 21,976,183	\$ 502,080	16.6e	53.1%
2002-03		2,030,491	114.1	1,360,429	\$ 22,247,564	\$ 42,331,531	\$ 20,083,967	\$ 23,901,407	\$ 472,848	16.7e	52.6%
2003-04		2,307,010	126.9	1,545,697	\$ 24,559,183	\$ 45,300,782	\$ 20,741,599	\$ 21,719,288	\$ 94,883	16.0e	54.2%
2004-05 (S15)		2,454,396	129.8	1,644,445	\$ 26,660,048	\$ 48,105,899	\$ 21,445,851	\$ 21,445,851		15.7e	55.4%
TOTAL		45,131,302		24,120,588	\$ 331,008,544	\$ 560,802,106	\$ 229,793,562	\$ 225,402,641			

* Through September 1995, the State supported specific trains; Amtrak operated the remaining trains as basic system trains not receiving State funding. Between October 1995 and October 1997, the State supported 64 percent of the operation of all trains on the Pacific Surfliner Route; Amtrak supports 36 percent as basic system trains. Effective November 1997, State support increased to 67%. Effective December 2004, State support increased to 70%. State supports 100 percent of net cost of connecting buses; all data shown includes bus operations.

- (S1) Three round trips between Los Angeles and San Diego (LA-SD) (not State-supported) through 8/30/76.
- (S2) Fourth LA-SD round trip (first State-supported train) added 9/1/76; fifth LA-SD round trip (second State-supported train) added 4/24/77.
- (S3) Sixth LA-SD round trip (third State-supported train) added 2/14/78.
- (S4) Seventh LA-SD round trip (not State-supported) added 10/26/80.
- (S5) Eighth LA-SD round trip (fourth State-supported train) added 10/25/87; first State-supported round trip between Los Angeles and Santa Barbara (LA-SB) added 6/26/88.
- (S6) Second State-supported LA-SB round trip added 10/28/90.
- (S7) Ninth LA-SD round trip (not State-supported) added 10/25/92.
- (S8) Third State-supported LA-SB round trip added 2/1/94.
- (S9) Ninth LA-SD round trip (State-supported in one direction only) discontinued 5/15/95.
- (S10) Los Angeles-San Luis Obispo round trip added 10/29/95, also represents fourth LA-SB round trip.
- (S11) Ninth LA-SD round trip restored and tenth LA-SD round trip added 10/26/97.
- (S12) Eleventh LA-SD roundtrip added 10/25/98.
- (S13) Twelfth LA-SD round trip on weekends only added on 5/21/01.
- (S14) Fifth LA-SB round trip on weekends only added on 5/25/02.
- (S15) Second LA-SLO round trip added on 11/17/04.

- (F1) Passenger-miles per train mile (PM/TM), 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).
- (F2) Prior to October 1983, all trains billed on solely related cost basis. From October 1983 through September 1995, all Los Angeles- San Diego trains and the first Los Angeles-Santa Barbara train billed on short-term avoidable cost basis. The second and third Los Angeles- Santa Barbara trains billed on long-term avoidable cost basis. Between October 1995 and September 1996, all trains billed on long-term avoidable cost basis. Effective October 1996, all trains billed on Full Cost (Train, Route and System) Basis. Depreciation and interest (equipment capital cost) included in operating cost under solely-related basis but excluded and charged separately under short-term, long-term avoidable and full cost bases.
- (F3) From October 1976 through September 1983, State cost was 48.5 percent of operating loss (including equipment costs). For the third Los Angeles-Santa Barbara train, State cost was 100 percent of operating loss from February 1994 through September 1994, and 70 percent through September 1995. For all other trains, effective October 1983, through September 1995, State cost was 65 percent of operating loss plus 50 percent of depreciation and interest (equipment capital cost). Between October 1995 and September 1996, State cost was 100 percent of operating loss and 60 percent of equipment capital cost for the State supported 64 percent of train service on the route. Between October 1996 and September 1997, State cost was 55 percent of operating loss and 100 percent of equipment capital cost for the 64 percent State share. Effective October 1997, State is billed contractually specified percentages of most individual cost elements, plus a fixed amount for certain other cost elements. The State share increased to 67 percent in November 1997 and to 70 percent in December 2004 of train service on the route to reflect additional State supported service. Also includes State payment of special payments to Amtrak for additional service and State payment for entire net cost of all connecting bus routes.
- (F4) Beginning in State Fiscal Year 1993-94, Amtrak cost is based on billings submitted and reflects cost bases and Amtrak shares as stated in notes (F2) and (F3) above, however Amtrak does not include the unbilled Amtrak share of fixed cost elements. Prior to FY 1993-94, data to calculate Amtrak cost is not available. Does not represent the difference between Loss and State Cost, as the latter includes bus expenses and equipment capital costs not included in Amtrak costs.
- (F5) Train loss (deficit) per train passenger mile. 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.
- (F6) Farebox Ratio, the ratio of Revenue to Expense.

ROUTE DESCRIPTION

The *Pacific Surfliner* Route now has 11 daily round-trips between San Diego and Los Angeles, with five round-trips extending north to Santa Barbara, and two of these trips extending further north to San Luis Obispo. A twelfth Friday through Sunday round-trip operates between San Diego and Los Angeles; this train addresses peak weekend demand for intercity service. The three round-trips that terminate in Santa Barbara have dedicated Amtrak Thruway bus connections to and from San Luis Obispo.

Scheduled running time between Los Angeles and San Diego averages 2 hours-45 minutes. Overall average speed, including station dwell time averages 47 mph. This segment includes more than 70 miles between Santa Ana and Sorrento where the maximum track speed is 90 mph, the only location on the State-supported routes where trains operate above 79 mph. Scheduled train running time between Los Angeles and Santa Barbara averages 2 hours-45 minutes, with an overall average speed of 37 mph. Scheduled running time for the two *Pacific Surfliner* round-trips between Santa Barbara and San Luis Obispo averages 2 hours-43 minutes, with an overall average speed of 44 mph.

The Route extends 351 rail miles between San Luis Obispo and San Diego (222 miles north of Los Angeles and 129 miles south of Los Angeles) with 24 intermediate stops (15 stops north of Los Angeles and eight 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 purchased (from the Southern Pacific and Santa Fe railroads) most segments of the rail line between Moorpark and San Diego. The UP continues to own 175 miles of line between San Luis Obispo and Moorpark. The BNSF owns 22 miles between Redondo Junction in Los Angeles and Fullerton. Figure 6C describes the current ownership, segment mileage, and track and signal characteristics of the Route.

Figure 6C

PACIFIC SURFLINER ROUTE OWNERSHIP AND TRACK CHARACTERISTICS								
Between	Mile Post	And	Mile Post	Miles	Owner of Track	*No. of Tracks	Max. Speed	Signal System
San Luis Obispo	248.5	East San Luis Obispo	251.5	3.0	UP	2	60	DTC
East San Luis Obispo	251.5	West Santa Barbara	365.2	113.7	UP	1	60	DTC
West Santa Barbara	365.2	East Santa Barbara	368.6	3.4	UP	2	40	DTC
East Santa Barbara	368.6	Moorpark	423.1	54.5	UP	1	70	DTC/CTC
Moorpark	423.1=							
	426.4	Ventura/LA County Line	442.0	15.6	(a)UP/VCTC	1	70	CTC
Ventura/LA County Line	442.0	Raymer (West of Van Nuys)	453.1	11.1	(a)UP/LACMTA	1	70	CTC
Raymer (West of Van Nuys)	453.1	Burbank Jct.	462.6	9.5	(a)UP/LACMTA	2	79	CTC
Burbank Jct.	462.6=							
	11.4	Glendale (Fletcher Drive)	4.9	6.5	(a)UP/LACMTA	2	79	CTC
Glendale (Fletcher Drive)	4.9	C.P. Dayton	2.1	2.8	LACMTA	2	79	CTC
C.P. Dayton (b)	2.1	Mission Tower	0.8	1.3	LACMTA	2	50	CTC
Mission Tower	0.8	L.A. Union Station	0.0	1.6	Catellus	3	15	CTC
Mission Tower	0.0	Redondo Jct.		3.2	LACMTA	1	65	CTC
Redondo Jct.	143.2	Fullerton	165.0	21.8	BNSF	1	79	CTC
Fullerton	165.0	Santa Ana (Aliso)	175.2	10.2	OCTA	2	79	CTC
Santa Ana (Aliso)	175.2	Orange/San Diego Co. Line	207.4	32.2	OCTA	2	90	CTC/ATS
Orange/San Diego Co. Line	207.4	Del Mar/San Diego City Limits	245.6	38.2	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	79	CTC
Total (includes round trip between Union Station and Mission Tower)				350.6				
* 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 UP's right-of-way. Between Raymer and Burbank Junction, LACMTA constructed and owns a second main line track.								
(b) Via West Side of Los Angeles River (Downey Avenue Bridge)								
Owners:								
BNSF - The Burlington Northern and Santa Fe Railway Company								
Catellus - Catellus Develop. Corp. (a real estate develop co.; owner of L.A. Union Station)								
LACMTA - Los Angeles County Metropolitan Transportation Authority								
MTDB - Metropolitan Transit Development Board								
NSDCTDB - North San Diego County Transit Development Board								
OCTA - Orange County Transportation Authority								
UP - Union Pacific Railroad Company								
VCTC - Ventura County Transportation Commission								
Signal Systems:								
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.								

CONNECTING AMTRAK BUSES

The *Pacific Surfliner* Amtrak buses provide an important extension to this route. The Department contracts with Amtrak to provide connecting feeder bus services. Amtrak, in turn, contracts with private bus operators. The bus routes function as a direct part of the Amtrak system with coordinated connections, guaranteed seating, integrated fares and ticketing procedures, and inclusion in Amtrak's central information and reservation system in the same manner as the trains. On the north end of the route, buses from Los Angeles to Santa Barbara and then to San Luis Obispo have served as precursors to rail service, and have played an important role in testing and developing rail ridership. Currently buses from Santa Barbara and San Luis Obispo to San Francisco are providing an important extension for the service and testing this market.

Following is a listing of the *Pacific Surfliner* bus routes and their origins/destinations. Route 1 is a *San Joaquin* bus route but is included since it feeds passengers to the *Pacific Surfliners* and function as an important supplement to train service on the north end of the *Pacific Surfliners*. Cities that are *Pacific Surfliner* train connection points are in *italics*.

Route 1—Los Angeles Basin (*San Joaquin* Route bus)

Los Angeles - Bakersfield

Route 4—South Coast

Los Angeles - Santa Barbara

Route 17—Central Coast

Santa Barbara - *San Luis Obispo*- *San Francisco/Oakland*

ROUTE ADMINISTRATION

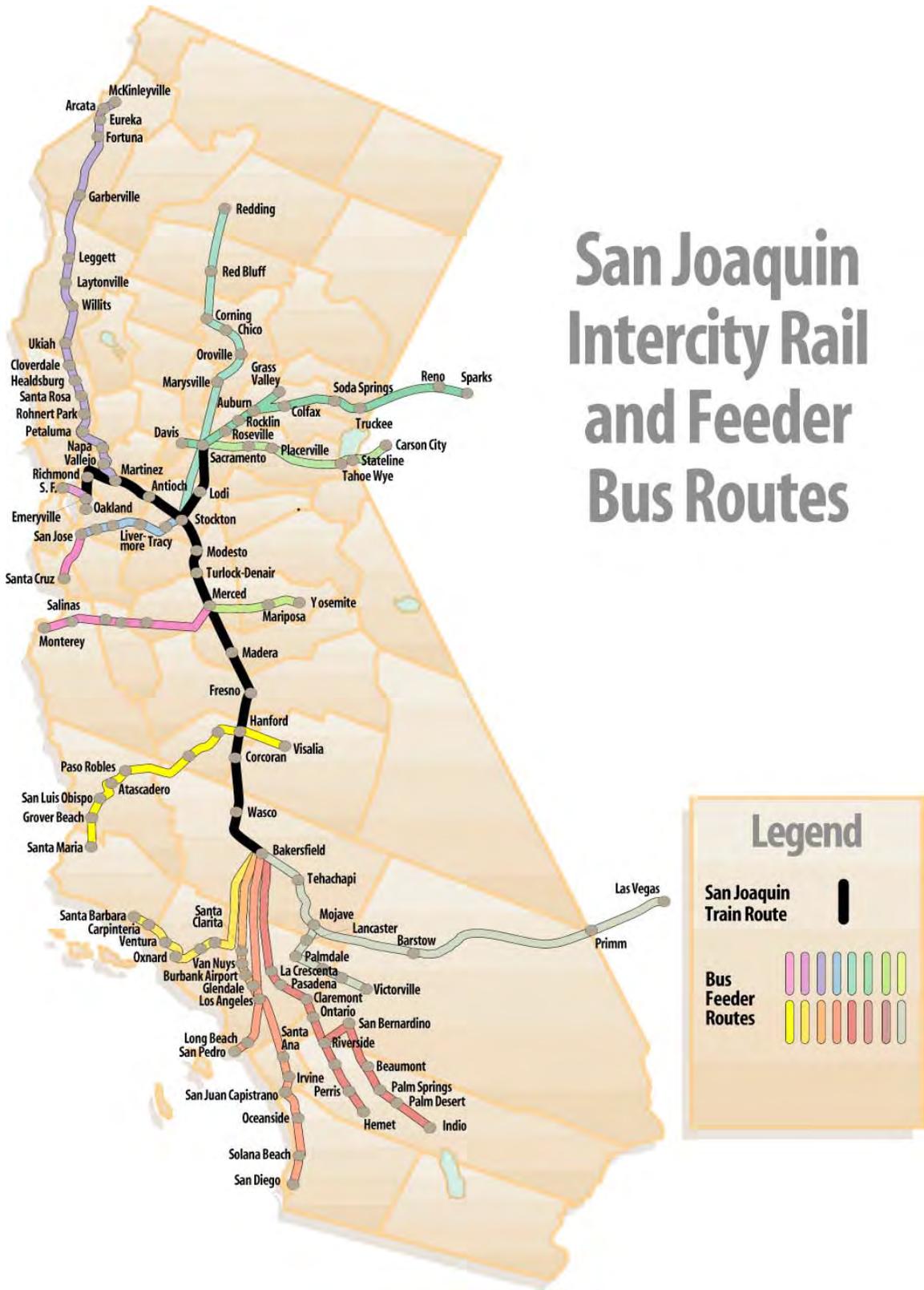
The State and Amtrak share responsibilities for operating the *Pacific Surfliners*. Amtrak considers 30 percent of the service, “basic system” service that is part of national long-distance service, and operating costs on this portion of the Route are entirely Federally funded. The remaining 70 percent of the Route is State-supported. Amtrak operates all trains, and the Department is responsible for the oversight of the *Pacific Surfliner* service through its operating contract with Amtrak. The Department coordinates functions such as marketing, scheduling, and on board services with Amtrak. New *Pacific Surfliner* equipment is used on the Route. Amtrak owns all of the locomotives and 40 cars, and the State owns ten cars. Amtrak maintains all of the equipment. For a further description of the financial relationship between Amtrak and the State, see Chapter XI.

**LOS ANGELES-SAN DIEGO-SAN LUIS OBISPO RAIL CORRIDOR
AGENCY (LOSSAN)**

LOSSAN functions as a planning agency and an advisory group for intercity rail in Southern California. In 2001, LOSSAN added the San Luis Obispo Council of Governments as a voting member of its Board and converted the Ventura County Transportation Commission, the Santa Barbara County Association of Governments, and the San Diego Association of Governments from ex-officio members to voting members.

Currently the members of the LOSSAN Technical Advisory Committee (TAC) include Amtrak, BNSF, the CPUC, the Department's Division of Rail, Los Angeles County Metropolitan Transportation Authority, San Diego Metropolitan Transit System, North San Diego County Transit District, Orange County Transportation Authority, San Diego Association of Governments, San Luis Obispo Council of Governments, Santa Barbara County Association of Governments, Southern California Association of Governments, Southern California Regional Rail Authority (Metrolink), UP, and Ventura County Transportation Commission.

Figure 7A



CHAPTER VII

SAN JOAQUIN ROUTE

BAY AREA/SACRAMENTO-FRESNO-BAKERSFIELD LOS ANGELES

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- **Improve On-Time Performance** to 90 % by 2015-16.
- **Improve passenger comfort, convenience, and information with improved services on board and at stations.**
- **Improve intermodal connectivity:**
 - Improved coordination with urban transit.
 - Improved Amtrak Thruway service.
- **Reduce Travel Times:**
 - Oakland to Bakersfield - 5 hours-51 minutes (20 minute reduction).
 - Sacramento to Bakersfield - 5 hours-5 minutes (14 minute reduction).
- **Increase annual ridership** 47% from 773,000 to 1,133,000.
- **Increase annual revenues** 70% from \$23.9 million to \$40.7 million.
- **Increase revenue/cost (farebox) ratio** from 46.8% to 49.1%.
- **Increase Service Frequency:**
 - From 4 to 5 daily round-trips between Oakland and Bakersfield.
 - From 2 to 3 daily round-trips between Sacramento and Bakersfield.
- **Expand Service:**
 - Study options to extend rail service from Stockton to Oakland and from Bakersfield to Los Angeles.

This Chapter presents the ten-year operational and service improvement and train service expansion plans for the *San Joaquin* Route. The Chapter also provides information on route history, route performance, route description, and route administration. Figure 7A is the *San Joaquin* route map, including the connecting buses.

TEN-YEAR OPERATIONAL AND SERVICE IMPROVEMENT PLANS

ON-TIME PERFORMANCE

The Department's goal is to increase OTP to 90 percent by the end of the Plan period. This goal is based on the full implementation of the unconstrained capital program described in Chapter II. Increased OTP provides improved service reliability and faster running times.

The OTP over the years on the *San Joaquins* has fluctuated considerably. It is difficult to maintain because over 90 percent of this 314-mile corridor from Bakersfield to Oakland is single-track. OTP on a single-track railroad is particularly sensitive to increases in traffic and service disruptions (i.e., crossing accidents, broken rails, and maintenance of way) because there is no other track to relieve congestion or accommodate the service disruption.

In FFY 2000-01, OTP was 67 percent, and in FFY 2001-02 OTP rose to 78 percent. Increased OTP in FFY 2001-02 was the result of extensive Department financed track projects and related negotiations between Amtrak and BNSF on performance agreements. However, OTP between FFY 2002-03 and 2004-05 averaged 59 percent. Reduced OTP has been to a large extent the result of increased freight traffic causing track congestion. Also, service delays from deferred track maintenance and subsequent maintenance work and dispatching issues have negatively impacted OTP.

The Department has a number of activities aimed to increase OTP and reliability. First, the Department projects a number of track and signal projects that will improve reliability will be completed in 2005-06. These projects include 14.3 miles of double-track between Fresno and Hanford and installation of CTC between Port Chicago and Oakley. In the longer term, a 12.5 mile double-track project between Wasco and Bakersfield, and on the Stockton-Oakland segment of the Route, almost 18 miles of double-track between Port Chicago and Oakley will significantly improve OTP. Additionally, other double-track projects are being developed. The UP has agreed to maintain 90 percent OTP for all Stockton-Sacramento *San Joaquin* trains and BNSF has agreed to 90 percent OTP between Port Chicago and Bakersfield once two key projects are completed by the end of 2006. (See Chapter II, for additional information about the capital projects.) Additionally, the Department will work with the UP, BNSF, and Amtrak to identify and implement measures to enhance schedule reliability.

PASSENGER SAFETY, COMFORT, CONVENIENCE, AND INFORMATION

In the short-term, the Department has a number of projects to improve passenger amenities, including improved: real-time signage at stations and on board, food service, and electronic passenger information. The Department will continue to explore the latest technology to improve passenger safety, comfort, convenience, and information.

INTERMODAL CONNECTIVITY

In 2003-04, the Department initiated a program on the *San Joaquins* where conductors offer free transfers to participating transit services. Within the ten-year period, the Department plans to expand this program to all major transit providers on the Route. Expansion of marketing and passenger information programs will provide additional information on intermodal connectivity with local transit. The Department also plans to expand and improve Amtrak Thruway bus service on the Route.

TRAVEL TIMES

Current Bakersfield to Oakland travel time averages 6 hours-11 minutes, and Bakersfield to Sacramento averages 5 hours-19 minutes. The travel time goals below assume that the unconstrained capital program described in Chapter II is fully implemented. The Department's goal is to reduce travel times as follows:

- Oakland to Bakersfield 5 hours-51 minutes (20 minute reduction).
- Sacramento to Bakersfield 5 hours-5 minutes (14 minute reduction).

Running time reductions on both route segments will be accomplished through the completion of capital projects that are discussed above under "On-Time Performance".

RIDERSHIP, REVENUE, AND FAREBOX RATIO

The Department's goals for ridership, revenue and farebox will be achieved through the capital, operational and service improvements, and service expansions discussed in this Chapter as well as in Chapters II, III, and IV. They are as follows:

- Increase annual ridership 47 percent from 773,000 to 1,133,000.
- Increase annual revenues 70 percent from \$23.9 million to \$40.7 million.
- Increase revenue/cost (farebox) ratio from 46.8 percent to 49.1 percent.

TEN-YEAR PLANNED TRAIN SERVICE EXPANSION PLANS INCREASED SERVICE FREQUENCIES

The Department anticipates there will be eventual demand for eight round-trips on the *San Joaquins* between Bakersfield and Stockton.

It is important to note that the start-up dates for service are based on projected service needs. Demonstrated ridership demand, approval from Amtrak and the relevant railroad(s), availability of capital funding and equipment, completion of necessary capital projects, and availability of additional operating funding will affect when each of the service improvements can be implemented.

The Department's proposed expansion of the *San Joaquin* Route is as follows:

- 2010-11 Bakersfield-Sacramento: third daily round-trip from Stockton to Sacramento (seventh round-trip on route).
- 2014-15 Bakersfield-Oakland: fifth daily round-trip from Stockton to Oakland (eighth round-trip on route).

STOCKTON TO OAKLAND

Currently, *San Joaquin* trains make four round-trips a day on the Stockton-Oakland segment of the line. As the result of population growth in eastern Contra Costa and northern San Joaquin Counties, and good ridership on the existing *San Joaquins* on this segment, the Department is interested in exploring additional *San Joaquin* frequencies. The Department in the fall of 2005 released a Request for Proposal (RFP) for a San Joaquin Corridor Strategic Business Plan that includes the study of potential schedules and market analysis for the Oakland-Stockton segment of the Route. Dependant upon the results of the study, the Department may consider adding additional trains on this segment.

BAKERSFIELD TO LOS ANGELES

Currently, the *San Joaquins* operate from Sacramento and Oakland to Bakersfield with extensive dedicated feeder bus connections to Los Angeles. About 31 percent of *San Joaquin* bus riders used the Bakersfield to Los Angeles bus in 2004-05. In view of this extensive use of connecting bus services between Bakersfield and Los Angeles, the Department has for many years been interested in developing a direct *San Joaquin* rail extension between these points.

The UP route between Bakersfield and Los Angeles passes through Mojave and Palmdale. The Bakersfield to Mojave section is one of the busiest single-track freight lines in the western United States; it is also used by BNSF freight trains operating on trackage rights. Beyond Mojave, UP's route to Los Angeles goes through Palmdale. South of Palmdale via Santa Clarita to Los Angeles, the Los Angeles County Metropolitan Transportation Authority owns the line.

In 2002, the Department requested that the UP do a State-funded rail capacity study between Bakersfield and Los Angeles to examine intercity passenger rail service on the line. The railroad declined to do the study stating that because there is no excess capacity on this line, the addition of regularly scheduled passenger service would have a detrimental impact the UP's ability to provide competitive freight rail service.

However, the Department remains interested in extending *San Joaquin* rail service to Los Angeles. The *San Joaquin* Corridor Strategic Business Plan RFP mentioned above includes the study of: (1) extending one round-trip on an overnight schedule on the UP route to Los Angeles; and (2) extension of the Route south to the foot of the Grapevine with new track, extension of certain *Pacific Surfliner* trains from Los Angeles north to Santa Clarita on existing track, with both extensions connected by a short bus ride via I-5 over the Grapevine. The Department decided to examine the second option as a potential alternative to use of the UP's line between Bakersfield and Los Angeles.

ROUTE HISTORY AND PERFORMANCE

Two daily trains served the San Joaquin Valley until May 1971 when Amtrak was formed. Each train used a different route through the Valley, and was operated by different railroads. SP operated the *San Joaquin Daylight* between Oakland and Los Angeles and a connecting train, the *Sacramento Daylight*, from Sacramento that provided cross-platform connecting service with the *San Joaquin Daylight* at Tracy. The ATSF operated the *San Francisco Chief* between the Bay Area and Chicago via Stockton, Fresno and Bakersfield.

Amtrak's initial route structure in May 1971 used the SP's Coast Line for service between Northern and Southern California, leaving the San Joaquin Valley without rail passenger service. Public pressure for restoration of rail service began almost immediately after the formation of Amtrak. As a result, Amtrak's appropriation for FFY 1974 included funding for service in the San Joaquin Valley. Amtrak selected a joint SP-ATSF route using a connection between the two railroads at Port Chicago (near Martinez). In March 1974, the new *San Joaquins* entered service between Oakland and Bakersfield and were entirely funded by Amtrak.

In 1979, a major reduction in Amtrak's nationwide route structure was proposed, including the termination of the *San Joaquin* Route. However, the State reached an agreement with Amtrak to continue the train with State support under the provisions of Section 403(b) of the Amtrak Act. Thus, State support of the route started in February 1980 when the second Oakland-Bakersfield round trip was added.

Service on the *San Joaquins* has increased from the original single round-trip to the current six daily round-trips as follows:

- 2/3/80 Oakland-Bakersfield: second round-trip added.
- 12/17/89 Oakland-Bakersfield: third round-trip added.
- 10/25/92 Oakland-Bakersfield: fourth round-trip added.
- 2/21/99 Sacramento-Bakersfield: first train to extend from Stockton to Sacramento added (fifth round-trip on route).
- 3/18/02 Sacramento-Bakersfield: second round-trip added (sixth round-trip on route).

HISTORICAL PERFORMANCE

Figure 7B shows ridership and financial performance data on an annual (State FY) basis from the start of State-supported service in 1979-80 through 2004-05. Ridership and revenues have increased at a fairly steady rate over that period, as have expense, loss, and State cost. Farebox ratio was at a high in 1988-89, and has since dropped. This is largely because Amtrak has been steadily increasing the amount and type of costs that are included in the farebox ratio. (See Chapter XI for more information on this subject.)

The introduction of the sixth train in 2000-01 brought a temporary decrease in the farebox ratio as costs of the new train were initially higher than the ridership and revenue increase generated by the new train. However, farebox is now at its highest since 1995-96. Ridership reached a route peak in 2002-03. It has been down slightly the past two years, partly the result of decreased OTP caused by increased freight traffic, and partly the result of deferred maintenance track projects and winter storms negatively impacting service.

Figure 7B

SAN JOAQUIN Route										
Annual Operating Performance - State Fiscal Years										
State Fiscal Year	Notes	Ridership Data		Financial Data for Operations						
		Ridership	PM/TM	Revenue	Expense	Loss	State Cost	Amtrak Cost	Train Loss per PM	Farebox Ratio
			(F1)		(F2)		(F3)	(F4)	(F5)	(F6)
1973-74	(S1)	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	(S2)	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	(S3)	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	\$ 6,263,972	\$ 6,472,598		4.3¢	66.4%
1992-93	(S4)	516,113	109.6	\$ 12,628,496	\$ 22,227,149	\$ 9,598,653	\$ 10,789,651		6.5¢	56.8%
1993-94		558,569	94.6	\$ 13,894,624	\$ 26,678,861	\$ 12,784,237	\$ 12,335,021	\$ 3,937,150	8.3¢	52.1%
1994-95		524,680	88.8	\$ 12,244,668	\$ 25,077,153	\$ 12,832,485	\$ 12,668,018	\$ 3,705,069	9.7¢	48.8%
1995-96		526,088	86.6	\$ 12,477,497	\$ 25,386,099	\$ 12,908,602	\$ 14,483,048	\$ 1,360,327	11.8¢	49.2%
1996-97		652,544	106.1	\$ 13,817,681	\$ 34,528,165	\$ 20,710,484	\$ 16,265,387	\$ 5,672,236	18.6¢	40.0%
1997-98		702,178	118.0	\$ 15,230,966	\$ 36,517,290	\$ 21,286,324	\$ 17,190,515	\$ 4,493,597	17.7¢	41.7%
1998-99	(S5)	680,687	102.8	\$ 16,496,457	\$ 37,269,835	\$ 20,773,378	\$ 19,938,254	\$ 1,712,168	17.6¢	44.3%
1999-00		671,295	92.7	\$ 18,061,512	\$ 41,791,782	\$ 23,730,270	\$ 24,232,326	\$ 652,236	19.0¢	43.2%
2000-01		710,833	97.9	\$ 19,667,681	\$ 43,404,325	\$ 23,736,644	\$ 24,350,127	\$ 540,809	18.2¢	45.3%
2001-02	(S6)	733,152	96.9	\$ 20,114,693	\$ 46,503,548	\$ 26,388,855	\$ 26,281,035	\$ 396,392	20.0¢	43.3%
2002-03		769,708	89.9	\$ 20,318,564	\$ 50,552,529	\$ 30,233,965	\$ 29,729,650	\$ 504,315	21.7¢	40.2%
2003-04		752,227	87.2	\$ 22,100,796	\$ 50,061,460	\$ 27,960,664	\$ 27,960,664	\$ 89,345	20.5¢	44.1%
2004-05		743,245	85.1	\$ 22,590,880	\$ 49,883,689	\$ 27,292,809	\$ 27,292,809		19.6¢	45.3%
TOTAL		12,808,488		\$ 304,844,440	\$ 624,068,456	\$ 319,224,016	\$ 301,336,543			

(S1) Service started 3/6/74 with one round-trip between Oakland and Bakersfield. Data is for four months only.

(S2) State support started 10/1/79. Data is for nine months, during which time ridership totaled 93,206. Second round trip added 2/3/80 between Oakland and Bakersfield.

(S3) Third round trip added 12/17/89 between Oakland and Bakersfield.

(S4) Fourth round trip added 10/25/92 between Oakland and Bakersfield.

(S5) Fifth round-trip added 2/21/99 between Sacramento and Bakersfield.

(S6) Sixth round-trip added 3/18/02 between Sacramento and Bakersfield.

(F1) Passenger-miles per train mile (PM/TM), a measure of the average load on a train over its entire route.

(F2) Prior to October 1983, all trains billed on solely related cost basis. From October 1983 through September 1995, all trains billed on short term avoidable cost basis, except fourth round trip billed at long term avoidable cost basis. Effective October 1995, all trains billed on long term avoidable cost basis. Effective October 1996, all trains billed on Full Cost (Train, Route and System) Basis. Includes cost of connecting buses. Depreciation and interest (equipment capital cost) included in operating cost under solely-related cost basis but excluded and charged separately under short-term, long-term avoidable and full cost bases.

(F3) From October 1979 through September 1983, State cost increased in stages from 18.5 to 48.5 percent of operating loss (including equipment costs). Between October 1983 and September 1995, State cost was 65 percent of train operating loss for first three round trips, plus 50 percent of depreciation and interest (equipment capital cost). For the fourth round trip, State cost was 70 percent of train operating loss plus equipment capital cost. Between October 1995 and September 1996, State cost was 100 percent of train operating loss and 60 percent of equipment capital cost. Between October 1996 and September 1997, State cost was 65 percent of train operating loss. Effective October 1997, State is billed contractually specified percentages of most individual cost elements, plus a fixed amount for certain other cost elements. Also includes State payment of costs of special agreements with Amtrak for use of equipment, and State payment of entire net cost of all connecting bus routes.

(F4) Beginning in State Fiscal Year 1993-94, Amtrak cost is based on billings submitted and reflects cost bases and Amtrak shares as stated in notes (F2) and (F3) above. However, Amtrak does not include the unbilled Amtrak share of fixed cost elements. Prior to FY 1993-94, data to calculate Amtrak cost is not available. Does not represent the difference between Loss and State Cost, as the latter includes bus expenses and equipment capital costs not included in Amtrak costs.

(F5) Train loss (deficit) per train passenger-mile. Connecting buses not included in loss per passenger mile data.

(F6) Farebox Ratio, the ratio of Revenue to Expense.

ROUTE DESCRIPTION

There are currently six daily round trip trains on the *San Joaquin* Route, four between Oakland and Bakersfield and two between Sacramento and Bakersfield, with all trains running between Stockton and Bakersfield. In order to provide the six-frequency service between all points on the route, for trains serving Oakland, connecting buses are provided between Stockton and Sacramento; for trains serving Sacramento, connecting buses are provided between Stockton, Oakland and San Francisco.

Scheduled train-running time between Bakersfield and Oakland averages 6 hours-13 minutes. Overall average speed, including station dwell time, is 50 mph. Scheduled train running time between Sacramento and Bakersfield averages 5 hours-19 minutes, and overall average speed is 53 mph. The maximum track speed on the *San Joaquin* Route is 79 miles per hour.

The *San Joaquin* Route comprises 363 route miles, extending 314 miles between Oakland and Bakersfield with 13 intermediate stops, and 49 miles between Sacramento and Stockton with one additional intermediate stop. Amtrak operates the *San Joaquins* under provisions of its contracts with the BNSF and UP. Predominant ROW ownership is by the BNSF (Port Chicago-Bakersfield). The UP owns 39 miles at the north end of the route between Oakland and Port Chicago and 49 miles in the segment between Stockton and Sacramento. Figure 7C describes the current ownership, segment mileage, and track and signal characteristics of the *San Joaquin* Route.

Figure 7C

PACIFIC SURFLINER ROUTE OWNERSHIP AND TRACK CHARACTERISTICS								
Between	Mile Post	And	Mile Post	Miles	Owner of Track	*No. of Tracks	Max. Speed	Signal System
San Luis Obispo	248.5	East San Luis Obispo	251.5	3.0	UP	2	60	DTC
East San Luis Obispo	251.5	West Santa Barbara	365.2	113.7	UP	1	60	DTC
West Santa Barbara	365.2	East Santa Barbara	368.6	3.4	UP	2	40	DTC
East Santa Barbara	368.6	Moorpark	423.1	54.5	UP	1	70	DTC/CTC
Moorpark	423.1=							
	426.4	Ventura/LA County Line	442.0	15.6	(a)UP/VCTC	1	70	CTC
Ventura/LA County Line	442.0	Raymer (West of Van Nuys)	453.1	11.1	(a)UP/LACMTA	1	70	CTC
Raymer (West of Van Nuys)	453.1	Burbank Jct.	462.6	9.5	(a)UP/LACMTA	2	79	CTC
Burbank Jct.	462.6=							
	11.4	Glendale (Fletcher Drive)	4.9	6.5	(a)UP/LACMTA	2	79	CTC
Glendale (Fletcher Drive)	4.9	C.P. Dayton	2.1	2.8	LACMTA	2	79	CTC
C.P. Dayton (b)	2.1	Mission Tower	0.8	1.3	LACMTA	2	50	CTC
Mission Tower	0.8	L.A. Union Station	0.0	1.6	Catellus	3	15	CTC
Mission Tower	0.0	Redondo Jct.		3.2	LACMTA	1	65	CTC
Redondo Jct.	143.2	Fullerton	165.0	21.8	BNSF	1	79	CTC
Fullerton	165.0	Santa Ana (Aliso)	175.2	10.2	OCTA	2	79	CTC
Santa Ana (Aliso)	175.2	Orange/San Diego Co. Line	207.4	32.2	OCTA	2	90	CTC/ATS
Orange/San Diego Co. Line	207.4	Del Mar/San Diego City Limits	245.6	38.2	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	79	CTC
Total (includes round trip between Union Station and Mission Tower)				350.6				
* 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 UP's right-of-way. Between Raymer and Burbank Junction, LACMTA constructed and owns a second main line track.								
(b) Via West Side of Los Angeles River (Downey Avenue Bridge)								
Owners:								
BNSF - The Burlington Northern and Santa Fe Railway Company								
Catellus - Catellus Develop. Corp. (a real estate develop co.; owner of L.A. Union Station)								
LACMTA - Los Angeles County Metropolitan Transportation Authority								
MTDB - Metropolitan Transit Development Board								
NSDCTDB - North San Diego County Transit Development Board								
OCTA - Orange County Transportation Authority								
UP - Union Pacific Railroad Company								
VCTC - Ventura County Transportation Commission								
Signal Systems:								
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.								

CONNECTING AMTRAK BUSES

The extensive network of Amtrak dedicated feeder buses connecting with the *San Joaquins* is essential to the route as at least 60 percent of all *San Joaquin* riders (in 2004-05) used one or more buses for a portion of their trip. Ridership analysis shows that feeder bus riders make longer than average trips, and therefore produce higher revenues per trip.

The Department contracts with Amtrak for the provision of dedicated feeder bus services, and Amtrak then contracts with bus operators. The bus routes function as direct parts of the Amtrak system, with coordinated connections, guaranteed

seating, integrated fares and ticketing procedures, and inclusion in Amtrak's central information and reservation system in the same manner as the trains.

Following is a listing of the *San Joaquin* bus routes and their origins/destinations, as well as the *Capitol Corridor* bus routes that also connect to the *San Joaquins*. Cities that are *San Joaquin* train connection points are in *italics*.

San Joaquin Bus Routes

Route 1 Network–Los Angeles Basin

1A–*Bakersfield*-Los Angeles/San Diego

1B–*Bakersfield*-Los Angeles-Long Beach/San Pedro

1C–*Bakersfield*-Van Nuys/Simi Valley

Route 3–Sacramento Valley

Stockton-*Sacramento*-*Redding*

Route 6–South Bay

Stockton-*San Jose*

Route 7–North Bay/Redwood Empire

Martinez-*Eureka*/*McKinleyville*

Route 9–High Desert-Las Vegas

Bakersfield-*Las Vegas*

Route 10–Valley-South Coast

Bakersfield-*Santa Barbara*

Route 12–Antelope Valley

Bakersfield-*Victorville*

Route 15–Yosemite

Merced-*Yosemite National Park*

Route 18–Valley-Central Coast

18A–*Hanford*-*San Luis Obispo*/*Santa Maria*

18B–*Hanford*-*Visalia*

Route 19–Inland Empire-Coachella Valley

Bakersfield-*San Bernardino*/*Riverside*/*Indio*

Route 34–Bay Area-Stockton

Stockton-*Oakland*-*San Francisco*

Route 37–Monterey

Merced-*Salinas*/*Monterey*

Capitol Corridor Bus Routes

Route 20–Sierra Foothills/High Sierra

Sacramento-Reno/Sparks

Route 23–Lake Tahoe

Sacramento-Stateline/Carson City

Amtrak Bus Route

Route 99–Trans Bay

Emeryville-San Francisco

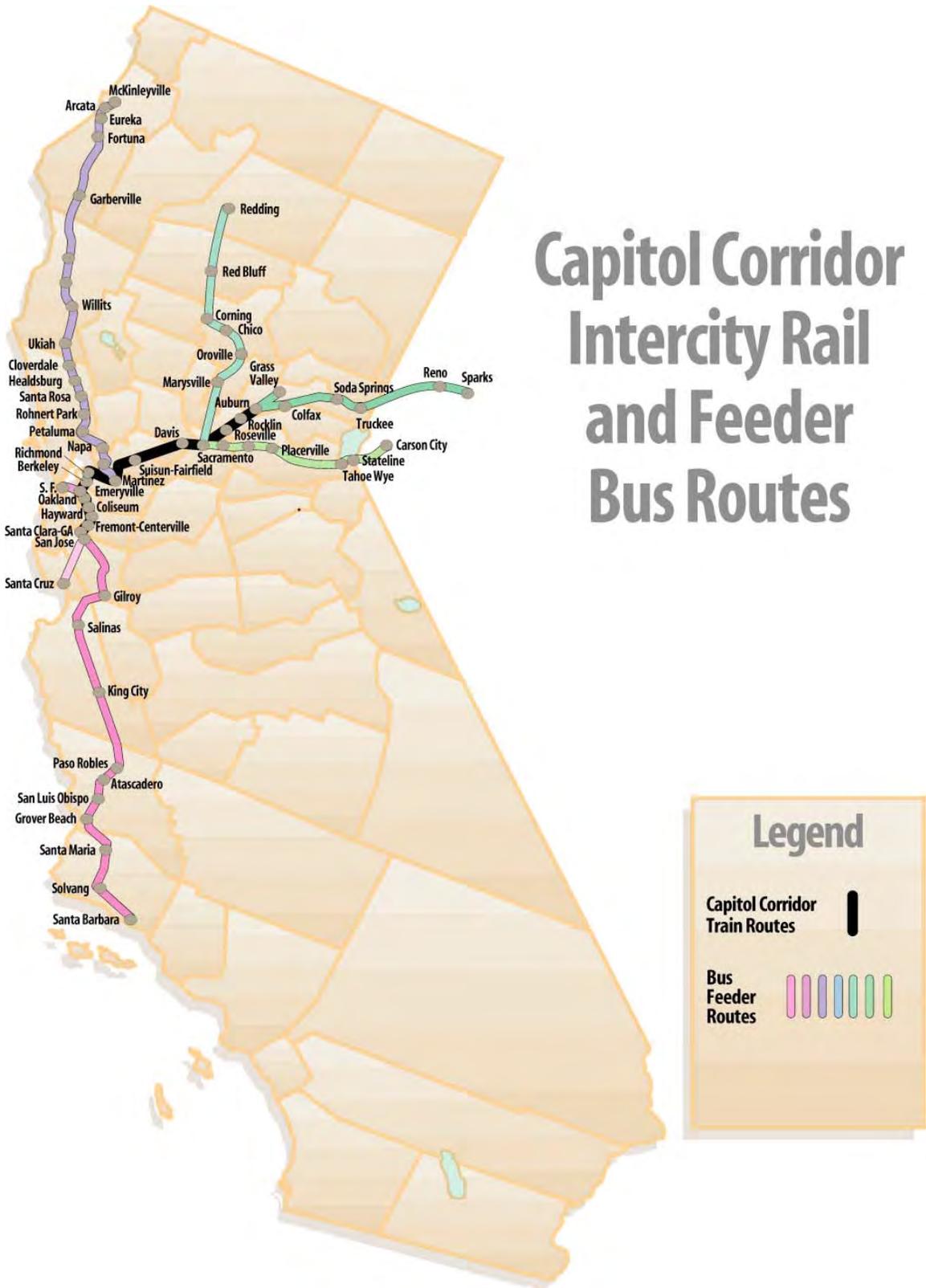
ROUTE ADMINISTRATION

The State and Amtrak share responsibilities for operating the *San Joaquins*. Amtrak operates the trains, and the Department is responsible for the oversight of the *San Joaquin* service through its operating contract with Amtrak. The Department coordinates functions such as marketing, scheduling, and on board services with Amtrak. The State owns all *San Joaquin* equipment, while Amtrak maintains it. For a further description of the financial relationship between Amtrak and the State, see Chapter XI.

SAN JOAQUIN VALLEY RAIL COMMITTEE

The San Joaquin Valley Rail Committee consists of representatives from each county served by the *San Joaquin* trains and other key counties served by feeder buses. Agency associate members represent Amtrak, CPUC, UP, BNSF, Metropolitan Transportation Commission, Southern California Association of Governments, and the Department. The committee is informed of all significant matters affecting the *San Joaquins*. It provides valuable input to the Department on all aspects of the service. Section 14074.8 of the Government Code provides that the committee may confer with the Secretary of the Business, Transportation and Housing Agency (BTH) to coordinate intercity passenger rail service for the *San Joaquin* Corridor.

Figure 8A



CHAPTER VIII THE *CAPITOL CORRIDOR*

AUBURN-SACRAMENTO-OAKLAND-SAN JOSE

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- **Maintain On-Time Performance** at 90% throughout the ten-year period.
- **Enhance customer satisfaction.**
- **Improve intermodal connectivity:**
 - Establish transfer agreements and coordinated schedules with all local transit systems.
 - Participate in the Bay Area’s TransLink program.
- **Reduce Travel Times** by up to 12%.
- **Increase annual ridership** 88% from 1,323,000 to 2,483,000.
- **Increase annual revenues** 86% from \$16.0 million to \$29.8 million.
- **Increase revenue/cost (farebox) ratio** from 38.9 % to 44.6%.
- **Increase Service Frequency:**
 - From 12 to 18 daily round-trips between Oakland and Sacramento.
 - From 4 to 16 daily round-trips between San Jose and Oakland.
 - From 1 to 8 daily round-trips between Sacramento and Roseville.
 - From 1 to 4 daily round-trips between Roseville and Auburn.
- **Expand Service:**
 - Sacramento-Reno – first daily round-trip in 2008-09, second daily round-trip in 2010-11.
 - Support Auburn-Oakland Regional Rail Service commuter system planning.
 - Coordinate with Caltrain on the Dumbarton Rail Corridor commuter rail expansion.

This Chapter presents the ten-year operational and service improvement and train service expansion plans for the *Capitol Corridor* Route. The Chapter also provides information on administration, route history, route performance, and route description. Figure 8A is the *Capitol Corridor* route map, including the connecting buses.

ROUTE ADMINISTRATION

The administrative structure of the *Capitol Corridor* Route differs from the *Pacific Surfliner* and *San Joaquin* Routes. The CCJPA has responsibility for management of the Route, while the State continues to fund the service operation and many capital projects. Amtrak operates the trains, the CCJPA is responsible for the oversight of the *Capitol Corridor* service through its operating contract with Amtrak, and the State funds the service. The CCJPA coordinates functions such as marketing, scheduling, and on board services with Amtrak, and also coordinates some functions with the Department, such as marketing. The State owns all *Capitol Corridor* equipment, while Amtrak maintains it and the CCJPA oversees Amtrak's maintenance work. For a description of the financial relationship between Amtrak and the State, see Chapter XI.

Local agencies have always had an active role in planning and promoting the *Capitol Corridor*. Initially the Assembly Concurrent Resolution (ACR) Policy Advisory Committee, formed as part of the ACR 132 study, acted in an advisory capacity to make recommendations about the route. Chapter 263, Statutes of 1996 (SB 457 - Kelly), allowed the State to enter into an interagency transfer agreement (ITA) with a joint powers authority to assume responsibility for intercity rail services on the *Capitol Corridor*. The Department and the CCJPA executed an ITA on July 1, 1998, transferring the responsibilities of management for the *Capitol Corridor* to the CCJPA. The BART General Manager and designated BART staff provide administrative support to the CCJPA.

Pursuant to the ITA, BTH has responsibility for allocating operating funds to the CCJPA. BTH also reviews and approves the CCJPA's business plan that includes future service levels and funding needs. Chapter 263 specified the composition of the CCJPA. The CCJPA Board must have the following 16 members: six representatives from the BART Board of Directors (two residents each from Alameda County, Contra Costa County, and the City and County of San Francisco); and two members each from the Board of Directors of the Sacramento Regional Transit District, the Board of Directors of VTA, the Yolo County Transportation District, the Solano Transportation Authority, and the Placer County Transportation Planning Agency.

TEN-YEAR OPERATIONAL AND SERVICE IMPROVEMENT PLANS

ON-TIME PERFORMANCE

The CCJPA's goal is to maintain OTP at a minimum of 90 percent throughout the Plan period. This goal is based on the full implementation of the unconstrained capital program described in Chapter II. Increased OTP provides improved service reliability and faster running times. The OTP in 2003-04 and 2004-05 improved considerably to about 86 percent, as compared to OTP in 2002-03 of

79 percent. The improved OTP is primarily the result of management and organizational changes at the UP. In December 2003, Amtrak, CCJPA and UP revised the incentive payments for OTP of *Capitol Corridor* trains. They are now calculated separately from UP's incentive payments for other Amtrak trains to give the UP more incentive to increase OTP on this route. OTP over 92 percent receives increased incentive payments.

Capital projects on the Route have had a large impact in improving OTP. In February 2004 the Yolo Causeway double-track project was completed which was the last remaining single track segment between Oakland and Sacramento. This project increased reliability and reduced travel times by ten minutes.

ENHANCE CUSTOMER SATISFACTION

The CCJPA's June 2005 Vision Plan contains a number of goals for improving customer satisfaction, including in the near-term: expand passenger on board surveys and comment cards; implement new technologies to improve customer experience such as implement wireless internet access service and outdoor ticket vending machines at all unstaffed stations; improve food quality and variety; and provide printed multi-lingual information. In the longer term, the CCJPA plans to implement a business/custom class service with one upgraded car per train with additional amenities.

INTERMODAL CONNECTIVITY

Intermodal connectivity is one of the CCJPA's Core Service Objectives in their 2005 Vision Plan. The Route has stations that connect to BART, Caltrain, ACE, VTA, and Sacramento Regional Transit Light Rail (projected for fall 2006). The CCJPA plans to expand their Transit Transfer Program where free transfers to local transit are offered to passengers, to additional transit providers. The CCJPA is also looking for opportunities to coordinate with local transit providers to offer connecting bus service to the *Capitol Corridor*.

TRAVEL TIMES

Current Oakland to Sacramento travel times average 1 hour-50 minutes (for trains starting or ending in Oakland), Oakland to San Jose averages 1 hour-13 minutes, and Sacramento to Auburn averages one hour and four minutes. The CCJPA's goal is to reduce average travel time by 12 percent. This goal assumes that the unconstrained capital program described in Chapter II is fully implemented.

A number of planned capital projects will provide running time reductions. The planned new trackage and signal improvement projects currently under construction between Oakland and San Jose will improve running-times by facilitating both passenger and freight train movements and by providing more opportunities for trains to pass each other. Also a third main track near the Oakland station will reduce passenger and freight conflicts and improve running times. Additionally, while construction is occurring between Oakland and

San Jose, time has been added to the schedule that will be taken out at the completion of construction. (See Chapter II for additional information about capital projects.)

RIDERSHIP, REVENUE, AND FAREBOX RATIO

The CCJPA's goals for ridership, revenue, and farebox will be achieved through the capital, operational and service improvements, and service expansions discussed in this Chapter as well as in Chapters II, III, and IV.

- Increase annual ridership 88 percent from 1,323,000 to 2,483,000.
- Increase annual revenues 86 percent from \$16.0 million to \$29.8 million.
- Increase revenue/cost (farebox) ratio from 38.9 percent to 44.6 percent.

TEN-YEAR PLANNED TRAIN SERVICE EXPANSION PLANS INCREASED SERVICE FREQUENCIES

The Department, in conjunction with the CCJPA, anticipates there will be eventual demand for eighteen round-trips on the *Capitol Corridor* between Sacramento and Oakland.

It is important to note that the start-up dates for service are based on projected service needs. Demonstrated ridership demand, approval from Amtrak and the relevant railroad(s), availability of capital funding and equipment, completion of necessary capital projects, and availability of additional operating funding will affect when each of the service improvements can be implemented.

The Department and the CCJPA's proposed expansion of the *Capitol Corridor* is as follows:

- | | |
|---------|--|
| 2006-07 | San Jose-Oakland, fifth, sixth, and seventh round-trips.
Sacramento-Roseville, second and third round-trips.
Roseville-Auburn, second round-trip. |
| 2008-09 | San Jose-Oakland, eighth and ninth round-trips.
Oakland-Sacramento, thirteenth and fourteenth round-trips. |
| 2010-11 | San Jose-Oakland, tenth and eleventh round-trips.
Oakland-Sacramento, fifteenth and sixteenth round-trips.
Sacramento-Roseville, fourth round-trip.
Auburn-Oakland, third round-trip. |
| 2012-13 | San Jose -Oakland, twelfth and thirteenth round-trips.
Oakland -Sacramento, seventeenth and eighteenth round-trips.
Sacramento-Roseville, fifth and sixth round-trips.
Roseville-Auburn, fourth round-trip. |

2014-15 San Jose-Oakland, fourteenth, fifteenth, and sixteenth round-trips.
Sacramento-Roseville, seventh and eighth round-trips.

SACRAMENTO-RENO EXTENSION

The extension of intercity rail service from Sacramento to Reno would bring State-supported rail service to the Truckee/Tahoe and Reno/Sparks tourist areas as well as provide relief to the highly congested I-80 Bay Area to Reno corridor. The Department's and the CCJPA's plan includes the extension of one *Capitol Corridor* round-trip from Auburn to Reno/Sparks in 2008-09, and a second round-trip in 2010-11. This rail service would be supplemented by continued operation of existing bus service that runs over the same route as the train, but at other times of the day. This service would require an appropriate level of financial participation from Nevada. For more detailed information on this route expansion, see Chapter X.

DUMBARTON RAIL CORRIDOR

The CCJPA is participating in the development of the Dumbarton Rail Corridor as an extension of Caltrain to extend commuter rail service across the Bay between the Peninsula and the East Bay. The new service is planned to start in 2010 with three round-trips. This new rail corridor could connect to the *Capitol Corridor* at Union City where the BART station would be reconstructed as a multimodal terminal. The CCJPA's ten-year capital improvement program includes funding for station and track work to allow the *Capitol Corridor* trains to service the new Union City terminal. For more detailed information on this route expansion, see Chapter IX.

AUBURN-OAKLAND REGIONAL RAIL SERVICE

Five agencies, including the CCJPA, have partnered to develop a service concept plan for a new regional commuter rail service in the urban corridor extending from Auburn (Bowman) to Oakland. The Auburn-Oakland Regional Rail Service Concept Plan (Plan) released in June 2005 envisions that the new service would augment existing *Capitol Corridor* intercity service by providing additional peak period capacity for within the greater Sacramento urban area and between Sacramento and the Bay Area. The two services would utilize the same equipment, staff, and fare structure, and thus would appear fully unified to the riding public. The Plan includes three-phases; a first phase, planned for 2010 would add four new Sacramento-Oakland round-trips. The second phase, planned for 2015, would include four new Sacramento-Auburn round-trips and one additional Oakland to Sacramento round-trip. The third phase, planned for 2020, would add new stations, primarily in the Sacramento metropolitan area. For more detailed information on this route expansion, see Chapter X.

ROUTE HISTORY AND PERFORMANCE

Intercity rail service started on the *Capitol Corridor* in 1991, making this route the newest of the three State-supported routes. ACR 132 (Hannigan), Statutes of 1988, directed the Metropolitan Transportation Commission (MTC), with assistance from the Sacramento Area Council of Governments and the Department to conduct a study of the Auburn-Sacramento-Oakland-San Jose intercity rail corridor. The final report titled ACR 132 Intercity Rail Corridor Upgrade Study was published by MTC in 1990 and provided the basis for the initiation of service on the Route.

Service has increased from the original three round-trips to the current twelve round-trips from Oakland to Sacramento as follows:

- 12/12/91 San Jose-Oakland-Sacramento: three round-trips with one continuing to Roseville.
- 4/2/95 Oakland-San Jose: one round-trip discontinued (except on Saturday northbound and Friday, Saturday, Sunday southbound).
- 4/14/96 Oakland-Sacramento: fourth round-trip added.
- 6/17/96 Oakland-San Jose round-trip that was discontinued April 2, 1995, is restored.
- 1/26/98 Train to Roseville extended to Colfax.
- 10/25/98 Oakland-Sacramento: fifth round-trip added.
- 2/21/99 Oakland-Sacramento: sixth round-trip added.
- 2/27/00 Oakland-Sacramento: seventh round-trip added.
- 2/27/00 Oakland-San Jose: fourth round-trip added.
- 2/27/00 Colfax round-trip cut back to Auburn.
- 4/29/01 Oakland-Sacramento: eighth and ninth round-trips added.
- 4/29/01 Oakland-San Jose: fifth and sixth round-trips, added on weekends only.
- 10/27/02 Oakland-Sacramento: tenth round-trip, added on weekdays only.
- 1/6/03 Oakland-Sacramento: eleventh round-trip, added on weekdays only.
- 4/28/03 Oakland-Sacramento: twelfth round-trip, added on weekdays only.

Figure 8B

CAPITOL CORRIDOR										
Annual Operating Performance - State Fiscal Years										
State Fiscal Year	Notes	Ridership Data		Financial Data for Operations						
		Ridership	PM/TM (F1)	Revenue	Expense (F2)	Loss	State Cost (F3)	Amtrak Cost (F4)	Train Loss per PM (F5)	Farebox Ratio (F6)
1991-92	(S1)	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%
1993-94		364,070	101.2	\$ 3,598,978	\$ 9,911,735	\$ 6,312,757	\$ 6,714,761	\$ 1,697,460	15.7¢	36.3%
1994-95	(S2)	349,056	101.7	\$ 3,757,146	\$ 9,678,401	\$ 5,921,255	\$ 6,012,315	\$ 1,584,692	14.9¢	38.8%
1995-96	(S3)	403,050	111.9	\$ 4,805,072	\$ 11,077,485	\$ 6,272,413	\$ 6,434,940	\$ 273,025	14.9¢	43.4%
1996-97		496,586	111.3	\$ 5,938,072	\$ 20,509,999	\$ 14,571,927	\$ 9,701,519	\$ 4,871,345	31.6¢	29.0%
1997-98	(S4)	484,458	109.4	\$ 6,212,150	\$ 20,597,133	\$ 14,384,983	\$ 10,830,123	\$ 3,555,755	31.8¢	30.2%
1998-99	(S5)	515,768	90.8	\$ 6,939,702	\$ 22,343,915	\$ 15,404,213	\$ 14,543,722	\$ 969,291	32.6¢	31.1%
1999-00	(S6)	684,334	90.1	\$ 8,546,453	\$ 25,048,098	\$ 16,501,645	\$ 17,120,868	\$ 194,932	28.2¢	34.1%
2000-01	(S7)	1,030,837	106.0	\$ 11,091,742	\$ 27,670,759	\$ 16,579,017	\$ 18,558,681	\$ 92,014	21.0¢	40.1%
2001-02		1,090,713	96.9	\$ 12,321,755	\$ 32,683,794	\$ 20,362,039	\$ 21,263,811	\$ 99,311	25.3¢	37.7%
2002-03	(S8)	1,129,683	92.0	\$ 12,550,182	\$ 35,390,303	\$ 22,840,121	\$ 22,413,396	\$ 170,254	28.1¢	35.5%
2003-04		1,148,047	86.3	\$ 13,012,806	\$ 36,231,990	\$ 23,219,184	\$ 23,168,004	\$ 9,584	28.0¢	35.9%
2004-05		1,239,082	93.1	\$ 14,788,299	\$ 39,160,356	\$ 24,372,057	\$ 24,372,057		27.3¢	37.8%
TOTAL		9,348,141		\$ 108,505,715	\$ 303,486,028	\$ 194,980,313	\$ 189,439,121			

(S1) Service started 12/12/91 with three State-supported round trips between Sacramento and San Jose, with one round trip extended to Roseville. Data is for six and one-half months only.

(S2) One round trip discontinued 4/2/95 between Oakland and San Jose (except on Saturday northbound and Friday, Saturday, Sunday southbound.) Feeder bus connection substituted for train.

(S3) Fourth round trip added 4/14/96 between Sacramento and Oakland.
Effective 6/17/96, round trip referred to in (S2) above restored to daily service between Oakland and San Jose.

(S4) Effective 1/26/98, the round trip that previously originated and terminated at Roseville was extended to Colfax.

(S5) Fifth round trip added 10/25/98 and sixth round trip added 2/21/99 between Sacramento and Oakland.

(S6) Effective 2/27/00, seventh round trip added between Sacramento and Oakland; fourth round trip added between Oakland and San Jose; the round trip to Colfax was cut back to Auburn.

(S7) Effective 4/29/01, eighth and ninth round trips added between Sacramento and Oakland; fifth and sixth round trips added between Oakland and San Jose on weekends only.

(S8) Effective 10/27/02, tenth round trip added; effective 1/6/03, eleventh round trip added; effective 4/28/03, twelfth round trip added. These additional trains operate weekdays only between Sacramento and Oakland.

(F1) Passenger-miles per train mile (PM/TM), a measure of the average load on a train over its entire route.

(F2) Through September 1995, all trains billed on long term avoidable cost basis; includes cost of connecting buses. Effective October 1996, all trains billed on Full Cost (Train, Route and System) Basis.

(F3) Through September 1995, State cost was 65 percent of train operating loss. Between October 1995 and September 1996, State cost was 100 percent of train operating loss. Between October 1996 and September 1997, State cost was 55 percent of the train operating loss. Effective October 1997, State is billed contractually specified percentages of most individual cost elements, plus a fixed amount for certain other cost elements. Also includes State payment of costs of special agreements with Amtrak for use of equipment, special payments for service continuation and State payment for entire net cost of all connecting bus routes. Effective October 1999, the Capitol Corridor Joint Powers Authority (CCJPA) and Amtrak entered into a 12 month fixed price operating contract, including all train and bus services. The State Costs shown represent the fixed price contract payment less any performance assessments.

(F4) Beginning in State Fiscal Year 1993-94, Amtrak cost is based on billings submitted and reflects cost bases and Amtrak shares as stated in notes (F2) and (F3) above. However, Amtrak does not include the unbilled Amtrak share of fixed cost elements. Prior to FY 1993-94, data to calculate Amtrak cost is not available. Does not represent the difference between Loss and State Cost, as the latter includes bus expenses and equipment capital costs not included in Amtrak costs.

(F5) Train loss (deficit) per train passenger-mile. Connecting buses not included in loss per passenger mile data.

(F6) Farebox Ratio, the ratio of Revenue to Expense.

HISTORICAL PERFORMANCE

Figure 8B shows ridership and financial performance data on an annual basis from the start of State-supported Amtrak rail passenger service in 1991-92 through 2004-05. Ridership and revenues have increased over that period, as have expenses, loss, and State cost. The farebox ratio on this Route has not fluctuated as much as on the *San Joaquins* and *Pacific Surfliners* for a number of reasons. First, when the *Capitol Corridor* service started, Amtrak had already begun increasing costs that are included in the farebox ratio. By 1996-97, Amtrak was charging a cost basis similar to the current basis. Also, the *Capitol Corridor* service is still relatively new and has added frequencies at a relatively fast rate. Thus, the growth tends to be offset by new costs for increased frequencies. The *Capitol Corridor* service has a lower farebox ratio than the other two routes, primarily as a result of its shorter trip length. The *Capitol Corridor* farebox ratio (37.8 percent in 2004-05) has ranged between a high of 43.4 percent in 1995-96 and a low of 29 percent in 1996-97.

OTP on the *Capitol Corridor* was fairly low during the initial years of the service. With the completion in early 1999 of major track and signal work over much of the route, OTP improved considerably. In 2004-05, OTP averaged 86.6 percent. The planned new trackage and signal improvement projects between Oakland and San Jose will improve the *Capitol Corridor*'s reliability and OTP by facilitating both passenger and freight train movements and by providing more opportunities for trains to pass each other.

ROUTE DESCRIPTION

The *Capitol Corridor* now has four weekday round-trips between Oakland and San Jose (six on weekends), twelve weekday round-trips between Oakland and Sacramento (nine on weekends), and one daily Sacramento to Auburn round-trip.

Scheduled running time between Oakland and Sacramento averages 1 hour-50 minutes (for trains starting or ending in Oakland) with the overall speed averaging 44 mph. Scheduled running time between Oakland and San Jose averages 1 hour-13 minutes with the overall speed averaging 36 mph. Scheduled running time between Sacramento and Auburn averages one hour and four minutes with the overall speed averaging 33 mph.

The *Capitol Corridor* extends 169 rail miles from Auburn to San Jose (35 miles east of Sacramento and 134 miles west of Sacramento.) Except for three miles of ROW owned by the Peninsula Corridor Joint Powers Board, UP owns this entire route. Amtrak operates the *Capitol Corridor* under provisions of its contract with UP. Figure 8C describes the current ownership, segment mileage, and track and signal characteristics of the *Capitol Corridor*.

Figure 8C

CAPITOL CORRIDOR								
OWNERSHIP AND TRACK CHARACTERISTICS								
Between	Mile Post	And	Mile Post	Route Miles	Owner of Track	*No. of Tracks	Max. Speed	Signal System
San Jose	47.3	Santa Clara	44.4	2.9	PCJPB	3	60	CTC
Santa Clara	44.4	Newark	31.4	13.8	UP	1	70	CTC
Newark	34.9	Niles Tower	29.7	5.2	UP	1	79	CTC
Niles Tower	29.7	West Elmhurst	13.5	16.2	UP	1	70	CTC
West Elmhurst	13.5	Oakland Jack London Square	7.0	6.5	UP	2	60	ABS
Oakland - Jack London Square	7.0	Oakland 10th Street	**4.2	2.8	UP	2	40/60	CTC
Oakland 10th Street	**2.2	Martinez	31.7	29.5	UP	2	40/60	CTC
Martinez	31.7	Davis	75.5	43.8	UP	2	79	CTC
Davis	75.5	West Causeway	81.1	5.6	UP	2	79	CTC
West Causeway	81.1	East Causeway	85.2	4.1	UP	2	79	CTC
East Causeway	85.2	Sacramento River	88.4	3.2	UP	2	79	CTC
Sacramento River	88.4	Sacramento	89.0	0.5	UP	2	30	CTC
Sacramento	89.0	Elvas	91.8	2.8	UP	2	35	CTC
Elvas	91.8	Roseville	106.6	14.8	UP	2	60	CTC
Roseville	106.6	Auburn	124.2	17.6	UP	1	50	ABS
				Total				169.3
*General number of mainline tracks								
**Mileage represents distance between mile posts to an approximate location at 10th Street in Oakland								
Owners:								
PCJPB - Peninsula Corridor Joint Powers Board								
UP - Union Pacific Railroad 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.								

CONNECTING AMTRAK BUSES

The network of buses connecting with the *Capitol Corridor* is important to the route's success because the buses significantly extend the route's range north to McKinleyville (near Eureka) and Redding; northeast to Reno, Lake Tahoe, and Carson City; and south to San Luis Obispo and Santa Barbara.

The CCJPA contracts with Amtrak for the provision of dedicated feeder bus services, and Amtrak then contracts with bus operators or local transit operators. The bus routes function as direct parts of the Amtrak system, with coordinated connections, guaranteed seating, integrated fares and ticketing procedures, and inclusion in Amtrak's central information and reservation system in the same manner as the trains.

Below is a listing of the *Capitol Corridor* bus routes and their origins/destinations, as well as the *San Joaquin* bus routes that also connect to the *Capitol Corridor*. Cities that are *Capitol Corridor* train connection points are in *italics*.

Capitol Corridor Bus Routes

Route 20–High Sierra/Sierra Foothills

Sacramento-Reno/Sparks

Route 21–Monterey Bay/Central Coast

Oakland-San Jose/San Luis Obispo/Santa Barbara

Route 23–Lake Tahoe

Sacramento-Stateline/Carson City

Highway 17 Express - Santa Cruz (through ticketing with local transit operator)

San Jose-Santa Cruz

Highway 49 Express (through ticketing with local transit operator)

Auburn-Grass Valley

San Joaquin Route Bus Routes

Route 3–Sacramento Valley

Sacramento-Redding

Route 7–North Bay/Redwood Empire

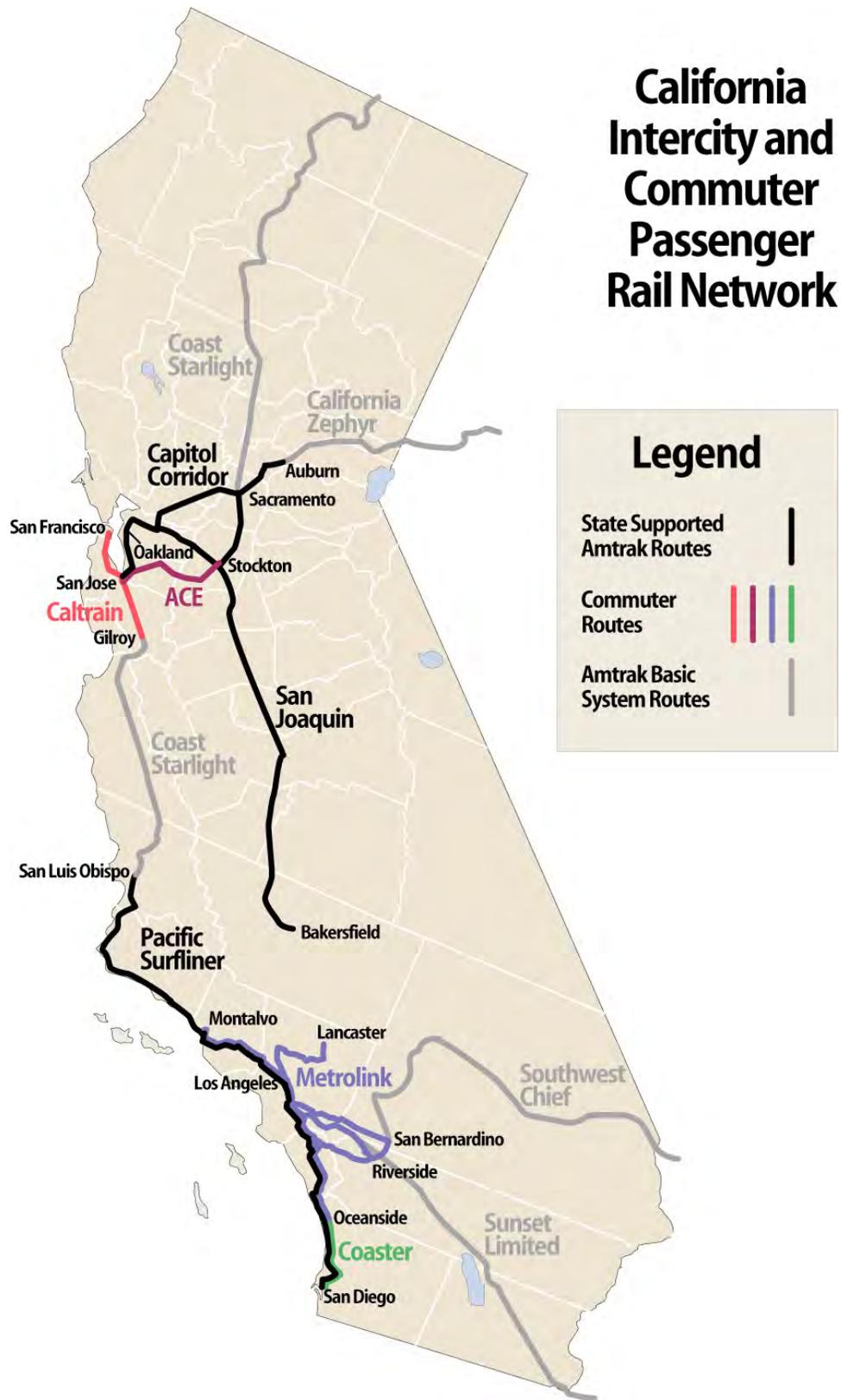
Martinez-Eureka/McKinleyville

Amtrak Bus Route

Route 99–Trans Bay

Emeryville-San Francisco

Figure 9A



CHAPTER IX

COMMUTER RAIL SERVICES

This chapter discusses the four existing commuter rail systems in California, including their extension plans: Coaster, Metrolink, Caltrain and ACE. Figure 9A is a map of existing and potential commuter rail services. Figure 9B is a map of Southern California commuter rail services and Figure 9E is a map of Northern California commuter rail services (shown later in this chapter). Also discussed are three proposed new commuter rail routes: Ventura and Santa Barbara Commuter Rail Service, Sonoma-Marin-Area Rail Transit and Auburn-Oakland Regional Rail.

COASTER COMMUTER RAIL SERVICE (SAN DIEGO-OCEANSIDE)

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- Increase ridership and improve mobility in the region.
- Implement timed transfers at various stations and transit centers.
- Initiate and continue implementation of the Customer Amenities Program.
- Implement incremental service increases, if feasible, including: supplementary mid-day service, reverse peak service, evening service, and weekend service.
- Construct Oceanside passing track.
- Construct new mainline track between O’Neil and Flores.
- Replace single-track San Dieguito River and Santa Margarita bridges with new two-track concrete bridges.
- Replace other timber bridges with new concrete bridges.
- Upgrade sidings and add second main track segments.
- Continue stabilization of Del Mar Bluffs.
- Construct new parking garage at Oceanside Transit Center.
- Extend platforms at Old Town and Poinsettia Stations.
- Build 500-space parking structure at Solana Beach Station for mixed-use development.

Figure 9B

Southern California Commuter Rail Services



BACKGROUND

The North San Diego County Transit Development Board (Board) was created by State law in 1975 to plan, construct, and operate itself or through a contractor, a public transit system in its area of jurisdiction. In 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.

In 1987, voters approved the Proposition A “TransNet” Ordinance, which provided funding for future transit projects and improvements to the existing system. At the same time, planning began on the Coaster commuter rail service between Oceanside and San Diego. In order to expand rail passenger services, in 1992 the Board purchased a significant segment of the LOSSAN Rail Corridor from the ATSF.

In 1994, the Board created a non-profit corporation called the San Diego Northern Railway (SDNR) to maintain, enhance, and operate the SDNR facilities and Coaster Express Rail Service. In 2002, SB 1703 consolidated the planning, programming, and construction functions under the San Diego Association of Governments. Also in 2002, the Board voted to dissolve the SDNR and directly manage rail services and facilities. Coaster rail service began on February 27, 1995 between Oceanside and San Diego.

The Board owns the portion of the LOSSAN Rail Corridor from the Orange/San Diego County Line (at Mile Post 207.4) south to the city limits of Del Mar/San Diego (at Mile Post 245.6). The Metropolitan Transit Development Board (MTDB) owns the portion of the LOSSAN Rail Corridor from that point south to the Santa Fe Depot in San Diego (at Mile Post 267.6). Per agreement, the NCTD also provides maintenance of the LOSSAN Rail Corridor in MTDB’s area of ownership.

ORGANIZATIONAL STRUCTURE

The Board of Directors of NCTD is comprised of one member of each of the city councils of the cities of Carlsbad, Del Mar, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista, and one member from the San Diego County Board of Supervisors.

ROUTE AND SERVICE DESCRIPTION

The Coaster serves eight stations between San Diego and Oceanside and operates 22 trains per day Monday through Thursday, with 26 trains on Friday and frequent service during peak periods. Eight round-trips are operated on Saturday. No service is operated on Sunday or holidays. The running time from San Diego to Oceanside is approximately 57 minutes. All Coaster trains are wheelchair accessible.

The Coaster has eight stations: Oceanside Transit Center, Carlsbad Village, Carlsbad Poinsettia, Encinitas, Solana Beach, Sorrento Valley, Old Town Transit Center and San Diego Santa Fe Depot. All stations have parking facilities. Parking improvements are currently being developed for the Oceanside Transit Center and the Solana Beach Station.

FARE STRUCTURE

The Coaster fare structure is based on distance traveled, with four fare zones. Passengers purchase their tickets from ticket vending machines at station platforms before boarding the train, and they must present a validated ticket or monthly pass to the conductor or ticket inspector upon request. Ticket types available include one-way tickets, ten-ride tickets, monthly plus pass, and youth monthly plus pass. Discounts of approximately 50 percent are offered to seniors and the disabled.

The Rail 2 Rail program allows Coaster and Amtrak to accept certain tickets issued by each other's rail services. Therefore, Coaster monthly pass holders traveling between Oceanside and San Diego can increase their train service options at no additional cost. Amtrak ticket holders also enjoy the same privilege on Coaster trains within the limits of their ticket at no additional charge.

CONNECTING SERVICES

Coaster passengers can connect with Amtrak trains at Oceanside, Solana Beach, Old Town Station, and Downtown Santa Fe Station in San Diego. At Oceanside Transit Center, connections are available to Metrolink commuter service to Los Angeles. Connections are made to San Diego Transit, San Diego Trolley, County Transit System, Metropolitan Transit System, Chula Vista Transit, and National City Transit at these stations: Sorrento Valley Station, Old Town Transit Center, and San Diego's Santa Fe Depot. The link to San Diego State University is at the Old Town Transit Center using the San Diego Trolley's new Green Line Mission Valley East Extension. In addition, there is a free connection from the San Diego terminal to the San Diego International Airport through San Diego Transit. The NCTD Breeze buses provide several North San Diego County region connections. Also, the Carlsbad Village Coaster Connection and the Sorrento Valley Connection provide peak hour shuttle service to the Coaster.

PERFORMANCE

Figure 9C shows the annual Coaster ridership data from the beginning of service in 1995 through 2005. As traffic on I-5 and I-805 continues to increase, more commuters have turned to the Coaster, whose ridership has increased to almost 1.5 million in 2005.

Figure 9C

Coaster Ridership Calendar Years 1995-2005			
Year	Ridership	Year	Ridership
1995	514,453	2001	1,258,263
1996	850,999	2002	1,300,047
1997	945,739	2003	1,366,479
1998	1,132,445	2004	1,474,360
1999	1,251,238	2005	1,485,125
2000	1,183,058		

CAPITAL IMPROVEMENT PROGRAM

The Coaster is working to improve its infrastructure, including rail equipment purchases and major system overhauls, bridge and track improvements, facility and maintenance improvements, radio communication upgrades, technology enhancements, and emergency response and system safety upgrades. These projects will increase safety, ridership, and improve reliability of the service.

Double-Tracking Projects

Oceanside Passing Track – This Department project entails two components. The first is construction of a 1.2 mile long passing track extension that will cross Loma Alta Creek on a new concrete bridge. The second is to replace the existing timber trestle bridge over Loma Alta Creek with a concrete bridge.

O’Neil-Flores Second Track – This Department project involves connecting the existing Stuart and Pulgas sidings by constructing 1.8 miles of new mainline track between control point (CP) O’Neil at MP 219.0 and CP Flores at MP 220.8. The project also includes rehabilitating the existing 0.9 mile Pulgas siding from CP Flores to CP Pulgas at MP 218.1 to mainline track standards and shifting 4,050 feet of existing mainline and siding track. When completed, the length of double-track available for train meets and passes will extend from CP Pulgas to CP Puller at MP 222.8 for a total length of 4.7 miles.

San Dieguito River Bridge Replacement and Second Main Track – This project replaces a single-track bridge with a double-track concrete bridge, and adds 1.1 miles of second main track to connect the existing passing tracks at Solana Beach and Del Mar. The resultant double-track will be 2.8 miles in length.

Santa Margarita Bridge Replacement and Second Main Track – This project will consist of three components: (1) replacement of the existing single-track Santa Margarita River Railroad Bridge with a new two-track bridge, (2) construction of a 0.8 mile new second main track, and (3) an upgrade and realignment of the existing 1.7 mile Fallbrook Junction Passing Track. In addition, the westerly 0.2-mile of the existing Stuart Mesa Passing Track will

be realigned to accommodate new turnouts, signal modifications, retained embankments, and drainage facilities.

Rehabilitation and Replacement Projects

Bridge 230.6 Replacement Project – Significant marine borer pile damage has been detected on this 196-foot long timber trestle spanning the Agua Hedionda Lagoon in south Carlsbad, requiring its replacement.

Del Mar Bluffs Stabilization-Phase 2-Preserving Track Bed Support – An alternatives analysis will be done to evaluate options to stabilize the track bed support within high-risk storm erosion areas including top of bluff, toe of bluff, and bluff face stabilization.

Del Mar Bluffs Stabilization-Phase 3-Additional Bluff Stabilization – Eroded track bed support will be replaced, the bluff face will be protected, and the bluff toe will be reinforced in high-risk storm erosion areas, as identified in the geotechnical study.

Station Improvement Projects

Encinitas Station Parking Lot Expansion – Additional parking facilities will be provided.

Oceanside Transit Center – Landscaping and signage will be enhanced.

Oceanside Transit Center Parking Structure – A new parking garage is being constructed at Oceanside Transit Center, just north of the station. The three-story garage will house approximately 450 parking spaces and will be completed in April 2006.

Old Town Station Platform Extension – This project will extend the station platform.

Poinsettia Station Platform Extension – This project will extend both station platforms.

Solana Beach Station Parking – A 500-space parking structure will be constructed as part of a mixed-use development located at the Station.

**METROLINK COMMUTER RAIL SERVICE
(LOS ANGELES, ORANGE, RIVERSIDE, SAN BERNARDINO, AND
VENTURA COUNTIES)**

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- Improve customer service and accessibility.
- Improve integration with other transit services.
- Purchase 43 to 66 new rail cars.
- Initiate a study of Sealed Corridor safety improvements on SCRRA-owned lines.
- Complete systemwide rail line rehabilitation/renovation projects.
- Design and construct Eastern Area maintenance facility.
- Perform various projects to improve system performance.
- Purchase and rebuild used locomotives.
- Install Lincoln Avenue double-track.
- Construct 5th lead track at LAUS.
- Construct new rolling stock storage facility at Keller Street in Los Angeles.
- Implement Perris Valley extension, Redlands extension, Santa Paula Branch Line, and Fullerton-Laguna Niguel/Mission Viejo service enhancements.

BACKGROUND

In June 1990, the California Legislature enacted SB 1402 which required the transportation commission of the counties of Los Angeles, Orange, Riverside, and San Bernardino to develop a plan for regional transit services within the multi-county region.

In August 1991, the SCRRA, a joint powers agency, was created to plan, design, construct, and administer the operation of a regional passenger rail system serving the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The SCRRA named the regional commuter rail system “Metrolink.” Today, Metrolink serves up to 41,000 daily trips in 238 cities or census-defined places throughout Southern California.

The first three lines, San Bernardino, Santa Clarita (now Antelope Valley), and Ventura County, began service to Los Angeles on October 26, 1992. The Riverside Line was added in June 1993, and the Orange Line was added in April 1994. The sixth line, Inland Empire-Orange County, was added in October 1995. In May of 2002, the 91 Line between Los Angeles and Riverside

was opened for commuters traveling via Fullerton. The Orange County to Los Angeles Line extends as far south as Oceanside in San Diego County. The SCRRA contracts with Connex Railroad LLC to operate the commuter rail service, Bombardier for rail equipment maintenance, Los Angeles County Sheriff's Department for security, Herzog Contracting Corporation for track and structure maintenance, and Mass Electric Construction Company for signal and communications maintenance.

ORGANIZATIONAL STRUCTURE

The SCRRA is a joint powers agency consisting of 11 board members and a number of member agencies. Member agencies include Los Angeles County Metropolitan Commission, Orange County Transportation Authority, Riverside County Transportation Commission, San Bernardino Associated Governments, and Ventura County Transportation Commission. Ex-officio member agencies include Southern California Association of Governments, San Diego Association of Governments, and the State of California.

ROUTE AND SERVICE DESCRIPTION

Metrolink presently operates 142 daily trains weekdays, serving 54 stations on the following seven lines:

Ventura County Line – Montalvo, Oxnard, Camarillo, Moorpark, Simi Valley, Chatsworth, Northridge, Van Nuys, Bob Hope Burbank Airport, Downtown Burbank, Glendale, Los Angeles.

Antelope Valley Line – Lancaster, Palmdale, Vincent Grade/Acton, Via Princessa, Santa Clarita, Newhall, Sylmar/San Fernando, Sun Valley, Downtown Burbank, Glendale, Los Angeles.

San Bernardino Line – San Bernardino, Rialto, Fontana, Rancho Cucamonga, Upland, Montclair, Claremont, Pomona (North), Covina, Baldwin Park, El Monte, Cal State L.A., Los Angeles.

Riverside Line – Riverside, Pedley, East Ontario, Downtown Pomona, Industry, Montebello/Commerce, Los Angeles.

Orange County Line – Oceanside, San Clemente, San Juan Capistrano, Laguna Niguel/Mission Viejo, Irvine, Tustin, Santa Ana, Orange, Anaheim, Fullerton, Norwalk/Santa Fe Springs, Commerce, Los Angeles.

Inland Empire-Orange County Line – San Bernardino, Riverside Downtown, Riverside La Sierra, West Corona, Anaheim Canyon, Orange, Santa Ana, Tustin, Irvine, Laguna Niguel/Mission Viejo, San Juan Capistrano, San Clemente, Oceanside.

91 Line – Riverside Downtown, Riverside La Sierra, West Corona, Fullerton, Norwalk/Santa Fe Springs, Los Angeles.

Saturday and Sunday service is also operated on the San Bernardino Line, and Saturday service is run on the Antelope Valley Line. Most weekday trains operate during peak commuting hours before 8:30 a.m. and after 3:30 p.m. Trains run on modified schedules on three holidays but are not run on four major holidays. Metrolink has 512 route miles in its regional rail system. All Metrolink stations have ticket vending machines. Stations on the Metrolink routes are owned by the cities or regional transportation commissions, and 22,464 parking spaces are provided, most of which are free.

During FY 2005-06, Metrolink expects to expand service to 146 trains each weekday, 32 regular weekend trains, and 12 Summerlink weekend trains serving the Inland Empire and Orange County areas from July to October. Average weekday ridership is projected to total 40,250 daily one-way trips for the FY.

In FY 2005-06, total rolling stock available will be 39 locomotives (including one leased from Sound Transit) and 151 commuter rail cars including 37 cab cars (four leased from Sound Transit) and 114 passenger cars (eight leased from Sound Transit). In addition to operating commuter rail service, SCRRA dispatches and maintains in excess of 60 percent of the territory over which it operates. On a daily basis, SCRRA currently dispatches 142 Metrolink trains, up to 36 Amtrak intercity trains between Moorpark and San Diego, 22 NCTD-operated Coaster trains, and between 70 and 80 freight trains. SCRRA is also responsible for the maintenance of over 337 track-miles of ROW owned by SCRRA member agencies.

FARE STRUCTURE

Metrolink has a barrier free system with ticket vending machines at all stations. Tickets must be purchased in advance from automated ticket vending machines located at all station platforms. The machines accept cash, credit card, or debit cards and tickets can also be purchased at Union Station, through employee transportation coordinators or through the mail. Through June 30, 2005, the system had a multi-zone fare structure and ticket prices were based on the number of zones traveled. On July 1, 2005, SCRRA began a ten-year transition to distance-based fares. All tickets are designed to include free transfers to connecting public transportation. The system has a proof-of-payment system where riders must show proof of their ticket when asked to do so during random spot checks by fare enforcement personnel. Ticket types available include one-way tickets, round-trip tickets, ten-ride tickets, and monthly passes. Discounts of 50 percent are offered to seniors and the disabled. Youth may travel at half the fare for all types of tickets on weekends only.

Metrolink participates in the Rail 2 Rail program, which began in 2002, and allows Metrolink and Amtrak to accept certain tickets, issued from each other's rail services. Metrolink monthly pass holders for the Orange County and Ventura County Lines can use any Amtrak train for any part of their travel within the limits

of their pass at no additional cost. Amtrak ticket holders also enjoy the same privilege on Metrolink trains within the limits of their ticket at no additional charge.

CONNECTING SERVICES

Each county has a transit plan 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. Metrolink passengers can connect with Amtrak trains at Anaheim, Burbank-Bob Hope Airport, Camarillo, Chatsworth, Fullerton, Glendale, Irvine, Moorpark, Oceanside, Oxnard, San Juan Capistrano, Santa Ana, Simi Valley, and Van Nuys. Metrolink passengers can connect to the Metro Red Line subway and the Metro Gold Line at LAUS, to the Metro Green Line at Norwalk, and to the Metro Blue Line at the 7th Street/Metro Station at no additional charge. Shuttle service is provided at the Downtown Burbank and Bob Hope Burbank Airport stations to the Burbank-Bob Hope Airport. LAUS also provides rail connection to Amtrak long distance trains such as the *Sunset Limited*, *Southwest Chief*, *Coast Starlight*, and the *San Joaquin* route Amtrak trains via a thruway bus. Union Station also provides connections with various local and city bus and shuttle services, including service to Los Angeles International Airport.

Planned light rail additions that will provide direct connections with Metrolink trains include the Metro East Side Line, the Metro Exposition Line, and the Metro Gold Line Foothill Extension.

PERFORMANCE

Figure 9D shows Metrolink’s ridership data on an annual basis from its start in 1992 through 2005. Ridership has grown steadily to 10.2 million in 2005 as routes were added and service expanded.

Figure 9D

Metrolink Ridership Calendar Years 1992-2005			
Year	Ridership	Year	Ridership
1992	165,164	1999	7,229,677
1993	1,889,980	2000	8,062,573
1994	4,132,625	2001	8,522,555
1995	4,645,561	2002	8,979,107
1996	5,688,814	2003	9,099,985
1997	6,314,368	2004	9,786,531
1998	6,745,282	2005	10,245,609

CAPITAL IMPROVEMENT PROGRAM

Principal Metrolink capital improvements, with estimated costs, which are planned for the next ten years, include:

Rolling Stock Procurement - \$162.8 million

This project would procure up to 46 additional rail cars, with options for up to 20 more. The specifications for the cab cars will include crash energy management to minimize the damage from a collision in passenger-occupied spaces.

Sealed Corridor Study - \$250,000

This project will study safety improvements along the Antelope Valley and Ventura County Lines including improvements such as quad gates, median islands, longer gate arms, grade crossing closure, and gates to limit access to the rail ROW. Additional funding will be added to study the San Bernardino Line and the Perris Valley Line.

Systemwide Rail Line Rehabilitation/Renovation Projects - \$55.2 million

These projects include track, signal and bridgework, tunnels, stations, drainage, engine and rolling stock overhaul and rehabilitation, and passenger information throughout the system.

Eastern Area Maintenance Facility - \$19.5 million

This project consists of the completion of design and engineering, as well as the construction of an additional facility to provide maintenance on SCRRRA equipment.

Purchase and Rebuild Used Locomotives - \$13.3 million

This project provides for the purchase and complete overhaul of used locomotives, including their remanufacture with higher horsepower engines, current operating sub-systems, painting, and other work necessary to allow operation of longer trains.

Lincoln Avenue Double-track - \$12.6 million

This is a multi-year project to install a second main line on the last segment of single main track between Fullerton and Laguna Niguel, a 1.8-mile segment between Santa Ana and Orange.

Fifth Lead Track at LAUS - \$6.9 million

The design phase of the project is complete and consisted of concept designs, property research and documentation, utility documentation, track and signal system design, and cost estimating for the fifth lead track. Construction will also include extensive signal installation and programming.

Keller Street (Los Angeles) Rolling Stock Storage Facility - \$5 million

This project includes design and construction of the Keller Street Storage Facility in Los Angeles needed for Metrolink rolling stock.

Eliminate Mail Dock at LAUS - \$3 million

This project will restore an unused track for passenger services by demolishing a mail dock, reconfiguring the skylight, and constructing a new passenger platform and connecting ramps.

Upgrade Ticket Vending Machines - \$2.8 million

This project is nearing completion and will provide for the final installation of new and/or upgraded passenger rail ticket vending machines at Metrolink and Amtrak stations.

PROPOSED SERVICE ENHANCEMENTS

Perris Valley Extension

The Riverside County Transportation Commission (RCTC) plans to request Federal Transit Administration (FTA) New Starts funds to extend the Metrolink 91 Line to South Perris in Riverside County. The Metrolink 91 Line currently operates between downtown Los Angeles and downtown Riverside via Fullerton and Corona. The extension would add approximately 21.3 miles to the route of the 91 Line and serve the University of California at Riverside, Moreno Valley, and the Perris area. The entire length of the line was purchased by RCTC in 1993.

Rail service in this corridor is expected to begin in 2008 and would operate three trains from Perris to Riverside with continuing service to Los Angeles during the morning period. Two mid-day, off-peak trains would operate daily, one in each direction. In the afternoon peak period, three trains would operate from Los Angeles to Perris. Travel time would be 40 minutes. Headways would be 50-60 minutes during the peak periods. Rolling stock would be additional bi-level commuter coaches acquired for the Metrolink fleet.

Daily ridership is estimated at 4,151 by 2010 and up to 7,472 by 2025. Capital costs are estimated at \$179 million and the annual operating and maintenance cost is estimated to be \$6.1 million in 2010 and \$8.4 million in 2025.

Redlands Extension

San Bernardino Associated Governments (SANBAG) purchased the Redlands Subdivision from the Santa Fe Railway (now BNSF) in 1993. The Redlands rail service is currently being planned by SANBAG and service is anticipated to begin in 2015. The proposed Redlands service entails two options: (1) Metrolink extension of service, and (2) Fixed Rail Transit.

Option 1 – A proposed Metrolink extension of the San Bernardino Line from San Bernardino to Redlands (approximately 8.5 miles).

Option 2 – Fixed rail vehicles would operate along the railroad ROW from University Street in Redlands to the existing San Bernardino Metrolink Station or alternatively, Metrolink service could be extended to a new station at E Street in downtown San Bernardino and meet the new SANBAG service at this location. The vehicle type would be compliant passenger vehicle – Diesel Multiple Unit (DMU) – capable of operating with freight rail services and Metrolink type trains. Most of the existing track would be constructed to be double-tracked to allow for 15-minute headways – all day. There may be sections that could be single-track in order to reduce initial capital costs but still maintain service quality.

Daily ridership is projected at 7,104 for Option 1 and 11,000 for Option 2. The estimated capital cost is \$156 million for Option 1 and \$144 million for Option 2. The annual operating and maintenance cost is estimated to be about \$71 million for either option.

Santa Paula Branch Line

Ventura County Transportation Commission (VCTC) acquired the Santa Paula Branch Line from the Southern Pacific Railroad in 1995. The 32-mile long rail line includes approximately 29 miles of existing track from Montalvo to Piru and 3 miles of abandoned (removed) track between Piru and Rancho Camulos. At the western end of the line, there is a Metrolink layover facility and station at Montalvo. At the eastern end of the line, in the City of Santa Clarita is the Saugus Metrolink rail station, which serves the Santa Clarita Line.

The City of Santa Clarita and the Newhall Land & Farming Company have expressed interest in reinstating branch line service to connect to the Saugus station and Metrolink service.

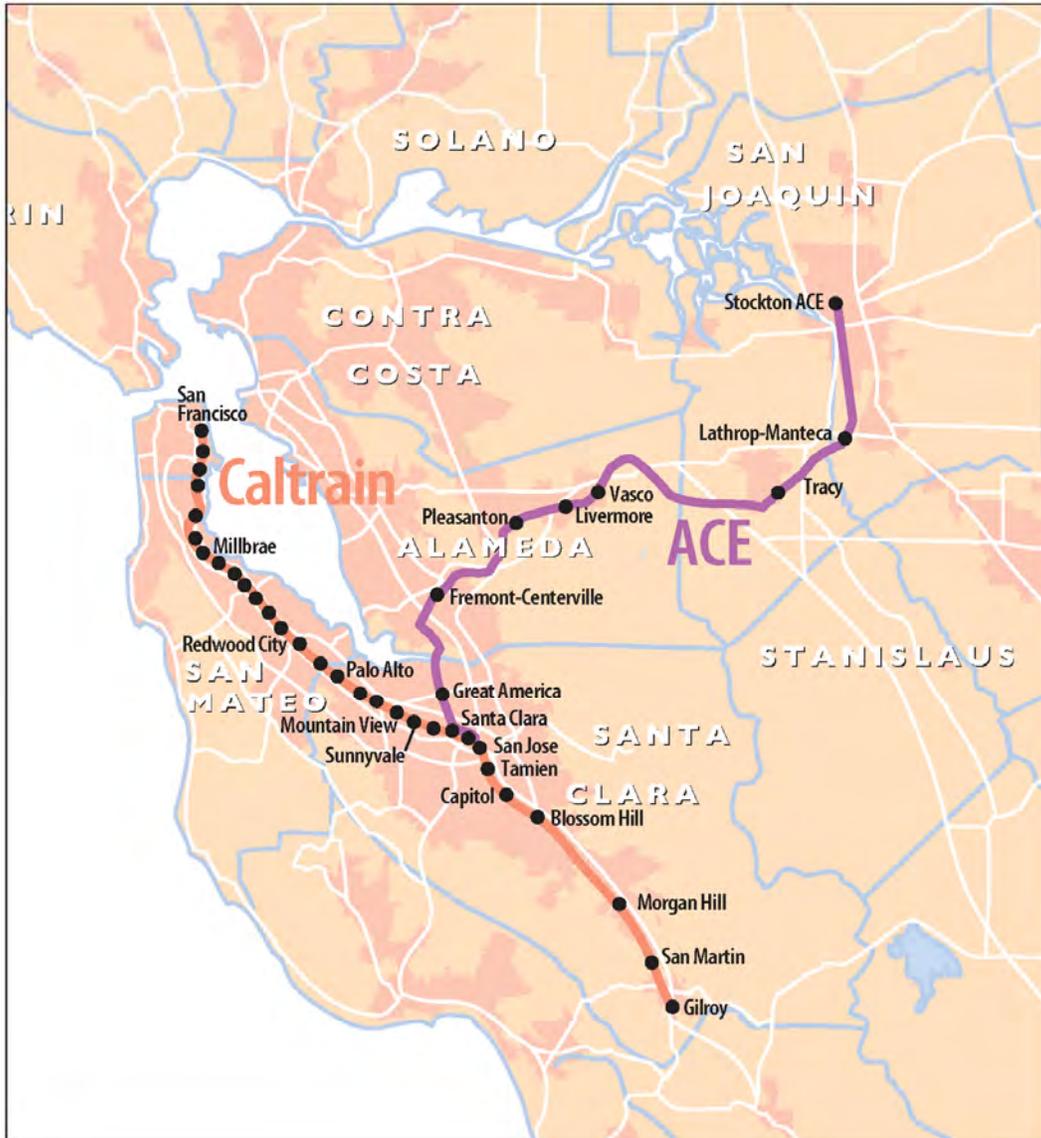
Currently, excursion services are operated between Fillmore and Santa Paula. The UP provides limited freight rail service on this corridor. VCTC recently initiated a study to investigate rail options on the Santa Paula Branch Line. There are also plans for a recreational trail in the ROW.

Fullerton-Laguna Niguel/Mission Viejo Service Enhancement

The Orange County Transportation Authority (OCTA) decided at its October 14, 2005 meeting to pursue increased Metrolink service frequencies between Fullerton and Laguna Niguel/Mission Viejo. OCTA proposes to operate daily trains every 20 to 30 minutes between 5 a.m. and midnight. Currently Metrolink provides mostly weekday peak-period service.

Figure 9E

Northern California Commuter Rail Services



CALTRAIN COMMUTER RAIL SERVICE (SAN FRANCISCO-SAN JOSE-GILROY)

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- Evaluate and fine-tune the newly inaugurated Baby Bullet service.
- Increase parking at stations impacted by initiation of Baby Bullet service.
- Increase employer bus shuttles as demand grows.
- Implement Translink regional ticketing system.
- Reduce costs and gain productivity and performance through automated ticket purchasing and track and system capital improvements.
- Plan and design service extensions to downtown San Francisco, across the Dumbarton Bridge, and to Salinas.
- Complete Centralized Maintenance Facility.
- Improve operations capacity at targeted stations and other route locations, including outside boarding platforms and additional crossovers.
- Complete customer service improvements, including improved station access and amenities at selected stations.
- Improve ROW by designing various grade separations in San Mateo County, and rehabilitate bridges, culverts, tracks, and tunnels.
- Prepare design plans, specifications, and estimates to electrify the route between San Francisco and Gilroy.
- Implement Dumbarton rail service extension.
- Implement extension to Salinas.

BACKGROUND

The Caltrain commuter rail service (previously known as the Peninsula Commute Service) operates on one of the oldest railroad lines in California. The SP operated passenger rail service on the peninsula between San Francisco and San Jose from the 1860s until 1980 when SP decided to phase the service out. The Department and the counties of San Francisco, San Mateo, and Santa Clara reached a service agreement to preserve the passenger rail service.

Between 1980 and July 1991, the Department's District 4 administered a purchase-of-service agreement with SP to continue operating and partially funding the service in cooperation with local agencies. The Department's responsibilities

included planning, marketing, engineering and design, fare and schedule setting, performance monitoring, and customer service.

In 1987, the commuter rail service was renamed “Caltrain” and the City and County of San Francisco, San Mateo County Transit District (SamTrans), and the Santa Clara County Transit Agency (now called VTA) formed the Peninsula Corridor Joint Powers Board (JPB) and transferred administrative responsibility of the Peninsula Commute Service from the State to the local level.

In July 1992, the JPB took over the management of Caltrain from the State and contracted with Amtrak to operate the Caltrain commuter rail service. At the same time, SamTrans officially assumed the operation and administration of the JPB.

Service in 1980 consisted of 22 weekday round-trip trains from San Francisco to San Jose. Under JPB management, service has increased to 43 weekday round-trips. An extension to Gilroy with two weekday round-trips was added in 1992, with service later expanded to four round-trips. Baby Bullet express service was added in 2004.

ORGANIZATIONAL STRUCTURE

The JPB currently includes representatives from San Francisco, San Mateo, and Santa Clara counties. The JPB consists of nine members and each county has three members on the board. The San Francisco members represent the mayor’s office, the San Francisco County Board of Supervisors and the San Francisco Municipal Transportation Agency. The San Mateo members represent SamTrans Board of Directors and the Santa Clara members represent the VTA, and the cities of San Jose and Santa Clara. Staff from the San Mateo County Transit District provides administrative support to the JPB.

The JPB contracts with Amtrak to operate service on the corridor between San Francisco and Gilroy. As part of this agreement, Amtrak is responsible for day-to-day operation and maintenance of the trains. The Caltrain commuter service is awarded on a competitive basis. SamTrans continues to operate and administer the service for the JPB.

ROUTE AND SERVICE DESCRIPTION

Caltrain operates seven days a week on 77 miles of track owned by the JPB from San Francisco and San Jose and by UP from San Jose to Gilroy, and serves 20 cities with 34 stations between San Francisco, San Jose, and Gilroy in San Francisco, San Mateo, and Santa Clara counties. The system has a mixture of local, limited, and express trains and serves work centers in San Francisco, the Peninsula, and Silicon Valley including developing residential areas in southern Santa Clara County. Caltrain operates 96 trains on weekdays between San Francisco and San Jose. Of the 96 trains, 22 are Express trains (known as the Baby Bullet) that serve 12 stations. Forty-eight provide limited service to more stations than the express service, and 39 operate as local service. Scheduled

weekday trains run on 30-minute headways at major stations and one-hour headways at minor stations. Also, on weekdays, six trains are extended to and from Gilroy.

The system provides extensive weekend service, which consists of 32 trains on Saturday, and 28 on Sundays. The weekend trains provide local service between San Francisco and San Jose Diridon stations on one-hour headways. Buses provide a connection between Diridon and Tamien stations.

FARE STRUCTURE

Caltrain uses a six-zone fare structure based on distance traveled. Trips of longer distances are charged higher fares but at a lower cost per mile. Tickets, including one-way tickets, one-day passes, ten-ride tickets, and monthly passes, must be purchased in advance at staffed stations, from automated ticket vending machines located at station platforms, by mail, at selected employment sites throughout the Bay Area, or over the Internet. Seniors, the disabled, and youth may travel at half the fare for all types of tickets. Riders must show proof of their ticket when asked to do so during random spot checks by fare enforcement personnel.

Caltrain monthly pass holders receive a local fare credit on SamTrans buses and on VTA buses and light rail vehicles. For SamTrans patrons, the pass must be two zones or greater to receive the credit. For VTA passengers, the monthly pass must be two zones or greater for adult and senior/disabled riders, three zones or greater for youth riders. A two-zone Caltrain monthly pass also is valid for a free transfer to the Dumbarton Express bus. Caltrain customers connecting with San Francisco Muni may purchase a discounted Muni Pass along with their Caltrain monthly pass to make the connection.

Caltrain is currently participating in a program called TransLink, a universal fare smart card (a form of electronic cash card) with a microchip that stores fare information. Riders can use the smart card to pay for fares on any public transit service in the Bay Area. When fully operational, it is expected that all Bay Area operators will use TransLink. TransLink is expected to be ready for universal use on Caltrain in 2006.

CONNECTING SERVICES

Caltrain has a direct connection with other major operators on its route. Many of Caltrain's stations are multimodal and facilitate transfers between other transit operators, including Muni, BART, SamTrans, VTA light rail and buses, AC Transit, the Dumbarton Express bus, and ACE that provides commuter service from Stockton to San Jose. ACE shares stations with Caltrain at Santa Clara and San Jose Diridon stations.

Caltrain connects directly with the intercity *Capitol Corridor* and Amtrak's long-distance *Coast Starlight*, at the San Jose Diridon Station. Amtrak *San Joaquin* and

Capitol Corridor route feeder bus stops are located at the Caltrain station in San Francisco.

Local transit services link many Caltrain stations to local city destinations and employment centers where they can serve patrons more directly than the fixed route rail service. For example, the San Jose Diridon station serves eight VTA bus lines and Highway 17 Express bus service to Santa Cruz.

In addition Caltrain operates about 33 shuttle routes connecting stations to major employment sites throughout the San Francisco peninsula. In 2004, the Caltrain shuttle service carried approximately 4,000 riders per weekday. Caltrain stations also are served by locally operated paratransit services.

PERFORMANCE

Figure 9F

Figure 9F shows the annual ridership data from 1992 through 2005. Ridership was 10.5 million in 2001 but declined in 2002 and 2003 due to employment reductions in the Silicon Valley as well as the temporary suspension of weekend service to accommodate construction of additional track capacity for the Baby Bullet services. Caltrain ridership was 8.1 million in 2003. But in 2005, with the new of the Baby Bullet and the return of weekend service, ridership was 9.9 million.

Caltrain Ridership Calendar Years 1978-2005			
Year	Ridership	Year	Ridership
1978	4,341,011	1992	6,833,290
1979	5,699,406	1993	6,889,941
1980	6,122,890	1994	7,021,182
1981	5,895,129	1995	7,143,091
1982	5,195,819	1996	7,765,115
1983	5,009,130	1997	8,367,683
1984	5,232,527	1998	8,643,158
1985	5,384,013	1999	8,990,864
1986	5,416,303	2000	10,267,000
1987	5,540,630	2001	10,497,640
1988	5,600,582	2002	8,978,675
1989	5,790,712	2003	8,107,324
1990	6,970,696	2004	8,768,157
1991	7,111,365	2005	9,867,498

PLANNED IMPROVEMENTS

The following list of improvements is taken from the Caltrain Short Range Transit Plan 2004-2013:

Caltrain Express Service – The JPB will continue to evaluate and fine-tune the Baby Bullet service. There will be an onboard survey and a special count to better understand the success of the new service. From the data, staff will make refinements in the service to better respond to customer needs.

Station Access – Baby-Bullet service substantially changed the travel patterns of existing and new Caltrain riders. Many customers travel further from their homes to access an express station, especially the intermediary stations of Mountain View, Palo Alto, Hillsdale, and Millbrae. Common to all of these stations, except Millbrae, is the stress placed on parking access. Efforts are underway to increase parking supplies at these stations.

Shuttle Service – During the downturn in the economy, several companies pulled out of the employer shuttle program. Prior to the “dotcom bust,” there were 48 Caltrain shuttles. Currently there are 33 shuttle routes. Just recently, there has been moderate interest by former and new companies to participate in the shuttle program. Over the next few years, attention will be given to increase shuttles as demand grows.

Fare Policy and Process – In 2003, the JPB approved massive changes in the Caltrain fare structure and fully implemented proof-of-payment. Proof-of-payment allows train conductors to focus on customer service instead of ticketing activities since all ticket sales are performed before boarding. The next major improvement in the fare process is the introduction of TransLink, a universal fare instrument that will eventually be recognized by all Bay Area operators. TransLink is expected to be available throughout the Caltrain system in 2006.

Productivity – The JPB will be striving to make greater gains in performance over the next few years to help reduce cost. For example, as ticket purchases become more automated, train personnel will be able to perform other vital customer functions. Also, as track and system capital improvements come on line, train and crew will become better utilized.

Regional Extensions – Service via extensions to downtown San Francisco, across the Dumbarton Bridge, to Salinas/Monterey, or via High Speed Rail in California is not included in this operations plan, although planning and design for these projects continue and are funded by third parties. Depending upon the availability of funding, some of the extensions may occur during the life of the Short Range Transit Plan.

CAPITAL IMPROVEMENT PROGRAM

The capital improvements in the Caltrain Short Range Transit Plan 2004-2013 consist primarily of previously committed scheduled replacement and rehabilitation projects, station improvements, some capacity expansion enhancement projects, and construction of a centralized maintenance facility. These projects will improve OTP, reduce travel time, and improve customer satisfaction and ridership in the corridor. Following are the projects that will provide the greatest service improvements and benefit to customers.

Centralized Maintenance Facility – A new Centralized Equipment Maintenance and Operations Facility is scheduled for completion in 2006. It will allow for maintenance of the Caltrain fleet to be performed at one location and with the most modern equipment, improving fleet reliability and performance with lower operating costs.

Operational Capacity Improvements – Several stations will receive outside boarding platforms to allow two trains to operate at a station at the same time. Additional improvements include station center track fences, signalized pedestrian at-grade crossings, and new crossovers. These improvements will reduce travel times, increase train speeds, and improve service flexibility.

Customer Service Improvements – Improvements are planned in San Francisco and Hillsdale stations to provide better access and station amenities, audible signs, and upgrades to the public address systems.

Right-of way Improvements – In San Mateo County, various grade separations are under design to improve safety by separating the railroad from vehicle and pedestrian flow. Other projects in San Mateo County include bridge, culvert, track, and tunnel rehabilitations.

Electrification – The environmental process is nearly completed with preparation of design plans, specifications and estimates soon to follow for conversion of the existing diesel engine mode of propulsion to electric power from San Francisco to Gilroy.

PROPOSED SERVICE EXTENSIONS

Downtown San Francisco

In 2001, the City and County of San Francisco in collaboration with other Bay Area transportation agencies agreed to build a new multimodal transportation terminal in San Francisco. The new center, to be located at the existing Transbay Terminal at First and Mission Streets in downtown San Francisco, will be one of the largest multimodal transportation centers on the west coast. When completed, the terminal will allow a subsurface extension of Caltrain commuter service from its current location at Fourth and King Streets to Downtown San Francisco. The new center will also serve AC Transit, Golden Gate Transit, SamTrans, Greyhound, Amtrak feeder buses, Muni buses and light rail, and BART.

Dumbarton Rail Corridor

The former SP discontinued rail service in the 1980s on the 20.5-mile Dumbarton Rail Corridor between Redwood Junction and Newark Junction. A 1991 San Mateo County Transportation Authority (SMCTA) long range study to determine the feasibility of operating commuter rail service in the corridor recommended a rail service option. As a result, the SamTrans purchased the ROW in early 1994. Funds were programmed for the Dumbarton Rail Corridor in

the MTC's Regional Transportation Plan, and a project study report on the rail corridor was completed in February 2004.

The Dumbarton Commuter Rail service will initiate new cross-bay commuter rail service between the Peninsula and the East Bay. The project will involve rehabilitating and reconstructing rail facilities on the existing railroad alignment and ROW. The new service is planned to start in 2010, providing three round-trips between Union City and San Francisco and three round-trips between Union City and San Jose. Other service variations include trains originating in Livermore and Union City, with higher service levels projected for the future.

The new rail corridor will link Caltrain, ACE, the *Capitol Corridor*, and BART. It will also connect with East Bay bus systems at the multimodal transit center in Union City.

Daily ridership is estimated at 4,800 in 2010 and 6,900 by 2025. Capital costs are estimated at \$300 million, including new rolling stock, with annual operating and maintenance costs of \$8 million.

Salinas Extension

The Caltrain Extension to Monterey County project, which is sponsored by the Transportation Agency for Monterey County (TAMC), proposes to extend the existing San Francisco to Gilroy service to Salinas with stops in Pajaro and Castroville. TAMC has conducted a number of studies on train service options between San Francisco and Salinas/Monterey. The 2000 Extension of Caltrain Commuter Service to Monterey County Business Plan found that transportation alternatives are needed in Monterey County to improve commuter and healthcare access to the San Francisco Bay Area and to relieve congestion on the county's interregional highway connections. Currently, residents of Monterey County who work in Santa Clara County must use private vehicles to travel between home and work. The Commuter Rail Extension to Monterey County Project Study Report is near completion, and a Draft Environmental Impact Report/ Environmental Assessment (DEIR/EA) is due out in spring 2006.

The proposed route would use the current Caltrain-owned ROW between San Francisco and San Jose. The route between San Jose and Salinas is owned by UP and used for passenger service by Caltrain to Gilroy and by the Amtrak *Coast Starlight* to Salinas and beyond to Los Angeles. The initial service is proposed to start in 2009 with two round-trips per weekday, expanding to four within ten years, or as demand warrants.

Annual ridership is estimated at about 525,000. Capital costs are estimated at \$75 million, with annual operating and maintenance costs starting at \$1.5 million and declining to \$1.0 million after three years.

ACE COMMUTER RAIL SERVICE (STOCKTON-SAN JOSE)

PRINCIPAL 2005-06 to 2015-16 ROUTE OBJECTIVES

- Continue service improvements.
- Improve on-time performance.
- Increase ridership on existing routes.
- Improve service coordination with other service providers such as BART, Caltrain, Capital Corridor, and shuttle service providers.
- Acquire ROW, perform engineering work, and begin construction of rail maintenance and layover facility in San Joaquin County.
- Purchase passenger rail cars and locomotive for fourth train.
- Upgrade signal system between Stockton and Fremont.
- Replace ties between Niles Junction and Santa Clara.
- Upgrade diamond at Lyoth and replace switch at Hunter Street.
- Upgrade passenger cars and locomotives.
- Evaluate potential extensions and new services in the Central Valley.

BACKGROUND

In 1989, the San Joaquin Council of Governments, the Stockton Chamber of Commerce and the Building Industry Association of the Delta began the development of a 20-year transportation plan for a future sales tax vote in San Joaquin County. Measure K, the half-cent sales tax for transportation, was strongly supported by voters in 1990, and the number one project identified for funding was Altamont passenger rail service. In 1995, the seven cities and San Joaquin County formed a joint powers agreement that created the San Joaquin Regional Rail Commission (SJRRRC) to implement the rail plan and to explore agreements with the counties of Santa Clara and Alameda. This created a five-member board of directors appointed by the San Joaquin Council of Governments. San Joaquin County has contributed over \$40 million in Measure K funding for Altamont Commuter Express (ACE) rail service.

In May 1997, SJRRRC, the Alameda County Congestion Management Agency (ACCMA), and VTA executed an agreement to create the Altamont Commuter Express Joint Powers Authority (JPA). The JPA agreement identified the SJRRRC as the managing agency for the ACE service, overseeing the day-to-day management, planning, and support services necessary to operate the trains. The SJRRRC issued a contract for operations and maintenance of equipment to Herzog Transit Services, Inc., and service began on October 19, 1998. Initially there were two westbound morning trains and two eastbound evening

trains. In March 2001 a third train was inaugurated which gave ACE passengers later departure options and eased overcrowding.

Funding for the operation and management of the ACE service is provided by passenger fares, San Joaquin County Congestion Mitigation and Air Quality (CMAQ) Federal grant funds, Measure K, Transportation Development Act (TDA) funds, Federal and State grants, and operating support from the three member agencies. Each member agency's annual share is based on the percentage of total ACE daily boardings and alightings that occur in each county. Cost sharing for capital projects, excluding stations, during the initial 36 months of service was determined by the JPA on a case-by-case basis and approved by each of the member agencies. Station improvements are the responsibility of the member agency for the county in which the station is located.

ORGANIZATIONAL STRUCTURE

The SJRRC is a Joint Powers Authority consisting of the County of San Joaquin and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy. The commission is governed by a Board of Directors which consists of six elected officials appointed by the San Joaquin Council of Governments from nominations by local agencies, and is supplemented by two elected officials appointed by the ACCMA to address rail service issues affecting Alameda County. Ex-officio members represent Caltrans, the San Joaquin Regional Transit District, and the San Joaquin Council of Governments.

In July 2003, the SJRRC became the designated owner, operator and policy-making body of the ACE service in accordance with the Cooperative Service Agreement between the SJRRC, the ACCMA, and VTA, which superseded and rescinded the prior 1997 agreement. As the designated owner of the ACE service, the SJRRC took title to all of the assets and assumed the liabilities that were previously under ownership of the ACE Joint Powers Authority, which was dissolved.

The purpose of the Cooperative Services Agreement is to improve and expand the ACE service and protect the interests of the three counties along the corridor. As part of this agreement, the SJRRC is required to provide a baseline three-train service to Santa Clara and Alameda Counties in return for a “capped” contribution.

ROUTE AND SERVICE DESCRIPTION

ACE operates Monday through Friday over 85 miles of track, providing three round-trips between Stockton and San Jose during morning and evening peak periods. The running time between Stockton and San Jose is approximately 2 hours-18 minutes.

ACE serves these stations: Stockton, Lathrop/Manteca, Tracy, Vasco, Livermore, Pleasanton, Fremont, Great America, Santa Clara, and San Jose. Free parking is available at all stations, except at the Santa Clara and San Jose stations where there is a daily fee of \$1.50.

FARE STRUCTURE

The ACE has five fare zones based on distance traveled. The system has a proof-of-payment system where riders must show proof of ticket purchase when asked to do so. Ticket types are one-way, round-trip, weekly, 20-ride, and monthly passes.

The ACE is working with the CCJPA on a pilot program to integrate service ideas and amenities common to both systems to control costs and benefit passengers on both corridors. These efforts include a common global positioning system (GPS), joint automated ticketing, public address (PA) announcements, and electronic fare media at shared stations.

CONNECTING SERVICES

Bus and rail transit connections and dedicated shuttles are an integral part of the ACE system, providing a seamless commuting link between stations and riders’ workplaces. All stations with the exception of the Tracy station have some form of connecting transit. In addition, three stations have direct connections to rail services. The Stockton station has connections to the *San Joaquin* Route trains. The Santa Clara-Great America station connects with Caltrain and the *Capitol Corridor*. At San Jose, connections are made with Caltrain, the *Capitol Corridor*, and the Amtrak long distance *Coast Starlight*.

PERFORMANCE

In 2005 calendar year, ACE ridership was over 667,000. ACE is improving marketing outreach to increase ridership. Passenger fares in 2004 approximated \$3.5 million. ACE’s OTP in 2004 averaged 83 percent. This is a decrease from previous years and is due to weather conditions and increased UP freight traffic on the railroad line used by ACE.

Figure 9G

ACE Ridership Calendar Years 1998-2005			
Year	Ridership	Year	Ridership
1998	67,222	2002	803,522
1999	424,988	2003	607,017
2000	714,259	2004	640,753
2001	922,976	2005	667,029

Figure 9G shows ACE’s annual ridership from 1998 through 2005.

PLANNED IMPROVEMENTS

ACE service will continue with three round-trip trains in the morning and evening commute windows. ACE will continue to focus on improving OTP and train speeds, expanding options for communicating train status to passengers, providing more opportunities for passengers to participate in the ACE planning process, and implementing new schedules as necessary to improve coordination and performance. ACE will invest in infrastructure projects that will allow for higher track speeds or improved reliability. A pilot program of on board ticket vending machines to allow on board collection of fares is being planned. Efforts are underway to implement a fourth train.

CAPITAL IMPROVEMENT PROGRAM

The ACE 2005/06 capital improvement program totals \$31.3 million. Principal projects include:

Rail Maintenance and Layover Facility in San Joaquin County - \$8.2 million

This is a multi-year project with funds for ROW acquisition, engineering, and partial Phase I construction.

Passenger Rail Cars and Locomotive - \$9.9 million

This is a multi-year project with only funds for FY 2005-06 identified. The purchase of 12 to 18 new rail cars and four locomotives will provide equipment for the fourth train. While this train is not scheduled to begin service until the existing train service reaches 85 percent capacity, there is 18 to 24 months lead time for the rolling stock to be constructed.

Signal Upgrade Project (Stockton to Fremont) - \$6.0 million

This is a multi-year project, which began in FY 2004-05, to upgrade the signal system between Stockton and Fremont and improve service reliability. The total estimated project cost is \$11.5 million, and funds identified are for work to be completed in FY 2005/06.

Major Tie Replacement Program - \$2.3 million

This project is jointly funded by ACE, the CCJPA, and the UP. The total cost is estimated at \$7 million, with each entity funding one third. The project is between Niles Junction and Santa Clara.

Track Upgrade - \$0.7 million

This project includes upgrade of the diamond at Lyoth and replacement of the switch at Hunter Street.

Capital Spares/Upgrades for Passenger Cars and Locomotives - \$0.5 million

This project includes new seat cushions for the original eight passenger cars, two new air conditioning units and the overhaul of 18 more units, locomotive and passenger car wheels, and two locomotive traction motors.

PROPOSED SERVICE EXTENSIONS

The SJRRC is beginning a study on potential extensions and new services in the Central Valley. At the SJRRC Board Planning Workshop held on May 5, 2005, a number of corridors and extensions of the ACE service were identified for study, such as a direct connection to BART in the Livermore Valley, Merced to Sacramento commuter service, commuter service to the East Bay via the BNSF alignment from Stockton to Oakland, the Westside line from Los Banos to Tracy, and coordination with BART in their proposed E-BART service.

PROPOSED COMMUTER RAIL SERVICES

Three potential new commuter rail services are being proposed. They are discussed below.

VENTURA AND SANTA BARBARA COMMUTER RAIL SERVICE

There is interest in expanding commuter rail service in Ventura and Santa Barbara Counties. Currently, Metrolink operates the Ventura County line between Los Angeles and Montalvo and the *Pacific Surfliner* operates five daily round-trips from Los Angeles to Goleta, with two trips continuing to San Luis Obispo. Thus, commuter and intercity rail service now serves Ventura County and intercity rail service serves Santa Barbara County.

The Department has expanded its LOSSAN North Strategic Plan to study the potential for commuter rail service in Ventura and Santa Barbara Counties. (See the “Corridor Strategic Planning” section in Chapter II for further information on the Strategic Plan.) The study will be completed by April 2006. The study will look at alternatives including additional Amtrak intercity rail service and commuter rail service utilizing existing equipment types or DMU technology. For each alternative, the study will develop an operational analysis including: service scenarios, equipment needs, as well as estimates for ridership, revenues, operating and maintenance costs, and operating deficit. Rail capacity analysis will be done as part of the study.

SONOMA MARIN-AREA RAIL TRANSIT

The purpose of the Sonoma Marin Area Rail Transit District (SMART) is to provide passenger rail passenger service to Sonoma and Marin County residents along the Northwestern Pacific (NWP) rail corridor. The NWP generally parallels Highway 101 and is located in Sonoma and Marin counties, north of San Francisco. AB 2224 (2002) authorized the creation of the SMART Rail District. The legislation designated SMART as the owner of the NWP corridor from Healdsburg to Corte Madera, and as the operator for passenger rail service.

Passenger rail service on the line was provided as late as 1958, with service to San Rafael. Public acquisition of the line began in the 1970's and was completed in the mid-1990's. Numerous transportation planning studies, dating back to the

1980's have recommended the utilization of the NWP for passenger rail service. Prior to the formation of the SMART Rail District, the project was planned by the joint county SMART Commission, which was replaced by the SMART District Board of Directors in 2003.

The SMART Commission sponsored the Sonoma Marin Transportation and Land Use Study, in 1995, which recommended specific station locations and rail line termini. In 2001, the Commission oversaw the Commuter Rail Implementation Plan, which recommended 30-minute service along the line. Work to refine that Plan and produce environmental clearance for the project was initiated in 2001. Consultant contracts to develop rail systems planning work (2001), environmental analysis (2003), community outreach (2002), and station planning (2003) are on-going. The Draft Environmental Impact Report is expected in fall, 2005.

Current implementation plans include service start up in 2009-10 along a 70-mile corridor with service from Cloverdale to the existing Larkspur ferry terminal. Fourteen stations are planned: nine in Sonoma County and five in Marin County. Service assumptions include 30-minute peak period headways and twelve trains per day. Initial ridership is estimated at about 5,000 per day. DMU rail vehicles are currently being evaluated for use along the corridor.

The SMART estimates capital costs (in 2004 dollars) to upgrade tracks, build stations and a maintenance facility, and purchase vehicles at \$340 million for the full 70-mile corridor. Projected operating costs are \$10-12 million per year. Approximately \$120 million in local, State and Federal funding has been set aside for the project. The remaining funding for the project, including on-going operating funds, would come from a district wide one-quarter-cent sales tax measure. It is anticipated that measure will be placed on the ballot in November 2006.

AUBURN-OAKLAND REGIONAL RAIL SERVICE

Six agencies have partnered to develop a service concept plan for a new regional commuter rail service in the urban corridor extending from Auburn (Bowman) to Oakland. The agencies are: the CCJPA, Contra Costa Transportation Authority, Solano Transportation Authority, Yolo County Transportation District, Sacramento Regional Transit District, and Placer County Transportation Planning Agency. The UP, the Sacramento Area Council of Governments, and the Department also participated in the study that was originated in 2002. The new service would augment existing *Capitol Corridor* intercity service by providing additional peak period capacity for within the greater Sacramento urban area and between Auburn and the Bay Area. The two services would utilize the same equipment, staff, and fare structure, and thus would appear fully unified to the riding public.

The Auburn-Oakland Regional Rail Service Concept Plan (Plan) was released in June 2005. The Plan was endorsed by the group's steering committee in September 2005. This Plan contains a near-term and a long-term implementation action plan. However, at this time the UP will not participate in any further capacity modeling for potential new passenger rail services due to major freight congestion problems the railroad is experiencing within this and other corridors.

The Plan includes three-phases, with a first phase in 2010, planned to add four new Sacramento-Oakland round-trips. The second phase planned for 2015, would include four new Sacramento-Auburn round-trips and one additional Oakland to Sacramento round-trip. When mixed with *Capitol Corridor* trains, 30-minute intervals (headways) would be provided during peak periods in both directions. The third phase, planned for 2020 would add new stations, primarily in the Sacramento metropolitan area. Daily ridership of 6,900 is projected by implementation of the third phase.

Auburn-Oakland Regional Rail would initially serve all existing stations along the *Capitol Corridor*: Auburn, Rocklin, Roseville, Sacramento, Davis, Suisun/Fairfield, Martinez, Richmond, Berkeley, Emeryville, and Oakland. Additional station stops would be phased in at Bowman (5 miles north of Auburn), Antelope, Swanston, West Sacramento, Dixon, Fairfield/Vacaville, Benicia, and Hercules for a total of 19 stations.

The Plan projects the total cost of operating and maintaining the Regional Rail service to be approximately \$15.5 million annually, including fees paid to the UP and Amtrak, vehicle and station maintenance, and administrative expenses. The capital requirements, including new rolling stock, track work and signals, stations and parking, and maintenance facility and other system wide improvements, are estimated to cost \$380 million. The Plan anticipates that the funding for Regional Rail will come from a mix of sources including Federal New Starts funds, CMAQ or RSTP, State discretionary funds, the *Capitol Corridor*, and other local funds. The project is authorized in SAFETEA-LU, under the New Starts Program for Alternatives Analysis/Preliminary Engineering.

Figure 10A



CHAPTER X

POTENTIAL NEW SERVICES

This Chapter contains a discussion on six potential intercity passenger rail routes, four of them proposed by the Department for service in the ten-year period. Figure 10A displays the six potential intercity passenger rail routes. Also, high-speed rail and magnetic levitation projects in California are discussed. Chapter IX discusses proposed extensions of existing commuter rail services as well as proposed new commuter rail services.

PROPOSED INTERCITY RAIL ROUTES

This section includes a description of the four new routes that the Department proposes for service in this ten-year plan. The routes are discussed in order of potential implementation by year: San Francisco to San Luis Obispo (and Los Angeles); Sacramento to Reno; Sacramento to Redding; and Los Angeles to Indio. Included for each route is a summary of current service to the area, recent studies of the route, and the Department's current service proposal. The implementation of all new service is subject to demonstrated ridership demand, approval from Amtrak and the relevant railroad(s), availability of operating and capital funding and equipment, and completion of necessary capital projects.

SAN FRANCISCO TO SAN LUIS OBISPO (AND LOS ANGELES) VIA COAST ROUTE

The extension of the *Pacific Surfliners* from San Luis Obispo to San Francisco would close a key gap in the State-supported intercity rail system by providing direct train service from San Francisco to Los Angeles. Regional transportation planning agencies have led the planning for this extension and will continue to provide an important role in the planning and operation of this extension.

Background

Currently only one daily round-trip *Coast Starlight* train connects Oakland and San Jose with Los Angeles via the Coast with intermediate stops including Salinas, Paso Robles, San Luis Obispo, and Santa Barbara on its route from Seattle. Also a round-trip Amtrak Thruway bus from San Luis Obispo to San Francisco started on November 17, 2004 with the inauguration of the second Los Angeles-San Luis Obispo *Pacific Surfliner*. Ridership on this entire bus route was over 18,000 in 2004-05. Additionally, one round-trip Amtrak Thruway bus from San Jose to Santa Barbara connects the *Capitol Corridor* to Santa Barbara. Ridership on this bus route was 12,000 in 2004-05.

There has been interest for many years in providing additional Coast Route service to better link California's two largest metropolitan areas. In 1992, H.R. 39 was passed requesting a Coast Corridor intercity rail corridor upgrade study be conducted by the regional transportation planning agencies along the Corridor in cooperation with the Department. As a result, concerned local agencies formed the Coast Rail Coordinating Council (CRCC) that is staffed by the San Luis Obispo Council of Governments. The Coast Rail Improvement Study issued in the fall of 1994 resulted from H.R. 39. Then in 1996, the Coast Route Infrastructure Assessment Report was completed. One of the main goals of the CRCC is to "close the gap" in State-supported train services by connecting downtown Los Angeles and downtown San Francisco with daily train services.

In 2000, the CCRC issued a Coast Daylight Implementation Plan that envisions daily service operating on Caltrain tracks from San Francisco to San Jose, and then on UP tracks to Moorpark, and then on Metrolink tracks to Los Angeles. Stations are planned in San Francisco, Millbrae, Palo Alto, Mountain View, Santa Clara, San Jose, Gilroy, Pajaro, Salinas, King City, Paso Robles, San Luis Obispo, and south to Los Angeles stopping at existing *Pacific Surfliner* stations. The study includes operating costs, but no capital costs.

In fall 2004, the CRCC released the Capacity Analysis for this service. The analysis identified several capital improvements that would be helpful in order to increase train frequencies on the Coast Route. The CRCC is now working with Amtrak, UP, and the Department to identify how to move forward since capital funding for the improvements is extremely limited. Additionally, at this time, the UP is not considering new passenger routes due to an increase in freight traffic and their need to accommodate this demand.

Operating Plan

The Department's ten-year operating plan includes one round-trip train between San Francisco and San Luis Obispo, starting in 2007-08, with a second train in 2013-14. The first train would be operated from San Luis Obispo to Los Angeles as an extension of the new *Pacific Surfliner* train added in November 2004, and would provide through train service between San Francisco and Los Angeles. The second train would operate as an extension of the planned third Los Angeles-San Luis Obispo round-trip. Direct train connections to San Diego at Los Angeles would be available on most trips.

The Department believes this extension is a good candidate for rail service because:

- It would be the only State-supported route to provide direct train service between the two major population centers of the State, thus closing a key gap in the system.

- There is strong ridership on the one daily *Coast Starlight* round-trip and on the three daily Amtrak Thruway buses.
- An existing local organization –the CRCC, is actively planning the service, and implementation plans have been completed.

SACRAMENTO TO RENO

The extension of intercity rail service from Sacramento to Reno would bring State-supported rail service to the Truckee/Tahoe and Reno/Sparks tourist areas as well as provide relief to the highly congested I-80 –Bay Area to Reno corridor.

Background

Amtrak’s *California Zephyr* and connecting buses to the *Capitol Corridor* and *San Joaquins* serve Reno and intermediate I-80 Corridor points. The *California Zephyr* makes stops at Reno, Truckee, Colfax, Roseville, and Sacramento once daily in each direction on its route to Chicago. Also, Amtrak buses connect to three *San Joaquins* and four *Capitol Corridor* trains and serve Reno/Sparks, Truckee, Soda Springs, Colfax, Auburn, Rocklin, Roseville, and Sacramento. Ridership on this bus route was 37,000 in 2004-05.

In 1995, the Department and the Nevada Department of Transportation published the Sacramento-Tahoe-Reno Intercity Rail Study that examined the feasibility of expanding passenger rail service along the I-80/Tahoe corridor from Sacramento to Truckee and Reno/Sparks on the UP line on which the *California Zephyr* currently operates. A number of scenarios were studied involving extending varying numbers of *Capitol Corridor* trains from Sacramento to Reno/Sparks, and all scenarios were determined to be feasible. In 2002, the CCJPA and the Placer County Transportation Planning Agency initiated a study to extend the *Capitol Corridor* to Reno. The study was intended to provide current ridership, revenue, and train operating cost estimates for the train extension, and the capital costs for necessary station and track improvements. However, the study was suspended in March 2005 as a result of the UP’s decision to not conduct additional network modeling or consider operation of new passenger train service to Reno at this time. The UP has experienced a significant increase in freight traffic and has made a business decision to focus its efforts at this time on addressing additional freight demand.

Operating Plan

The Department’s ten-year operating plan includes the extension of one *Capitol Corridor* round-trip from Auburn to Reno/Sparks in 2008-09, and a second round-trip in 2010-11. This rail service would be supplemented by continued operation of existing bus service that runs over the same route as the train, but at other times of the day. This service would require an appropriate level of financial participation from the State of Nevada (and potentially Nevada business interests).

The Department believes this corridor is a good candidate for rail corridor service because:

- Amtrak currently operates the *California Zephyr* on the route so that stations at the major destination points already exist.
- I-80 is extremely congested at tourist peak periods and there is a very strong gaming, skiing, and general recreation market in the Reno/Truckee area.
- Current bus ridership on this route is strong.

SACRAMENTO TO REDDING

Operation of intercity rail service from Sacramento to Redding would extend State-supported intercity rail service to a fast growing northern California area not presently served by the State-supported intercity passenger rail network.

Background

Connecting buses to the *San Joaquin* and *Capitol Corridor* trains currently serve the northern Sacramento Valley. Buses connect to three of the *San Joaquins* in Stockton, and one in Sacramento, and travel north through Sacramento, Marysville, Chico, and Redding. Four *Capitol Corridor* trains in Sacramento also have a bus connection to Redding. Ridership on this bus route is the second highest of all California dedicated bus routes after Los Angeles-Bakersfield, with 82,000 riders in 2004-05. Additionally, the single daily round-trip of the *Coast Starlight* connects Redding and Chico with Sacramento, the Bay Area, and Los Angeles on its route from Seattle.

The most recent study on the Sacramento-Redding corridor is the Northern Sacramento Valley Intercity Passenger Rail Study, Interim Findings Report, produced in 1995 for the Butte County Association of Governments. The Department in 2005 had planned a further study on this Route, which was deferred due to the UP's decision not to consider operation of new passenger trains at this time.

Operating Plan

The Department's ten-year operating plan includes one daily round-trip between Sacramento and Redding in 2009-10 with a second round-trip starting in 2013-14. This rail service would be supplemented by bus service that would run over the same route as the train, but at other times of the day.

The Department believes this extension is a good candidate for rail service because:

- Amtrak currently operates the *Coast Starlight* on this Route, with existing stations at Sacramento, Chico, and Redding.

- The demographics of the Route are positive: the northern Sacramento Valley has a fast growing population; Redding represents the urban hub for the northern part of the State; and the California State University at Chico is a focus of activity and population.
- Current ridership on this bus route is the second highest of all California dedicated bus routes after Los Angeles-Bakersfield.

LOS ANGELES TO INDIO (COACHELLA VALLEY)

State-supported intercity passenger rail service from Los Angeles to Indio would extend rail service to a fast growing population center in the southeast of the State.

Background

Currently Amtrak's *Sunset Limited* provides three-times per week service from Los Angeles to Pomona, Ontario, and Palm Springs on its route to New Orleans. *San Joaquin* trains provide once a day connecting buses to the Coachella Valley. Ridership on this route was 32,000 in 2004-05.

There has been strong local interest in rail service to the Coachella Valley since 1991 when the RCTC published the Los Angeles-Coachella Valley-Imperial County Intercity Rail Feasibility Study that evaluated the feasibility of operating three daily round-trip State-supported intercity trains on the route. In 1995, the Department published the Calexico-Coachella Valley-Los Angeles Rail Corridor Study for the California Transportation Commission.

The most recent study titled the Coachella Valley Passenger Rail Feasibility Study was prepared for the Coachella Valley Association of Governments in 1999. The study includes operating and capital cost estimates for the route and proposes two daily intercity round-trip trains. The study proposes operating from Los Angeles to the Coachella Valley using the BNSF route between Los Angeles and Colton, and the UP route eastward to Indio. Stations are proposed at Los Angeles, Fullerton, Riverside, Palm Springs, Palm Desert, and Indio. The study estimates \$9.3 million in capital costs, not including rolling stock. The study proposes local funding for the new station at Palm Desert. The City of Indio received a State-matching grant of \$1.5 million to construct its new station.

A serious impediment to intercity rail service between Los Angeles and Indio is the UP's recent decision not to consider operation of new passenger train corridors at this time. This route has heavy freight traffic that makes the operation of passenger service difficult.

Operating Plan

The Department's ten-year operating plan includes one daily round-trip between Los Angeles and Indio in 2010-11 and a second daily round-trip in 2013-14.

The Department believes this extension is a good candidate for intercity rail service because:

- There is existing Amtrak intercity rail service on a good part of the route, and all but one station already exists.
- There is strong local support and financial commitment.
- There is existing moderate bus ridership on the route, with a growing population.

POTENTIAL INTERCITY RAIL ROUTES

This section includes a discussion of two routes where funding is not proposed in the time period of this plan: San Francisco to Monterey and Los Angeles to Las Vegas.

SAN FRANCISCO TO MONTEREY

State-supported intercity rail service from San Francisco to Monterey would connect the San Francisco Bay Area to an important tourist and population center of the State that currently has very inadequate intercity transportation.

Background

Currently, the only Amtrak service existing between Monterey and San Francisco is via the *Coast Starlight*, which provides one daily round-trip from Oakland to Salinas, with bus connections to San Francisco from Oakland and to Monterey from Salinas. In June 2005, Caltrans discontinued *Capitol Corridor* feeder bus service from San Jose to Monterey due to low ridership.

The TAMC has conducted a number of studies on train service options between San Francisco and Monterey. The San Francisco-Monterey Intercity Rail Service Implementation Plan was completed in 1998. In 2003, TAMC completed the Monterey Intercity Rail Project Study, which included conceptual engineering, initial cost estimates, and environmental screening for the project.

In the near-term, TAMC is planning a new service to link Monterey to San Francisco through a combination of local service and Caltrain commuter rail service. Starting in 2009, local light rail or bus rapid transit service is planned to connect Monterey and Marina, and later extend to Castroville and possibly Salinas. The TAMC is concurrently working with Caltrain to extend commuter rail service in 2009 to Salinas from its current terminus in Gilroy. The extension of Caltrain commuter rail service to Monterey County would serve new stations in Pajaro and Castroville, and end in Salinas. The TAMC is working to ensure that

the local service would connect with the Caltrain service via cross-platform transfers in Castroville. Bus connections to work and visitor destinations, as well as transit-oriented developments, are planned at key locations along the way in Monterey County to maximize the usage of both services. (See Chapter IX for more detail on this proposed Caltrain extension.)

In the longer term, TAMC is planning intercity rail service between Monterey and San Francisco. The intercity service would have stops in Monterey, Marina, Castroville, Pajaro, San Jose, San Francisco Airport (at Millbrae), and downtown San Francisco, with a possible stop in Palo Alto. The TAMC envisions two round-trips on weekdays and three on weekends for the Monterey to San Francisco service.

The proposed intercity route would use the current Caltrain owned ROW between San Francisco and San Jose. The route between San Jose and Castroville is owned by UP and used for passenger service by Caltrain to Gilroy and by the *Coast Starlight* to Castroville (and beyond to Los Angeles). The TAMC purchased the Monterey Branch Line between Castroville and the Seaside City limits from UP in 2003; the portion from Seaside to Monterey is already owned by Seaside City and Monterey. Currently there is no rail passenger service on this branch line and it requires substantial capital rehabilitation. Approximately \$4.0 million remains in Proposition 116 funds that can be used for the Monterey Branch line rehabilitation construction activities. The TAMC has previously secured \$2.2 million in State and Federal funds, and estimates total project capital costs including capital equipment costs at \$75-\$230 million depending on the type of service and equipment chosen. The TAMC plans to utilize TCRP funding, STIP funding, and future transportation sales tax funds to match Federal new starts funding to pay for the remainder of the capital costs.

Operating Plan

The Department proposes, contingent on the start of local service in 2009, two intercity rail weekday round-trips and three weekend round-trips between San Francisco and Monterey. No funding for this service is included in the ten-year operating plan, as the start date of this route is uncertain at this time.

The Department believes there are several advantages to this intercity rail service, including:

- Monterey is an important tourist destination that currently has very inadequate access via intercity mass transportation.
- The TAMC has strong local support for rail service. It is working to secure a local transportation sales tax to help support rail projects and Chapter 103, Statutes of 1999 (SB 886, McPherson) allows TAMC to be a party in an operations contract between the Department and Amtrak.

- \$14 million in Proposition 116 capital funds were earmarked for intercity rail service on this Route.

LOS ANGELES TO LAS VEGAS

In 1997, Amtrak discontinued the tri-weekly Desert Wind that ran from Los Angeles to Chicago via Las Vegas. Currently, *San Joaquin* trains provide connecting buses from Bakersfield to Las Vegas via Lancaster. Ridership on this route was 15,000 in 2004-05.

In 1998, Amtrak announced plans to start service from Los Angeles to Las Vegas with one daily round-trip. However, due to continuing funding shortfalls and increased capital requirements to initiate service, the new service was not implemented.

The Regional Transportation Commission of Southern Nevada is conducting a feasibility study on multi-frequency rail service between Las Vegas and the Los Angeles area. This study is being funded equally by the FRA and the State of Nevada. The Department will be working with the Commission on the study that will include ridership, cost and revenue projections; track, station, maintenance facility and property acquisition needs; equipment recommendations; and schedules for planning purposes.

The Department presently includes no operating or capital costs for this service in its ten-year plan because costs and implementation schedules are dependant on the results of the Nevada study as well as agreement between California and Nevada on cost sharing.

HIGH-SPEED RAIL

BACKGROUND

High-speed rail has been studied in California for over a decade. The Department participated in a number of studies in the late 1980s and early 1990s. The Department was a member of the Los Angeles-Fresno-Bay Area/Sacramento High-Speed Rail Corridor Study Group. The group published its report in 1990 as required by Chapter 197, Statutes of 1988 (AB 971 - Costa). Under Chapter 1104, Statutes of 1990 (SB 1307 - Garamendi), the Department in 1991, completed a work plan for a feasibility study for the development of an integrated public, private, or combined public/private high-speed intercity and commuter rail system. Under Proposition 116, the Department completed a preliminary engineering and feasibility study on high-speed service between Bakersfield and Los Angeles.

Senate Concurrent Resolution 6 (1993) established the California Intercity High-Speed Rail Commission. This Commission, while using some Department staff resources, was not part of the Department. The Final Report of the Commission was sent to the Legislature at the end of 1996 and indicated that high-

speed rail is technically, environmentally, and economically feasible, and once constructed, could be operationally self-sufficient. The Commission recommended a San Francisco/San Jose/Sacramento-Central Valley-Los Angeles-San Diego alignment. The commission also recommended using either steel-wheel-on-steel-rail high-speed technology or magnetic levitation (maglev).

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

The California High-Speed Rail Act, enacted by Chapter 796, Statutes of 1996 (SB 1420 - Kopp and Costa), established the California High-Speed Rail Authority (CHSRA) to direct the development and implementation of intercity high-speed rail service. The act defined high-speed rail as "intercity passenger rail service that utilizes an alignment and technology that make it capable of sustained speeds of 200 miles per hour or greater."

Chapter 791, Statutes of 2000 (AB 1703 - Florez), modified the CHSRA's exclusive authorization and responsibility for planning, construction, and operation of high-speed passenger train service to cover speeds exceeding 125 miles per hour. Previously, the CHSRA had such authorization and responsibility for speeds exceeding 100 miles per hour. AB 1703 also extended the tenure of the CHSRA through 2003. Then Chapter 696, Statutes of 2002 (SB 796 - Costa) repealed the sunset date for the CHSRA, making it a permanent authority. The CHSRA is composed of nine members. The Governor appoints five members, the Senate Committee on Rules appoints two members, and the Speaker of the Assembly appoints two members.

In 2000, the CHSRA completed its Business Plan, Building a High-Speed Train System for California. The Business Plan found that a high-speed train system is a smart investment in mobility, an evolutionary step for transportation, and a project in keeping with California's standards for environmental quality and economic growth. The Business Plan determined that the next project step is to initiate a formal environmental clearance process with the development of a State-level program EIR.

To implement the environmental process, the CHSRA prepared a Draft Program CEQA EIR and a NEPA Tier 1 EIS. The CHSRA is the State lead agency for CEQA and the FRA is the Federal lead agency for NEPA. The draft program-level EIR/EIS was released on January 27, 2004. After extensive review, the Final EIR/EIS was posted on the Federal Register on September 23, 2005. On November 2, 2005, the Authority certified the Final EIR/EIS.

The EIR/EIS describes the potential environmental impacts of three transportation system alternatives and compares how well they would meet California's current and future transportation needs. The alternatives that were studied are:

- The “No Project/No Action” alternative evaluates the State’s current transportation system, including highway and airport improvements planned to be operational by 2020.
- The “High-Speed Train System” alternative evaluates a proposed new network of electrically powered trains, at least 700 miles long, connecting California’s major metropolitan areas and traveling 220 miles per hour.
- The “Modal” alternative evaluates additional improvements to existing highways and airports that could serve the same travel demand as the proposed high-speed train system.

Based on the analysis, the CHSRA and the FRA have identified the high-speed train system as the preferred system alternative to meet California’s future intercity travel demand. Service to urban centers would be on shared tracks with other passenger rail services at moderate speeds. Stations would be in close proximity to most major airports, and there would be station connections with major transit hubs in metropolitan areas. The EIR/EIS identifies preferred alignments, as follows:

- Northern Mountain Crossing – a broad corridor containing a number of feasible route options have been identified for further study. The corridor is bounded by Pacheco Pass (SR-152) to the south, Altamont Pass (I-580) to the north, BNSF corridor to the east, and Caltrain to the west.
- Southern Mountain Crossing – through the Techachapi Mountain Range between Los Angeles and Bakersfield via a crossing through Palmdale and the Antelope Valley.
- Bay Area – service on the Peninsula and in the East Bay.
- Central Valley – Highway 99 corridor (mostly BNSF alignment).
- San Diego – via I-215/ I-15 corridor to downtown.
- Orange County – Los Angeles to Orange County via *Pacific Surfliner* Route.

In August 2005, the Authority also approved an Implementation Plan, which outlines the structure and institutional organization to manage construction work. The Plan calls for maximum participation and risk sharing from the private sector and for private companies to adapt existing high-speed rail technology to meet California’s needs.

The next steps in the environmental process include:

- The FRA certifies compliance with the National Environmental Protection Act.
- The Authority and FRA prepare a program level environmental review for the “Bay Area-Central Valley” segment to select a preferred alignment and station locations.
- The Authority determines whether to advance individual segments of the system to project-specific review.
- The Bay Area Metropolitan Transportation Commission’s statewide ridership/revenue study is completed and used to update the high-speed train system’s business plan.
- The CHSRA begins working on ROW preservation and protective advance acquisition.

The 2005 State Budget includes \$1.7 million to complete the “next tier” program-level EIR/EIS for the Northern Mountain Crossing that will determine the best alignment between the Central Valley and Bay Area. An additional \$500,000 has been allocated to update the financing plan for the high-speed train system.

Figure 10B displays the preferred high-speed rail alignments in the Final Program EIR/EIS as well as the maglev routes currently being studied in California.

MAGNETIC LEVITATION

Maglev technology uses magnetic forces to lift, propel, and guide a vehicle over a guideway. Electric power and control systems eliminate contact between the vehicle and the guideway. In 1989, a 19.5-mile testing track was put in service in Emsland, Germany. The system is still in operation and carrying visitors. In 2002, a 19-mile Transrapid Maglev line was put in operations in Shanghai, China. The line connects Pudong International Airport with Shanghai subway station in the financial district. The Shanghai line has been operating at a maximum speed of 310 mph.

The Maglev Deployment Program was established in 1998 by the Transportation Equity Act for the 21st Century (TEA-21; Section 1218 of Public Law 105-178) with the purpose of demonstrating the feasibility of Maglev technology in the United States. \$55 million was available to fund pre-construction planning activities for FFYs 1998-2003. An additional \$950 million was authorized for the construction and deployment of selected projects.

In 1999, the U.S. Department of Transportation (USDOT) awarded grants to seven states and authorities for pre-construction planning for Maglev high-speed ground transportation. The FRA selected projects in Southern California, Florida, Georgia, Louisiana, Maryland, Nevada, and Pennsylvania for funding. Each of the

grants provided sufficient Federal funds to pay up to two-thirds of the cost of preliminary engineering, market studies, environmental assessments, and financial planning needed to determine the feasibility of deploying a Maglev project.

In 2001, USDOT selected two projects, one in Maryland and one in Pennsylvania, to continue to the next stage of the competition. Neither the Southern California nor the Nevada Maglev project was chosen to go forward in the national competition for construction funding. However, Congress has continued to provide planning grants to the Southern California and Nevada projects in FFYs 2001-2004, and Nevada received additional funding in FFY 2005. Of the original seven projects, funding was discontinued for the Florida, Georgia, and Louisiana projects in FY 2002.

Recently, Congress authorized \$90 million for Maglev deployment as part of the reauthorization of SAFETEA-LU, with half of these funds allocated to the Las Vegas-Anaheim Maglev project.

The two California projects still have significant hurdles to overcome. Their sponsors will need to complete engineering work and environmental documentation to further the initial concept design plans. As the projects were not selected for Federal construction funding, a principal funding source remains to be identified. Coordination must continue with the Department, railroad operators, and local agencies along the corridor.

Figure 10B



SOUTHERN CALIFORNIA MAGLEV PROJECT

The initial 92-mile corridor study area of the Southern California Maglev Program extends from Los Angeles International Airport (LAX) via LAUS, east to Ontario International Airport and on to March Inland Port in Riverside County. The Southern California Association of Governments (SCAG) is the project sponsor.

By 2030, the population of Southern California is expected to grow from 17 million to 23 million people. Demand at the region's airports could increase to approximately 170 million annual passengers. Air cargo volume is expected to triple to nine million annual tons. The prospect of these increases in population, employment and air travel demands led SCAG to adopt a high-speed intra-regional Maglev system connecting regional airports as part of a decentralized Aviation System Plan. This Plan was adopted as part of its Regional Transportation Plan in 1998.

In 2000, the Southern California Maglev Deployment Project sponsors submitted a Project Description to the FRA in competing for Federal Maglev funding. The grant application to the FRA described an intra-regional Maglev system, of which the first line to be considered was on the LAX to March Inland Port Corridor. Highlights of the Project Description are:

- The proposed system design is based upon Maglev technology developed by the German consortium Transrapid.
- The proposed project serves a very dense corridor defined by the Federal Government as a Corridor of National Significance. By 2020, about 2.5 million long distance trips would be made in the corridor, and the system would serve approximately 134,000 riders per day. Travel-time savings from one end of the line to the other are estimated to be 80 minutes.
- The 92-mile system was estimated to cost about \$8 billion to construct. Approximately 24 percent of this cost was for the system elements: vehicles, communications, propulsion, and operation control. The cost of the guideway was about 43 percent of the total cost. Stations, yards and shops, ROW, and other civil works comprise the remainder of the project costs.

With the FY 2001 Federal funding, SCAG performed additional studies on this Project, including evaluation of the impacts of the Project on use of highway and railroad rights-of-way, on LAUS, and on the Metrolink commuter rail system. The SCAG also completed further work in the areas of technology transfer agreements, cost and revenue projections, financial plan, public/private partnering agreements, environmental studies, and public participation.

In December 2002, SCAG's Regional Council selected a 54-mile segment of the LAX-March Inland Port Corridor as the Initial Operating Segment (IOS) going from Ontario Airport to West Los Angeles. Pre-construction work on the project has begun, including completion of more detailed engineering, a State EIR, and a Federal EIS. The joint powers authority for the IOS is being developed. This phase, budgeted at \$15 million, will take about 18 months to complete.

In FFY 2001, SCAG received \$877,000 in Federal Maglev funding. In FFY 2002, SCAG received \$1.0 million in Federal Maglev funding for continued corridor planning activities. In FFY 2003, an additional \$500,000 in Federal Maglev funding was provided to support further planning studies. In FFY 2004, SCAG received an additional \$1.0 million in Federal Maglev funding.

In addition to the project described above, SCAG has undertaken three additional Maglev feasibility studies along other heavily congested corridors. They are: 1) Los Angeles to Palmdale in Antelope Valley, along the SR-14 and I-5 or I-405 freeway corridors; 2) LAX to south Orange County, along the I-405 Freeway; and 3) the Orange Line from downtown Los Angeles to central Orange County following the former Pacific Electric Railway corridor. In 2005, SAFETEA-LU authorized an additional \$280,000 for planning Maglev service on the Orange Line.

From these studies, SCAG has concluded that the Maglev projects can be self-funded through a public-private partnership, where the public sector will donate land and the private sector will construct and operate the system. Additionally, innovative funding strategies, such as Federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loans and private investment bonds can be used to finance this project. The first of three joint exercise of powers authorities (JPAs) has been formed to deploy the Maglev projects in Southern California. The Orange Line Development Authority has been organized by cities along this corridor to advance the downtown Los Angeles to Orange County Maglev system.

LAS VEGAS-ANAHEIM MAGLEV PROJECT

The California-Nevada Super Speed Train Commission (CNSSTC) was formed in 1988 to promote the development of a 269-mile maglev system connecting Las Vegas with Anaheim. The CNSSTC and its private sector partner, American Magline Group, for its FRA application in 2000, proposed a 40-mile segment from Las Vegas to Primm, on the California border. A short segment of the project was chosen because of the difficulty in raising funds for the entire 269-mile project.

The route travels between two fast-growing and heavily populated regions of the U.S. The project would have a total of five segments: Las Vegas to Primm, Primm to Barstow, Barstow to Victorville, Victorville to Ontario, and Ontario to Anaheim. There would be stops at each of the endpoints of the segments, for a total of at least six stops. A key advantage of the system is the alignment provided

by the Interstate Highway 15 ROW. If available, this alignment would minimize the need for property acquisition and provides the least complicated construction scenario possible.

To date the project has received a total of \$9.0 million in Federal funding from FY 1999 through FY 2005: \$1.4 million in FY 1999; \$2.0 million in FY 2000; \$900,000 million in FY 2001; \$1.2 million in FY 2002; \$1.5 million in FY 2003; \$1.0 million in FY 2004; and \$1.0 million in FY 2005. Also, \$45 million is authorized in SAFETEA-LU for the next five years.

The CNSSTC has done a number of studies to date. They prepared and submitted to USDOT a Project Description Report on the Las Vegas to Primm segment in 2000. Next the CNSSTC produced the Las Vegas-Primm/Barstow Supplemental Project Description in August 2002. That report presents projected physical infrastructure, ridership, costs, benefits, and related information for the extended segment from Las Vegas to Barstow via Primm. The report estimated capital costs for the segment in 2000 dollars to be \$5.65 billion.

In May 2004, the FRA agreed to prepare a Programmatic Environmental Impact Statement (PEIS) for the project, in cooperation with the Nevada Department of Transportation. The PEIS will cover the entire corridor between Las Vegas and Anaheim, and will include a site-specific construction level Program Environmental Impact Report (PEIR) for the Las Vegas to Primm, Nevada segment. As part of the PEIS, five public meetings were held in June 2004 in key cities along the route. The CNSSTC has also prepared a preliminary report that summarizes the results of the public meetings, a purpose and needs statement, and a work plan. The PEIS/REIR is expected to be completed within three years.

The Department will be the lead agency to review environmental documents under CEQA. However, the current PEIS does not trigger CEQA review as it is not considered a “project” under CEQA definition. Only site-specific environmental work on corridor segments in California will trigger CEQA.

CHAPTER XI

AMTRAK

This chapter provides information on: Amtrak’s relationship with the Department and with the CCJPA, key Amtrak planning initiatives, and recent Amtrak reform proposals and budget.

AMTRAK’S RELATIONSHIP WITH THE DEPARTMENT AND THE CAPITOL CORRIDOR JOINT POWERS AUTHORITY

The Department provides operating funding for three intercity rail passenger services, the *Pacific Surfliners*, *San Joaquins*, and the *Capitol Corridor*. Amtrak operates all three services under the provisions of Section 24101(c)(2) of the Federal Rail Passenger Service Act that authorizes Amtrak to operate intercity rail passenger service beyond its basic system services when requested to do so by a state, group of states, or a regional or local agency. The Department directly administers the *Pacific Surfliners* and *San Joaquins*. (Amtrak funds 30 percent of the *Pacific Surfliner* service as part of its basic system, and the State pays for the remaining 70 percent of this service.) Since July 1998, the Capitol Corridor Joint Powers Authority (CCJPA) has administered the *Capitol Corridor* service under an interagency transfer agreement with the State.

In the past Amtrak provided significant fiscal support to state-supported routes. Then, over time, the share of service costs (called cost basis) that Amtrak required states to pay increased significantly. Between FFY 1992 and FFY 1999 the cost basis increased each year. Under the cost basis starting in FFY 1999, the State paid 100 percent of all variable costs and Amtrak covered all fixed costs. Since FFY 1999, the cost basis has remained fairly constant. Also, the CCJPA starting in FFY 2000 entered into a fixed price-operating contract with Amtrak for the *Capitol Corridor* service.

In the fall of 2002, Amtrak modified the cost allocation principle slightly to recovery of “direct costs” which include all train related costs and a portion of shared costs, but excludes system overhead, interest and depreciation. Costs on this basis actually decreased slightly on the *Pacific Surfliners* for the same level of service, primarily because the State is no longer charged equipment capital costs for the use of Amtrak owned equipment. State contract costs have been constant for the four years from 2002-03 through 2005-06. State operating costs have never been constant for such a long period of time in the history of State-supported service.

The Department pays the entire net operating loss of the feeder buses that serve the State-supported 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.

Amtrak, in operating service for the State or the CCJPA, performs many functions. Amtrak employees function as train crews and staff stations with ticket offices. The equipment (whether owned by Amtrak or the Department) is maintained by Amtrak staff at Amtrak operated facilities in Oakland and Los Angeles. Amtrak staff at these locations, and to a lesser degree in Washington D.C. and Philadelphia, also perform administrative and other functions related to California State-supported service.

Amtrak maintains control over many operational functions related to State-supported service. For example, Amtrak administers fare policy in accordance with its national goal to maximize revenues. However, the Department approves or disapproves fare changes, as provided in its contract with Amtrak. In addition, the Department and the CCJPA work with Amtrak to develop special California or route-specific promotions. Amtrak also has national service requirements and standards that it maintains. The Department has been successful in working with Amtrak to adapt some of these policies (such as food service) to specific California conditions.

AMTRAK PLANNING

AMTRAK STRATEGIC REFORM INITIATIVE AND FY 06 GRANT REQUEST

In April 2005, Amtrak released its Amtrak Strategic Reform Initiatives and FY 06 Grant Request. This document included comprehensive reform initiatives the railroad is undertaking as corporate actions and others it intends to pursue in legislative actions to “revitalize U.S. passenger rail service.” The document also included the FY 06 grant request of \$1.82 billion for capital investment programs and operations.

Amtrak stated that the initiatives have four fundamental long-term objectives:

- Development of passenger rail corridors utilizing a Federal/state matching approach common to all other modes (generally 80/20). States, not Amtrak, would lead the development of the corridors, a number of which have already been Federally designated. Ultimately, Amtrak would be one of the competitive bidders for functions or for entire services.

- Return of the Northeast Corridor infrastructure to a state-of-good-repair and operational reliability, with phased-in financial responsibility for capital and operating costs assumed on a proportionate basis by all users, including Amtrak, freight and commuter railroads.
- Establishment of phased-in financial performance thresholds for Amtrak’s existing 15 long-distance trains and any future similar proposed service. Amtrak is initiating a series of actions to improve the financial performance of these trains. Services falling below the thresholds could be continued through support by state or other authorities, reconfigured or eliminated.
- Creation of markets for competition, private commercial participation and industrial reforms in various rail functions. This includes competition among operators, including Amtrak, for new corridor routes.

For California there are a number of important initiatives included in the document. First, the recommendation for a Federal 80 percent/state 20 percent capital match program for state rail capital investment is key to allowing California to leverage State funds with Federal funds to continue to make improvements to the intercity rail system. Second, the reform initiatives call for other operators to be able to compete for elements of service (e.g., food service and mechanical services), and ultimately with Amtrak for operation of routes. Qualified competitors could potentially receive the rights to private railroad track at incremental costs, assuming legislative changes contained in the proposal, and access to Amtrak rolling stock. As part of the proposal, Amtrak would phase out any operating support for State-supported Routes by FY 2011. This may result in additional costs to California.

AMTRAK’S 2004 STRATEGIC BUSINESS PLAN

In June 2004, Amtrak released its Amtrak Strategic Plan FY 2005-2009, which is a strategic capital investment and operating plan that updates the plan released in 2003. Amtrak is now updating the Strategic Plan and expects to release it in Spring 2006.

Amtrak’s Strategic Plan FY 2005-2009 aims to restore Amtrak’s physical plant and train equipment to a state-of-good-repair and improve the railroad’s operational reliability. The Plan identifies four strategies: (1) maintain the focus on stabilizing the railroad; (2) continue to ramp-up the capital program; (3) continue the emphasis on operating efficiencies through improved fleet utilization, better service design, and increased productivity; and (4) encourage investment in improved service, including corridor development. The Plan is based on investments in existing infrastructure and equipment, and proposes no new significant passenger services – focusing instead on improving the reliability and cost-efficiency of the passenger railroad’s existing services.

The Plan outlines the progress made in FFY 2003-04, including establishing a transparent financial reporting system, implementing zero-based budgeting, imposing strict headcount control measures, focusing on day-to-day passenger operations, and on maintenance of plant and equipment. The Plan continues these measures for the next five years. Challenges that Amtrak faced in FFY 2003-04 which are likely to continue include: 1) continuing deterioration in host railroads' capacity and infrastructure, and 2) failures and delays attributed to deferred investment in and reconstruction of Amtrak's plant and equipment.

To support the existing system, the five-year Strategic Plan calls for Federal funding averaging about \$1.6 billion per year. The plan holds the line on Federal support for operating purposes each year at \$570 million. The majority of Federal support is for capital improvements to the existing system and to bring facilities and equipment up to a state-of-good-repair. The Plan reiterates current Federal policy that Amtrak not initiate new train services unless the state or states served pays the full operating loss. Amtrak continues to seek full state funding for "direct" operating losses on existing state-supported trains.

California Capital Funding

Although the Plan is primarily directed to preserve and improve Amtrak-owned assets in the Northeast Corridor, it also proposes funding for several projects in California. It includes \$90.1 million for projects which impact California, of which \$41.5 million is for projects wholly in California and \$48.6 million is for multi-state projects that partially impact California. Key projects in California include: Phase II of the new maintenance facility in Oakland that was completed in September 2004 and fully operational in December 2004; overhauls of *Pacific Surfliner* equipment; and basic repairs of Amtrak-owned equipment maintenance facilities in Los Angeles. The actual level of funding for the projects is dependent on Congressional appropriations during the period of the Plan. Figure 11A lists the California related projects included in the Amtrak Strategic Plan.

Figure 11A

Amtrak Five-Year Strategic Plan - Capital Projects – FFY 2005-09		
California Projects	Summary of Project Scope	Amtrak Funding (000)
Los Angeles Yard – New Equipment	Replace electric carts and shop equipment	\$ 50
Surfliner Equipment – Overhauls	Replace most parts due for renewal, along with some upgrades and structural repairs	10,600
Los Angeles Yard Improvements	Install roof for commissary and material control building, wheel truing machine, sand tower and industrial waste line	2,400
Service & Inspection Facilities Running Repair	Replace specialty tools, equipment, etc. for LA and OAK S&I Facilities	7,500
Los Angeles Yard Track	Construct tracks to connect to 9 th Street	250
Los Angeles Union Station Improvements	Install tactile warning tiles on Tracks 10,11,12	350
Oakland Maintenance Facility Phase II	Construction of Commissary and Welfare facilities	14,000
Oakland Maintenance Facility Yard	Demolish existing infrastructure in UP Yard	300
Emeryville Station Lease/Purchase	Provide funds for lease/purchase of the station	400
Extension of <i>Pacific Surfliner</i> Double-track – CP Flores to CP O’Neal	Construct 1.8 miles of second mainline track, including Centralized Traffic Control (CTC)	1,250
San Diego – New Layover and Light Maintenance Facility	Participate in the construction of a multi-story building, of which the first floor is to be used by Amtrak and Caltrans to store equipment and materials needed for rolling stock maintenance	350
Oakland – Station and Platform Improvements	Construct station track, platform, and control point improvements	680
Rocklin Station	Construct improvements to meet ADA Requirements	250
<i>Capitol Corridor</i>	Install Closed Circuit Television in 8 stations along <i>Capitol Corridor</i>	300
<i>San Joaquin</i> Route	Install Closed Circuit Television in 8 stations along <i>San Joaquin</i> Route	300
Salinas Station	Reconstruct Salinas Platform	2,525
	California Projects Total	\$ 41,505
Multi-State Projects		
Rail Replacement and Rehabilitation – Pacific and Southwest Divisions	Replace and rehabilitate rail, wood ties, and turnouts	\$ 6,400
Superliner II Equipment – Overhauls	Replace most parts due for renewal, along with some upgrades and structural repairs	21,200
Superliner I Equipment – Overhauls	Modify or remanufacture existing equipment	13,600
F59PHI Diesel Locomotive Overhauls	Replace most parts due for renewal, along with some upgrades and structural repairs	5,200
Western Division Pollution Prevention	Construct pollution prevention upgrades and improvements	2,220
	Multi-State Projects Total	\$ 48,620
	GRAND TOTAL	\$ 90,125

California Corridors Highlighted in State Corridor Initiatives

The Amtrak 2004 strategic plan also includes an Appendix called the State Corridor Initiatives that focuses on state proposals supported by Amtrak for specific passenger rail corridor development, and strategies to protect and upgrade key facilities owned by freight railroads.

Amtrak surveyed all states and identified those corridors that complied with Amtrak's criteria indicating a readiness to receive Federal investment. The criteria includes a long-term master plan, market revenue forecast, operating expense forecast, infrastructure and equipment investment plans, host railroad acceptance, agreement to fund a 20 percent capital match, and agreement to cover any added operating deficit. Amtrak worked with states to clearly identify the corridors, the congestion and capacity challenges and capital investment needs.

Only eight corridors nationwide achieved the "Tier I" level of ready-to-invest, three of which are California State-supported corridors (*Pacific Surfliner*, *San Joaquin*, and *Capitol Corridor*). The other corridors in the Tier I category included those in Washington, Oregon, Wisconsin, Illinois, North Carolina, and Pennsylvania. Amtrak, in conjunction with the states, proposed a Pilot Program of matched Federal funding for Tier I corridors. Should that come to fruition, California would receive over \$900 million.

One outgrowth of the Strategic Plan and the State Corridor Initiatives was a recognition that many states, as well as Amtrak, desperately need rolling stock for existing service and future expansions. States, such as California, are working to grow the rail market and build the track infrastructure to expand service and reduce trip times to meet the demand. Amtrak has joined with ten states to develop a standardized specification for single-level and multi-level passenger coaches, in the hopes of pooling funding from states and Amtrak to share expertise and staff resources, create a national standardized pool of intercity rolling stock, and to achieve efficiencies of scale inherent in larger procurements. California (both the Department and CCJPA) is participating in this effort. The Department is working with Amtrak to upgrade the design specifications of the Surfliner/California Car should funding become available to purchase new rolling stock.

Amtrak is currently working to update the State Corridor Initiatives. In the fall of 2005 the Department submitted updated Corridor Assessments for the *San Joaquins* and *Pacific Surfliners* and the CCJPA submitted an updated Assessment for the *Capitol Corridor*. The Assessments include five-year capital plans for the corridors, and comprise the initial five-year period for the Department's ten-year Capital Program shown in Chapter II.

AMTRAK REFORM AND BUDGET

For a number of years Amtrak’s future and budget levels have been hotly debated in Washington D.C. According to the Congressional Budget Office September 2003 study *The Past and Future of U.S. Passenger Rail Service* “more than three decades after the Congress and the President created the National Railroad Passenger Corporation, Federal policies toward intercity passenger rail service remain unsettled. Policymakers have not been able to agree about whether the company should be a private, for-profit enterprise (like airlines and intercity bus companies) or a public service (like urban mass transit) that would use government subsidies to achieve social objectives.” This conclusion remains true today in 2005, two years later.

FFY 2003 BUDGET AND LEGISLATIVE REFORM PROPOSALS

The Administration in June 2002 released its five principles for Amtrak reform. These principles are to: create a system driven by sound economics; require that Amtrak transition to a pure operating company; introduce carefully managed competition to provide quality rail services at reasonable prices; establish a long-term partnership between the states and the Federal Government to support intercity passenger rail service; and create an effective public partnership, after a reasonable transition, to manage the capital assets of the Northeast Corridor. These principles have essentially guided the Administration’s budget deliberations between FFY 2003 and FFY 2006.

For FFY 2003, Congress approved \$1.05 billion in Amtrak appropriations and deferred repayment of its \$100 million FFY 2002 loan. While this amount was less than Amtrak’s original \$1.2 billion request for FFY 2003, it was significantly more than the Administration’s initial budget proposal of \$521 million.

FFY 2004 BUDGET AND LEGISLATIVE REFORM PROPOSALS

In July 2003, the Administration submitted the “Passenger Rail Investment Reform Act of 2003” (S. 1501) to Congress that embodied the five principles listed above. In August 2003, four Republican Senators, led by Kay Bailey Hutchison of Texas, introduced the “American Rail Equity Act of 2003” (S. 1505) as an alternative proposal to the Administration’s bill. S. 1505 significantly increased Federal operating and capital support for Amtrak. However, neither legislative proposal moved forward as Congress focused on Amtrak’s appropriation level for FFY 2004. The FFY04 final appropriations bill included \$1.2 billion for Amtrak, below the \$1.8 billion requested by Amtrak but enough to continue to operate the national system.

FFY 2005 BUDGET AND LEGISLATIVE REFORM PROPOSALS

In 2004, Congress was primarily engaged in reauthorizing surface transportation programs and discussions on the future of Amtrak and intercity rail took a back seat. Amtrak's FY 2005-2009 Strategic Plan called for an annual Federal appropriations level of \$1.6 billion, which would allow Amtrak to make progress on its goal toward achieving a state-of-good-repair. Amtrak initially requested \$1.8 billion from Congress for FFY 2005, but revised it downward to \$1.5 billion based on the ability to advance a number of capital projects. In November 2004, Congress appropriated \$1.2 billion for FFY 2005 funding, which included a \$20 million portion of a five-year repayment for the FFY 2002 loan of \$100 million. Amtrak was able to operate throughout FFY 2005 within this appropriation level by drawing down on its working capital reserves.

FFY 2006 BUDGET AND LEGISLATIVE REFORM PROPOSALS

The Administration opened the FFY 2006 Amtrak budget deliberations in April with a proposal that was identical to the "Passenger Rail Investment Reform Act of 2003" and proposed zero funding for Amtrak unless reforms were instituted. This proposal was introduced as H.R. 1713 in April 2005. Amtrak's FY 2006 proposal was contained in their Amtrak Strategic Reform Initiatives and FY 06 Grant Request discussed above. The requested funding level was \$1.82 billion. A bi-partisan bill introduced by Senators Lautenberg and Lott (S. 1516) was introduced in July 2005 that averaged about \$1.9 billion in funding over the six years of the bill's reauthorization.

In June, the full House approved an Amtrak appropriations level of \$1.2 billion, and in July the Senate Appropriations Committee approved a \$1.45 billion appropriations level.

In late November, the President signed "The Transportation and Related Agencies Appropriations Bill" for FFY 06. It includes \$1.315 billion in funding for Amtrak, including \$780 million for capital projects with \$280 million maximum for debt service, \$495 million for operations, and \$40 million for efficiency incentive grants.

CHAPTER XII

INTERCITY RAIL FUNDING

Funding for intercity rail systems comes primarily from State sources, but also includes local, Federal, Amtrak, and railroad funding sources. Below is an overview of these funding sources.

PUBLIC TRANSPORTATION ACCOUNT

The PTA is the exclusive source of intercity rail operating funds and a potential source of intercity rail capital funds. Proposition 116 designated the PTA as a trust fund to be used “only for transportation planning and mass transportation purposes.” (Section 99310.5 of the Public Utilities Code)

USE OF PTA FUNDS

The Public Utilities Code (Sections 99312 and seq.) governs the uses of PTA funds that are derived from sales tax revenues. Fifty percent of these revenues go to the State Transit Assistance (STA) Program, which assists local entities in funding transit service. The remaining monies are available to fund a number of State programs including: intercity rail operations; rail, mass transportation, and planning staff support; and mass transit capital projects.

In the recent past PTA has not been used for capital projects, but the 2001-02 State Budget included \$91 million in PTA funds earmarked for intercity rail capital projects. Currently, Proposition 42 requires that PTA funds be included in the STIP. Thus, future STIPs will include PTA funds, subject to availability.

FUNDING SOURCES

Statute provides five main sources of funds for the PTA: a portion of State sales tax on diesel fuel, a portion of sales tax on gasoline, non-gas tax revenues in the SHA, TCRP/Proposition 42 funds, and the “spillover.”

- Sales Tax on Diesel Fuel - The PTA’s traditional source of funding is a 4.75 percent portion of the seven percent State sales tax on diesel fuel, which in 2005-06 was \$206 million.
- Sales Tax on Gasoline - A 4.75 percent portion of the 7.25 percent State sales tax on nine cents of the State’s 18-cent excise tax on gasoline goes to the PTA. Proposition 111, enacted in 1989, established this funding source. In 2005-06, this source was \$68 million.

- Non-Article XIX Revenues in the SHA - The TCRP Program (Chapter 91, Statutes of 2000) authorized the annual transfer, starting in 2001-02, of all non-Article XIX tax revenue funds in the SHA to the PTA. These SHA funds are derived from the sale of documents, charges for miscellaneous services to the public, rental of State property, etc. In 2005-06 this source was \$53 million.
- TCRP Program/Proposition 42 Funding – The TCRP established by Chapter 91, Statutes of 2000 (AB 2928, Torlakson) was intended to provide significant additional funding to a specific list of TCRP transportation projects and to the PTA from 2001-02 through 2005-06. The major new source of funding was gasoline sales tax revenues that had previously gone to the GF and would instead go to the new Transportation Investment Fund (TIF). The PTA would receive 20 percent of this gasoline sales tax revenue. However, soon after the TCRP was enacted, the State experienced a fiscal crisis, and Chapter 112, Statutes of 2001 (AB 438) delayed the transfer of sales tax revenues to the TIF, to begin in 2003-04, and to continue through 2007-08.

Then, Proposition 42 in March 2002 added Article XIX B to the California Constitution that eliminated the original sunset date for the TIF and continued the original TCRP program through 2007-08. Also, beginning in 2008-09, it makes permanent the transfer of gasoline sales tax revenue to the TIF on a formula basis: 20 percent of the transfers will go the PTA with one-half of this amount for STIP projects, 40 percent to the SHA for STIP projects, and 40 percent for subventions to cities and counties for local streets and roads. Starting in 2008-09, no further funds will go to TCRP projects, so formula funds to the PTA, STIP, and local streets and roads will increase. In 2003-04 and 2004-05, the transfers were suspended and are required to be paid back by 2008-09.

The 2005-06 Budget for the first time provided the PTA funds from the TIF. \$127 went to the PTA, with half (\$63.5 million) of those funds for STIP projects and half (\$63.5 million) for the STA Program.

- “Spillover” – These revenues are available when revenues from the gasoline sales tax at the 4.75 percent rate exceed revenues from all taxable sales at the 0.25 percent rate. This source was initiated when the sales tax on gasoline was established in 1972. For many years there was no spillover, but since 2002-03 there has been a spillover as a result of high gas prices. However, the PTA did not receive any of these funds due to annual legislative action.

REPAYMENTS TO THE PTA

The Statute specifies that the TIF suspensions in 2003-04 and 2004-05 were loans that are required to be repaid from the Transportation Deferred Investment Fund (TDIF) by 2008-09. A total of \$212 million was suspended in 2003-04 and 2004-05.

Additionally, a total of \$275 million was loaned from the PTA to the TCRF (\$180 million in 2001-02 and \$95 million in 2002-03) and is scheduled to be repaid by June 30, 2008. The 2005-06 Budget anticipated that \$122.5 million would be repaid from bonds backed by tribal gaming revenues. But due to pending litigation on these bonds, the \$122.5 million has not yet been repaid, and it is uncertain when these bonds will be sold.

STATE HIGHWAY ACCOUNT

The bulk of the SHA supports the State's highway system, but a portion of the account also supports rail projects in the STIP. The SHA receives its funds from State gasoline and diesel fuel taxes, State vehicle weight fees and reimbursements from the Federal Trust Fund for Federal-aid projects. Use of the State generated portion of the SHA is governed by Article XIX of the State Constitution that 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 trolley bus services) and their fixed facilities. The SHA cannot be used for mass transit vehicle acquisition or maintenance, or mass transit operating costs.

The 1989 Blueprint Legislation allowed intercity rail projects to compete for SHA funds in the STIP. Then Chapter 622, Statutes of 1997 (SB 45 - Kopp), reserved for intercity rail and grade separation projects a minimum of nine percent of the interregional portion of the STIP as part of the ITIP. SB 45 also allowed intercity rail projects to be programmed in the RTIP. As a result, in the 1996 through 2002 STIP biennial cycles, a total of \$468.6 million were programmed for intercity rail projects from the SHA. Of this amount, \$331.3 million has been allocated. However, as a result of State funding constraints, between May 2003 and July 2005, only three intercity passenger rail project allocation requests have been approved for a total of \$11.3 million. The remaining unallocated 2002 STIP intercity passenger rail projects were included in the 2004 STIP. All 2004 STIP projects in the 2004-05 year that could not be funded due to funding constraints were moved forward to the 2005-06 year (in the 2004 STIP).

TRAFFIC CONGESTION RELIEF FUND

Chapter 91, Statutes of 2000 (AB 2928 - Torlakson), established the TCRP to be funded from the TCRF. The TCRP specified a list of projects to be funded from the Program, including \$206.5 million for specific intercity rail capital projects. The section above on the PTA describes in general the funding sources for the TCRP.

Through July 2005, \$42.6 million was allocated from the TCRF to intercity rail projects. In August 2005, an additional \$86.8 million was allocated, for a total of \$129.4 million. As a result of the Proposition 42 transfer in 2005-06, it is expected that other TCRP rail projects will also be funded.

TRIBAL COMPACT BONDS

Chapter 91, Statutes of 2004 (AB 687, Nunez) ratified amendments to the Tribal-State Gaming compacts negotiated by the Governor and five tribes with gaming income. The bill authorized the issuance of bonds, secured by up to \$1.5 billion in Indian gaming revenue, to be dedicated for transportation improvement purposes. Based on the statute, the PTA would receive \$275 million, the SHA would receive \$477 million, the TCRP would receive \$453 million, and \$192 million would go to local streets and roads. However, the 2005-06 Budget authorizes \$1 billion in tribal bond income to be used to pay most of a 2005-06 \$1.2 billion GF loan commitment to the TCRF. The remaining \$200 million, plus interest, would be repaid from revenues resulting from future tribal gaming compacts if more compacts are negotiated. If tribal gaming revenues are not sufficient to cover any part of the \$1.2 billion owed, the remainder would be repaid from the GF by July 1, 2021. However, pending litigation makes the timing of the bond sales and resulting revenue uncertain.

THE PASSENGER RAIL AND CLEAN AIR BOND ACT OF 1990 (PROPOSITION 108)

The 1989 Blueprint Legislation 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. To date, almost all bond proceeds have been used to fund new rail projects and improvements to existing systems, including \$225 million for intercity rail capital projects. The voters did not approve the subsequent two bond measures in 1992 and 1994.

CLEAN AIR AND TRANSPORTATION IMPROVEMENT ACT OF 1990 (PROPOSITION 116)

Proposition 116 provided a \$1.99 billion one-time source of funding for rail and transit projects. Proposition 116 contained about \$382 million for intercity rail capital projects, \$1.37 billion for urban and commuter rail projects, and \$235 million for other transit and transit related projects. Most of these bond funds have been allocated.

GENERAL FUND

The General Fund can be used for rail projects if there is a specific appropriation in the budget. Since 1975-76, only the 1999-00 and 2000-01 State Budgets have provided GF money for intercity rail capital projects. The 1999-00 Budget included \$17.5 million for new intercity rail rolling stock and the 2000-01 Budget also provided \$30 million for this purpose.

LOCAL FUNDS

Although intercity rail passenger services are funded primarily by the State, a substantial amount of local funds have been invested, mainly on the *Pacific Surfliner* Route to fund commuter rail development. These funds serve to enhance commuter rail service improving tracks, signals and stations also used by intercity trains. Also, intercity rail stations are often owned by cities and funded with local revenue in addition to STIP funding. The Department will work with local and regional entities that may wish to fund higher levels of service than State resources are able to provide.

FEDERAL FUNDS

Federal transportation funds from various programs are used for intercity rail projects. In particular, funding has been provided for station projects from the FTA Section 5307 and 5309 capital programs. However, Federal flexible transportation funds, such as are provided through the Surface Transportation Program, are generally not available for intercity rail projects.

In the 2005 Congressional session, Amtrak reform proposals have been introduced that include Federal funding for intercity rail passenger capital programs. SB 1516 (Passenger Rail Investment and Improvements Act of 2005), a bi-partisan Congressional bill, proposes an 80 percent Federal/20 percent state capital match program for state intercity passenger rail investment. \$4.9 billion in GFs are proposed for the program over the six years of the bill (FFY 2006-2011). The bill also authorizes tax credit bonds for capital projects, not to exceed \$1.3 billion through 2015. Also, House Resolution 1713, the Administration backed bill,

proposes a 50 percent Federal/50 percent state capital match program, with no funding source specified.

AMTRAK FUNDS

On the operating side, Amtrak supports 30 percent of the *Pacific Surfliner* Route, as this portion is considered part of their Basic System, and not State-supported service.

On the capital side, Amtrak develops and funds some California intercity rail capital projects. The largest investment has been in maintenance facilities and rolling stock. As a result of the Taxpayer Relief Act of 1997, Amtrak was provided over \$2 billion in capital funds for its nationwide system. Over the past six years, Amtrak has increased its investment in California. For example, Amtrak purchased 40 new passenger cars and 14 locomotives for the *Pacific Surfliner* Route at a cost of about \$135 million. See Chapter XI for a list of the proposed California projects included in Amtrak's Strategic Plan for FFY 2005-09.

RAILROAD FUNDS

The State and the railroads owning the ROW of intercity passenger routes sometimes share in the cost of track and signal improvement projects.

CHAPTER XIII

ENVIRONMENT AND LAND USE

ENVIRONMENTAL GOALS FOR THE INTERCITY PASSENGER RAIL PROGRAM

The Department has established ten-year goals for the Intercity Passenger Rail Program related to congestion relief, travel mode share, air quality, and energy efficiency.

By 2016 as the result of intercity rail travel:

- **Congestion Relief** - cut annual vehicle miles traveled in the State by a total of 433 million miles (a net reduction of 178 million annual vehicle miles traveled compared with 2005).
- **Travel Mode Share** - increase the intercity rail mode share by 2½ to 3 times.
- **Air Quality:**
 - Continue to achieve a net annual decrease in pollution from hydrocarbons and carbon monoxide in the State.
 - Continue to keep emissions on all State-owned locomotives below State and Federal maximum allowable levels for all pollutants.
- **Energy Efficiency** - save the State a net of almost 11 million gallons of gasoline annually.

CONGESTION RELIEF

The impact of intercity rail on congestion was measured by calculating the vehicle miles saved as a result of intercity rail passenger services. The first step in the calculation was estimating the vehicle (automobile) miles that would be saved by passengers using State-supported intercity rail service in 2005 and the expanded service proposed in the State Rail Plan for 2016. To determine vehicle miles saved, first the number of State-supported intercity train passenger miles for each year was estimated. Then an average vehicle occupancy rate of 1.43 passengers per automobile was applied to the passenger miles to derive vehicle miles saved in each of the two years (2005 and 2016). The vehicle miles saved as a result of State-supported intercity rail service were 270 million miles in 2005 and 433 million miles in 2016, for a net reduction of 178 million vehicle miles.

The Department's congestion relief goal is to cut annual vehicle miles traveled in the State by a total of 433 million miles by 2016 (a net reduction of 178 million annual vehicle miles traveled compared with 2005) as a result of intercity rail travel.

TRAVEL MODE SHARE

Already 98 percent of the State's population lives in counties served by the State-supported intercity rail and connecting bus network. The challenge is to increase the share of the population that will ride the intercity rail and connecting buses. As already demonstrated in California and elsewhere, people will ride intercity trains and connecting buses if they are frequent, reliable, and provide competitive travel times. In terms of train frequency, the State-supported intercity rail service will become a significantly more competitive travel mode when the 39 daily statewide round-trips proposed as ten-year goals in the State Rail Plan are implemented (13 on the *Pacific Surfliner* Route, 8 on the *San Joaquin* Route, and 18 on the *Capitol Corridor*) as compared to 29 round-trips in 2005.

In June 2005, Amtrak conducted travel research in Northern and Southern California to determine travel metrics and mode usage. Based on the data from the study, the 2005 mode share for intercity rail along the *Pacific Surfliner* Route was 5 percent, and 3 percent for the *Capitol Corridor* and *San Joaquin* Routes. For this analysis, the corridors served by the *Capitol Corridor* and *San Joaquin* were combined because many of their population areas overlap. By comparison, the study found that air travel in both the northern and southern California corridors had a mode share of 14 percent.

The Rail Ridership/Revenue Forecasting Model was then used to generate the forecasts of the ridership increases that can be expected as a result of the improvements proposed in the State Rail Plan (its methodology is summarized in Chapter IV). The frequency increases mentioned above, together with the other improvements proposed for the ten-year period through 2016, are projected to raise the intercity rail mode share for the State-supported routes by 2.5 to 3 times compared to 2005. The *Pacific Surfliner* Route is projected to have a mode share of between 12.5 and 15 percent, while the combined *Capitol Corridor* and *San Joaquin* Route are projected to have a mode share of between 7.5 and 9 percent. These thresholds approach the 14 percent mode share for air travel in these corridors. Achieving such a mode share would demonstrate that intercity rail is providing a true alternative mode for travelers.

The Department's travel mode share goal is to increase the intercity rail mode share by 2.5 to 3 times by 2016.

AIR QUALITY

Two pollutants were examined in addressing air quality: hydrocarbons and carbon monoxide. These were measured in grams of pollutants. The pollution saved by the reductions in vehicle miles from 2005 to 2016, were compared to the increases in train pollution resulting from the increases in train miles for the same period.

The first step in the comparison is converting the vehicle miles saved as a result of State-supported intercity rail service in 2005 and 2016 (described above under Congestion Relief) to automobile emissions. To do this, the vehicle miles saved were multiplied by the average pollutants per vehicle mile for the typical automobile in California. Next, the train miles estimated to be operated by the three State-supported services in 2005 and 2016 were calculated. The total amount of automobile pollution saved due to the new train services were then compared directly to the additional pollutants generated by the increased train miles generated by the added train services. The analysis showed a net annual decrease in pollution from hydrocarbons and carbon monoxide.

The Department’s first air quality goal is to continue to achieve a net annual decrease in pollution from hydrocarbons and carbon monoxide in the State through 2016 as a result of intercity rail travel.

In addition, the U.S. Environmental Protection Agency has instituted new emissions requirements for diesel locomotives. F59 locomotives, the type that is predominantly used in the State-supported rail system, meet the Tier 0 requirements, which went into effect in 2001. The State had ordered F59s that met this requirement before being required to do so. The next set of standards, called Tier 1, took effect on January 1, 2004 and requires that passenger locomotives purchased after that date emit 25 percent less nitrogen oxides (NO_x) and 33 percent less particulates than previously allowed. Tier 2 standards, which took effect on January 1, 2005, required that passenger locomotives purchased after that date emit 35 percent less NO_x and less than half the particulates than previously allowed. Additionally, the Department plans to purchase devices to attach to the diesel locomotives that will further reduce fuel consumption and air emissions.

The Department’s second air quality goal is to continue to keep emissions on all State-owned locomotives below State and Federal maximum allowable levels for all pollutants and to pursue funding for research and development into cleaner locomotive engines.

ENERGY EFFICIENCY

To address energy efficiency, the energy use from the automobile trips that would be avoided due to expanded intercity rail passenger services included in the State Rail Plan were compared to the additional energy use resulting from these expanded intercity rail passenger services. The analysis used 2005 as the base year and 2016 as the final year.

In order to convert vehicle miles to energy use, the vehicle miles saved as a result of use of State-supported intercity rail service in 2005 and 2016 were multiplied by the average amount of energy use per vehicle mile, as expressed in British Thermal Units (BTUs), for the average automobile in California. Next, the energy use resulting from train miles to be operated by the three State-supported services in 2005 and 2016 were converted to BTUs. The total amount of automobile energy use saved due to the new train services was then compared directly to the additional energy use generated by the increased train miles operated by the added train services.

The vehicle miles saved for 2005 would have otherwise resulted in the consumption of 12.3 million gallons of gasoline. Concurrently, the train miles traveled in 2005 would result in the usage of diesel fuel equivalent to 6.8 million gallons of gasoline. The result is a net saving of 4.6 million gallons of gasoline in 2005, or over 12,500 gallons of gasoline per day.

The increase in annual vehicle miles saved in 2016, as compared to 2005, would result in saving an additional 8.9 million gallons of gasoline in 2016. Further, the additional train miles traveled in 2016, compared to 2005, would result in the usage of additional diesel fuel in 2016 equivalent to 2.7 million gallons of gasoline. The result is a net saving of 6.2 million additional gallons of gasoline in 2016, compared to 2005, or a total of 10.8 million gallons of gasoline conserved annually by 2016.

The Department's energy efficiency goal is to save the State a net of almost 11 million gallons of gasoline annually by 2016 as a result of intercity rail travel.

LAND USE

The Department supports efforts by cities, counties, and private developers to promote transit-oriented development projects near Amtrak stations that enhance community livability by providing housing options, jobs, retail, and services within easy walking distance of the station. The following are examples of Amtrak stations where transit-oriented development has recently occurred or is planned.

Bakersfield – The new Bakersfield station opened to the public in July 2000. The station, about one mile east of the former Bakersfield Amtrak stop, is much closer to downtown in the heart of the civic center entertainment complex, which includes the Bakersfield Convention Center and Centennial Garden Arena. While downtown is on the northwest side of the station, a new development plan calls for building an entertainment-retail complex called River Walk Plaza on 20 to 25 acres to the south of the station. Included in the proposal are an ice rink, movie theater, other recreational facilities, retail, and office space. In addition, construction is underway on 180 units of senior housing across the street from the

proposed River Walk Plaza location. Two 80-unit complexes of multi-family affordable housing have also been proposed for construction in the same area in the next two to three years. Another development proposal calls for building 12,000 square feet of office space adjacent to the Amtrak parking lot to house the Convention and Visitors Bureau, which would provide a convenient stopping point for tourist information for *San Joaquin* passengers. Bakersfield is served by an extensive network of Amtrak thruway buses in addition to Golden Empire Transit and Kern Regional Transit bus service.

Berkeley – Several mixed-use buildings featuring 150 residential units above ground floor retail are planned for the block adjacent to the rail stop. A long-established restaurant plans to move one block into the historic Southern Pacific Railroad train station. Around this development, there are also plans to provide mostly privately developed new streets, sidewalks, landscaping, ADA accessibility, and bike signs to formalize the connection between the commercial area and the pedestrian/bike bridge over I-80 next to the Amtrak stop. Across the tracks, just south of the new platform, a former live/work warehouse has been bought and will be renovated. Berkeley is served by local transit.

Emeryville – In 1998, construction began on the first phase of a project for a three-building, 550,000 square foot mixed-use complex on the north, east and south sides of the Amtrak station. The first phase was a 240,000 square foot, five-story office building with ground floor retail and two levels of parking below. The second phase that consists of 170,000 square feet of office space was completed in 2001. The project also includes 101 owner-occupied lofts and town homes, plus senior housing. The site was formerly industrial and had remained vacant for over 20 years before the City coordinated and facilitated toxic remediation and redevelopment of the site. The next phase will consist of 100 units of rental apartments, with at least 20 percent set aside as affordable housing. The station is served by the *Capitol Corridor*, *San Joaquin*, *Coast Starlight* and *California Zephyr* long-distance Amtrak trains, AC Transit buses, and the Emery Go-Round free shuttle bus that connects to the MacArthur BART station and various businesses, work sites, and retail and entertainment centers.

Fresno – The historic Fresno Santa Fe Station has been renovated to include the Amtrak station on the first floor with offices and retail facilities on the second floor. It is scheduled to open in late 2005. In the surrounding area a new Federal building is nearing completion. An additional multi-functional office building is also under construction. This building will house some of the Department's District Office units, the Internal Revenue Service, Employment Development offices, law offices and a variety of retail services on the ground floor. Fresno City Hall and other governmental offices are already located within walking distance to the station. There are several existing restaurants, hotels and other attractions located near the site. The close proximity of the various business

and governmental agencies makes this station a hub for locals and visitors alike. The station is also served by Fresno Area Express transit buses.

Fullerton – Two major high-density transit-oriented development projects adjacent to the station were completed for occupancy in 2004. There are approximately 400 residential units in these two developments, and both include office and retail space at street level. Residents are eligible to receive free commuter passes through a Metrolink program. A conceptual master plan has been prepared for the UP Recreation Trail and Neighborhood Park, a one-acre park with a recreation trail from the station to Independence Park. Fullerton station is served by the *Pacific Surfliners*, the Amtrak long distance *Southwest Chief*, and Metrolink commuter rail.

Hanford – This Central Valley city is known for its historic downtown that dates back to the 1890s and early 1900s. The main commercial street in the historic district is 7th Street, which provides a pedestrian-friendly connection between the district and the Hanford Amtrak station. This easy pedestrian access makes traveling on the *San Joaquins* a convenient way for tourists and school field trip groups to visit historic Hanford. The City is planning to extend the pedestrian-oriented street network to encompass more of historic Hanford. Plans call for widening sidewalks, planting trees, and installing period street lighting and street furniture further north along 7th Street to historic China Alley. The project will effectively expand the number of destinations and attractions accessible by foot to visitors arriving by rail, thereby making the train an even more convenient option for visiting Hanford. The station is served by Amtrak thruway buses and Kings Area Rural Transit.

Los Angeles Union Station – This landmark station counts the highest ridership in the entire State. Over the last decade, a vibrant transit hub has evolved where passengers can transfer between State-supported Amtrak trains and buses, long-distance Amtrak trains (*Coast Starlight*, *Southwest Chief*, and *Sunset Limited*), regional Metrolink commuter trains, Los Angeles Metro subway and light rail lines, local and regional transit routes, downtown circulator buses, employer and hotel shuttles, airport vans, and taxis. More recently, new businesses have opened to fulfill service needs brought about by significant growth in passenger activity at this station. For example, in addition to the traditional auto rental agencies that serve these travelers, “carsharing” vehicles are now available on-site by subscription on an hourly basis, thereby reducing demand for scarce parking spaces. In the early 1990s, the Los Angeles County Metropolitan Transportation Authority built its high-rise headquarters alongside a transit plaza adjacent to the eastern entrance, and the Southern California Metropolitan Water District took occupancy of another new skyscraper to the south of the station. A new office building located in what was the south end of the station’s front parking lot, between the Metropolitan Water District Building and Alameda Street, has been completed. Two new mid-rise buildings are under construction fronting

Cesar Chavez Street. They will feature primarily residential condominium-type units, plus ground floor office/retail space.

Oakland (Jack London Square) – A large, high-density housing complex was constructed across the railroad to the west of the station. To the north of this project, the Jack London Square area has undergone a great deal of transformation in recent years changing from a predominantly industrial port area to a busy retail and entertainment district. Also, major new housing and business projects are being constructed near the station to the east of the railroad. In order to accommodate increased ridership at the station, the Department and the CCJPA are planning to widen the platform at the station. The station is served by the *San Joaquin*, *Capitol Corridor*, *Coast Starlight* trains, Amtrak thruway buses, and AC Transit. The station is within several blocks of the Oakland-Alameda Ferry Terminal and the Lake Merritt BART station.

Oakland Coliseum – Service at this station began in June 2005. This station provides a direct connection by way of a raised walkway between the *Capitol Corridor* and the Coliseum BART station. It will also connect to the planned Oakland Airport Connector train. Currently, the City is participating in a collaborative effort to develop an Area Plan and Redevelopment Strategy for the Coliseum Redevelopment Area. Due to the expected importance of this station area as a transit hub, the Area Plan and Redevelopment Strategy will explore long-range opportunities to create a transit-oriented district.

Richmond – A pedestrian-oriented transit village is under construction at this station, a transit node where passengers can transfer between BART trains and *San Joaquins* or the *Capitol Corridor*. The station is also served by AC Transit and Golden Gate Transit. The residential portion of Phase I of the Richmond Transit Village is completed, comprising 132 townhouse units. The next phase includes an additional 99 townhouses, 27,000 square feet of retail, and a 30,000 square foot performing and cultural arts facility. In order to accommodate increased ridership at the station, the Department and CCJPA constructed a new center boarding platform at the station with a passenger shelter, seating, and a new stairwell and elevator providing a direct connection to the BART station. Construction started on a new Amtrak station building and plaza in October 2005 and will take about a year to complete. It will include restroom facilities, an Amtrak passenger waiting area, and an information and directional signage kiosk with an electronic display of real-time train information.

San Diego – A high-density condominium project adjacent to the station has recently been completed. The first tower was completed in 2004 and the initial residential units have been occupied. A second residential tower was completed in 2005. Also, ground was broken in October 2005 on an innovative project that will combine art museum facilities and rail maintenance and supply storage space. Construction has begun on a major high-rise residential development within the perimeter of the Historic Electrical Building and across the street from the station. Several other developments with commercial and residential units are being constructed within walking distance of the rail depot. The station is served by the *Pacific Surfliner* and by Coaster commuter rail as well as the San Diego Trolley, San Diego Transit and Mexicoach buses.

Simi Valley – The City of Simi Valley, in partnership with the County of Ventura, is considering a transit village plan using a transit-oriented development overlay zone. The zone would encourage the implementation of transit village design within a quarter mile radius of the City's multimodal transit station boundaries. Nearly 650 single-family and multi-family homes are currently under development or consideration in the proposed overlay area. The proposed transit overlay zone would include a seven-acre commercial center, a 45-acre park and community center, 40 acres of other commercial and industrial uses, 75 acres of residential property, and 20 acres of open space. The City's multimodal transit station is currently served by Metrolink commuter rail, the *Pacific Surfliner*, Amtrak's long distance *Coast Starlight*, city buses, Los Angeles County buses, *San Joaquin* connecting buses, local taxis and the city's extensive pedestrian/bike trail system.

PROGRESS IN MEETING ENVIRONMENTAL AND LAND USE GOALS

Figure 13A assesses the Department's progress in meeting its environmental and land use goals by comparing the estimated results for 2003-04 presented in the 2003-04 California State Rail Plan with the estimated results for 2005-06 in the current California State Rail Plan. The figure also compares the future goals in the 2003-04 Plan with the future goals in the current Plan.

In general, the goals for 2005-06 and actual results were consistent. However, mode share in the southern (*Pacific Surfliner*) region increased slightly from 3.9 to 5 percent, and mode share in the northern (joint *San Joaquin* and *Capitol Corridor*) region decreased slightly from 3.5 to 3 percent. Also, gallons of gasoline saved was more than originally projected.

Also, the goals for 2014 in the 2003-04 Plan compared to the goals for 2016 in the 2005-06 Plan are close. Again, mode share for the southern corridor increased somewhat and mode share for the northern corridor decreased slightly. Gallons of gasoline saved increased by 29 percent and the reduction in vehicle miles traveled decreased slightly.

Figure 13A

Intercity Rail Environmental and Land Use Goals					
GOAL	MEASURE	ESTIMATED RESULTS		RAIL PLAN GOAL	
		2003-04 (2003-04 Rail Plan)	2005-06 (2005-06 Rail Plan)	2014 (2003-04 Rail Plan)	2016 (2005-06 Rail Plan)
Congestion Relief	Reduction in Vehicle Miles Traveled	265 million	270 million	443 million	433 million
Alternative Mode of Transportation	Mode Share South	3.9%	5%	9.8-11.7%	12.5-15%
	Mode Share North	3.5%	3%	8.8-10.5%	7.5-9%
Air Quality	Meet or exceed Federal diesel locomotive standards	Meet standards	Meet standards	Meet standards	Meet standards
Energy Efficiency	Gallons of Gasoline Saved	3.7 million	4.6 million	8.4 million	10.8 million
Land Use	Stations with Planned or Developed Transit Oriented Development	11	12		

PART II

FREIGHT RAIL ELEMENT

CHAPTER XIV

INTRODUCTION

Railroads have moved freight in the Golden State for almost 150 years. From the 1850s to the present, they have served shippers of thousands of commodities in virtually all parts of the State, and have linked California with the rest of the nation. The purpose of this chapter is to provide a broad overview of freight rail operations and associated commerce, business, and institutional issues in California.

There are 30 freight railroads in California, which own 5,701 miles of track. The Union Pacific Railroad (UP) owns the largest portion of the rail lines with 2,789 miles of track or 49 percent of the total miles. The BNSF Railway (BNSF) owns 1,215 miles of track or 21 percent. The remaining 30 percent are owned by regional and short line railroads. More than 64 million tons of freight rail traffic originated in the State in 2003. Freight rail traffic that terminated in California was even higher, at over 98 million tons. These figures point to the State's role as a major user/producer of import and export rail-borne commodities that impact the rest of the United States. The California State Rail Plan 2005-06 – 2015-16 (State Rail Plan) points out the magnitude of California's industrial and consumer market dependence on the freight railroads. The State Rail Plan presents the status and importance of freight railroads in California as well as a discussion of the major issues facing the railroads in the State.

MAJOR FREIGHT RAILROADS

The two Class I railroads in California¹, UP and BNSF, move the majority of rail freight. These railroads have large networks that connect California with important rail hubs such as Chicago, Kansas City, and New Orleans, as well as routes running the length of California, linking the Pacific Northwest with the Los Angeles area. Many of the routes in California are the products of railroad combinations or mergers, involving some of the most historic names in California rail history. Figure 14A is a map of the UP and BNSF rail systems in California.

¹ There are three classes of railroads in the United States: Class I railroads having an annual operation revenue greater than \$258.5 million, Class II or regional railroads having an annual operating revenue between \$40 million and \$258.5 million, and Class III or local railroads commonly known as "short lines" having annual operating revenues of less than \$40 million.

Figure 14A

California Class I Railroads



UNION PACIFIC RAILROAD

The UP is the largest railroad in the State, operating on 3,024 miles of track including trackage rights.² In California, the UP system is made up primarily of three historic railroad properties:

- The historic UP, with a main line running between Las Vegas, Nevada and Southern California.
- The former Southern Pacific (SP), with main and branch lines that at one time reached virtually every corner of the State.
- The former Western Pacific (WP), with a main line running between northern Nevada and the San Francisco Bay Area.

Main line routes are part of the national rail systems. Comparatively high revenue ton-mile figures³ are generated on these segments, manifesting their importance to the UP system. Other UP lines include branch lines and secondary main lines, which feed traffic to the main lines and contribute relatively low revenue ton-miles.

BNSF RAILWAY

The BNSF, the second largest railroad in California, operates on 1,685 miles⁴ of track (including trackage rights) in the State. The BNSF was created from the merger of the former Burlington Northern Railroad (BN) and the former Atchison Topeka and Santa Fe (ATSF) in 1995. The ATSF originally had a line that ran from the San Francisco Bay Area through the San Joaquin Valley and into Southern California. The BN had a line running in northeastern California from the Oregon border to a junction with the former WP in Bieber in Lassen County. As part of the 1996 UP/SP merger, BNSF was allowed to purchase the former WP line from Bieber to Keddie in Plumas County and obtain trackage rights to Stockton, thereby giving California shippers a competing north/south rail option.

The largest amount of freight handled in California is in the southern part of the State, moving between the Los Angeles region and the rest of the United States. The least amount of freight handled is in the northeastern corner of the State and along the coast. Figure 14B shows tons of freight handled by both UP and BNSF in 2004.

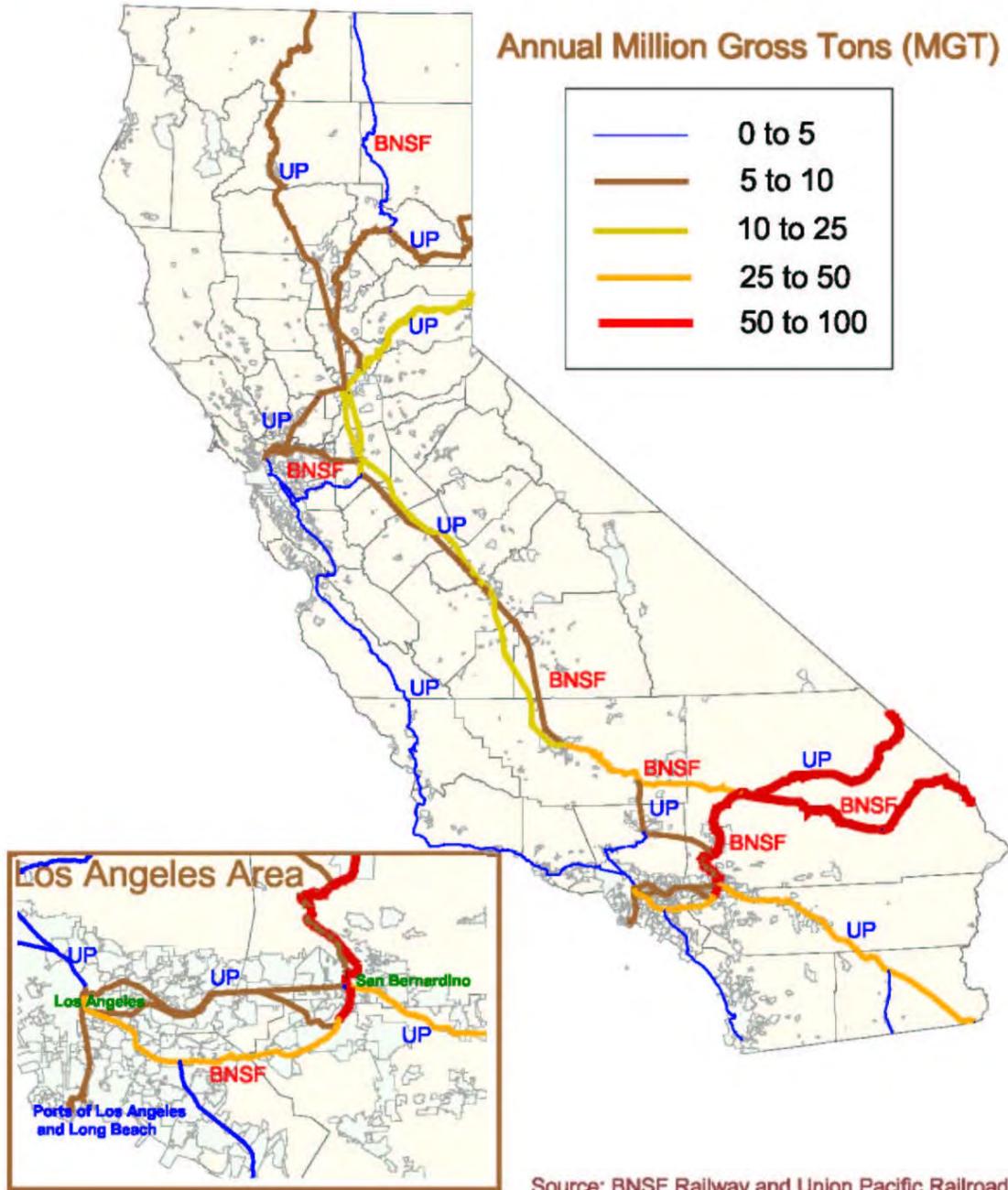
² *California Region Timetable, Altamont Press 2005*

³ One ton moved in revenue service one mile is one revenue ton-mile.

⁴ *California Region Timetable, Altamont Press 2005*

Figure 14B

California Railroad Freight Tonnage



REGIONAL RAILROADS

California has one Class II regional railroad operating in the State. The Central Oregon and Pacific Railroad Company (CORP), with its headquarters in Roseburg, Oregon, operates a 449-mile railroad between Eugene, Oregon and Black Butte near Weed, California. The CORP, which handles mostly forest products from Southern Oregon, provides freight service in California on 59 miles of track between Hilt and Black Butte.

SHORT LINE RAILROADS

There are 27 Class III short line railroads operating on 1,638 miles or 27 percent of California's rail mileage. During the 1980s and 1990s, many California short lines began operations as spin-offs of Class I branch and secondary main lines. Short line railroads in California provide switching services and/or interchange freight to the Class I carriers for transportation to other parts of the United States as well as to international markets. They play an important role in California's overall transportation system, especially for local communities not served by a Class I railroad.

Short line railroads are classified as either local carriers serving multiple shippers in one or more communities, or switching and terminal carriers operating in one industrial area such as a port or industrial park. Some short line railroads are owned by the single shipper or corporation that they serve. For example, the only traffic carried by the Quincy Railroad in Plumas County is finished forest products for its owner, Sierra Pacific Industries. Other short lines include terminal railroads that perform switching for Class I railroads. Examples are the Pacific Harbor Line serving the Ports of Los Angeles and Long Beach, and the Oakland Terminal Railway serving the Port of Oakland.

In 2004, California short line railroads handled over 800,000 carloads of international freight. Many short lines serve industries along the I-5, I-10, I-40, and I-80 corridors. They provide switching services to the Ports of Los Angeles, Long Beach, Oakland, Hueneme, and Stockton. The majority of the analysis for short lines was provided by a survey of California's short line railroads.

The California short line railroads are listed in Figure 14C along with route miles and millions of gross tons per mile (MGT/M).⁵ These railroads are typically referred to as short, light density lines because most of them average less than 1 MGT/M. Figure 14D is a map of these short line railroads.

⁵ MGT/M is the standard railroad metric of traffic density.

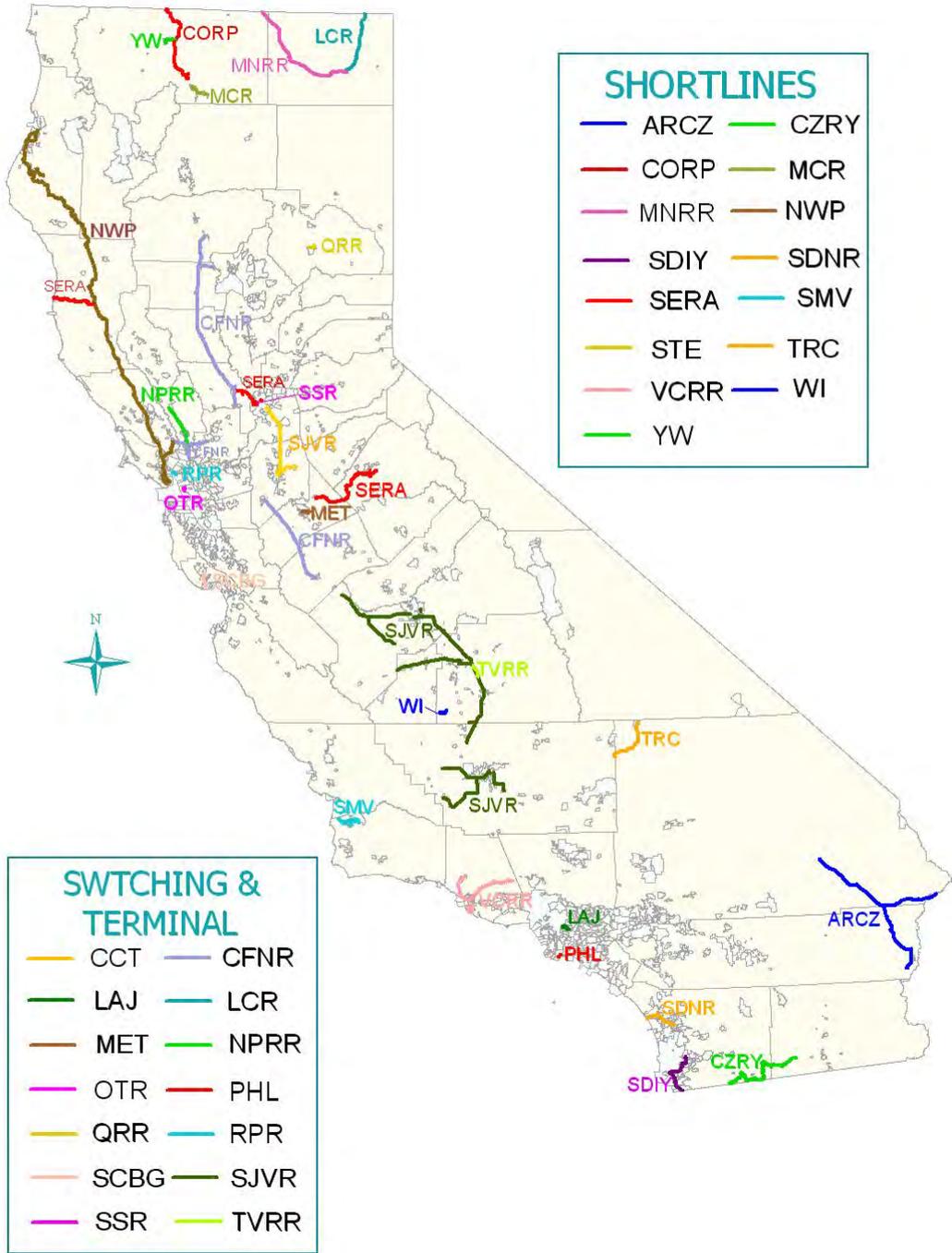
Figure 14C

Regional Railroads and Short Lines in California			
Railroad	Railroad Reporting Mark	Miles of Railroad in California	Million Gross Ton-Miles/Mile⁶
Arizona & California Railroad Co.	ARZC	134	1-4.99
California Northern Railroad Co. Ltd.	CFNR	217	0-0.99
Carrizo George Railway Inc	CZRY	64	0-0.99
Central Oregon & Pacific Railroad	CORP	59	1-4.99
Lake County Railroad	LCR	41	0-0.99
Modoc Northern Railroad	MNRR	90	0-0.99
Northwestern Pacific Railway	NWP	316	0-0.99
San Diego & Imperial Valley RR	SDIV	35	0-0.99
San Joaquin Valley Railroad Co. Inc.	SJVR	310	0-0.99
Santa Maria Valley Railroad Co.	SMV	18	0-0.99
Sierra Northern Railroad Co.	SERA	103	0-0.99
Trona Railway Co.	TRC	31	1-4.99
Ventura County Railroad Co.	VCRR	13	0-0.99
Yreka Western Railroad Co.	YW	9	0-0.99
Switching and Terminal Railroads			
Central California Traction	CCT	42	0-0.99
McCloud Railway Company	MCR	15	0-0.99
Los Angeles Junction Railway	LAJ	65	1-4.99
Modesto & Empire Traction	MET	31	1-4.99
Napa Valley Railroad	NVRR	21	0-0.99
Oakland Terminal Railway	OTR	12	0-0.99
Pacific Harbor Line	PHL	21	5-9.99
Quincy Railroad Co.	QRR	3	0-0.99
Richmond Pacific Railroad Co.	RPRC	5	0-0.99
Sacramento Southern	SSR	4	0-0.99
Santa Cruz, Big Trees & Pacific Ry.	SCBG	10	0-0.99
Stockton Terminal & Eastern Railroad	STE	17	0-0.99
Tulare Valley Railway	TVRR	6	0-0.99
West Isle Line	WFS	5	0-0.99
TOTAL MILES		1,697	

⁶ Ton-mile figures from U.S. Railroad Traffic Atlas, by Harry Ladd, 1998.

Figure 14D

California Class II & Class III Railroads



COMMODITIES SHIPPED

The primary commodities handled by rail in California include bulk shipments of chemicals, petroleum, food products, farm products, primary metals, paper products, and lumber. These general carload commodities are less time sensitive than the high value cargo that tends to be shipped by truck and air. Overall, the general carload base business⁷ for railroads has remained strong. This has prompted UP to make substantial investments in improving throughput at classification yards such as the \$145 million upgrade of their Roseville Yard that opened in 1999. Increasingly, the railroads have been able to attract more time sensitive shipments using expedited rail intermodal service. This premium service allows trailers and containers the ability to move quickly on fast transcontinental routes with penalties assessed to the railroad if shipments are late. To capitalize on this growing demand, the Class I railroads have been building new intermodal yards. Among these are the UP's facility in Lathrop and the BNSF's Mariposa facility in Stockton.

Figure 14E shows commodities originated and terminated in California for 2003. Mixed freight includes international containerized freight going through the Ports of Los Angeles, Long Beach, and Oakland, as well as domestic containers handled at both the UP and BNSF facilities statewide.

Figure 14E

Commodities Originated and Terminated in California for 2003					
Tons Originated			Tons Terminated		
Commodity	Tons	%	Commodity	Tons	%
Mixed Freight	30,556,904	47%	Mixed Freight	22,365,760	23%
Food Products	6,281,600	10%	Farm Products	10,770,955	11%
Chemicals	3,983,724	6%	Food Products	10,195,697	10%
Primary Metal Products	3,868,301	6%	Chemicals	9,754,223	10%
Glass and Stone	3,481,138	5%	Primary Metal Products	7,022,910	7%
All Other	16,646,695	26%	All Other	38,017,000	39%
Total	64,818,362			98,126,545	

Source: Railroad Statistics by State, Association of American Railroads, 2003

⁷ General carloads include traffic in traditional railroad equipment such as gondolas, boxcars, hopper cars, tank cars, lumber cars, etc. By contrast, intermodal shipments, consisting of trailers and containers, travel on flat cars or "double stack" cars, where containers are placed one on top of another. Intermodal service tends to operate on tight schedules and have faster transit times compared to general carload business.

CHAPTER XV

MAJOR FREIGHT ISSUES

GOCALIFORNIA

GoCalifornia, is the Administration’s major effort to improve mobility and accessibility for people, goods, services, and information through a safe, integrated, multimodal, world-class transportation system that achieves the “3-Es” of a Prosperous Economy, Quality Environment, and Social Equity. A significant element of *GoCalifornia* is to invest in freight rail infrastructure in partnership with public and private sector interests to enhance the capacity of the freight rail system in the State to meet current and future demand for freight rail service. State participation in funding critical freight rail improvements that allow more goods to be shipped by rail will produce substantial public benefits from congestion relief on freeways, environmental benefits, and continued economic growth.

GoCalifornia identifies the need to invest \$50 - \$53 billion in goods movement projects over the next 20 years, and includes the following examples of major freight rail projects to improve goods movement.

- Upgrade Alameda Corridor East Through the Inland Empire.
- Expand Port of Oakland Joint Intermodal Terminal.
- Construct Additional Main Line Rail Track Through Cajon Pass.

GOODS MOVEMENT ACTION PLAN

The Goods Movement Action Plan (GMAP) is a key element of *GoCalifornia*. It is a two-phase process. The Phase I report is an attempt to characterize the “why” and the “what” of the State’s involvement in goods movement in the following four segments: (1) the goods movement industry and its growth potential, (2) the four “port-to-border” transportation corridors that constitute the State’s goods movement backbone and the associated inventory of infrastructure projects being planned or underway, (3) the extent of environmental and community impacts—as well as a description of mitigation approaches, and (4) public safety and homeland security issues.

Substantial effort was focused on developing the inventory of existing and proposed goods movement projects. The listing includes previously identified projects in various Regional Transportation Plans (RTP) and Regional Transportation Improvement Programs (RTIP). In addition, the listings include a wide range of projects underway or under consideration by the ports, railroads, and other third parties. Prior to this compilation, no comprehensive statewide inventory of goods movement projects was available.

The Phase II GMAP to be completed by December 2005, will develop a statewide implementation plan for goods movement capacity expansion, goods movement-related environmental and community mitigation, and goods movement-related homeland security and public safety enhancement. It will define the “how,” “when,” and “who” required to synchronize and to integrate efforts to achieve relief and improvement as quickly as possible.

The Phase II effort will be executed by work groups comprised of various stakeholders in conjunction with team leaders from the Business, Transportation, and Housing Agency and the California Environmental Protection Agency. Phase II will include business plans for each of California’s four goods movement corridors (Los Angeles-Long Beach, Bay Area, Central Valley, and San Diego). Over a four month period, each of the work groups will be tasked with developing business plans which will detail the timing, sequencing, and funding of corridor expansion projects.

Each corridor working group will also review, evaluate, and recommend: corridor-specific operational improvements; environmental and community impact mitigation strategies; and homeland security and public safety enhancements. The working groups will be responsible for identifying how the costs of improvements and mitigation measures could be funded. Phase II also will include the Port and Intermodal Goods Movement Comprehensive Emission Reduction Plan, a plan that will be developed by the California Air Resources Board (ARB) in consultation with all stakeholders. Other work groups will prepare a homeland security and public safety plan and a workforce development plan.

Freight rail system improvements with substantial public benefits will be identified in the Goods Movement Action Plan and incorporated into future iterations of the California State Rail Plan with recommendations for methods of funding and financing the projects.

GROWING BUSINESS AND CAPACITY CONCERNS

Class I railroads are facing increasing traffic levels system-wide. For 2004, UP revenues were up 5 percent to \$12.2 billion from 2003⁸. Similarly, BNSF revenues were up 16 percent to \$10.9 billion in the same period. As business grows, maintaining sufficient capacity to ensure reliable operations has become the single largest concern of Class I operators. This concern drives the freight railroads’ major investment strategies.

⁸ 2004 Financial statements from UP and BNSF investor reports

A Caltrans survey in 2005 of the UP and BNSF indicated their major choke points are areas where they both operate on the same facility. Capacity improvements are needed at:

- Cajon Pass between San Bernardino and Cajon Summit.
- Tehachapi Pass between Bakersfield and Tehachapi Summit.
- Colton Crossing in San Bernardino County.

In addition, both railroads noted capacity improvements were needed between San Bernardino and Los Angeles along State Route 91, and the Interstate 5 and 10 corridors to accommodate additional commuter rail service. The Alameda East Construction Authority, the San Bernardino Associated Governments, Riverside County Transportation Commission, Orange County Transportation Authority, and the On-Trac Project are working with the railroads to address the need for grade separations to reduce delays at grade crossings between these two cities.

Capacity can be measured in terms of the level of investment across three elements: freight handling facilities or yards, main line track, and rolling stock. UP's capital investments for 2004 exceeded \$1.8 billion, which represents over 16 percent of revenues. In the same year, BNSF spent \$1.5 billion for capital investments, over 14 percent of revenues. While expensive, these investments are needed to move the freight on ever more crowded main lines and through ever more congested intermodal and general classification yards.

INTERMODAL SHIPMENTS

Intermodal is defined as being or involving the transportation by more than one mode during a single journey. For the purpose of this plan, we are referring to the rail carriage of truck trailers and containers. The growing predominance of intermodal freight in California's railroad operations is based on a large consumer demand as well as the fact that California is the primary gateway for containerized products coming in from the rapidly expanding Pacific Rim economies.

As the growth leader, intermodal traffic is making heavy demands on existing railroad capacity. The BNSF's international intermodal traffic passing through California grew an additional 16 percent in 2004, surpassing two million containers handled at their facilities. A map of California rail intermodal facilities is shown in Figure 15A.

Figure 15A

California Railroad Intermodal Facilities



International container shipments have been growing rapidly to and from West Coast ports over the last ten-year period, as illustrated by Figure 15B.

Figure 15B

Container 20 Foot Equivalent Units (TEUs) Major Ports of the Continental U.S.⁹ (In Millions)			
Port	1995	2004	Change
Los Angeles	2.64	7.32	177%
Long Beach	2.84	5.78	103%
Oakland	1.56	2.04	65%
Tacoma	1.09	1.80	32%
Seattle	1.48	1.78	20%

California ports handle the majority of the West Coast marine container traffic. Together, the Ports of Los Angeles and Long Beach make up the third largest container port facility in the world. Fifty percent of all the containers handled at the Ports of Los Angeles and Long Beach go to U.S. destinations by rail. The vast majority of these are bound for inland destination points such as Chicago and Kansas City, illustrating the importance of the rail/steamship interface.

In order to facilitate further growth, the ports and railroads have been making substantial investments to improve rail/ship interface. Recent planned improvements include:

- On-dock facilities¹⁰ in both the ports of Los Angeles and Long Beach.
- The Alameda Corridor East project between downtown Los Angeles and San Bernardino and Riverside Counties.
- The Joint Intermodal Terminal at the Port of Oakland.

SHARED USE OF RIGHTS-OF-WAY

In many areas of the State, passenger services share rail rights-of-way (ROW) with freight railroads. For both passenger and freight railroads sharing a ROW, a primary issue is the capacity of the route to accommodate all train movements. Before a freight railroad grants a passenger operator use of its facilities, the railroad will require various capacity improvements to ensure the reliability of

⁹ American Association of Port Authorities, 2005

¹⁰ An on-dock rail facility refers to track and loading equipment inside a marine terminal to enable the movements of containers between ships and trains without leaving the marine terminals.

both freight and passenger services. The cost of these improvements may be borne by the passenger operator or can be shared.

Freight railroads and various public agencies have entered into negotiations for the use of freight rail lines for commuter and intercity passenger services. Some of the freight railroads sold their lines to the passenger operators but retained the rights to provide freight services on them. In California, shared use of ROW includes:

- State-sponsored Amtrak intercity services: *Pacific Surfliner* Route, *San Joaquin* Route, and *Capitol Corridor*.
- The Southern California Metrolink commuter rail system.
- The San Diego County Coaster commuter rail system.
- The Caltrain commuter rail system in the San Francisco Bay Area.
- The Altamont Commuter Express (ACE) rail system.

In recent years, ridership and train service has increased on all commuter and intercity rail lines in California. Passenger operators have plans for adding more trains over the next several years. In some cases, capacity has proven insufficient to handle existing levels of both freight and passenger service, particularly in metropolitan areas with substantial freight and passenger traffic. For example, in 2004, Metrolink trains operated on time 95 percent of the time on Metrolink controlled trackage. On the tracks owned by UP and BNSF, Metrolink trains operated on time 70 to 85 percent of the time.

Freight interference causes major operating problems for Metrolink especially on UP's Los Angeles Subdivision between Riverside and Los Angeles. Heavy UP port rail traffic results in Metrolink trains operating late almost on a daily basis. Heavy BNSF port rail traffic on their San Bernardino Subdivision between Los Angeles and San Bernardino also causes delays for Metrolink trains.

JOINT DISPATCHING OF FREIGHT OPERATIONS

In California, five Class I rail segments have joint freight train operations. Three segments are owned and dispatched by the UP:

- The UP Sacramento and Canyon Subdivisions between Stockton and the Nevada State Line via Sacramento and the Feather River Canyon.
- The UP Martinez and Roseville Subdivisions between Oakland and the Nevada State Line via Donner Summit.
- The UP Mojave Subdivision between Bakersfield and Mojave.

Two segments are owned and dispatched by the BNSF:

- The Mojave Subdivision between Mojave and Barstow.
- The Cajon and Needles Subdivisions between San Bernardino and Daggett.

In some cases, the railroads share each other's facilities to take advantage of more direct routes. Such arrangements also allow track maintenance costs to be shared as they are based on the number of each railroad's trains using the facility. However, the tenant railroad can be subject to delays caused by the railroad that owns the infrastructure because the owner's trains will typically be given priority.

The problems of joint train operations are compounded when steep mountainous grades and curves force trains to operate at reduced speeds. For trains running over Tehachapi Pass, the operations are especially time consuming due to the fact that it is a single track railroad with many sharp curves and the steepest grade in the State.

This grade requires trains to operate additional locomotive units on trains traveling over the pass. There are a number of passing sidings but a minimum of 20 minutes delay to the train being passed is not uncommon. The 28 to 30 trains per day crossing over the Tehachapi Pass cause a major bottleneck in the rail connection to California's Central Valley. To double-track the Tehachapi Pass route several new tunnels and bridges would have to be constructed at great cost.

Both UP and BNSF have established a joint dispatching center in San Bernardino so that both railroads can be in direct contact with each other to help make these joint train operations work as smoothly as possible.

FRESNO RAIL CONSOLIDATION

Currently, both UP and BNSF operate freight service through the City of Fresno. There is considerable public support to consolidate both rail lines onto the UP rail corridor to the west of downtown Fresno. Many important issues need to be resolved including how to service existing freight customers, operational questions and optimal track structure required to accommodate the increased traffic on the UP. A study by the Fresno Council of Governments determined that consolidation of the two lines is technically and operationally feasible but at a very high cost.

MAJOR ISSUES FOR CALIFORNIA RAIL SHIPPERS

The Department participated in a study entitled the Western Transportation Trade Network (WTTN) which surveyed 53 shippers in 13 western states for their perspectives on Class I railroad performance.¹¹ Two issues of primary concern to the shippers were (1) reliable transit times and (2) car availability and condition.

¹¹ Western Transportation Trade Network Study, Western Association of State Highway and Transportation Officials, August 1999.

Interestingly, the cost of rail service and effective customer service were of substantially less interest to shippers than those two issues.

Given the importance of intermodal traffic to railroads in California, the focus of this effort was on intermodal shippers. One company studied was a California intermodal marketing company (IMC)¹², which leases trailers and containers from both railroads and “stack train operators” and solicits loads for this equipment from shippers for transport in rail intermodal service to points throughout North America. The other was a container train operator who owns containers and pays the railroads to deliver their containers to points throughout North America. Of particular concern to both of these parties were the following issues:

- Congested intermodal terminals that delay shipments.
- Lack of containers and rolling stock to handle traffic in and out of Southern California.
- Congestion on main lines and in terminals of eastern railroads that delays shipments to and from California.
- Information technology problems causing lost rail cars.
- Delays to rail shipments related to increasing shared use of main lines by commuter and intercity passenger operations.

¹² As noted above, an IMC leases containers and trailers from railroads like BNSF and UP, and in turn solicits loads for these containers from shippers. It then arranges for the pick-up of the trailers and containers from the shippers, their transport on the railroad, and their deliveries to receivers. For these logistical arrangements, the IMC charges its fees to shippers.

CHAPTER XVI

SHORT LINE ANALYSIS

Short line railroads play an important role in moving goods to and from California regions and local communities. The commodities moved tend to have a low transportation cost to weight/volume ratio, which contributes to their attraction to short lines, instead of trucks.

There are 28 short line and regional railroads in California today. Most of them are privately owned and employ between ten and 50 employees, as shown by the summary from the American Association of Railroads in Figure 16A. Revenues for the majority of the short lines are less than \$5 million annually.

None of the short lines have revenues exceeding \$40 million per year. Operating costs were not cited. However, in California, operating costs range from about 75 percent to 110 percent of revenues.¹³ The latter figure would suggest that short lines with operating costs higher than revenue have other income sources such as income from rental property.

SHORT LINE RAILROAD ISSUES

SECURING INFRASTRUCTURE FUNDING SOURCES

Securing adequate funding for infrastructure upgrades and other capital investments is the most pressing issue for independently owned and operated short lines. Some short line railroads were spin-offs from the Class I railroads (Class Is), and were already suffering from years of deferred maintenance when created. Maintenance-of-way procedures on these railroads typically are highly labor intensive and expensive. Because short line railroads operate on low profit margins they are unable to take on major infrastructure improvement projects.

TREND TOWARDS HEAVIER CARS

A major trend in the railroad industry is the use of heavier rail cars as a means of maximizing load potential, thereby generating cost savings. The upper limit of these new car weights has been increased to 286,000 pounds. To handle these heavier cars, short lines must have track, roadbed, and bridges capable of handling the increased loads. This means a substantial investment that many short lines cannot afford given the limited revenues that they earn moving cars between shippers and the Class I railroads.

Without the necessary infrastructure, many of the commodities moving by rail today have to be hauled by trucks to and from transload facilities located at major

¹³ Per conversation with Mr. Andrew Fox, CSLRRA president, August 2000.

railroads. This shift from short line rail to trucks will further congest the State's highway system, create more traffic delays, and increase air pollution and highway maintenance costs. The loss of revenue to short line railroads could force some to go out of business leaving some California rail shippers without rail services. The additional truck transportation costs will have to be passed on to consumers, making goods more costly to purchase.

SHORT LINE BILL OF RIGHTS

The continuing consolidation of Class I railroads is a concern for short line railroad operators. In 1975, there were 22 Class I railroads operating in the U.S. Presently, there are eight. Since 1995, the number of Class Is operating in California has decreased by half, from four to two.

The American Short Line and Regional Railroad Association (ASLRRA) is a national non-profit trade association representing the interests of over 400 member short lines and regional railroads. In order to protect the viability of short lines, ASLRRA expressed to the Surface Transportation Board (STB) its opinion that a "Short Line Bill of Rights" should be made a condition for the approval of all future Class I railroad mergers¹⁴ and consolidation transactions. The ASLRRA, has proposed four rights as follows:

1. Small railroads have the right to compensation for Class I service failures.
2. Short line and regional railroads have a right to interchange and routing freedom.
3. Short line and regional railroads have the right to competitive and nondiscriminatory pricing.
4. Short line and regional railroads have a right to fair and nondiscriminatory car supply.

¹⁴ STB ExParte No. 582, Public Views on Major Rail Consolidations, Statement of Frank K. Turner, President, ASLRRA.

*Figure 16A***Regional and Short Line Railroad Ownership and Size**

	Railroad	RR Type	Owner	Employees	Annual Revenues (millions)
1	Arizona & California Railroad*	Local	Private	34	\$10-\$20
2	California Northern Railroad	Local	Private	46	\$10-\$20
3	Carrizo Gorge Railway	Local	Public	6	<\$5
4	Central California Traction	S&T	Class I	23	<\$5
5	Central Oregon & Pacific*	Regional	Private	130	\$20-\$40
6	Lake County Railroad*	Local	Public	4	<\$5
7	Los Angeles Junction Railway	S&T	Class I	48	\$5-\$10
8	McCloud Railway Company	S&T	Private	14	<\$5
9	Modesto & Empire Traction	S&T	Private	65	\$10-\$20
10	Modoc Northern Railroad	Local	Private	8	<\$5
11	Napa Valley Railroad	S&T	Private	20	<\$5
12	Northwestern Pacific Railroad	Local	Public	6	<\$5
13	Oakland Terminal Railway	S&T	Class I	12	<\$5
14	Pacific Harbor Line	S&T	Private	45	\$5-\$10
15	Quincy Railroad	S&T	Private	3	<\$5
16	Richmond Pacific Railroad	S&T	Private	12	<\$5
17	Sacramento Southern Railroad	S&T	Public	3	<\$5
18	San Diego & Imperial Valley	Local	Public	15	<\$5
19	San Joaquin Valley Railroad Co	Local	Private	79	\$5-\$10
20	Santa Cruz, Big Trees & Pacific	S&T	Private	5	<\$5
21	Santa Maria Valley Railroad	Local	Private	12	<\$5
22	Sierra Northern Railroad	Local	Private	26	<\$5
23	Stockton Terminal & Eastern	Local	Private	14	<\$5
24	Trona Railway	Local	Shipper	29	\$5-\$10
25	Tulare Valley Railroad	S&T	Private	2	<\$5
26	Ventura County Railroad	Local	Private	5	<\$5
27	West Isle Line, Inc	S&T	Private	2	<\$5
28	Yreka Western Railroad	Local	Private	3	<\$5

* – Data for entire line, not only California

S&T – Switching and terminal carriers

SHORT LINE SURVEY

In 2000, the Department surveyed 29 short line carriers and received a total of 19 responses (66 percent of the 29 companies). The survey inquired about service and infrastructure characteristics, commodity movements, upgrade costs, and issue areas. The following summarizes responses received for the key issue areas:

Track and Right-of-way

- Track and ROW improvements are needed to accommodate 286,000-pound cars.
- The increase in operating weight will place a further maintenance expense burden on the short lines.

Safety

- Improve at-grade crossing protection devices.
- Additional funding for grade separations is needed.
- Replace outdated signal systems.

Intermodal Facilities

- Seven of the respondents operate some type of intermodal facility.
- Of these, four identified the need for upgrades and improvements totaling approximately \$19 million.

State Role

- Because of thin short line operating margins (revenues less operating costs), the short lines request State assistance in capital funding.
- Assume responsibility for flood protection due to State actions diverting or increasing flood flows.
- Take an active role to preserve existing corridors for future passenger and freight services.

Local Jurisdictions

- Local government should consider the provision of rail access in approval of new commercial and industrial properties.

SERVICE AND INFRASTRUCTURE

The longest short line railroad is the San Joaquin Valley Railroad with 310 miles of track. The Quincy Railroad has the shortest line with just three track miles. The Sierra Northern Railroad has the highest number of bridges of any reporting short line in the State. In terms of service for 2004, the San Joaquin Valley Railroad transported the most freight with 36,226 cars, followed by

Pacific Harbor Line with 36,005 cars, the California Northern Railroad with 30,627 cars, and Modesto & Empire Traction with 28,608 cars. These four lines alone accounted for 80 percent of all reported short line movements.

Seven short line railroads reported having intermodal facilities, defined as: Container on Flat Car (COFC), Trailer on Flat Car (TOFC), team tracks, or bulk transfer facilities. Of the 19 short lines in the survey sample, 12 reported not owning or operating any intermodal facilities.

COMMODITY MOVEMENTS

In 2003, the AAR¹⁵ reported 6.1 million carloads of freight originating and terminating in California, accounting for the movement of over 162 million tons of commerce.

The reporting short lines handle over six percent of the number of annual cars and nearly 16 percent of the total tonnage. The majority of all movements were interstate in nature. Many of them were bridge movements originating and terminating in other Pacific Rim countries and moving through California to and from other U.S. inland or East/Gulf Coast points.

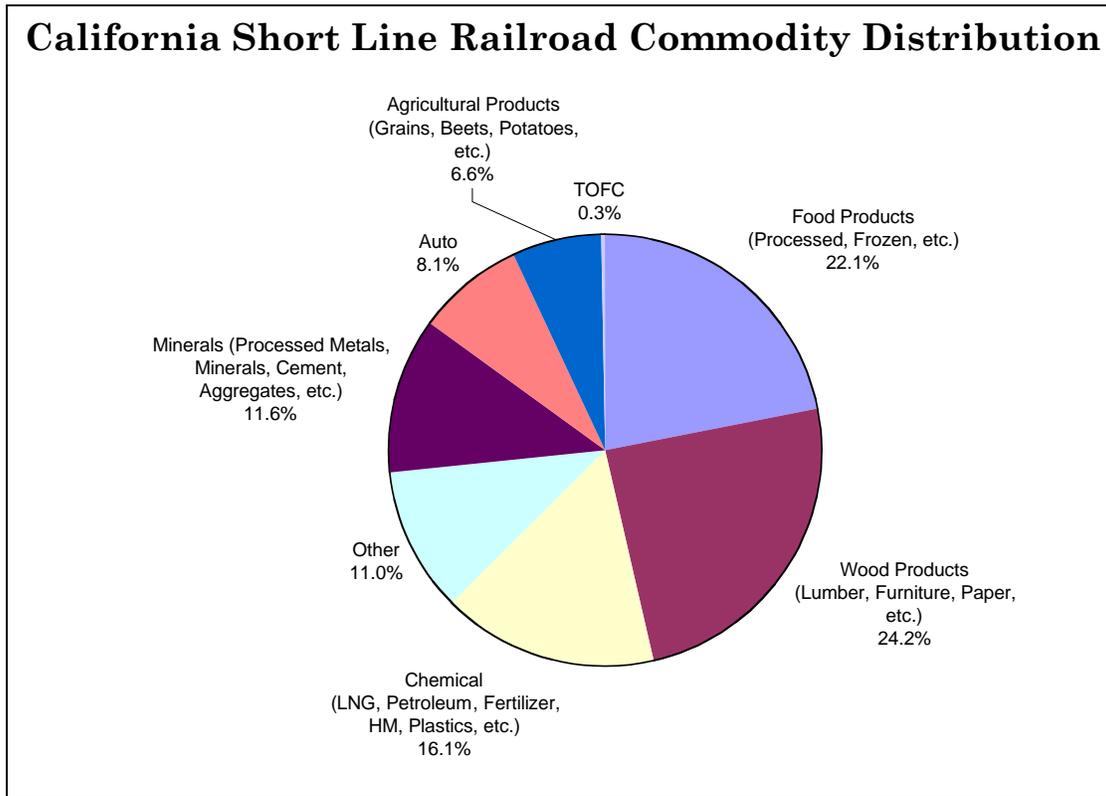
The reported commodity shipments via the short lines can be aggregated into seven commodity categories:

- Agricultural Products – grains, beets, potatoes, etc.
- Automobiles.
- Chemical – petroleum products, liquefied natural gas (LNG), fertilizer, hazardous materials, etc.
- Food Products – processed foods, tomato paste, frozen foods, etc.
- Minerals – processed metals, minerals, cement, gypsum, aggregates, etc.
- TOFC or COFC mixed freight shipments.
- Wood Products – lumber, logs, paper, furniture, etc.

The number of carloads by commodity was used to estimate the statewide short line commodity mix. The results are shown in the pie chart labeled Figure 16B. Wood and food products each accounted for over 20 percent of the movements.

¹⁵ American Association of Railroads, *2001 Traffic Report for California*.

Figure 16B



UPGRADE COSTS

Significant debate surrounds the magnitude of costs required to upgrade short line infrastructure to keep the railroads competitive and in business. Most lines identified the cost of upgrading the current infrastructure as a major impediment to the success of future operations. A number of the lines submitted specific estimates for upgrading and improving track, ROW, and intermodal facilities. These reported costs amount to over \$110 million for track and ROW and \$19 million for intermodal facilities.

The project team estimated upgrade costs for all California short lines using a methodology developed specifically to handle 286,000-pound cars¹⁶. This methodology provides unit costs for each track element based on national data.

Since the upgrade cost is primarily mileage driven, the longest short lines, such as the San Joaquin Valley Railroad and the California Northern Railroad Company, exhibit the highest upgrade estimates (\$31.7 million and \$22.6 million,

¹⁶ An Estimation of the Investment in Track and Structures Needed to Handle 286,00 lb. Rail Cars, *American Short Line and Regional Association*, May 2000.

respectively). The total statewide short line upgrade cost is on the order of \$190 million.

To arrive at a grand total improvement cost estimate, other infrastructure projects need to be added in, as well as intermodal facility projects. Doing so would bring the total estimated upgrade and improvement cost for short lines statewide to allow handling of 286,000-pound cars well in excess of \$200 million. With operating ratios (the percent of revenues consumed by operating costs) of 75 percent or more, California short lines would seem hard pressed to cover capital costs for handling 286,000-pound cars, plus all other ongoing capital needs.

IMPACT ON MAINTENANCE

Any increase in traffic has an impact on highway maintenance costs. Traffic diverted from railroads to trucks increases highway volumes, reduces roadway life expectancy, and requires additional highway maintenance (e.g., resurfacing). Unscheduled costs may result in postponement of other projects or the need for additional funding.

The Federal Highway Administration (FHWA) has determined that the marginal pavement cost of an 80,000-pound five-axle combination truck on a rural interstate highway is approximately 13 cents per mile as of 1997.¹⁷ Factoring the FHWA rate and the total 1999 projected truckload equivalents for each short line's route¹⁸, an annual California highway deterioration rate was determined.

If the California short line railroads were to cease operations, the mode shift of railcars to truckloads would cost the State over \$9 million in highway deterioration costs. Combined, the San Joaquin Valley Railroad and California Northern Railroad Company represent 83 percent of this total statewide figure.

In addition to the highway deterioration costs from the increase in truck traffic throughout the State, other social costs could increase (e.g., safety, noise, air pollution).

¹⁷ Highway Cost Allocation Study, *FHWA 1997*.

¹⁸ The length of each short line was used as a proxy for competing highway length.

CHAPTER XVII

FUNDING

ECONOMIC ROLE OF SHORT LINE AND REGIONAL RAILROADS

There are about 500 short lines and regional railroads in North America. Though their individual roles may vary, they typically feed traffic to the high volume, main-line rail routes owned by the Class Is.

The total number of short lines and regional railroads has been growing. In 1980, there were about 220 companies. Driving this growth has been the rationalization efforts of Class I railroads, spinning off numerous light density branch lines¹⁹ in an effort to control costs. The Class Is either sold many lines outright or leased components of their operations to private operators.²⁰

The short line railroads, with 1,697 miles (27 percent) of the State's rail mileage, are facing significant problems. Many California short line railroads serve industries along the I-5, I-10, I-40 and I-80 corridors and near the Ports of Los Angeles, Long Beach, Oakland, Hueneme, Stockton, and Sacramento. These railroads handle over 800,000 annual carloads of international freight. Their primary concern is their inability to handle the new industry standard 286,000-pound rail cars on lightweight track and bridge infrastructure. Short line railroad infrastructure that provides congestion relief along the major global gateways needs to be upgraded to accommodate the 286,000-pound rail cars that carry international freight.

SUSTAINABILITY OF SHORT LINES AND REGIONAL RAILROADS

Like Class I railroads, each short line and regional railroad is paid for moving cars on their railroad. In cases where short lines interchange cars with Class I railroads, these carriers share their revenue with the short lines. For a sustainable operation, short line revenues must be sufficient to cover both operating costs and capital costs. Operating costs include labor and fuel, among other things. Capital costs include improvements to rolling stock (i.e., vehicles) and track and bridges, among other things. Often revenues have proven inadequate to cover both operating and capital costs of short lines, and public funding sources have been needed to sustain the lines.

¹⁹ The term "light density lines" is applied generally to branch line that generates significantly less rail traffic compared to the main line or a heavily used branch line.

²⁰ Class I route miles declined from more than 200,000 in 1970 to less than 120,000 in 1995. Over the same period, route mileage of Class II and III railroads increased from less than 15,000 to over 45,000 in 1995.

Exacerbating this issue is the “286 problem.” The term refers to the 286,000-pound total weight of a loaded railcar. According to ASLRRA, 286,000-pound equipment is rapidly becoming the norm for commodities that are the bread-and-butter for many small railroads – grain, lumber, and paper products. This heavier equipment puts significant strains on track infrastructure. Many short lines today cannot handle 286,000-pound cars. To do so would require heavier weight rail,²¹ and upgrading costs are significant, as described earlier.²² For short lines with thin operating margins (where revenues barely cover operating costs), upgrades are cost prohibitive.

According to the ASLRRA, these short lines must quickly find funds for massive capital spending to upgrade track and bridges to handle larger, heavier freight cars that shippers and larger railroads are bringing on line in record numbers. The American Association of State Highway and Transportation Officials (AASHTO) estimated that total ten-year infrastructure needs for American short lines and regional railroads total between \$7.9 and \$11.8 billion, of which only 19 to 23 percent can be funded by the railroads themselves.²³ Beyond internal company sources and private sector financing, sources have included programs put in place by the Federal government and numerous state governments.

The California Short Line Railroad Association (CSLRRRA) asserts that government support of many short lines is a necessity if these lines are to fulfill their economic role.²⁴ This fact is recognized by the Federal government as well as by 30 other states, which have funding programs for short line railroads.

FUNDING SOURCES FOR SHORT LINES

FEDERAL RAIL PROGRAMS

Local Rail Freight Assistance

The Federal Rail Service Assistance Program was established by the Federal Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act), and was amended by the Local Rail Service Assistance (LRSA) Act of 1978, and the Omnibus Budget Reconciliation Act of 1981. The LRSA program provided

²¹ Upgrades for 286-pound cars would call for rail in excess of 100 pounds; 112-pound rail would be typical of an upgrade.

²² In its 1998 286,000# Upgrading Study Report, the Iowa Department of Transportation estimated the cost of upgrading a typical branch line to a level capable of handling 286,000-pound cars totaled \$170,000 per mile. This figure did not include any costs for bridges.

²³ The Ten-Year Needs of Short Line and Regional Railroads, AASHTO Standing Committee on Rail Transportation, December 1999. This effort surveyed short line and regional railroads regarding their capital needs. The responses indicated that the railroads have needs totaling about \$92,000 per mile for track, excluding signal and bridge improvements. This figure is significantly less than the \$170,000 per mile estimated by the Iowa Department of Transportation as the cost of upgrading a branch line to handle 286,000 pound cars and the \$137,000 per mile estimated by ASLRRA. At least in part, the difference appears to lie in the fact that not all railroads responding to the AASHTO survey reported a need to upgrade track for 286,000-pound cars. The AASHTO needs calculation also included \$1.7 billion for equipment, including cars and locomotives.

²⁴ Per conversations with Mr. David Parkinson, former president, CSLRRRA, April 4, 2000.

funding on a Federal/local matching share basis for four types of projects: rehabilitation, new construction, substitute service, and acquisition. The LRSA program permitted states to provide funds on a grant or loan basis.

In 1990, the Local Rail Service Reauthorization Act was passed, and the name of the program was changed to Local Rail Freight Assistance (LRFA). The criteria for lines eligible to receive assistance also were revised. Funds for the program were dramatically reduced in the 1990s, and congressional appropriations ceased in 1995. Over \$544 million in Federal funds were expended between 1976 and 1985.

TEA-21 Rail Funding

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) reauthorized the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). TEA-21 contained several provisions for rail assistance project funding. In 2005, the Federal rail assistance programs were reauthorized, as discussed below.

Tax Credits for Maintenance of Railroad Track

Section 245 of the “American Jobs Creation Act of 2004” (Public Law 108-357) provides a tax credit for 50 percent of railroad track maintenance costs for Class II and III railroads.

SAFETEA-LU Rail Funding

In 2005, Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users (SAFETEA-LU) reauthorized the TEA-21. SAFETEA-LU contained several provisions for rail assistance project funding. Under Section 9003, Rehabilitation and Improvement Financing, priority will be given to projects that enhance service and capacity for shippers in the national rail system.

§1101: Congestion Management and Air Quality Improvement Program (CMAQ)

This program, continued from TEA-21, provides \$8.608 billion in funding for projects that improve air quality in non-attainment areas as long as measurable emission reductions can be shown. Freight intermodal facilities are eligible for funding.

§1306: Freight Intermodal Distribution Pilot Grant Program

This new program provides the Ports of Los Angeles and Long Beach \$1 million per year for six years to provide capital funding to address infrastructure and freight distribution needs at in land ports and intermodal facilities. Projects are intended to reduce congestion into and out of U.S. international ports, decrease the number of empty container moves, and encourage the development of inland intermodal freight terminals.

§1601 Transportation Infrastructure Finance and Innovation Act (TIFIA)

This program, also continued from TEA-21, provides three types of credit financing methods for nationally or regionally significant projects. The minimum threshold for projects is lowered to \$50 million. Eligible projects include public freight rail facilities or private rail facilities that demonstrate public benefit.

§9002: Rail Line Relocation Grants

This new \$1.4 billion rail program provides states with funding to mitigate the adverse effects of rail traffic on safety, motor vehicle traffic flow, community quality of life, or economic development by relocating railroad lines away from downtown areas. Fifty percent of the funds are dedicated to projects of \$20 million or less; states or non-Federal entities must pay at least ten percent of project costs.

§9003: Rehabilitation and Improvement Financing

This program provides direct loans and loan guarantees to various public and private entities, including railroads, joint ventures that include at least one railroad, for projects that are solely for the purpose of constructing a rail connection between a plant or facility and a second rail carrier for plants served by no more than a single railroad.

§9007: Study of Rail Rehabilitation and Regulation

This is a new \$1.8 million program to evaluate the status of the national rail system since the passage of the Staggers Rail Act of 1980. This study will be conducted by the Transportation Research Board of the National Academy of Sciences. The study will consider the performance of the nation's railroads regarding service levels, service quality and rates; projected demand for rail service over the next 20 years and the constraints to meeting that demand; effectiveness of public policy in balancing the business needs of the railroads with those of shippers; future role of the STB in regulating railroad rates, service levels and the railroads' common carrier obligations if/when railroads become "revenue adequate."

STATE PROGRAMS

Most of the states participated in the Federal program in the 1970s and 1980s when it was well funded, although many states, mostly outside of the Northeast and Midwest, were slow to get involved. At that time, the Class I's owned most light density lines. The principal issue was branch line abandonment as the larger carriers sought to rationalize their systems in an attempt to address their financial problems. Abandonment cases were common and were fought on both the planning (with assistance funding) and regulatory fronts.

Today, the problem is assisting short line operators. As a result of the spin-off process that was made possible by railroad deregulation, short line operators have inherited the vast majority of the remaining Class I branch lines. Many short line

operators manage to continue service in cases where the Class Is would have filed for abandonment. There are 31 states outside California that provide assistance for short line railroad infrastructure improvement projects (see Figure 17A).

Figure 17A

Assistance Programs for State Short Line Railroads			
State	Name of Program	Funds Available (\$ in millions)	Grant or Loan
Connecticut	70/30 Freight Program	\$0.5	Grant
Florida	Transportation Outreach Program	\$5.4	Grant
Georgia	State Rail Improvement Funds	\$0.8	Grant
Idaho	Rail Service Preservation	Currently Unfunded	Grant or Loan
Illinois	State Loan Fund	\$2.9	Loan
Indiana	Industrial Rail Service Fund	\$1.5	Loan
Iowa	Rail Assistance Program	\$1.9	Grant and Loan
Kansas	Rail Service Improvement Fund	\$0.2	Loan
Maine	Industrial Rail Access	\$2.6	Grant
Maryland	Transportation Trust Fund	\$1.6	Grant
Massachusetts	Industrial Rail Access	Currently Unfunded	Grant
Michigan	Rail Loan Assistance	\$1.8	Loan
Minnesota	Rail Service Improvement	\$8.0	Grant and Loan
Mississippi	Railroad Revitalization Fund	\$1.0	Grant
Missouri	Rail Preservation Fund	\$2.4	Grant and Loan
Montana	Rail Service Assistance	\$1.1	Loan
Nebraska	Revolving Loan Fund	\$1.9	Loan
New Hampshire	Rail Line Revolving Loan	\$4.0	Loan
New Jersey	State Rail Assistance	\$10.0	Grant
New York	Industrial Rail Access	\$1.0	Grant
North Carolina	Rail Industrial Access	\$2.5	Grant
North Dakota	Freight Railroad Improvement	\$6.0	Loan
Ohio	Rail Development Program	\$6.5	Grant and Loan
Oklahoma	Railroad Maintenance Fund	\$2.4	Grant
Oregon	Economic Development Fund	\$4.5	Grant
Pennsylvania	Rail Freight Assistance Program	\$1.8	Grant
Tennessee	Transportation Equity Fund	\$1.2	Grant
Vermont	Rail Economic Enhancement	\$0.6	Grant
Virginia	Railroad Preservation Fund	\$2.5	Grant
	Rail Industrial Act Fund	\$2.0	Grant
Washington	Essential Rail Assistance	\$1.0	Grant
Wisconsin	Railroad Service Assistance	\$11.1	Loan

CALIFORNIA TRAFFIC CONGESTION RELIEF PROGRAM

The Traffic Congestion Relief Program (TCRP) was enacted by the California Legislature in June 2000. TCRP included \$60 million for improvements to the Northwestern Pacific Railroad, as part of the effort to reduce truck congestion by allowing bulk shipments and lumber products to return to the rails. The TCRP provided \$39.4 million for track upgrades and long-term stabilization projects, \$4.1 million for environmental work, \$15.5 million for debt repayment, and \$1.0 million for administrative costs for the North Coast Rail Authority (NCRA).

In addition, TCRP provided \$150 million to the San Gabriel Valley Council of Governments to build grade separations along the Alameda Corridor East in Los Angeles County. The Cross Valley Rail Corridor Joint Powers Agency, made up of representatives of the cities of Huron, Lemoore, and Visalia received \$4 million in TCRP funds to improve the rail infrastructure along the San Joaquin Valley Railroad Huron Line in Fresno, Kings, and Tulare Counties.

The TCRP projects that received funding allocations are going forward including \$19.2 million for NCRA, \$61.5 for Alameda Corridor East, and \$4 million for the San Joaquin Valley Railroad Huron Line.

NORTHWESTERN PACIFIC RAILROAD

The Northwestern Pacific Railroad (NWP) provides a link between the North Coast and the San Francisco Bay Area. Construction through the rugged Eel River Canyon was completed in 1914, thus allowing for the movement of people and goods between Eureka and Tiburon/Sausalito with ferry connections to San Francisco. The NWP was originally jointly owned by ATSF and SP. In 1929, the ATSF sold their interest in the NWP to the SP.

By 1980, SP had applied to the Interstate Commerce Commission (ICC) to abandon the NWP between Willits and Eureka. During 1983 ICC public hearings, numerous parties were opposed to the abandonment and the ICC denied SP's request. In 1984, SP sold the 172-mile section of the NWP from Willits to Eureka to a short line railroad operator who formed the Eureka Southern Railroad (EUKA). Undercapitalized and saddled with huge monthly loan payments, EUKA filed for bankruptcy in late 1986. A Federal Bankruptcy Court determined the loss of the line would have a crucial impact on the North Coast economy and ruled that a trustee should be appointed to continue operating the railroad.

In 1989, the NCRA was created by the State Legislature to preserve and maintain a transportation corridor along the North Coast Region. The NCRA is a local agency made up of members from Humboldt, Mendocino, and Sonoma Counties. On April 1, 1992, the NCRA purchased the EUKA out of bankruptcy and renamed the Eureka to Willits line, the North Coast Railroad.

The Northwestern Pacific Railroad Authority (NWPRRA) was a Joint Powers Agency composed of the Golden Gate Bridge Highway and Transportation District (GGBD), Marin County, and the NCRA. On April 30, 1996, the NWPRRA acquired the line between Lombard in Napa County and Healdsburg in Sonoma County. At the same time, the NCRA also purchased the Healdsburg to Willits segment, and the entire rail line was again renamed the Northwestern Pacific Railroad. In 2004, the Sonoma Marin Area Rail Transit District (SMART) acquired the NWPRRA interests and properties. Subsequently the NWPRRA was dissolved and its responsibilities assumed by SMART.

The NCRA and the SMART are both working to restore rail services to the North Coast. The NCRA's primary objective is to preserve freight and passenger rail service. It oversees the freight railroad operations of the 306 mile long NWP from Arcata in Humboldt County to Lombard in Napa County. The SMART is interested in operating commuter rail service from Larkspur to Cloverdale.

This railroad has a history of being plagued by high maintenance costs due to frequent flooding along the Eel River. North of Willits, the railroad has been out of service since February 1998 due to rail damage from the El Niño storms. The southern end of operations has seen sporadic operations since being shut down by the Federal Railroad Administration (FRA) in November 1998 due to unsafe track conditions. Several construction projects have been completed south of Willits since 1998. In 2001, a freight operation ran for several months.

A capital needs assessment of the entire line was completed in August 2002. NCRA hired Willdan Associates and HNTB Companies to do the assessment. It estimated that it would take about \$40 million during the initial five years to improve and repair the entire railroad and \$250 million over the next 20 years. For the five-year period, this includes \$1.1 million for environmental mitigation, \$13.8 million for professional and technical services, \$6.3 million for Willits to Schellville (south), \$13.7 million for the Eel River Canyon and \$4.9 million for the Eureka to South Fork (north).

In addition, NCRA commissioned a Financial and Economic Feasibility study that was completed in January of 2003 by Parsons Brinckerhoff. The market analysis concluded that the freight market potential along the NWP corridor is relatively flat but there could be opportunities for growth in the solid waste, aggregate, and port-related marine industrial activities.

The TCRP funding was delayed due to the State's funding situation. Because of this, NCRA plans to use Federal Emergency Management Administration and matching Governor's Office of Emergency Services Alternate project funds to repair Haystack Landing and Blackpoint Bridges, purchase signals and box cars. NCRA hopes to use Federal demonstration funds (which requires a non-Federal match) to reopen the south-end.

The NCRA is committed to reopening the entire line (Schellville to Eureka) to rail operations. The upgrade of the rail line would range from FRA Class 1 to Class 3 standards where practical (based on cost, operational, maintenance, and environmental issues) and future long-term stabilization of the rail line through the canyon. The availability of funding is key to allowing this upgrading to go forward.

CHAPTER XVIII

ENVIRONMENTAL REVIEW

INTRODUCTION

California is aggressively working at improving the State’s environment. Careful stewardship is necessary to continue these advances in the natural and human environment while providing the infrastructure necessary for a vibrant economy. Freight rail is an integral tool of commerce. The State Rail Plan provides a decision platform to consider the current rail conditions, identify associated environmental issues, and develop candidate responses.

Numerous elements contribute to the complex issue of providing a viable freight system and balancing environmental considerations. Some of these elements include the following facts:

- Urban areas have serious air quality problems.
- Rail corridors have been in place for well over a hundred years.
- Land uses have evolved and grown around these routes.
- Interstate commerce drives Class I railroad practices.
- Private railroads provide a public conveyance.
- Railroad ROW is generally privately held.
- Federal positions and responsibilities may preempt state actions.

For this overview, California’s Livable Communities objectives will be used for identifying issue areas for the State to consider and further analyze as the freight element of the State Rail Plan is implemented. This overview also provides a baseline understanding of the following environmental impacts of rail:

- Noise
- Vibration
- Highway-Rail Crossings
- Air Quality

NOISE

The impacts of noise vary as a function of urban or rural settings, ambient background levels, sensitivity of the receptor, physical features of the surrounding landscape, noise sources, and the intensity and frequency of the noise event.

There are three sources of noise from rail operations²⁵:

- Propulsion or machinery noise.
- Mechanical noise resulting from wheel/rail interaction.
- Aerodynamic noise resulting from airflow moving past the train.

Propulsion and mechanical noise account for the major noise sources in the operation of freight rail trains. At slower speeds, propulsion (engine, fan and braking noise) is the primary source of noise. Diesel-electric engines generate electricity that drives electric traction motors to power freight locomotives. There are large fans located near the top of the power unit to cool the engines. As train speed increases, mechanical and structural sources become the predominant noise source. Mechanical noise sources include wheel/track interaction and structural vibrations.

Figure 18A provides a general planning level understanding of the noise level generated by a mainline freight rail corridor typically carrying five to ten trains per day traveling between 30 and 40 mph. This is a weighted value between day and night values.

Figure 18A

Noise Exposure from Main Line Railroads²⁶	
Distance from Railroad Lines (In Feet)	Noise Exposure Estimate (dBA) Ldn
10-29	75
30-59	70
60-119	65
120-239	60
240-499	55
500-799	50
800+	45

²⁵ High-Speed Ground Transportation Noise and Vibration Impact Assessment, USDOT FRA, December 1998

²⁶ Ibid.

FEDERAL RULING ON SOUNDING LOCOMOTIVE HORNS

The sounding of locomotive horns for advance warning at public highway-rail crossings has been a standard practice for over a hundred years. To abate the impact of noise from operations and locomotive horn use, local communities have adopted speed limits and prohibitions on horn use. Whistle bans are currently controlled by California Public Utility Commission (CPUC) rules under California Law. Communities within three counties in California (Los Angeles, Orange, and Sacramento) have passed such bans at 64 at-grade crossings.

A 1995 FRA study “Nationwide Study of Train Whistle Bans” found an 85 percent increase in the collision rate during ban hours. In 1994, Congress passed “The Swift Rail Development Act” requiring the sounding of horns upon approach of every public grade crossing. The Act and subsequent legislation allow exceptions. In response to legislation, FRA has issued a Final Rule on the Use of Locomotive Horns at Highway-Rail Grade Crossings. This final rule, which requires that locomotive horns be sounded as a warning to highway users at public highway-rail crossings, took effect June 24, 2005.

Specifics of the plan include:

- Horn level set at either 104 dB or 111 dB.
- Length of time a horn is sounded would be limited.
- Localities or states would be allowed to establish approved “quiet zones” that allow trains to operate through such zones without sounding horns. The rules require FRA to approve each such quiet zone based on provision of appropriate safety measures.

NOISE STANDARDS

The US Environmental Protection Administration (EPA)²⁷ standards for noise emission of Interstate Rail Carriers are dependent on equipment and operational conditions. Generally, the EPA sets at a distance of 30 meters, or 100 feet, an 87 dBA standard at any throttle setting except at idle. The idle standard is 70 dBA. Noise standards for rail cars moving at 45 miles per hour or less are set at 88 dBA and for movement over 45 mph are set at 93 dBA. The FRA is empowered to force a railroad to correct the noise defect or remove the equipment from service.²⁸

MITIGATION OF NOISE IMPACTS

Receptors can be shielded from the noise of a passing train by a number of tools including noise barriers and sound attenuators. Noise barriers do not generally mitigate aerodynamic noise because of the height of the sources. Noise mitigation

²⁷ 40 CFR 201 – Noise Emission Standards For Transportation Equipment; Interstate Rail Carrier

²⁸ 49 CFR 210 – Railroad Noise Emission Compliance Regulations

measures focus on addressing noise at the source or along the path to the receptor. Source mitigation attempts to quiet vehicles, while path mitigation diverts or buffers the noise.

VIBRATION

In December 1998, in the High-Speed Ground Transportation Noise and Vibration Impact Assessment, the FRA concluded that, “Vibration can be perceptible and intrusive to building occupants and can cause secondary rattling of windows, items on shelves, and pictures hanging on walls. In addition, sound reradiated from vibrating room surfaces, referred to as ground-borne noise, often will be audible in the form of a low-frequency rumbling sound.”

Vibration is very similar to noise, in that its intensity is a function of the wave energy passing through a medium, in this case the earth. A vibration experience will usually be a ten-second event. The intensity of vibration will vary with operations, geologic conditions, proximity, structural design, and configuration.

Product designs that attempt to minimize vibrations include: resilient fasteners to attach rails to concrete track slabs (generally not used by freight rail), ballast mats, resiliently supported ties and floating slabs. Other solutions include heavier rail, thicker ballast, heavier ties, or resilient elements beneath the tracks. Wood ties do not transmit motion as readily as concrete ties. However, none of these mitigation measures have shown great success. More costly but also more effective solutions include building modifications, trenches, buffer zones, and operational changes.

RAIL - HIGHWAY GRADE CROSSINGS

One of the most noticeable impacts of rail within a community is related to rail-highway crossings. The impacts are manifest in delays to highways, roadways, and pedestrian users, and in increased risk exposure for accidents. In 2004, there were 34 deaths and 53 injuries resulting from California public rail-highway crossing accidents.²⁹

The CPUC has promulgated a series of General Orders establishing standards and regulations for rail-highway grade crossing operations, warning devices, geometrics, construction and maintenance, railroad crossing occupancy, etc.

The CPUC works, in conjunction with the Department, to prioritize projects eligible for Federal Section 130 funding for local at-grade crossing safety programs.

²⁹ FRA Office of Safety Analysis Database, May, 2005

EXISTING CONDITIONS

According to the FRA, California has over 10,300 rail crossings of which 3,800 are private, 6,300 are public and 100 are pedestrian. The types of warning devices used at a particular crossing are a function of the amount of vehicular traffic coupled with the number of rail movements.

Most rail lines have been in existence for a hundred or more years. In most communities, land uses have grown up to and around the rail alignments. At-grade crossings present a difficult safety problem for the traveler, railroad, and community. The ideal public policy would have all crossings separated or closed, eliminating any at-grade conflicts. Considering local access and mobility impacts and the significant monetary cost, this is an unreasonable general policy. California has approximately 5,000 at-grade crossings with cross-bucks, the most rudimentary warning protection. Current funding streams do not allow for an aggressive response to these safety and community impact issues.

RAIL-HIGHWAY ACCIDENTS

California had 154 motor vehicle/rail incidents in 2004. Thirty-one of these resulted in at least one fatality with an additional 53 injuries reported. The more severe casualties tended to occur on track with trains traveling at higher speeds. Twenty-seven of the crossing incidents happened in Los Angeles County. Following Los Angeles County was San Bernardino and Merced Counties with ten incidents, then Kern and Riverside Counties with nine each.

At-grade highway-rail incidents are problematic in all areas of the State, in both urban and rural settings. Ideally, mitigation actions should be taken to improve crossing safety devices, and when practical, the crossing should be grade-separated or closed.

The Alameda Corridor Project connects the two San Pedro Bay Ports with the UP and BNSF railheads close to downtown Los Angeles through a 20-mile fully grade separated corridor. It eliminated 200 at-grade crossings. The corridor passes mostly through south-central Los Angeles via a depressed (below grade) ROW, returning to the surface at the southern end of the corridor. Street traffic crosses the trench on bridges. In addition to reducing rail freight transit time between ports and downtown railhead, the Corridor eliminates grade crossings and their inherent dangers.

The Southern California Regional Rail Authority (SCRRA)/Metrolink is introducing a “Sealed Corridor Study” to study improvements to limit access to the rail ROW along the Antelope Valley and Ventura County lines. This is part of an effort to develop such an approach on all Metrolink rail lines.

When the department develops intercity rail track and signal upgrade projects, it evaluates grade crossings within the project limits, and makes improvements to the crossing as part of the overall project.

State and a number of communities have also taken steps to utilize new and emerging technology to improve crossing safety and reduce crossing impacts. In Southern California, Intelligent Transportation Systems (ITS) technologies such as advanced vehicle sensors, four-quadrant gates, variable message signs, and wayside warning horns are being tested.

California Operation Lifesaver is a non-profit volunteer organization dedicated to eliminating death and injuries resulting from grade crossing collisions and other pedestrian and vehicular trespassing on railroad property. Most railroads operating in California and many related industries are members. California Operation Lifesaver is part of Operation Lifesaver, Incorporated, a national organization whose efforts focus on three main components: education to promote awareness of the hazards of crossing tracks, engineering for improved warning devices and signals, and enforcement of traffic regulations at grade crossings and along rail lines.

AIR QUALITY

The California ARB directs California air quality programs. Established in 1967, the ARB is charged to attain and maintain healthy air quality, conduct research, and systematically address major causes of air pollution in 15 air basins and 58 counties. One of the means through which the ARB accomplishes this is through the monitoring of emissions standards.

There is a clear linkage between rail operations and air quality. As part of normal operations, trains produce pollutants, such as nitrogen oxides and carbon monoxide. In 2002, 4.9 percent of the total California statewide mobile emissions of nitrogen oxides (NO_x) and 7.5 percent of sulfur oxides (SO_x) were contributed by rail operations.

Through various emission standards and programs, there has been a significant reduction in pollution over the years. However, continued growth, physical conditions, and public health considerations demand continued diligence.

Total organic gases (TOG) include all hydrocarbons (HC). Reactive organic gases (ROG) include organic gases but exclude methane and a number of low molecular weight halogenated organics. CO is carbon monoxide. Particulate matter (PM) refers to small solid and liquid particles such as dust, sand, salt spray, and smoke. PM₁₀ is a subset of PM with particle sizes of an aerodynamic diameter of ten micrometers or smaller.³⁰ In comparing locomotive total emissions to total truck emissions, truck contributions to statewide daily emissions are considerably

higher. Normalizing this data through ton-miles transported provides a comparable emission value per efficiency between modes. On a ton-mile basis, locomotives generate from one-third to one-twelfth the emissions of heavy diesel trucks.

EMISSION STANDARDS FOR RAIL VEHICLES

Smoke emissions from newly manufactured and remanufactured diesel-powered locomotives and locomotive engines, which had previously been unregulated have been made subject to Federal standards.³¹

The new standards result in nearly a two-thirds reduction in NO_x emissions and nearly half the HC and PM emissions nationwide. This equates to a 304,000 ton NO_x emission reduction in 2005, equivalent to removing nearly 20 million cars from the road. Because NO_x contributes to the reduction of secondary PM, the new standards result in a reduction of 12,000 tons per year of PM.³²

The EPA estimates that the lifetime cost per locomotive will be approximately \$70,000 for the Tier 0 standards, \$186,000 for the Tier 1 standards and \$252,000 for Tier 2 standards. Lifetime cost components consist of initial equipment costs; remanufacturing costs; fuel economy costs; and certification, production line and in-use testing costs. The average annual cost of this program is estimated to be \$80 million. This would be about 0.2 percent of the total freight revenue for railroads in 1995. The average cost-effectiveness of the standards is expected to be about \$163 per ton of NO_x, PM and HC.³³

Due to by the interstate nature of railroads, the EPA-adopted regulations preempt certain local and state requirements for controlling locomotive emissions.

ENFORCEMENT

The EPA rules established an enforcement regime including individual locomotive/engine certification, requirements for maintenance records for actions that might impact emission performance, and an annual fleet testing program to monitor the in-use emissions. Short line railroads are exempt from EPA locomotive standards by virtue of being small businesses with less than 500 employees.

The California ARB entered into a memorandum of mutual understandings and agreements with BNSF and UP to establish the South Coast Locomotives Program. The agreement sets a series of fleet performance measures that will “result in 100 percent replacement with the lower-emitting locomotives over

³¹ Technical Highlights, Emission Factors for Locomotives, US EPA EPA420-F-97-051, December 1997

³² *ibid*

³³ Regulatory Announcement – Final Emissions Standards for Locomotives, US EPA EPA420-F-97-048, December 1997

five years from 2005-2009.”³⁴ This program further establishes an annual report regime for the railroads. If established objectives are not met, liquidated damages apply.

Additional statewide solutions/programs include alternative fuels, liquefied natural gas, electrification and conversion incentive programs.

³⁴ Memorandum of Mutual Understandings and Agreements, South Coast Locomotive Fleet Average Emission Program, July 2, 1998

CHAPTER XIX

NEW TECHNOLOGY

GLOBAL POSITIONING SYSTEM APPLICATIONS

Small, low-cost global positioning system (GPS) devices allow tracking of equipment and personnel with a great degree of precision. The GPS is being adapted to transit use and is an integral part of positive train control systems (PTC) now being tested (see PTC discussion below). The GPS technology can be used to monitor engines, work equipment, and service vehicles, and enable rapid dispatch of safety or maintenance vehicles to a specific location. For example, high-tech refrigerated boxcars equipped with GPS provide precise real-time location information. Along with a satellite communications system, these boxcars allow the railroad to remotely monitor and control their on board refrigeration equipment.

POSITIVE TRAIN CONTROL

New technologies for tracking and controlling train movements are being tested by Class I carriers in association with the FRA, Association of American Railroads (AAR), Amtrak, and state transportation agencies. Nomenclature includes communications-based train control (CBTC), communications-based train management (CBTM), positive train separation (PTS), and positive train control (PTC). The PTC seems to be a generic term most often employed to describe the developing technology.

The PTC systems permit faster overall train operation with both closer headways and increased safety. The PTC improves on today's Centralized Traffic Control (CTC) systems³⁵ by utilizing GPS technology to locate trains with much greater levels of precision. It can be supplemented by computer-aided dispatching to forecast optimal train movements.

Typical features of the various systems under development include:

- GPS tracking of train movements.
- Wireless data transmission network.
- On board computers to receive and process data.

³⁵ Centralized Traffic Control is a technology used on most main lines whereby track switches and signals are remotely controlled by dispatchers working in a centralized location. Train movements are governed by the signals, supplemented by radio instructions.

- Wayside equipment with track database.³⁶
- Dispatch center monitoring and control equipment.
- Links to grade crossing equipment.

The PTC systems have been tested by UP and BNSF. Amtrak and FRA are testing PTC on part of the Chicago-Detroit corridor, and the AAR and Illinois Department of Transportation will fund an installation between Chicago and Springfield. Amtrak is also installing a variation of PTC in the Northeast Corridor. Contracts have been issued for testing on CSX Transportation (CSX) and Norfolk Southern (NS).

Ultimately, FRA will need to develop updated rules that include these new train control systems. Testing of alternative systems will continue, but widespread application is not anticipated for several years. The promise of PTC as the “next generation” train control system is that it will enable increased capacity and speed over existing main traffic routes with high volumes, with a greater level of safety than provided by current systems. With on board equipment that displays instructions to the engineer, PTC can be employed on non-signaled trackage. In California, PTC would be particularly applicable to the State’s many routes used by both freight and passenger trains, as well as to freight-only routes with volumes sufficient to justify the installation costs.

INFORMATION TECHNOLOGY APPLICATIONS

Information technology (IT) applications are being adapted by railroads to improve productivity of accounting and reporting functions and to provide better service to customers. Many of these applications have been around since the early part of the computer age. The challenge facing railroads today is to expand IT use to improve communication between carriers and modes and to enhance the ability of shippers to interact easily and rapidly via the internet.

Operating practices that benefit from IT applications are train dispatching, crew assignments, operations monitoring, equipment and facility maintenance records, and car tracking. Support functions include purchasing, personnel management and employment functions, invoicing and billing, and exchange of data between railroads that cooperate with interchange of equipment and run-through trains. Customer services include equipment tracing, switching requests, car supply and delivery forecasts, and marketing and pricing inquiries. The value of electronic access will become evident with growing competition between carriers and between modes and with the increasing desire of shippers for real-time responses to inquiries and needs.

³⁶ The track database includes allowable speeds and other restrictions affecting train operations in the immediate area. It reduces the need for on board computers to maintain an extensive track database covering a much larger operating area.

One example of an IT application is the development of ways to expand congestion pricing or yield management to encourage use back-haul moves that would otherwise be empty. Previously, this kind of transportation marketing was often impractical before the widespread use of interrelated computer systems. All of these factors, as discussed above, will further the development of IT applications and encourage their use on railroads.

ELECTRONIC COMMERCE

Class I carriers have begun to partner with outside or affiliated internet companies to integrate many of the functions described above. Services being developed by such companies promise a greater degree of integration of both internal railroad functions and customer services, expanding the ease of use with a unified internet “face.” Integration of interline shipments is a goal, providing the customer with a single interface for dealing with all aspects of moving a commodity or product from one location to another over two or more carriers or modes.

The internet services have the ability to package the individual railroad computer and internet applications together with like services for other transportation modes. Railroad applications are likely to be implemented first, with later inclusion of other shipping modes. Ultimately, regional and short line carriers could become affiliated with one or more of these services in order to expand their own contact with their customers.

LOCOMOTIVE TECHNOLOGY

Diesel-electric engines are now manufactured using alternating current (AC), as opposed to direct current (DC) to drive traction motors. The AC motors provide greater adhesion, and thus greater pulling power than comparable DC locomotives. About half of the new locomotives ordered in the past two years have newer AC technology. The AC share is expected to increase in the future, but a market for DC technology locomotives will remain, particularly for railroads that do not need the higher tractive capability that comes at a premium price. The AC traction will reduce the number of locomotives necessary to power a train, although at somewhat higher cost per unit. Three AC coupled locomotives have the tractive effort of four DC coupled locomotives. The AC locomotives are particularly suited to hauling heavy tonnage over grades at lower speeds. Test units appeared in the late 1980s, and full-scale production locomotives were available by 1993. The AC technology also has been adapted to produce high horsepower locomotives for higher speed trains, allowing railroads to replace two 3,000 horsepower units with a single 6,000 horsepower AC unit.

The AC traction motors generally are more efficient and reliable than DC motors primarily because of their greater adhesion. Adhesion is measured as the percent of a locomotive’s weight on the driving wheels that is converted into tractive

effort. The typical large DC locomotive attains about 30 percent adhesion on dry rails, while AC locomotives attain up to 38 percent adhesion in varied weather conditions. The upper limits of AC locomotive adhesion are still to be determined, but some engineers believe 50 percent is a practical number. The greater simplicity of AC traction motors reduces the potential for down time. The AC traction motors have the ability to withstand higher thermal loads, and thus can operate a greater length of time under a heavy load before overheating.

ELECTRONIC BRAKING

For over a century, US railroads have used the air brake technology developed in the late 1870s. The system employs air pressure changes controlled from the locomotive and extending through a continuous air line running the length of the train, to apply and release the brakes on the individual cars. With the advance of electronics, several versions of electro-pneumatic braking systems have been developed and are currently being tested. Electronic braking uses electronic signals to control and operate brake valves simultaneously, whereas the standard system has a lag time as the air pressure changes sequentially throughout the train.

Use of the new technology has centered on unit trains, where all the cars have the new system. However, several systems under development can operate with electronically-equipped cars intermixed with cars having traditional air brakes, allowing for gradual replacement of braking systems on existing cars. Electronic braking has numerous advantages, including shorter stopping distances, reduced wheel wear, and fewer mechanically related train delays. The electronic approach also allows systems to incorporate diagnostic sensing and other reporting of train operating information. With over a million freight cars in interchange service today, it is estimated that it will take over ten years before the entire car fleet can be equipped with this technology.

INCREASED CAR CAPACITY

Larger freight cars capable of carrying heavier loads are a technological improvement with mixed blessings. Larger cars have potential for transportation savings, but they also require heavier, better-engineered and maintained track and structures (bridges, trestles, etc.) to withstand the greater forces applied to the track. This is a particular problem for many short lines that have infrastructure that is unable to accommodate the heavier cars, as described previously.

Heavier-weight cars reduce car movements for the railroads that have the track structure able to handle them. There are indications that the industry is moving toward even greater weights per carload with cars capable of up to 315,000 pounds.

ROLLING STOCK IMPROVEMENTS

RoadRailer is an intermodal technology that allows highway trailers³⁷ to be moved in trains by placing the forward and rearward portions of the trailer onto freight car wheel units. The trailers can be moved over the road with their highway wheels attached, and at a rail head require only the highway tractor to position the trailer and engage or disengage the railroad wheel units. RoadRailer technology avoids the need for costly capital investments at intermodal facilities to lift and move containers between highway trailers and railroad flat cars. This is particularly advantageous for low volume operations or for starting up service at a yard whose location may later be changed (a fail-safe investment policy). Pioneered initially by NS with trains between the Midwest and the Southeast, this technology is now being used by many Class I railroads. Swift Transportation Company operates a RoadRailer train over BNSF's I-5 corridor between Los Angeles and Seattle.

SUMMARY

Nearly all of the technologies described above have productivity implications for both Class Is and short lines, dealing with means to make more effective use of labor, to improve maintenance methods, or to operate trains more efficiently over a constrained rail network. Several technologies promise improved levels of customer service or satisfaction, and a few will contribute to enhanced safety in railroad operations.

³⁷ The trailers, while sized for highway operation, are specially designed and built with sufficient longitudinal strength to pull the weight of 75 to 100 similar trailers when mounted on railroad wheel sets.

CHAPTER XX

FUTURE NEEDS

In order to examine and address state policy as it relates to freight railroads, it is important to recognize the costs and revenues associated with providing freight rail service, including customer service, safety, environmental, community and rail passenger service impact issues among others.

The two large Class I railroads, UP and BNSF, will continue to dominate the Western United States for the foreseeable future. The survival of the 27 short line railroads currently active in California is threatened by an aging infrastructure, and the inability to keep up with the increased weights now being handled by the Class I railroads.

Freight rail operations are deeply intertwined with intercity and commuter rail operations. This complicates policy making significantly, since public benefits are clearly impacted by any decisions affecting the freight railroads.

While Class I freight railroads receive benefits from infrastructure improvements designed to make passenger rail operations more efficient, short line railroads have no funding sources available to them to make the necessary infrastructure improvements to allow them to continue to serve rural communities.

Class I railroads re-invest in track and rolling stock in ways that sustain and improve their bottom line. The magnitude of their operations nationwide enables them to selectively invest on an as-needed basis. Continuous upgrades and improvements are a necessity if the rail freight system in California is to continue to run efficiently and safely.

The short line railroads provide a wide range of public benefits including providing service to California's agricultural and lumber industries in the more rural portions of the State. Other real or potential public benefits include improving highway corridor mobility, the environment and safety by provision of rail service as an option to trucking.

To what extent are the short line railways providing an economic benefit to regional and local economies? How can this benefit be measured? Short line railroads act as feeders to high volume main line rail routes owned by Class I railroads. In this instance, they are providing a direct benefit to the Class I railroads. They also provide a benefit to the shippers located along branch lines providing economical transportation and helping to retain businesses and jobs in California's rural regions. In several instances short lines have taken over where the Class I railroads no longer operate. Class I railroads move high volumes of freight, eliminating the need for many truck trips.

Another public benefit provided the freight railroads is increased modal choices. For example, if a short line railroad were to shut down its rail freight traffic would have to shift to trucks on roadways. Many adjacent local roads and highways are already congested. More trucks transporting goods means more highway congestion, highway deterioration, and more air pollution from increased diesel emissions. In addition, along with highway maintenance costs and increased air pollution, there are the social and economic costs of traffic accidents.

A final question in relation to funding is, can investments be justified on the basis of safety? Since technology of railcars is heading towards larger and heavier cars, there is a significant need to upgrade the infrastructure for the track, bridges and turnouts. Without adequate infrastructure, railroads would be subject to frequent derailments that would threaten their economic reliability.

APPENDIX

ACRONYMS

4R Act	Federal Railroad Revitalization and Regulatory Reform Act of 1976
AAR	Association of American Railroads
AB	Assembly Bill
AC	Alternating Current
AC Transit	Alameda-Contra Costa Transit District
ACCMA	Alameda County Congestion Management Agency
ACE	Altamont Commuter Express
ACR	Assembly Concurrent Resolution
ADA	Americans with Disabilities Act
ARB	California Air Resources Board
ASLRRA	American Short Line and Regional Railroad Association
ASSHTO	American Association of State Highway and Transportation Officials
ATSF	Atchison Topeka and Santa Fe Railway Company
BART	Bay Area Rapid Transit District
BN	Burlington Northern Railroad Company
BNSF	Burlington Northern Santa Fe Railway Company
BTH	Business, Transportation and Housing Agency
CCJPA	Capitol Corridor Joint Powers Authority
CEQA	California Environmental Quality Act
CHSRA	California High Speed Rail Authority
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CNSSTC	California-Nevada Super Speed Train Commission
COFC	Container on Flat Car
CORP	Central Oregon and Pacific Railroad Company
CP	Control Point
CPUC	California Public Utilities Commission
CRCC	Coast Rail Coordinating Council
CSLRRA	California Short Line Railroad Association
CTC	Centralized Traffic Control
DC	Direct Current
DMU	Diesel Multiple Unit Railcar
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EUKA	Eureka Southern Railroad Company
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GF	General Fund

Acronyms Continued

GGBD	Golden Gate Bridge, Highway and Transportation District
GMAP	Goods Movement Action Plan
GPS	Global Positioning System
ICC	Interstate Commerce Commission
ICRP	California Intercity Rail Capital Program
IMC	Intermodal Marketing Company
IOS	Initial Operating Segment
ISTEA	Intermodal Surface Transportation Efficiency Act
IT	Information Technology
ITA	Interagency Transfer Agreement
ITIP	Interregional Transportation Improvement Program
ITSP	Interregional Transportation Strategic Plan
JPA	Joint Powers Authority
JPB	Peninsula Corridor Joint Powers Board
LACMTA	Los Angeles County Metropolitan Transportation Authority
LAUS	Los Angeles Union Station
LAX	Los Angeles International Airport
LNG	Liquefied Natural Gas
LRFA	Local Rail Freight Assistance
LRSA	Local Rail Service Assistance Act of 1978
Maglev	Magnetic Levitation
MTC	Metropolitan Transportation Commission
MTDB	Metropolitan Transit Development Board
NCRA	North Coast Rail Authority
NCTD	North County Transit District
NEPA	National Environmental Policy Act
NWP	Northwestern Pacific Railroad
NWPRA	Northwestern Pacific Railroad Authority
OCTA	Orange County Transportation Authority
OTP	On-Time Performance
PA	Public Address System
PEIR	Programmatic Environmental Impact Report
PEIS	Programmatic Environmental Impact Statement
PTA	Public Transportation Account
PTC	Positive Train Control System
RCTC	Riverside County Transportation Commission
RFP	Request for Proposal
ROW	Right-of-Way or Rights-of-Way
RPSA	Federal Rail Passenger Service Act
RTIP	Regional Transportation Improvement Program

**Acronyms
Continued**

SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: a Legacy for Users
SamTrans	San Mateo County Transit District
SANBAG	San Bernardino Associated Governments
SB	Senate Bill
SCAG	Southern California Association of Governments
SCRRA	Southern California Regional Rail Authority
SDNR	San Diego Northern Railway
SHA	State Highway Account
SJRRC	San Joaquin Regional Rail Commission
SLO Transit	San Luis Obispo Regional Transit
SMART	Sonoma Marin Area Rail Transit District
SMCTA	San Mateo County Transportation Authority
SP	Southern Pacific Transportation Company
STA	State Transportation Assistance Program
STB	Surface Transportation Board
STIP	State Transportation Improvement Program
TAMC	Transportation Agency for Monterey County
TCI	Transit Capital Improvement Program
TCRF	Traffic Congestion Relief Fund
TCRP	Traffic Congestion Relief Program
TDA	Transportation Development Act
TDIF	Transportation Deferred Investment Fund
TEA-21	Transportation Equity Act for the 21 st Century
TIF	Transportation Investment Fund
TIFIA	Federal Transportation Infrastructure Finance and Innovation Act
TIP	Transportation Improvement Plan
TOFC	Trailer on Flat Car
UP	Union Pacific Railroad Company
USDOT	United States Department of Transportation
VCTC	Ventura County Transportation Commission
VRU	Voice Response Unit
VTA	Valley Transit Agency
WP	Western Pacific Railroad Company
WTTN	Western Transportation Trade Network