SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

REGIONAL SYSTEM PLAN UPDATE

METROLINK

MEMBER AGENCIES

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

ORANGE COUNTY TRANSPORTATION AUTHORITY

[illegible]E COUNTY TRANSPORTATION COMMISSION

[illegible]NARDINO ASSOCIATED GOVERNMENTS

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FOREWORD

This document was prepared in response to a bill enacted by the California Legislature in June 1990 (Article 10, Chapter 4 of Division 12 of the Public Utilities Code - Senate Bill 1402, Presley). The bill requires the county transportation commissions of Los Angeles, Orange, Riverside, and San Bernardino to develop a program for regional transit services. The legislation also required an update to that plan every two years.

The original plan was completed in June 1991. This document represents the first update to the original plan and covers the first year of Metrolink's operation. The document was prepared by Southern California Regional Rail Authority (SCRRA) staff, with contributions from the SCRRA Technical Advisory Committee (TAC) and the following agencies and individuals.

Contributing Agencies

California Department of Transportation
Los Angeles County Metropolitan Transportation Authority
Orange County Transportation Authority
Riverside County Transportation Commission
San Bernardino Associated Governments
Ventura County Transportation Commission

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EXECUTIVE SUMMARY

This update of the regional commuter rail system plan covers what developed following the 1991 Report through the first year of Metrolink's operation, October 1993. Much of what was anticipated by the county transportation agencies and documented in the 1991 report had been implemented in eighteen months. The five counties worked together to fund, construct and operate a regional transportation system in a way that set a rare example in government decision making and responsiveness. Metrolink quickly became a system committed to the delivery of safe, reliable and quality service. Ridership grew faster than projected and by the summer of 1993, Metrolink's daily ridership averaged more than 8,000 riders far greater than the 3,300 who rode in November 1992.

The 1993 update, completed in the spring of 1994 by SCRRA, not only documents the passenger rail transportation activities for the region but is an indication of Southern California's dedication to providing rail services as mandated by the voters.

Presented below is a brief synopsis of the information presented in the report.

Regional System Characteristics (Chapter 1)

With a growing population but little roadway expansion to accommodate transit needs, there is little doubt that a comprehensive transportation system that includes commuter rail is essential. In Southern California, Metrolink connects long distance commuters from outlying areas to downtown Los Angeles and other employment centers throughout the vast region. Metrolink is formally known as the Southern California Regional Rail Authority, a joint powers authority made up of an eleven member board representing Los Angeles, Orange, Riverside, San Bernardino and Ventura counties.

Metrolink began construction in 1991, initiated service in the fall of 1992 and by 1996 will connect six counties with seven commuter rail lines covering more than 330 miles of track. Much of the track the system uses was purchased from Southern Pacific Railroad, Santa Fe Railroad and Union Pacific Railroad at a cost of $442 million. Stations on these tracks are 4 to 10 miles apart and are owned and maintained by the local municipalities.

Amtrak serves as the operator of the Metrolink system identified by its periwinkle blue and white locomotives and double-decked cars. commuters pay distance based fares to ride the air conditioned, fully accessible coaches which provide many comforts and amenities.

Network and Service Levels (Chapter 2)

A detailed listing of proposed routes, stations and service levels is presented for both Metrolink and Amtrak intercity routes within Southern California. By October 1993, Metrolink was operating 4 corridors: Ventura County, Santa Clarita, San Bernardino and Riverside. Orange County is scheduled for March 1994. Routes serving San Bernardino/Riverside/Irvine and San Bernardino/Riverside/Los Angeles are planned for 1996. Post 1996 corridors are also outlined.

Operating, Maintenance-of-Way and Capital Budgets (Chapter 3)

A summary of SCRRA's FY 1992/93 and 1993/94 budgets is shown for operating, maintenance-of-way and capital programs. The operating costs/passenger decrease with each succeeding year of operation as more lines are added and economies of scale can occur.

Integration of Schedules and Fares (Chapter 4)

A primary goal for SCRRA is to successfully integrate and coordinate modes with a minimum of impediments. In 1992 SCRRA prepared a comprehensive Transit Integration Plan which reviewed the various components of coordinating Metrolink with other connecting transportation services. The Metrolink fare includes a "free" transfer to many buses, the Metro Red and Blue Lines, shuttles buses and other vehicles that link the destination to the train station. Interagency Transfer Agreements handle the details of this "seamless" fare system.

Long Range Technology (Chapter 5)

SCRRA has assumed a leadership role in reducing emissions from the locomotive fleet. Beginning with engine modifications leading to a 20 percent emission reduction to a plan to reduce emissions an additional 80 percent by the year 2000 by converting to natural gas, SCRRA is taking a serious approach to a clean diesel operation.

Institutional Organization (Chapter 6)

By August 1991, an agreement to establish a five-county Joint Powers Agency had been negotiated and the Southern California regional Rail Authority was born. Voting rights were apportioned as follows; Ventura County, 1 vote; Orange, Riverside and San Bernardino counties, 2 votes each; and Los Angeles County, 4 votes. The non-voting ex-officio members are Caltrans, the Southern California Association of Governments, and the San Diego Association of Governments. SCRRA's administrative staff is provided by the Los Angeles County Metropolitan Transportation Agency. Consultants and contractors provide a substantial level of support. Policy direction is the responsibility of a technical Advisory Committee comprised of one person representing each member agency.

Future Update

The next update is to be submitted to the legislature in 1995. It will provide an opportunity to highlight the sytems continued growth and response to the region's transportation needs.

CHAPTER 1

OVERVIEW OF REGIONAL SYSTEM CHARACTERISTICS

OVERVIEW OF REGIONAL SYSTEM CHARACTERISTICS

INTRODUCTION

California's population grew 25 percent over the past ten years, the number of drivers has increased by 35 percent and the vehicle-miles travelled is up by 60 percent. Yet the number of new roads increased only 2 percent in the same period between 1980-1990. For the Southern California region, these statistics highlight the need for a comprehensive transportation system. One element of the system will be the Metrolink system. Metrolink is Southern California's commuter train network planned to connect long-distance commuters from outlying communities to downtown Los Angeles and other employment centers throughout the region. It will tie into local bus services, Los Angeles' Metrorail system, and Amtrak's intercity trains.

Metrolink development and operations are managed by the Southern California Regional Rail Authority (SCRRA), created in 1991 in accordance with Public Utilities Code section 130255 to construct and operate inter-county commuter rail. SCRRA is made up of an 11-member Board representing Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. SCRRA selected Amtrak to operate Metrolink's spacious, double-decked passenger cars on existing rail lines, pulled by modern diesel locomotives.

Metrolink began construction in the summer of 1991. On October 26, 1992 three lines began service to Union Station in the Los Angeles Central Business District: Pomona (ultimately San Bernardino), Santa Clarita and Moorpark (Ventura County). These start-up operations totaled 114 miles of track and 11 stations, with 12 roundtrip trains running inbound to Los Angeles during the morning commute and outbound in the afternoon and evening. Midday service on these, as well as reverse commute service between Union Station and Burbank was added in early 1993. Service on the Riverside corridor was added in June 1993 and Orange County service is scheduled for a May 1994 start-up. By 1995, Metrolink will connect six Southern California counties with six commuter rail lines covering more than 300 miles of track and serving 48 stations.

RIGHT-OF-WAY ACQUISITION

It had been axiomatic that the western railroads would strongly oppose commuter trains on their lines. Any thinking about commuter rail in Southern California came quickly to that reality and floundered. The situation changed abruptly in 1989. In that year,

for the first time, both the Southern Pacific and the Santa Fe offered to sell certain properties. This shift in the railroads' position encouraged the transportation agencies to move quickly. Acquisition of either operating rights or the rights-of-way (ROW) themselves became a priority.

The resulting negotiations and acquisitions involved many line segments and adjacent properties. In all, 667 miles and 540 acres of irreplaceable urban ROW's and land was purchased. Of the total, 273 miles of ROW, 163 miles of operating rights, and 160 acres were for Metrolink services. The remainder was for future light rail or other urban transit uses. Of the $1 billion spent for ROW by six Southern California counties, between 1990 and 1993, $442 million was for Metrolink commuter rail uses.

Funding for the acquisitions came from two main sources: local sales tax funds dedicated to transit and state funds. The State dollars came from two sources: Proposition 116 general obligation bond proceeds and Proposition 108 bond proceeds paid through gas tax funds. The actual split varied from line to line.

Southern Pacific (SP) ROW Acquisition

The first three lines of the Metrolink system operate on ROW acquired from the Southern Pacific Railroad. Negotiations for this purchase started in April 1989 and were completed in October 1990. Another subsequent purchase occurred in October 1992. Together the acquisition included 183 miles of ROW, 36 miles of operating rights (along with acquisition of a parallel 40-foot strip of land), 12 additional miles of just a 40-foot strip and 225 acres of adjacent properties. The price totaled $517 million. Of the property acquired, 105 miles of ROW, 36 miles of operating rights, 12 miles of the 40-foot strip, and about 60 acres of non-operating properties totaling $143 million was for commuter rail. An additional $20 million in track and signal improvements were committed as part of the purchase agreement. Commuter rail service started on all but 44 of these miles in October 1992.

Union Pacific (UP) ROW Acquisition

The fourth Metrolink line runs on land acquired from Union Pacific. Negotiations for this acquisition began in the autumn of 1990 and concluded in July 1991. Included were 4 miles of ROW along the Los Angeles River and 57 miles of trackage rights out to Riverside. The total value was $17 million plus $35 million in track and signal improvements. Service on this line started in June 1993.

Santa Fe (SF) ROW Acquisition

Most of the Metrolink service will operate over Santa Fe ROW. Negotiations for these ROWs started in 1989. In July 1990, five

counties made a joint offer to Santa Fe. Negotiations were completed in October 1992. In all, 267 miles of ROW, 70 miles of trackage rights, and 270 acres were acquired for a total of $480 million. Of that amount, 164 miles of ROW, 70 miles of operating rights and 100 acres are for Metrolink commuter rail purposes representing about $300 million plus $63 million in track and signal improvements.

RAILROAD OPERATING AGREEMENTS

Each right-of-way purchased has an individually tailored shared use agreement. These agreements stipulate the rights and priorities each party has as a result of the sale. There are several common elements: the railroad retains the obligation to serve any local shippers on the line and the SCRRA trains have priority over freight trains during the peak commuting periods. Beyond that, the agreements can be divided into two basic types: the public agencies own and the railroads are tenants or the railroads own and the SCRRA is a tenant.

In the first case, passenger trains have priority throughout the day and the SCRRA dispatches the line. In the second case, freight trains retain at least equal priority (certain types of freight trains may in fact have priority over off-peak passenger trains) and the railroad continues to dispatch the line. The agreements also include commitments for one party or the other to make specific capital improvements and to pay a fair-share of on-going maintenance. The rights-of-way fall into these two categories as shown in Table 1-1.

TABLE 1-1
RIGHT-OF-WAY OWNERSHIP

Right-of-Way	Owned by Public Agency	Owned by Railroad
Southern Pacific		
State St/Baldwin Park	yes	
Saugus Line	yes	
Coast Line		yes
Union Pacific		
Riverside (Ontario)	yes (East Bank)	yes (Soto Jct. to Riverside)
Santa Fe		
Pasadena Sub	yes	
San Diego Sub	yes	
Olive Branch	yes	
San Jacinto Branch	yes	
Redlands Branch	yes	
San Bernardino Sub	yes (West Bank)	yes (Redondo Jct.- S.B.)

EQUIPMENT AND FACILITIES

ROLLING STOCK

The commuter rail system was designed for trains with locomotives pushing or pulling from three to ten bi-level cars. Push-pull train operations were needed to operate out of the deadend Union Station. They also were deemed desirable because they enable reductions in turnaround times and operating costs. Due to the nature of push-pull operations, a certain number of the coaches need to be cab cars, with an operator in a front seat while the train is being pushed by the locomotive. The standard Metrolink train initially consists of one locomotive and four passenger cars, and operates at speeds of up to 79 miles an hour.

The process of acquiring Metrolink's rolling stock began in the Spring of 1990 with LACMTA advertising to acquire cab and trailer cars as well as state-of-the-art diesel locomotives. At that time, LACMTA estimated that fleet requirements for start-up of two commuter rail lines (San Bernardino and Moorpark) called for a base order of 40 passenger cars and 12 locomotives. Subsequently, LACMTA increased the base order of locomotives to 17 and added options for 54 more passenger cars and 15 more locomotives. Table 1-2 illustrates the total Metrolink existing fleet of 31

TABLE 1-2
ROLLING STOCK REQUIRED
THROUGH FY 1994

Line	Locos	Coaches/ Cabs
Moorpark (Ventura Co.)-Los Angeles	4	16
Santa Clarita-Los Angeles	3	12
San Bernardino-Los Angeles	5	20
Riverside-Los Angeles (via Ontario)	3	12
Oceanside-Los Angeles	4	16
Riverside-Irvine	2	8
Riverside-Los Angeles (via Fullerton)	2	8
Spares	8	2
Totals	**31**	**94**

locomotives and 94 cars through Fiscal Year 1994 by line.

In anticipation of SCRRA planned service expansions through 1995, an additional 8 locomotives and 24 cars are being acquired through the Caltrans California car order. Metrolink anticipates taking delivery of the locomotives by November 1994 and the cars by the summer of 1995.

An additional 24 cars to provide the spare ratio and for growth are expected in 1995. The "California Cars" are funded with Proposition 116 dollars allocated to the State for the development of intercity and commuter rail equipment.

Coaches

Bombardier Corporation is providing 94 passenger cars for an average of $1.34 million each. Cars are 85' long, 9'10" wide and 15'11" tall (Figure 1.1). Headroom in the center aisle is 6'7". Each coach has two full decks with intermediate end decks over the trucks (wheels), an arrangement which allows higher ceilings and better seat, stairway and door positioning. Each passenger car will accommodate up to 148 passengers in upholstered seats, with standing room for up to 150. Crush capacity is 360 passengers.

Each cab car has space for up to four wheelchairs and two bicycles and trailer cars can accommodate the same number of bicycles but only two wheelchairs. Several worktables, situated between passenger seats, are provided in each car to accommodate passengers who wish to work during their commute. Other amenities are heating and air-conditioning, accessible restrooms, and water fountains. Cellular telephones are proposed.

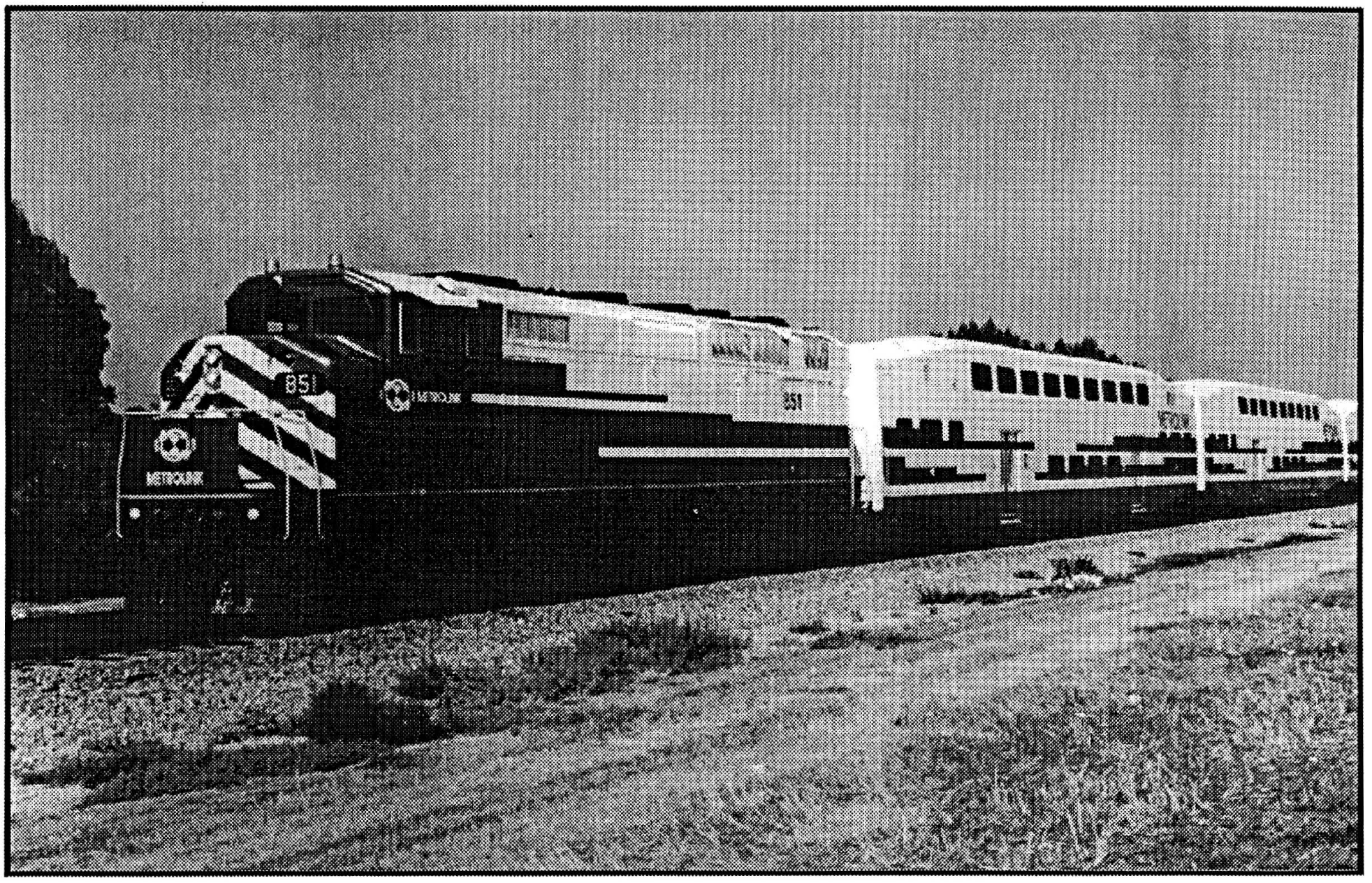


Figure 1.1

Low-level platform doors, located approximately at the quarter points of each coach, allow a full carload of passengers to board or alight within 90 seconds. This performance standard helps to minimize platform congestion and, if necessary, permits rapid evacuation of trains in an emergency.

Twenty four similar cars built by Morrison-Knudsen are expected to be delivered in mid-1995. SCRRA has entered into an agreement with CALTRANS for these cars which are funded with State Proposition 116 resources.

Locomotives

General Motors built 23 F59PH locomotives at a cost of $2.35 million each. Based on the successful GM Series 60 pattern, the F59PH is a wide-body, 4-axle vehicle with a maximum speed of 104 mph (Figure 1.1). To meet Metrolink specifications for clean-diesel passenger service, the F59PH was designed to reduce fuel consumption, as well as exhaust and noise emissions. As a result, Metrolink locomotives are 40 percent cleaner than typical passenger engines.

The F59PH has separate propulsion and head-end power systems. With blended dynamic braking and a full 3,000 HP available for motive power, this locomotive is designed to operate in stop-and-go conditions with consists of up to 10 bi-level cars or 700 tons. Each of the new locomotives has enhanced crew cab features as well. Besides the 23 engines ordered directly from GM, SCRRA has requested eight more locomotives through a contract CALTRANS has with GM.

SCRRA adopted a number of strategies to achieve cleaner locomotives. Besides being the first locomotive operator to specify low emissions as part of the equipment order, plans are underway to convert the SCRRA fleet to alternative fuels. One of the first 17 locomotives ordered will be converted to liquified natural gas operation. If the testing proves successful, the entire locomotive fleet will be converted to run on natural gas.

CENTRAL MAINTENANCE FACILITY

Taylor Yard Commuter Rail Central Maintenance Facility (CMF) is located on a 29 acre, crescent-shaped parcel at the southern end of the larger Taylor Yard. The CMF parcel is part of LACMTA's 70-acre acquisition in Taylor Yard which was paid for and is being improved by SCRRA's member agencies. The parcel is bounded on the east by San Fernando Road and on the west by the Los Angeles River. The southern limit of the site is a new railroad bridge across the river. The cost of developing the Taylor Yard site is $37 million.

Prior to construction of Metrolink's CMF, the site functioned as a freight yard. Now CMF staff maintains, cleans, refuels, stores and otherwise services all the locomotives and coaches required for Metrolink operations.

Construction began on the CMF in November 1991. Completed in March 1993, the CMF contains a main shop building, a smaller building for washing vehicles, and several minor structures. Most of the site is taken up by storage and service tracks. Planned improvements to the property include landscaping and perimeter screening and construction of an access road to the north of the property to provide access to both the Southern Pacific locomotive yard and Metrolink's CMF. The road also provides public access to the river frontage. SCRRA and the Southern Pacific will share the cost of implementing the access road.

Most of the Metrolink fleet will be stored overnight at outlying portions of the line at SCRRA layover facilities in Santa Clarita, Moorpark, San Bernardino, Riverside, Irvine and Oceanside once they are completed. Only a limited number of commuter trains will be stored overnight at the CMF. Ultimately, no more than one-third of the operating fleet will occupy the storage yard. The yard is sized to handle a full fleet of 200 cars and 35 locomotives.

Security is provided around the clock for the SCRRA property and related public access improvements. This is coordinated with the Los Angeles County Sheriff's Department.

During the time the rolling stock is at Taylor Yard the following work is performed:

- Fuel locomotives on a predetermined schedule.
- Sand locomotives, if needed.
- Inspect locomotives and passenger cars daily. At a minimum, inspection includes wheels, trucks, brake shoes, running gear, engine (audio-visual inspection), doors, lighting, toilets, communications, HVAC, control functions, handicap ramp and accommodations.
- Service toilets.
- Perform turnaround cleaning on all cars.
- Make necessary running repairs to all equipment.

The preventive maintenance line at Taylor Yard operates five days a week, Monday through Friday. Each train set is scheduled into

the preventive maintenance shop at intervals of no more than 22 working days. Work performed on cars on this rotation includes a check of air conditioning, heating, lighting, air brake, trucks, trainline connections, and safety appliances. The cars also undergo thorough cleaning, with upholstery and carpeting inspected, cleaned, or replaced as appropriate. Maintenance includes wheel set changeouts, modifications and/or minor overhauls, mechanical and electrical repairs, interior work, body work, repair or replacement of couplers, doors, etc.

Annual locomotive preventive maintenance involves detailing engines, rotating electrical, primary and ancillary systems inspections with performance testing and adjustment. Biennial preventative maintenance includes air brake work, traction motor changeouts, truck modification and/or minor overhauls, mechanical and electrical repairs, interior work, minor body work and structural work, repair or replacement of couplers, brakes, engine or electrical components including turbochargers, power assemblies, HEP packages, etc. Locomotive car bodies, fuel tanks, engine rooms, trucks and operating cabs and appurtenances are cleaned and hand-detailed. Wheels are trued as required.

Heavy overhauls will be done by contracting with private companies in the region.

LAYOVER FACILITIES

Because of the nature of commuter rail services, Metrolink trains are stored overnight at the ends of the lines. Deadheading trains long distances back to Taylor Yard each evening and then out very early in the morning is both expensive and disruptive to the communities along the way. Therefore overnight layover facilities will be located at Santa Clarita, Moorpark, San Bernardino, Montclair, Riverside and Fallbrook Yard in Oceanside. However it will still be necessary to do some limited work on the trains at the layover facilities such as:

- Provide stand-by power to rail cars.
- Inspect locomotives daily.
- Test and inspect air brake systems.
- Perform electrical and mechanical inspections of locomotives and cab cars.
- Repair equipment as required to ensure safe, clean, comfortable and on-time train service.
- Clean cars.

- ► Post, distribute or stock bins with passenger notices.

STATIONS

Metrolink stations are spaced an average of 4 to 10 miles apart, and are owned, paid for, and operated by the individual cities or county transportation agencies. Every station will fully comply with the requirements of the Americans with Disabilities Act. The member agencies of SCRRA have final approval authority over each station's location and levels of service.

Although many cities have, or will build, new stations, some cities have historic train stations to renovate. New stations typically consist of a platform, simple shelter, lighting and parking lot. Each host community will design and construct its station so that the architecture and ambience reflect local character and values based on guidelines provided by SCRRA for passenger safety, operating efficiency and accessibility for persons with disabilities. Station amenities also include telephones and newspaper dispensers. In the future, other revenue-generating joint development may be appropriate at stations such as vendors of coffee, food, laundry services, etc. These ventures must be consistent with SCRRA policy to protect passenger security and the amount of available parking.

Since parking availability is key to commuter rail success, SCRRA has an adopted Parking Policy which outlines basic parking requirements. The Parking Policy indicates:

- o Metrolink stations should designate at least 10% of their parking spaces for carpools and locate those spaces close to the platform. The number can be adjusted if demand calls for a higher or lower number of spaces.

- o Station owners may charge a basic parking fee to help defray the costs of station operations, security or liability. The fee shall cover only station related operating costs, security or station liability costs. Fees for carpools should be either waived or discounted. All station-related fees charged by the cities are to be reviewed by SCRRA staff.

- o In the future, based on demand and experience, the parking fee may be adjusted.

- o Joint development at stations is encouraged as long as parking capacity and access by transit and security is not compromised.

- As service expands, parking policies may be revisited.

Each station has short-term and all-day parking available. Local jurisdictions are encouraged to provide a minimum of 300 parking spaces. To accommodate off-peak service users, a percentage of parking spaces should be set aside.

All stations have self-service ticket vending machines (TVMs) that sell every type of ticket. Initially, the machines accepted only cash, but in early 1993 the TVMs were programmed to recognize credit and debit cards as well. The fare system is described in further detail later in this chapter.

Union Station Agreement

Union Station, the historical terminal in downtown Los Angeles, is the hub of the Metrolink system. From Union Station commuters can connect with the Metro Red Line, Amtrak Intercity Service, MTA and LADOT DASH buses, taxis, Metrolink shuttle buses, and corporate-sponsored shuttles.

In 1989, Catellus Development Corporation purchased the Los Angeles Union Passenger Terminal (LAUPT) for just over $84 million. Catellus is a publicly-traded real estate company based in California with land assets valued at $2.5 billion. The company has more than 100,000 shareholders, the largest of which is the California Public Employees Retirement System.

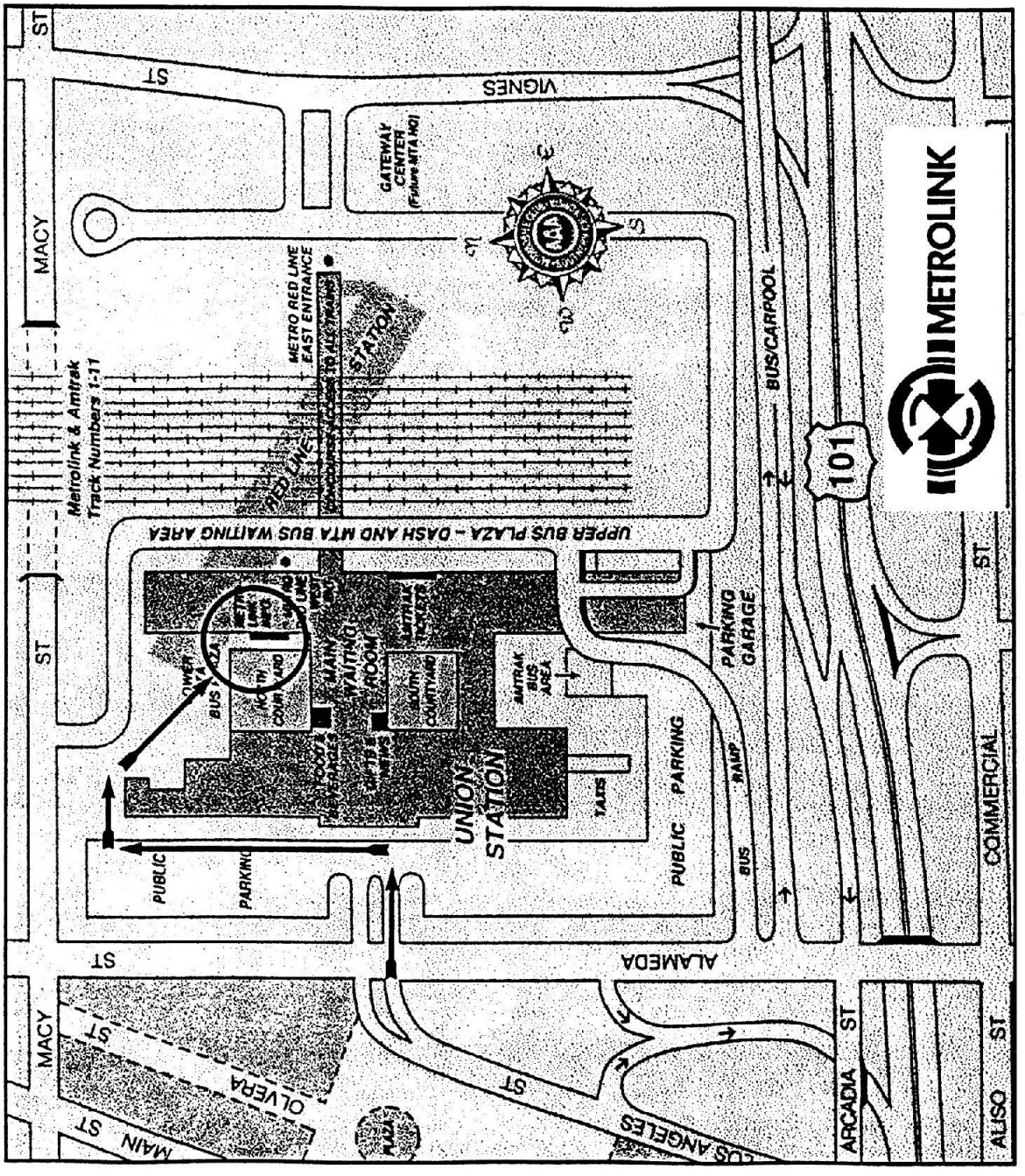
The 50-acre site is bounded by Macy, Vignes and Alameda streets, and the Santa Ana/101 Freeways (Figure 1.2). In 1990, Catellus initiated a master planning process to accommodate and incorporate both public transit needs and private development potential on the site. The first phase of the improvements which were competed by the end of 1992 focused on reconstructing the train yard for increased usage and improving passenger access between rail (Amtrak, Metro Red Line and Metrolink) and surface transportation. Catellus also plans to connect pedestrian thoroughfares and corridors to city sidewalks. Specific improvements included:

Metrolink/Amtrak Passenger Tunnel, Access Ramps and Stairs. Renovation of existing passenger tunnel and construction of handicap access ramps and stairs to the train tracks.

Metrolink/Amtrak Platform Reconstruction. Rebuilding of five existing train tracks and platforms.

Metro West and East Portals. Two passenger entrances to facilitate transfers to Metrolink, Amtrak, and MTA bus service.

Figure 1.2



Los Angeles Union Station

Metrolink Interim Bus Facility. Buses and shuttles accommodated at the southwestern edge of passenger platforms for the convenience of Metrolink commuters.

North Ramp and Roadway. Infrastructure required for access by Metrolink, DASH and MTA bus systems.

RTD Interim Bus/Parking Facility. Pick-up and parking area for commuters transferring to mta bus routes.

Other Improvements. Signage, ticketing and passenger service facilities provided at track level or in convenient locations at Union Station during this phase.

In November 1992, negotiations between Catellus, LACMTA and SCRRA resulted in a tentative one-year agreement on operating and maintenance cost allocations for LAUPT. Under the agreement, SCRRA and LACMTA pay $310,000 as their share of operation and maintenance of common areas of the station. SCRRA's share of the cost is $200,000, an amount already anticipated and budgeted. A long-term agreement has yet to be negotiated with Catellus. In addition, SCRRA and LACMTA will equally share a one-time $111,000 cost for a ten-year lease of a passenger service office in the arrival/departure lobby, opposite the new automated information board and the Metro entrance. The lease cost to SCRRA is $55,000 or $5,500 per year.

Amtrak and SCRRA have entered into an agreement to share the costs of operating, maintaining, and dispatching the Union Station trainway. This area includes the platforms, tracks, switches, and signal system all the way to the Los Angeles River. Costs are shared based on the number of train moves each party has over the facility.

Use of the platforms is as follows. The first platform (from the west, or terminal) is for the Pasadena light rail line to be in operation by 1997. Platforms 2 through 7 are for Metrolink, with platforms 10 and 11 for Amtrak. While this is the basic allocation of platform use, circumstances may well require a specific train to use another platform. The dynamic signage in the station conveys the platform assignments to the users as changes are made.

OPERATIONS

SCRRA began advertising for bids from potential operators for Metrolink in March 1991. Eleven firms responded. In June, the SCRRA selected 3 firms to submit detailed proposals based on an operating plan prepared by staff. These were submitted in September by two firms. After a lengthy negotiated procurement process, the National Railroad Passenger Corporation (otherwise known as Amtrak) was selected to operate service and maintain Metrolink's equipment, facilities and certain portions of the right-of-way. This selection was made in January 1992. Amtrak and SCRRA signed a final operating agreement on June 1, 1992. Under the agreement, Amtrak provides the following services to SCRRA.

OPERATOR AGREEMENT

General Management

The Amtrak management personnel assigned to the SCRRA are to have the experience and knowledge of railroad passenger operations and are to have the authority to make decisions on daily operations and management. All personnel provided by Amtrak and its subcontractors are subject to the direction, supervision and control of Amtrak and not that of SCRRA. They are assigned exclusively to SCRRA Commuter Railroad Operations and are not to perform functions in connection with Amtrak's intercity passenger service.

The person selected, with SCRRA's approval, to serve as the full time General Manager of Commuter Operations reports to Amtrak's General Superintendent-Western Division. SCRRA has the option to have that person replaced by Amtrak if desired. The General Manager is required to attend monthly service meetings with SCRRA staff. The General Manager has hiring and firing authority over all Amtrak personnel engaged in providing service to SCRRA. The following positions report directly to the General Manager:

Superintendent, Commuter Operations;
Commuter Relations Officer;
Manager, Resource Management;
Manager, Maintenance of Equipment; and
Manager, Maintenance-of-Way.

Train Operations

Amtrak is to manage, operate, maintain and provide staff for SCRRA subject to the operating policies and procedures of the General Code of Operating Rules, Amtrak's Rules Governing Conductors and Trainmen, as well as other rules agreed upon by SCRRA and Amtrak. Metrolink trains are operated on schedules which are recommended by

SCRRA and agreed upon by both parties. Amtrak provides dispatching services for any trains operating within the rights-of-way owned by SCRRA member counties. In addition, as the operator, Amtrak provides immediate notice to SCRRA of situations which could significantly affect the on-time performance of Metrolink, and cooperates in notifying passengers about the delay.

Maintenance of Rolling Stock

Amtrak is to maintain, repair, clean, inspect, and service all Metrolink rolling stock in accordance with specific maintenance standards, and in accordance with manufacturers' directions and warranties. Amtrak is not to make any repair to any unit of rolling stock that exceeds $10,000 without written approval of SCRRA. SCRRA deals directly with manufacturers if the need arises. SCRRA is at liberty to contract with others to perform major repairs or modifications to the equipment. Amtrak is responsible for keeping records of inspection, maintenance and cleaning of each piece of equipment for at least three years.

Maintenance-of-Way, Signals and Communication Systems

Amtrak performs track and signal maintenance on portions of the right-of-way, layover facilities, and the maintenance facility. The balance of the right-of-way is maintained under other SCRRA contracts. Amtrak is not to modify the property without approval from SCRRA.

Materials Management

Except for locomotive fuel and utilities, Amtrak is responsible for purchasing and managing all materials required to operate and maintain the Metrolink system. Both Amtrak and SCRRA must notify the other party when they are to advertise a bid for materials that exceeds $50,000. SCRRA contracts for the purchase of locomotive fuel, and Amtrak coordinates delivery requirements and acknowledges delivery. Amtrak collects a one or two percent materials handling fee for all materials purchased by Amtrak for the Metrolink system. A materials management system that maximizes efficiency and reduces inventory costs through forecasting is mandated by SCRRA.

Fare Verification

Amtrak personnel conduct fare verification inspections, issue fare evasion and misuse of fare media citations and appear at court hearings as required. New legislation resulting from Senate Bill 111 resulted in Penal Code Section 830.14 which expands the authority of conductors by allowing them to write specific

citations. In the past they could only issue warnings.

Hiring of Employees

Amtrak is to hire all labor, administrative, professional, and supervisory personnel, including subcontractors, required to operate SCRRA's Metrolink system. The total number of positions is not to exceed that in the Approved Budget, unless approved by SCRRA. Amtrak is solely responsible for determination of and payment of wages and benefits. However, SCRRA reserves the right to hire on-board personnel for other than operating functions.

Safety

Amtrak is charged with preparing a System Safety Plan and at all times conducting its operations in a safe manner. Amtrak will take all precautions possible to safeguard against risk, and will conduct regular safety inspections of the rolling stock. Amtrak is solely responsible for the discovery, determination, and correction of any unsafe conditions.

Training of Employees

Amtrak provides training programs for all employees who are working on the Metrolink system. Amtrak provides SCRRA with copies of all training programs and an annual training report which includes specific programs and the number of person-hours spent in training sessions.

Drug and Alcohol Testing

Amtrak will comply with drug and alcohol testing procedures already established for its other services.

Labor Agreements

Amtrak successfully negotiated with labor unions representing its existing employees for special considerations for the Metrolink service. Amtrak is not to voluntarily enter into any agreements which would change the rates of pay, rules, and working conditions agreed to for Metrolink service.

Fares, Timetables, and Ticket Sales

SCRRA assumes all responsibility for establishing fares, obtaining and printing timetables/tickets, and distributing timetables to Amtrak. SCRRA is using contractors to sell and distribute tickets

and collect revenue.

Cost of Contract

Amtrak bills SCRRA for direct costs incurred over each year. SCRRA and Amtrak are aware of the expected direct costs through the budgeting process each year. During this time, Amtrak prepares a budget for SCRRA's approval. In addition SCRRA pays Amtrak a management fee and a fixed amount of overhead at the beginning of the fiscal year. Also, there are financial incentives and penalties for on-time performance. The amounts in SCRRA's operating budget for Amtrak are as follows: 1992-93, $8,455,000; FY 1993-94, $18,729,600.

Term of Contract

This agreement is effective from February 21, 1992 until at least June 30, 1995, and can be automatically renewed for an additional two-year term, through and including June 30, 1997, unless SCRRA provides written notice to the contrary by June 30, 1994.

TRANSIT CONNECTIONS TO METROLINK

Transit connections are available to get commuters to and from most Metrolink stations. Available services vary, but include public and private transit operators, shuttles, and taxi vendors. For a listing of transit connections at each of the Metrolink stations, see Table 4-1 in Chapter 4.

FARE STRUCTURE AND ZONES

In March 1992, SCRRA proposed a preliminary fare structure which included zone definitions and several pricing scenarios as a basis for soliciting public comment. A series of ten public hearings on the subject of Metrolink fares were held throughout the five-county area. Comments from 75 speakers and 46 written statements were tabulated and evaluated. Using these and other considerations, SCRRA adopted the following fare policy in June 1992:

Base Fare. Base fare is defined as one trip within one zone based on a 10-trip ticket. and is $2.50

Cash Fare Premium. A cash fare premium is defined as a one-zone charge and is $1.00.

Round-Trip. Round-trip is defined as base fare times 2, plus one cash fare premium.

Ten Trip. Ten-trip is defined as 10 times the base fare.

Monthly Pass Fare. The fare for a pass will be 32 times the base fare plus applicable zone charges.

Pass Sales Period. A pass sales period consists of the last five days of the prior month and the first ten days of a current month.

Transfers. Transfers will be free for connecting service with all ticket types.

Off-Peak Fare. Off-peak fare will be 75 percent of peak fare on single-trip and round-trip tickets.

Elderly/Disabled Fare. Elderly/disabled fare will be set at 50 percent of full fare.

Student Fare. The fare for students between six and 18 years old will be set at 50 percent of full fare and limited to off-peak travelling.

Group Fares. For each group of 10 students from 1-18 years old (accompanied by a chaperon) the fare is $1.00 one-way.

Fare-Exempt Passengers. Passengers exempt from paying fares are limited to:

- One child age five and under, accompanied by a fare paying adult;
- One attendant per disabled passenger, with certification of the requirement for an attendant;
- Trainers of service animals for the disabled when engaged in training activities;
- Law enforcement officers as defined by Penal Code, in uniform, with a badge and/or picture identification;
- Employees of member agencies, engaged in or travelling to/from a Metrolink work assignment, with Metrolink identification, as authorized by the Executive Director; and
- Employees of contractors of the SCRRA, engaged in or travelling to/from a Metrolink work assignment, with Metrolink identification, as authorized by the Executive Director.

Based on SCRRA's fare policy, ticket prices are a combination of two elements: the base fare and zones. Metrolink routes are divided into zones of approximately 11 miles each (Figure 1.3). A ticket's price depends on how many zones the commuter passes through from boarding to alighting. The base price is $2.50 (equal to a single-zone trip with a 10-trip ticket). There is a $1.00 charge for each additional zone. A one-zone trip costs about 27 cents per mile, dropping to 11 cents per mile for longer trips. All tickets include a free transfer to connecting transit service. Ticket types are described in more detail, below.

One-Way Ticket. This is good for a single one-way trip from the station where purchased to the destination shown on the ticket. The ticket vending machine (TVM) calculates the total fare (base fare, plus any additional zones, plus the $1.00 surcharge for the single-ticket purchase). A one-way ticket is valid for three hours from the time of purchase.

Round-Trip Ticket. When a round-trip ticket is purchased, two tickets are dispensed, one to the destination selected and one for the return trip. The fare is not double the one-way fare, but double the base fare (including additional zones), plus a single $1.00 surcharge (applies to any ticket other than a ten-trip ticket). The return ticket is good until midnight on the day purchased.

Transfer Upgrade. This is a discounted one-way or round-trip ticket which can be purchased at the time of transfer from a connecting transit service. It is valid only in conjunction with a valid bus or rail transfer.

Ten-Trip Ticket. This ticket is good for ten one-way trips between two points made within 90 days of purchase. It provides a significant discount off the single-trip price because the $1.00 surcharge is not added to each trip. The ten-trip ticket must be stamped by the validator machine at each station before the patron boards a Metrolink train. More than one person can use a ten-trip ticket as long as each person has it validated for each trip taken.

Monthly Pass. The monthly pass is good for unlimited trips during the calendar month. Those using the pass more frequently benefit from greater price discounts over other types of tickets. The pass is valid for travel between the origin and destination points for which it was purchased, or to points in between the two. Travel beyond the designated stations requires additional fare payment. Monthly passes can be purchased during the Pass Sales Period.

METROLINK TICKETS

HOW MANY ZONES IS YOUR TRIP?
COUNT NUMBER OF SHADES YOUR ROUTE PASSES THROUGH.
(INCLUDE ORIGIN AND DESTINATION ZONES)

EXAMPLE: San Juan Capistrano to Anaheim is three zones.

REGULAR ADULT FARES

NUMBER OF ZONES	MONTHLY PASS	10 TRIP	ROUND TRIP	ONE WAY
1	80.00	25.00	6.00	3.50
2	112.00	35.00	8.00	4.50
3	144.00	45.00	10.00	5.50
4	176.00	55.00	12.00	6.50
5	208.00	65.00	14.00	7.50
6	240.00	75.00	16.00	8.50
7	272.00	85.00	18.00	9.50

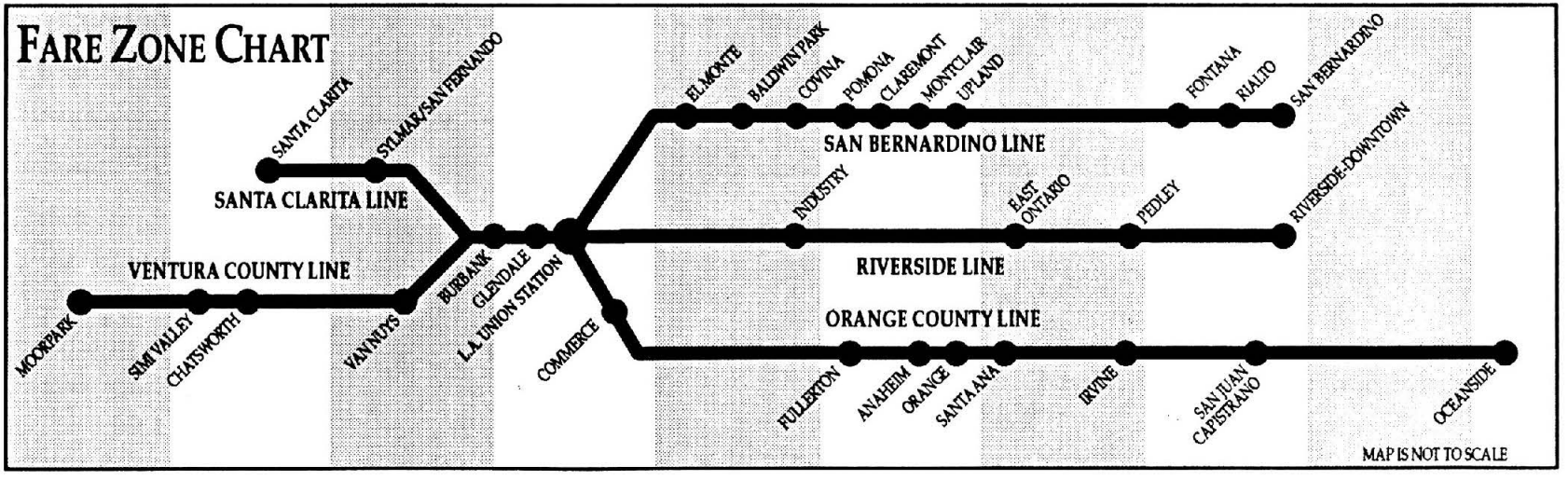


Figure 1.3

Transfers. All Metrolink tickets include a free transfer to participating connecting local transit service, as part of SCRRA's policy of "seamless" transfers. All a transferring passenger has to do is show a Metrolink pass or ticket when boarding the transit connection from the Metrolink station or upon returning to the Metrolink station. Metrolink built the transfer cost into its fare pricing structure based on expected transfer rates and potential costs to other transit operators. A specific discussion of the Interagency Operator Transfer Agreement is found in Chapter 4.

FARE VENDING

The primary points of sale for Metrolink tickets are ticket vending machines (TVMs) located at each station. The patron first selects a fare category (Adult, Child/Student or Elderly/Disabled), then the desired ticket type (One-Way, One-way Transfer Upgrade, Round-Trip, Round-Trip Transfer Upgrade, 10-Trip Ticket, Monthly Pass) and finally the destination. The TVM displays the appropriate fare and will accept payment (cash, Visa, MasterCard, and Explore/STAR network ATM cards). Tickets are also available from the Metrolink ticket window at Union Station.

The manufacturer provides TVM maintenance. Revenue servicing is provided by Federal Armored Express, Inc. under contract to SCRRA. Revenue servicing includes replenishing ticket stock, refilling change modules, and removing full bill and coin vaults. The vaults are taken to a secure facility where the contents are counted, reconciled to TVM-generated audit tickets, and then deposited into SCRRA's bank account.

Fare Inspection

Metrolink uses a barrier free, proof-of-purchase inspection system for fare payment. This system requires rail patrons to buy tickets or other fare media prior to boarding a train or entering into a designated fare-paid zone. Compliance with the fare policy is achieved through periodic, unannounced fare inspections by train conductors, extra-board crews, or Metrolink authorities. Conductors are expected to inspect approximately 25% of their ridership daily. Periodically, Metrolink deputies assist conductors on "sweeps" where all passengers on a particular train are checked for proper fare.

Passengers without the proper fare media may be issued a warning or a citation at the discretion of the conductor. Eventually, warnings will be issued using "Autocite," an automatic citation device. An accumulation of three warnings results in the Metrolink Sheriff's Unit filing a misdemeanor charge of fare evasion. In an eleven month period there were five such cases. In the one case

adjudicated by the court, the violator was fined $374.00.

INSURANCE

Under the separate contracts between SCRRA, Amtrak, and the railroads, SCRRA is responsible for procuring and maintaining commercial and general liability insurance in the name of SCRRA, its member agencies, and Amtrak. This insurance covers property damage and bodily injury or death of persons, arising out of SCRRA's commuter rail operation. The annual aggregate and per occurrence limits of liability are to be at least $150 million. SCRRA is allowed under the agreement to self-insure for up to $5 million per occurrence.

SCRRA is also responsible for procuring and maintaining property insurance covering the agency's real and personal property (including railroad equipment, rolling stock and ROW) against all risk of physical damage. Amtrak is named as an additional insured with respect to SCRRA property in Amtrak's care.

SCRRA will handle, at its sole expense, any investigation, defense, and settlement of claims against Amtrak or SCRRA arising out of its commuter rail operations, except claims relating to injury or death of Amtrak employees or subcontractors.

In addition to providing the standard general liability coverage, the program also includes public officials' errors and omissions liability and time element pollution coverage.

For the station and track construction program, SCRRA has purchased "Owners Control Insurance" which replaces the process of obtaining project specific insurance coverage. While stations are being built and during track construction SCRRA provides:

- Worker's Compensation
- Primary general liability policy - $2 million limit
- Excess general liability policy - $48 million
- Builder's Risk for facilities under construction
- Railroad protection coverage as required for all activity within 50' of track

After station construction, SCRRA provides insurance coverage for up to $10 million for platform activity. Since local agencies are responsible for platform maintenance, they too must have platform insurance coverage. SCRRA can add the local municipality to the umbrella insurance coverage for a fee of 41 cents per annual boarding or the local agency adds platform insurance to existing municipal coverage. When municipalities contract to have repair or modification work done on the platform, not only must SCRRA be notified, but the contractor or the city is required to obtain right of entry from SCRRA and provide insurance limits as defined

by SCRRA and the rail authority must be indemnified.

Parking lots are also the responsibility of the local agency and are insured by that municipality.

SECURITY

SCRRA views system security as a determining factor in a commuter's decision to ride Metrolink trains. In addition to passenger safety, an effective security program protects the financial investment made by SCRRA's member agencies.

In August 1992, SCRRA approved a contract with the Los Angeles Sheriff's Department (LASD) to act as the system's core law enforcement agency. The Sheriff's Metrolink Unit is responsible for establishing liaison and memoranda of understanding with law enforcement agencies along the right-of-way in each of the five counties. The unit is also responsible for on-board security on all Metrolink trains. Unit staff members gather statistical data from all law enforcement agencies and publish a monthly statistical report detailing the kinds and amount of criminal activity affecting the Metrolink system. This monthly publication is broadly circulated throughout the five Metrolink counties.

Metrolink deputies also participated in the RFP and selection process for private security at each layover site, several passenger stations, and the maintenance facilities. In September 1992, the SCRRA awarded a contract for these security services. Guards are assigned to various locations to protect rolling stock and other SCRRA property. They are supervised by the Sheriff's Metrolink Unit. Although security at Metrolink stations is the responsibility of the station owners, SCRRA's security guard contract has provisions for local agencies use at the station owners expense. Other station security options include using local law enforcement agencies or contracting with a locally selected private security guard company. Any of the station security options call for reporting statistical data to the Metrolink deputies.

The Sheriff Department's services have evolved and expanded as they have become an integral part of Metrolink's management team. Deputies are involved in education and safety issues working with Amtrak and the Public Utilities Commission to offer Operation Lifesaver to schools, bus/trucking companies and communities throughout the Southland. The unit represents law enforcement at the State Operation Lifesaver Organization. They also actively coordinate and participate in training activities such as Trooper on-the-Train and First Responder programs involving other law enforcement agencies along the right-of-way. The Sheriff's Metrolink Unit developed an impressive Metrolink Incident Command System to effectively and efficiently manage major emergencies and

disasters.

The result of LASD's first year is a virtually crime-free system. There was only one minor on-board incident during the first year of operation. Vigorous law enforcement efforts are undoubtedly responsible in large part for the system's high degree of safety and security.

From October 26, 1992 through September 1993, Metrolink deputies made 699 arrests on or adjacent to the right-of-way. Arrests varied from felony assaults, grand theft, narcotics and burglary to vandalism, trespassing and interfering with train operations. In that same period, 1,582 traffic citations for a variety of rail related traffic violations and juvenile trespassing were issued.

The LASD security contract provides for seven full-time police dedicated to Metrolink, four of which cover two shifts. In addition, crime analysis, police dispatch and secretarial functions is provided by six part-time staff, equivalent to about two or three full-time employees. All positions are five days per week except dispatch, which is covered over two shifts, seven days per week.

DISPATCHING

Amtrak, as part of its contract with the SCRRA, will provide dispatching services on all lines owned by member agencies. The railroads continue to dispatch Metrolink trains on their rights-of-way where SCRRA has trackage rights. Dispatching is governed by the railroads' *General Code of Operating Rules*. As Amtrak has its own intercity trains operating over portions of the same track as Metrolink, an arrangement was necessary between Amtrak and SCRRA about train operating priorities.

Accordingly, Amtrak and SCRRA agreed that trains of either party operating toward Union Station in the morning peak hours (6:00-9:00 AM) and away from Union Station in the afternoon peak (4:30-7:00 PM) be given priority over trains operating in the opposite directions (contraflow). When trains are operating in opposing directions in periods other than the peak hours and one train is running later than its scheduled time, the train that is operating on time will be given preference. When trains of both parties are operating in the same direction at any time, the trains will be handled in the order presented without regard to whether they are on time or late. Freight trains are to be last in the order of priority.

On railroad-owned lines, Metrolink trains have priority during the peak commute periods. Off-peak, the freight trains have at least equal priority. This means that in certain cases freight trains may have priority through, for example, a single track tunnel or

line segment where a conflict occurs. Even during the peak, expedited or time-sensitive trains may in some cases have priority if the commuter trains are not affected by more then 5 minutes. These terms are slightly different for each railroad, the result of very difficult negotiations.

Amtrak's operating contract with SCRRA provides for incentive payments for on-time performance of Metrolink trains. Each month Amtrak may collect incentives, or pay penalties, relating to schedule performance. On time is defined as arrival at the terminal platform on or before the scheduled time within a tolerance of five minutes.

MAINTENANCE OF ROW AND STATIONS

Station owners/operators are responsible for the maintenance of all station facilities and equipment except ticket vending machines and the public address/changeable message sign system. These are operated and maintained by SCRRA contractors. Most station maintenance programs include platform cleaning, landscape maintenance, lighting maintenance, parking lot sweeping and refuse removal. In addition, graffiti removal and landscape irrigation repair are typically handled on an as needed basis.

Under the operating contract, Amtrak is responsible for track and signal maintenance on portions of the right-of-way, layover facilities, and the maintenance facility. The balance of the right-of-way is maintained under other SCRRA contracts. The responsible party inspects and maintains mainline track as prescribed for Class 4 track (to maintain a high quality of ride), and as prescribed for Class 2 track in the yard.

Consistent with Federal Railroad Administration requirements, the responsible party develops a maintenance schedule through daily reports of visual inspections. All mainline track is inspected by hi-rail or by foot at least twice per week. Based on the inspections, areas in critical condition are identified and repaired immediately. Conditions that require less immediate repairs are programmed into a maintenance schedule. ROW maintenance is conducted off-peak and at night whenever possible to avoid disruption of train operations.

Amtrak and other SCRRA contractors have implemented a maintenance cycle of track surfacing of approximately every 18 to 24 months. Irregular surface and line spots are corrected as soon as detected. Smoothing machines are used when required as well as Amtrak's Torsion Beam Tamper. Other functions of track maintenance include replacing defective rails, ties and fasteners; repairing grade crossing panels and pavements; maintaining ditches and drainage systems; cleaning up the ROW and adjusting and lubricating switches.

Amtrak provides all labor, tools, services and incidentals to conduct the maintenance specified in the contract. Trackmen are both qualified and experienced and have completed a one-month training program for orientation to Metrolink's operation. Training includes Amtrak's safety program; foreman school; rules and characteristics of the SCRRA system; operation of hi-rail vehicles; protection against trains, hazardous materials and right-to-know; on-the-job experience with standard maintenance practices and, in some cases, cross-training on various job functions.

MARKETING

Marketing has been very important for Metrolink for a number of reasons. The public needed to be informed of Metrolink's services, where the lines go, and how to use them. And, the public needed to be encouraged to try Metrolink.

Safety Awareness

Ensuring safe operations is necessary for the success of any transit system. Potential and existing passengers need to feel that the system is operated in a manner that is safe for patrons, as well as the people of the communities it passes through. Safety awareness is a major responsibility. School presentations, mailings, posters, public service announcements, and paid media advertisements are all components of a proactive rail safety awareness program

There are hundreds of schools within half a mile of Metrolink corridors. Many students cross those tracks to get to school. Because of this, the "Travis the Owl" Rail Safety Program was created to educate students in Grades K-9 about general safety rules that need to be followed during the building and subsequent operation of the Metrolink commuter system. Introduced nearly two years nine months prior to the October 1993 Metrolink service initiation, the "Travis the Owl" Rail Safety Program includes the following elements:

1) provides safety information to students and communities impacted by construction activities,
2) introduces students, parents and teachers to the rail project and informs them of basic safety principles, and
3) increases awareness of accessibility and the benefits of using the Metrolink system.

A "Travis the Owl" safety brochure and two safety films targeting the primary and secondary grade levels reinforce the classroom presentation. Also, a language arts lesson plan program is available for the K-6 teachers. As of October 1993, the "Travis the Owl" program has reached over 152,000 students in approximately

288 school sites. Outreach is continuing to one school per day.

Metrolink has expanded its rail safety awareness program by providing Operation Lifesaver presentations not only to schools but also to community groups. Operation Lifesaver is a national non-profit organization formed by the railroads to promote rail safety. In addition, Metrolink has conducted at least two Trooper-on-the Train exercises each month where motorists violating grade crossing devices are cited. Trooper-on-the-Train is a cooperative effort with Operation Lifesaver, the railroads, local law enforcement agencies, and Metrolink's security unit.

Telephone Information Service

Prior to operations start-up, Metrolink began taking calls on a toll-free 800 number designated to provide potential Metrolink riders with a single, easy to use source of route and fare information, as well as connecting bus and transfer information. The number is answered every weekday between 6:00 AM and 8:00 PM. Metrolink has contracted with Commuter Transportation Services, Inc. to provide this service at a cost of $392,374 for two years.

Two types of calls are received on the toll-free lines: general information and customer service. General information callers can receive, if desired, a computer generated customized transit itinerary listing routes, fares, schedules, round-trip costs and connecting buses. The customer service calls include such things as lost and found inquiries, suggestions, and complaints.

During October 1992, the toll-free line registered over 33,260 calls. The peak period was the week of rail service initiation, October 26-30, with over 16,000 calls.

Public Relations

Public relations generally includes such activities as public events, media coverage, and public involvement. The Metrolink Grand Opening provided an excellent opportunity for public relations activities. A great deal of planning and organizing took place well before the October 26, 1992 opening.

The focus of the pre-launch marketing events was to educate the work-end employers and employees in the downtown Los Angeles area, and large employment centers along the rail lines. Each Metrolink station city developed and implemented a local Marketing Action Group (MAG) which efficiently allowed the marketing program to reach the local home-end market. Special events were planned to increase the awareness of the upcoming rail service including participation in Rideshare Week, the Ventura County Fair, Los Angeles County Fair, and the San Bernardino County Fair.

Efforts were also directed toward a private and public partnership to offset the costs of the grand opening events, broaden Metrolink's visibility, and garner support from the private sector. The partnership program had four components: partnerships, in-kind underwriters, station city community banner program, and corporate banner program.

Partnership. The highest level of partnership involvement is the Partnership level. The SCRRA sought corporate and media partners to be aligned with Metrolink's grand opening by purchasing a $10,000 package consisting of various benefits, including media coverage.

In-Kind Underwriters. The Grand Opening events included a series of goods and services, for example a VIP grand opening brunch, commuter kit items, VIP gift bags, and event arrangements. Using the barter system, needed items were procured at no cost to Metrolink. Metrolink traded promotional passes and media exposure.

Station City Community Banner Program. The banner program was designed to assist station cities to cover the expense of their grand opening event through the sale of street light pole banner packages to local businesses and media partners. The local Marketing Action Groups approached the local merchants to purchase the one-time grand opening banners which featured logos of participants.

Corporate Banner Program. This program was similar to the above but corporations were offered packages of ten or more light pole banners that could be displayed at corporate locations. This program enabled companies in all five counties to be involved in the Grand Opening of Metrolink.

More than 15 corporations participated in the Grand Opening event, which, consequently, was completely paid for by private dollars. Corporate Partners contributed $70,000 and $300,000 was raised by in-kind corporate contributions. More than 250 street light pole banners were displayed throughout Ventura County, the San Fernando and San Gabriel valleys, and Santa Clarita. More than 100 television news stories were generated for the Metrolink opening, as were several hundred newspaper articles. The Metrolink opening proved to be a national and international story.

Another public relations function was the hiring and training of a team of forty temporary Metrolink Ambassadors. For the first two weeks of Metrolink service, the Ambassadors met passengers at every station on all three routes to distribute schedules and maps and to guide people to connecting transportation. They were crucial information resources for passengers unaccustomed to public

transit who needed answers about stations, fares, bus routes, Metro Red Line and points of interest. Ambassadors served as crossing guards and assisted commuters with TVM's. As the first point of contact, the team proved to be a valuable resource and good public relations for Metrolink.

Advertising

Advertising usually refers to the production and placement of paid advertising with the various media. The function of advertising required by SCRRA was to design and execute a media campaign for the introduction of the Metrolink service. The marketing objective of the advertising campaign was to stimulate trial ridership, build product identification and increase awareness of Metrolink. To this end, SCRRA entered into a five-month contract with Deyoung, Ginsberg, Weisman, Bailey, Inc. at a cost not to exceed $450,000. This firm was selected after the required bidding process was conducted and the seven responding firms were evaluated.

Public Affairs/Community Relations

This marketing branch usually conducts such activities as community meetings, public hearings, providing speakers to schools and civic groups, and offering tours. At SCRRA the Public Affairs/Community Relations staff meets with residents, business and property owners to mitigate the impacts of Metrolink construction and to promote services. This group organizes Metrolink Community Update meetings, distributes construction update notices to the community, and makes the school safety presentations.

SCRRA Public Affairs staff coordinated employment opportunities with Amtrak for Metrolink Maintenance Facility positions and have recruited in the Taylor Yard community. They also have developed a schedule for tours of the Metrolink Maintenance Facility. Now that Metrolink rail service is in operation, on-going marketing plans include market research studies, preparation of new train schedules as new stations are added, and a program to build ridership.

CHAPTER 2

NETWORK AND SERVICE LEVELS

NETWORK AND SERVICE LEVELS

This chapter describes the existing and proposed routes, stations, and service levels of the Metrolink regional system. A description of existing and proposed Amtrak intercity routes within the Southern California region is also included.

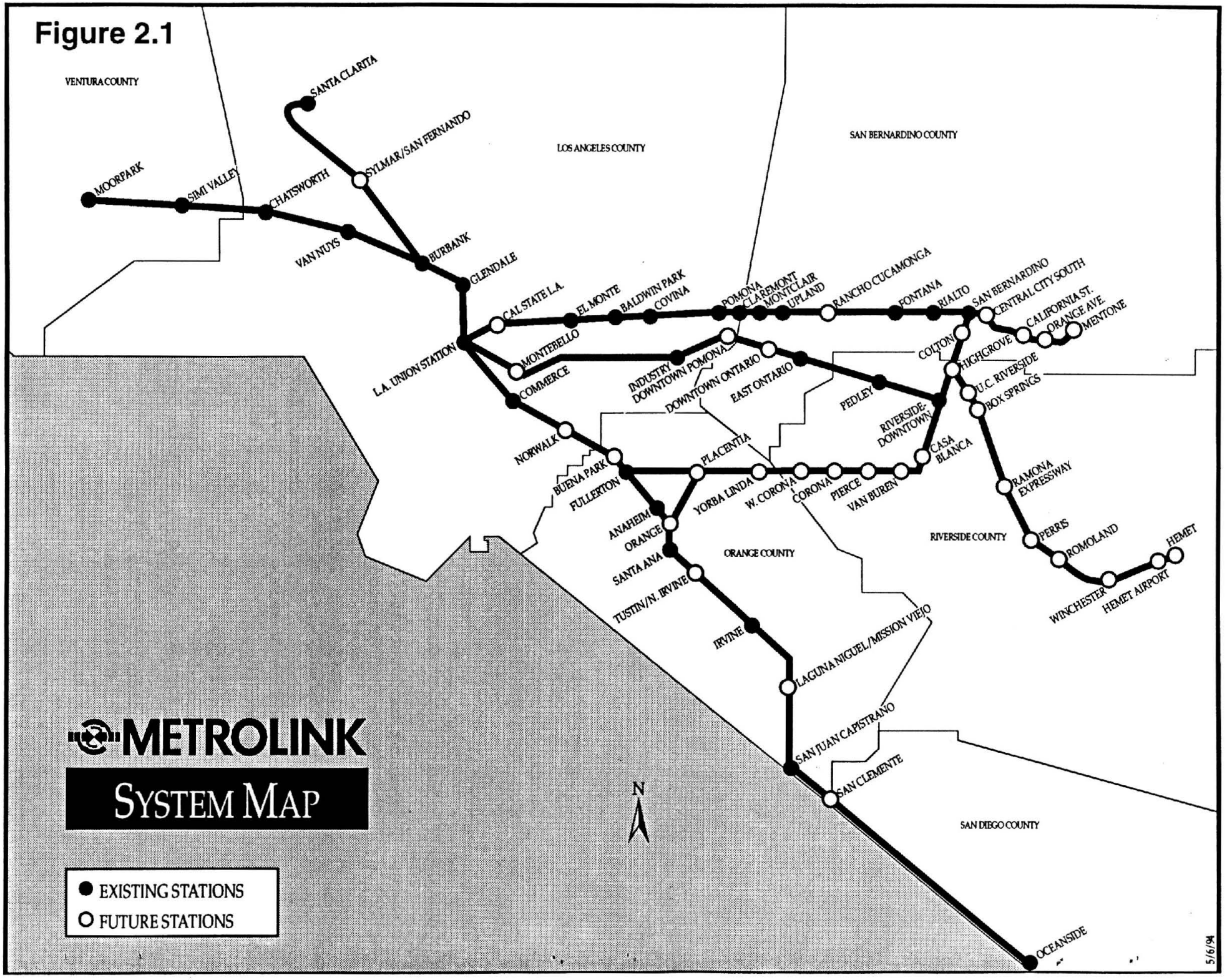
REGIONAL COMMUTER RAIL NETWORK

The proposed Metrolink system will ultimately provide commuter rail service between six Southern California counties on nine different lines as shown in Figure 2.1. In addition to these, the SCRRA and the LACMTA are currently reviewing the feasibility of adding one extension. Table 2.1 lists each of the Metrolink lines according to their proposed start-up date and participating county transportation commissions.

TABLE 2-1
METROLINK LINES BY START-UP DATE

	Line	Transportation Commission
	October 1992	
1.	Ventura County	Ventura/Los Angeles
2.	Santa Clarita	Los Angeles
3.	San Bernardino	San Bernardino/Los Angeles
	June 1993	
4.	Riverside Line	Riverside/San Bernardino/Los Angeles
	Opening March 1994	
5.	Oceanside-Los Angeles	Orange/Los Angeles
	Opening Fiscal Year 1995/1996	
6.	San Bernardino/Riverside-Irvine	Riverside/Orange/ San Bernardino
7.	Riverside-Los Angeles via Fullerton	Riverside/ Orange/Los Angeles
	Opening post-1996	
8.	Hemet-Riverside	Riverside
9.	Redlands-San Bernardino	San Bernardino
	Future Extension-Under Study	
10.	Lancaster-Santa Clarita	Los Angeles

Figure 2.1


VENTURA COUNTY
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
SAN DIEGO COUNTY
SANTA CLARITA
MOORPARK
SIMI VALLEY
CHATSWORTH
SYLMAR/SAN FERNANDO
VAN NUYS
BURBANK
GLENDALE
L.A. UNION STATION
CAL STATE L.A.
EL MONTE
BALDWIN PARK
COVINA
MONTEBELLO
COMMERCE
NORWALK
POMONA
CLAREMONT
MONTCLAIR
UPLAND
RANCHO CUCAMONGA
FONTANA
RIALTO
SAN BERNARDINO
CENTRAL CITY SOUTH
CALIFORNIA ST.
ORANGE AVE.
MENTONE
INDUSTRY
DOWNTOWN POMONA
DOWNTOWN ONTARIO
EAST ONTARIO
PEDLEY
COLTON
HIGHGROVE
U.C. RIVERSIDE
BOX SPRINGS
RIVERSIDE-DOWNTOWN
CASA BLANCA
BUENA PARK
FULLERTON
PLACENTIA
YORBA LINDA
W. CORONA
CORONA
PIERCE
VAN BUREN
RAMONA EXPRESSWAY
ANAHEIM
ORANGE
SANTA ANA
TUSTIN/N. IRVINE
PERRIS
ROMOLAND
HEMET
WINCHESTER
HEMET AIRPORT
IRVINE
LAGUNA NIGUEL/MISSION VIEJO
SAN JUAN CAPISTRANO
SAN CLEMENTE
OCEANSIDE
N
METROLINK
SYSTEM MAP
EXISTING STATIONS
FUTURE STATIONS
5/6/94

On October 26, 1992 Metrolink service commenced on the Moorpark and Santa Clarita Lines to downtown Los Angeles. Service on the San Bernardino Line also began that same date, but only from the city of Pomona. Service was progressively extended from Pomona into San Bernardino County beginning late 1992 until mid-1993.

SCRRA staff developed a schedule of service assumptions according to implementation date for budgeting purposes. Table 2-2 lists these service assumptions according to year. As is shown, limited off-peak service commenced February 1993 for the three start-up lines. This off-peak service consisted of mid-day service and reverse peak trains from Union Station to Glendale and Burbank. Additional service consisting of "shoulder" turnbacks (trips that operate just outside of the peaks) and late evening "sweeper" trains will be inaugurated on November 1, 1993.

OPENED OCTOBER 1992

A specific discussion of each of the lines, station locations, and the anticipated service levels comprises the remainder of this chapter.

1. Ventura County Line

Service Description

This service extends 46.9 miles from Moorpark in Ventura County to the Los Angeles Union Station on the Southern Pacific Transportation Company (SP) Coast main line (Figure 2.2). The total trip time between Moorpark and Los Angeles is 68 minutes, for an average speed of 40 mph. This is a joint project of the LACMTA, VCTC and the State.

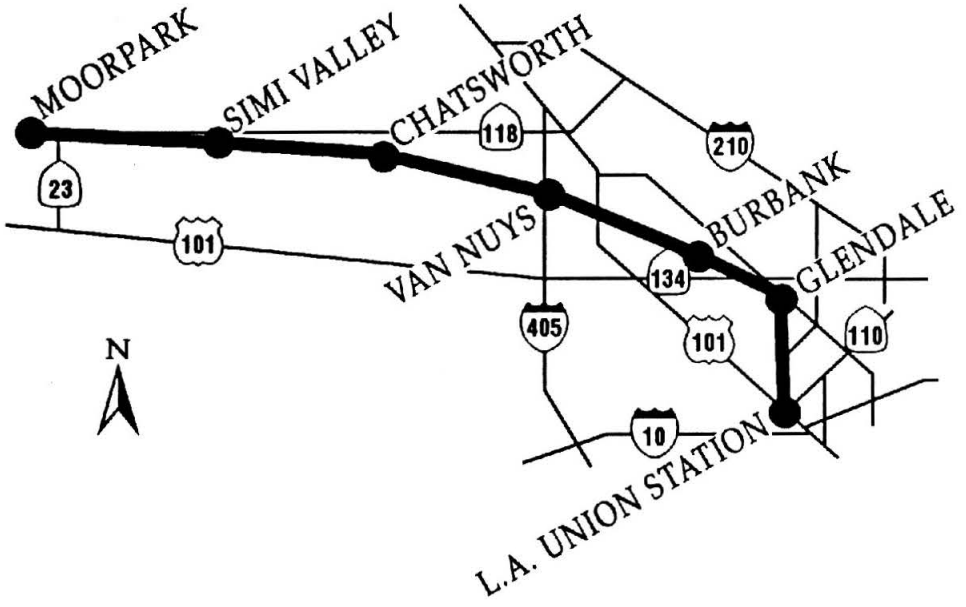
Service Levels

Service levels for the Ventura County Line are shown in Table 2-3. Service levels are presented in terms of the number of directional trains operated during the initial start-up phase, as well as the first two service expansions.

TABLE 2-2
METROLINK SERVICE ASSUMPTIONS

Fiscal Year		Start Date
FY 1992-93	Three Start-up Lines: Mrpk-LA, SC-LA, SB-LA (Pomona Only)	10/26/92
	Limited off-peak: (start-up lines) SB-LA (Montclair extension)	2/22/93
	SB-LA (to San Bernardino)	5/17/93
	Riverside-Los Angeles (inc. limited off-peak)	6/14/93
FY 1993-94	Shoulder Turnbacks: 3 lines (Mrpk-LA, SC-LA, SB-LA)	11/1/93
	Sweeper Service: 3 lines (Mrpk-LA, SC-LA, SB-LA)	11/1/93
	Oceanside-Los Angeles (3 Rts)	3/28/94
FY 1994-95	Oceanside Off-Peak (5 Rts)	1/95
FY 1995-96	SB/Riverside-Irvine (2 Rts)	9/95
	Riverside-Los Angeles via Fullerton (2 Rts)	Spring 96

Figure 2.2



METROLINK

VENTURA COUNTY LINE

TABLE 2-3
VENTURA COUNTY LINE SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	4 Peak Directional	10/26/92
Service Expansion #1	1 Limited Off-Peak 3 Reverse to Burbank	2/22/93 2/22/93
Service Expansion #2	1 Off-Peak*	11/1/93

* Mid-morning train between Los Angeles - Chatsworth only

As shown, four roundtrip trains comprised the start-up service in October 1992. In February 1993, SCRRA initiated one off-peak train, as well as three roundtrips between Los Angeles and Burbank. The Burbank turns allow passengers to travel to destinations located north of Union Station in Glendale and Burbank. For the purposes of this report, the Burbank trains are listed under both the Moorpark and Santa Clarita Lines.

The off-peak roundtrip shown in Service Expansion #1 included one mid-day train. The mid-day service provides an early afternoon return from Los Angeles to Moorpark for passengers requiring earlier return service. As noted in Table 2-3, the off-peak trip shown in Service Expansion #2 consists of a mid-morning train between Los Angeles - Chatsworth only.

Operating Conditions

Trains for the Ventura County Line are stored overnight at a layover facility just west of the Moorpark Station. The line is jointly operated with SP. During the course of an average day, several freight trains, as well as Amtrak intercity passenger trains, will also be operating on the trackage between Moorpark and Los Angeles.

Under the terms of the SP agreement, Metrolink trains have absolute priority over freight trains during peak commuting periods. General priority is given to Metrolink trains during the off-peak. In January 1993, SCRRA exercised a clause in the SP agreement which permits Metrolink to assume some dispatch authority on this line, as well as dispatching authority on the Santa Clarita Line.

Station Descriptions

Seven stations, including Union Station, are located on this line (Table 2-4). The distance between stations ranges from a minimum of five miles to almost 11 miles as shown below. The Burbank and Glendale stations also serve the Santa Clarita Line.

TABLE 2-4
VENTURA COUNTY LINE STATION SPACING

Station	Distance (miles)
Moorpark	-
Simi Valley	10.8
Chatsworth	6.6
Van Nuys	10.6
Burbank	8.0
Glendale	5.0
Union Station	5.9
Total Distance	**46.9**

Moorpark:

The Moorpark Station is located south of High Street and east of Moorpark Avenue. It functions as a joint commuter rail/intercity station. Amtrak began providing two daily round trips from Moorpark with the start-up of Metrolink service. Previously, Moorpark was not served by any passenger rail.

A total of 300 parking spaces are provided. Transit service on lines connecting with the station is operated by Moorpark Transit. The travel time to Union Station from Moorpark is 68 minutes.

Simi Valley:

The Simi Valley Station is located immediately south of Los Angeles Avenue and west of Stearns Avenue. This station also functions as a joint commuter rail/intercity stop as it replaced the former Amtrak depot at Los Angeles Avenue and Surveyor Street with the start-up of Metrolink.

More than 600 parking spaces are available at this station. Connecting service is provided to/from the station via Simi Valley Transit. The travel time to Union Station from Moorpark is 55 minutes.

Chatsworth:

The Chatsworth Station is located between Lassen and Devonshire streets, east of the tracks. Again, this station also functions as a joint commuter rail/intercity facility as Amtrak agreed to move from its former site (located off De Soto Avenue) with the commencement of Metrolink service.

More than 500 parking spaces are available. Connecting transit services are operated by MTA and LADOT. The station is also served by a flat fare taxi zone. The travel time to Union Station from Chatsworth is 42 minutes.

Van Nuys:

The Van Nuys Station is located east of Van Nuys Boulevard, north of Saticoy Street. Prior to the start-up of Metrolink, the site was used as an Amtrak station. Amtrak continues to serve the station with two daily round trips.

Parking is limited to 70 spaces. Station plans call for the designation of off-site parking facilities until additional land can be purchased. Free shuttle service between the station and off-site parking lot would be provided.

Connecting transit is operated by MTA

Van Nuys (cont)

and LADOT. A bus turnaround facility is included in the station design and will be constructed pending the purchase of additional land.

The Van Nuys Transportation Management Association also provided connecting service effective January 1993. The travel time to Union Station is 32 minutes.

Burbank:

The Burbank Station is located on the historic passenger rail site south of Front Street, between Olive Avenue and Magnolia Boulevard. No intercity rail service is currently planned to stop at the station.

A total of 300 parking spaces are provided. Transit operators serving the station include MTA, LADOT, and the City of Burbank. The Burbank Media District operates a shuttle to employment sites. MTA also operates a shuttle between the station and the downtown area. The station is also served by a flat fare taxi zone. The travel time from the station to Union Station is 21 minutes.

Glendale:

The Glendale Station is located at the site of the existing Amtrak depot, southwest of San Fernando Road at the intersection of Cerritos and Gardena avenues. It is planned to be a multi-modal hub combining light rail and commuter rail. The site is within 0.5 mile of Griffith Park.

A total of 350 parking spaces are provided. Transit operators providing service to/from the station include MTA and the City of Glendale's Beeline Shuttle. The travel time to Union Station is 14 minutes.

Union Station:

Union Station is located at 800 N. Alameda Street between Macy Street and the Hollywood Freeway (I-101). It is

Union Station (cont)

the hub of the Metrolink system and also serves as the terminus for the Metrorail Red Line.

The station is undergoing major redesign, reconstruction, and remodeling to facilitate its new function as multi-modal terminal for intercity, commuter rail and light rail.

Future plans call for the design of additional commercial space, a MTA bus plaza and office complex on the east portal, and additional retail outlets within the station facility.

Due to the construction activities in and around Union Station, the number of parking spaces fluctuates. However, approximately 950 spaces are currently available, with future plans projecting a total of 3,000 spaces for station patrons at full build-out. Transit operators currently serving the station include MTA, LADOT, Omnitrans/RTA Inland Empire Connection and Foothill Transit.

As a part of the Metrolink service, a dedicated commuter shuttle route operates directly from the platform level. This route operates in a discharge or pick-up mode only for Metrolink passengers and is timed to Metrolink arrivals/departures.

In addition to this dedicated service, RTD also operates six routes from the platform level, as well as a number of local and express routes at bus stops immediately adjacent to the station. The city of Los Angeles operates two DASH shuttle routes with high service frequencies throughout the day and Santa Monica Bus Lines serves the station as well.

The Metrorail Red Line is the primary feeder/distributor of Metrolink passengers. It began operations in January 1993.

2. Santa Clarita Line

Service Description

This service extends 34.3 miles from Santa Clarita to the Los Angeles Union Station (Figure 2.3). The route duplicates mileage of the Ventura County service between Los Angeles and Burbank. The total trip time of the line is 53 minutes, for an average speed of 37 mph. The entire project is funded by LACMTA and the State.

Service Levels

The anticipated service levels for the Santa Clarita Line are shown in Table 2-5. Service levels are presented in terms of the number of directional trains to be operated during the initial start-up phase, as well as the first two service expansions.

TABLE 2-5
SANTA CLARITA LINE SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	3 Peak Directional	10/26/92
Service Expansion #1	2 Limited Off-Peak	2/22/93
	3 Reverse to Burbank*	2/22/93
Service Expansion #2	1 Peak Period Reverse	11/1/93
	1 Sweeper	11/1/93

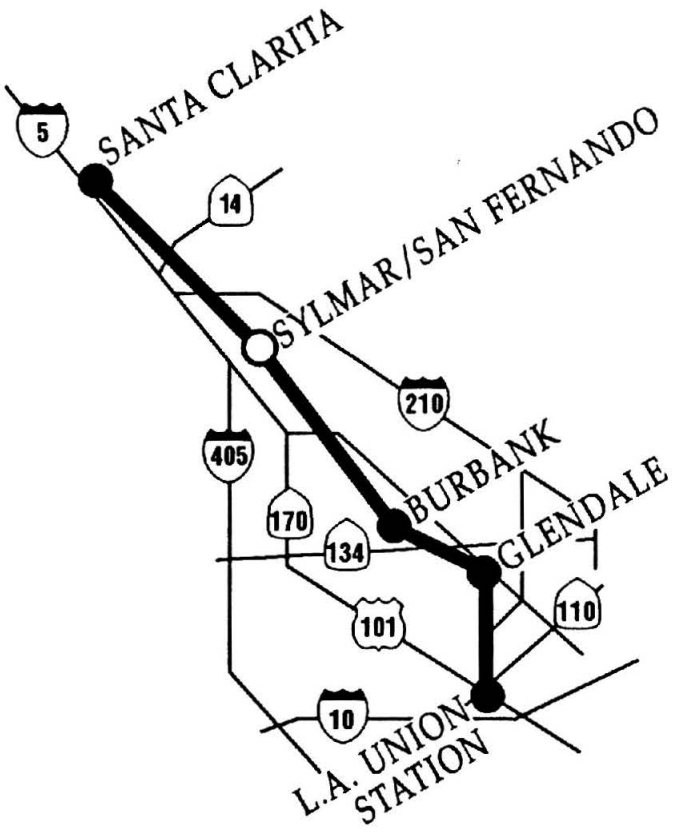
* A total of 3 Burbank trains operate in the peak. These trains are also shown on Table 2-4.

As shown, three roundtrip trains comprised the start-up service in October 1992. Starting February 1993, SCRRA initiated service expansions as indicated. No additional equipment needs were required in order to provide this expanded level of service.

The two off-peak roundtrips shown under Service Expansion #1 included mid-day trains. The mid-day service provided an early afternoon departure from Los Angeles to Santa Clarita for passengers requiring earlier return service.

On November 1, 1993, one peak period reverse train will be added to the service schedule, as well as one late evening sweeper roundtrip. This train provides late evening returns in both directions.

Figure 2.3



METROLINK

SANTA CLARITA LINE

● EXISTING STATIONS
○ FUTURE STATIONS

Operating Conditions

Trains for the Santa Clarita Line are stored overnight at a layover facility approximately one mile south of the Santa Clarita Station. Presently, intercity service operates only south of the Burbank junction along the Ventura County Line corridor. Because LACMTA owns the entire right-of-way (December 1992), Metrolink trains have priority at all times. The line will be dispatched by SCRRA (Amtrak) including all trains from Burbank Junction south.

Station Descriptions

Five stations, including Union Station, are located on this line. The distance between stations ranges from a minimum of five miles to 12 miles as shown below. The Burbank and Glendale stations also serve the Ventura County Line.

TABLE 2-6
SANTA CLARITA LINE STATION SPACING

Station	Distance (miles)
Santa Clarita	-
Sylmar	12.2
Burbank	11.2
Glendale	5.0
Union Station	5.9
Total Distance	**34.3**

Santa Clarita: The Santa Clarita Station is located south of Soledad Canyon Road and east of the Saugus Speedway. Currently, the station functions only as a Metrolink station. over 500 spaces are available. The travel time from Santa Clarita to Union Station is 53 minutes.

Sylmar/San Fernando:	The Sylmar/San Fernando Station is located southwest of the intersection of First and Hubbard streets in the San Fernando Valley. The station is expected to open in Spring 1994. The site design provides for 492 parking spaces and a bus layover facility. Connecting service is provided to/from the station via MTA.
Burbank:	See discussion under the Ventura County Line description.
Glendale:	See discussion under the Ventura County Line description.
Union Station:	See discussion under the Ventura County Line description.

3. SAN BERNARDINO LINE

Service Description

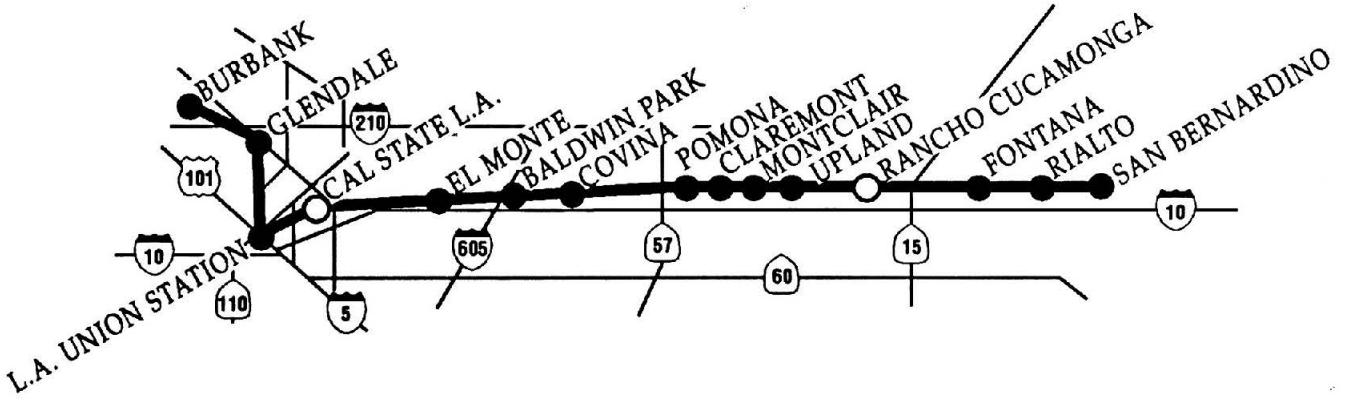
This service extends 57 miles from the City of San Bernardino to the Los Angeles Union Station (Figure 2.4). When all 13 stations are opened, the 57-mile trip will take approximately 80 minutes, thereby averaging 43 mph. Pending further service increases, the potential exists for skip-stop operation on this line.

On October 26, 1992 service on the San Bernardino Line began operating from the Pomona station. Service was extended to Montclair in San Bernardino County on 2/22/93 and to San Bernardino on 5/17/93. At the time of this report, only three stations remain unopened: Fontana, Rancho Cucamonga, and Cal State Los Angeles. The Fontana station is scheduled to open November 22, 1993; Rancho Cucamonga will open in the Fall of 1994, and Cal State Los Angeles will open in the summer of 1994.

The project is jointly funded by the San Bernardino Associated Government (SANBAG), LACMTA, and the State.

Service Levels

The anticipated service levels for the San Bernardino Line are shown in Table 2-7. Service levels are presented in terms of the number of directional trains to be operated during the initial start-up phase, as well as the first service expansion. The number of trains shown under service expansion is based on the SCRRA service schedule shown in Table 2-2.



METROLINK

SAN BERNARDINO LINE

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● METROLINK STATIONS
○ FUTURE STATIONS

Figure 2.4

TABLE 2-7
SAN BERNARDINO LINE SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	5 Peak Directional	10/26/92
Service Expansion #1	2 Mid-day (to Montclair)	2/22/93
Service Expansion #2	.5 Peak Directional	11/1/93
	1 Peak Reverse	11/1/93
	1 Mid-day	11/1/93
	1.5 Sweepers* (to Rialto)	11/1/93

* Two east bound trains and one west bound train

As described earlier, five roundtrip trains comprised the start-up service in October 1992. Starting February 1993, SCRRA introduced additional services as indicated. No additional equipment needs were required in order to provide this expanded level of service.

The two mid-day roundtrips shown as part of Service Expansion #1 provided early afternoon returns from Los Angeles. These trains originally terminated in Pomona and were gradually extended to Montclair by June 1993. In November 1993, the mid-day trips were extended as far east as Rialto.

Service Expansion #2 includes the addition of one peak directional trip (shown as .5 trip in Table 2-7) in the westbound direction for a total of 6 trips in the AM peak and 5 eastbound trips in the eastbound direction. One peak reverse train is also included which provides commuter service in the reverse direction. In addition, one mid-day train is proposed, as well as the implementation of two eastbound sweeper trips and one westbound sweeper trip. The sweeper trains provide late evening service between Los Angeles and San Bernardino.

Operating Conditions

Three trains are stored overnight in the San Bernardino Depot and two trains in Rialto. When the San Bernardino passenger "flyover" is under construction all five trains will be stored in San Bernardino per the terms of the agreement with ATSF. Presently, Amtrak operates one daily long distance train to Chicago (Southwest Chief) along the former ATSF Pasadena subdivision alignment. This train will be rerouted to the San Bernardino subdivision sometime in early 1994. Until this time, Metrolink trains operating east of

Pomona will share track with the intercity service.

The SCRRA owns the entire right-of-way on the San Bernardino alignment with the exception of an approximate one-mile segment between Rancho Road and the San Bernardino Depot. On the right-of-way owned by the SCRRA, it has absolute control over train dispatching and operating functions.

With respect to the mile of unowned right-of-way between the San Bernardino Depot and Rancho Road, the SCRRA has reached an agreement with ATSF to construct a "passenger train flyover" to separate commuter trains from freight trains. This agreement gives SCRRA priority access to its San Bernardino terminus.

Station Descriptions

Thirteen stations, including Union Station, are located on this line. The distance between stations ranges from a minimum of 1.4 miles to 8 miles as shown in Table 2-8.

TABLE 2-8
SAN BERNARDINO LINE STATION SPACING

Station	Distance (miles)
San Bernardino	-
Rialto	4.2
Fontana	3.8
Rancho Cucamonga	7.0
Upland	5.1
Montclair	2.6
Claremont	1.4
Pomona	1.8
Covina	8.0
Baldwin Park	4.2
El Monte	6.3
Cal State L.A.	8.0
Union Station	4.6
Total Distance	**57.0**

San Bernardino: The San Bernardino Station is located at the corner of 3rd Street and Mt. Vernon Avenue, south of the ATSF line at the site of the existing historic depot. Currently, the station functions as an intercity rail station stop for two long distance trains to Chicago and a bus feeder stop for the

San Bernardino (cont)

San Joaquin Line.

The station will serve two Metrolink lines: San Bernardino and San Bernardino-Riverside- Irvine. Ultimately, the station will also serve the ATSF extension to Redlands. There are approximately 320 parking spaces at site.

Connecting services will be operated by Omnitrans on selected local routes. The travel time from San Bernardino to LAUS effective 11/1/93 is 80 minutes.

Rialto:

The Rialto Station is located west of Riverside Avenue, just north of the ATSF alignment. It is located on the site of the historic depot, although the structure is gone.

The site provides for approximately 200 parking spaces. Connecting service will be provided to/from the station via Omnitrans. The travel time to Union Station from Rialto is 71 minutes.

Fontana:

The Fontana Station is located at the intersection of Orange Way and Sierra Avenue, north of the ATSF alignment.

The station opens 11/22/93 with a total of 564 parking spaces. Omnitrans will provide connecting local service. The travel time to Union Station from Fontana is 67 minutes.

Rancho Cucamonga:

The Rancho Cucamonga Station is to be located at Milliken Avenue. The city is currently conducting an environmental review of the site. The station is expected to open Fall 1994. A total of approximately 325 spaces are planned. The local provider will be Omnitrans.

Upland:

The Upland Station is located at the intersection of Second Avenue and "A" Street, just east of Euclid Avenue, a

Upland (cont)

north-south major arterial.

An estimated 355 parking spaces are provided. Omnitrans is the local fixed-route provider. The travel time to Union Station is 55 minutes.

Montclair:

Located between Monte Vista and Central avenues, between the ATSF and SP alignments, this station borders the Los Angeles County line and is 23 miles west of the San Bernardino terminus.

The station is a major multi-modal center with both express and local transit connections. A bus loop and staging facility is integrated into the station design. An on-site childcare center is scheduled to open in the spring of 1994.

The Montclair Station also functions as a Caltrans park-and-ride lot with a total of 1,594 spaces, making it the largest facility along the alignment. Transit operators providing connecting service include Omnitrans, RTD and Foothill Transit. The estimated travel time to Union Station is 50 minutes.

Claremont:

The Claremont Station is located between Indian Hill Boulevard and College Avenue, south of First Street. The station is a multi-modal facility.

Connecting service is provided by Foothill Transit. The Pomona Valley Transit Authority may also provide feeder service to the station. The estimated travel time to Union Station is 47 minutes.

Pomona:

This station is located between Fulton Road and Garey Avenue between the former ATSF and SP alignments. The current parking facility can accommodate a total of 240 parking spaces with future expansion alternatives.

Pomona (cont)

Connecting service to/from the station is provided by Foothill Transit. The city of Pomona also operates a Dial-A-Ride service. The estimated travel time to Union Station is 44 minutes.

Covina:

The Covina Station is located on Citrus Avenue and Front Street, north of the SP alignment. The station is situated within one-quarter mile of the city's central business district.

A total of 260 parking spaces are provided on-site. An additional 50 spaces are available on Italia Street, approximately one-quarter mile south of the station. Connecting services are operated by Foothill Transit, MTA, and the city of Covina. The estimated travel time to Union Station is 34 minutes.

Baldwin Park:

The station is located at the intersection of Downing and Pacific avenues, east of the SP alignment.

A total of 260 parking spaces are available. Future expansion opportunities will provide for a total of 500 spaces. Limited transit connections are operated by Foothill Transit and MTA. The estimated travel time to Union Station is 29 minutes.

El Monte:

The El Monte Metrolink station is located in the northwest quadrant of Valley Boulevard and Tyler Avenue. The El Monte Busway station, a major regional transit terminal, is located approximately three-quarters of a mile southwest at the intersection of Santa Anita and Ramona Boulevard.

Connecting service to/from the Metrolink station is operated by RTD, Foothill Transit, and the city of El Monte. The city's trolley service began providing feeder services between the Metrolink and Busway stations with

El Monte (cont)

the opening of Metrolink in October 1992.

A total of 278 parking spaces are available at the station, with plans to expand in the future to 400.

There are also four park-and-ride facilities located within one mile of the station in conjunction with the Busway station.

The travel time to Union Station is 21 minutes.

Cal State L.A.:

This station is located within the University campus at the University Busway Station. The station is expected to open in the Summer 1994.

Because the station is envisioned as a destination station, no parking facilities have been included in the design plan. Some peripheral parking may be provided by the University at some point in the future.

Connecting services are being developed by the surrounding cities of Alhambra, Monterey Park, and the County of Los Angeles, and the University. MTA has proposed the operation of a shuttle service which will serve adjacent employment centers and the residents of City Terrace. Busway service operated by Foothill Transit and MTA will also be available.

Union Station:

See discussion under the Ventura County Line description.

OPENED JUNE 1993

4. RIVERSIDE LINE

Service Description

This service extends 57.8 miles between the city of Riverside and the Los Angeles Union Station along the Union Pacific (UP) alignment (Figure 2.5). The alignment roughly follows the Pomona Freeway corridor (SR 60) through the cities and communities of Pedley, Mira Loma, Ontario, Pomona, West Covina, Walnut, Industry, La Puente, Montebello, and Commerce. The total trip time between downtown Riverside and Union Station is 68 minutes. The line is jointly funded by the Riverside County Transportation Commission (RCTC), SANBAG, and the LACMTA.

Service Levels

The anticipated service levels for the Riverside-Ontario-Los Angeles Line are shown in Table 2-9. Service levels are presented in terms of the number of directional trains to be operated during the initial start-up phase, as well as the first service expansion.

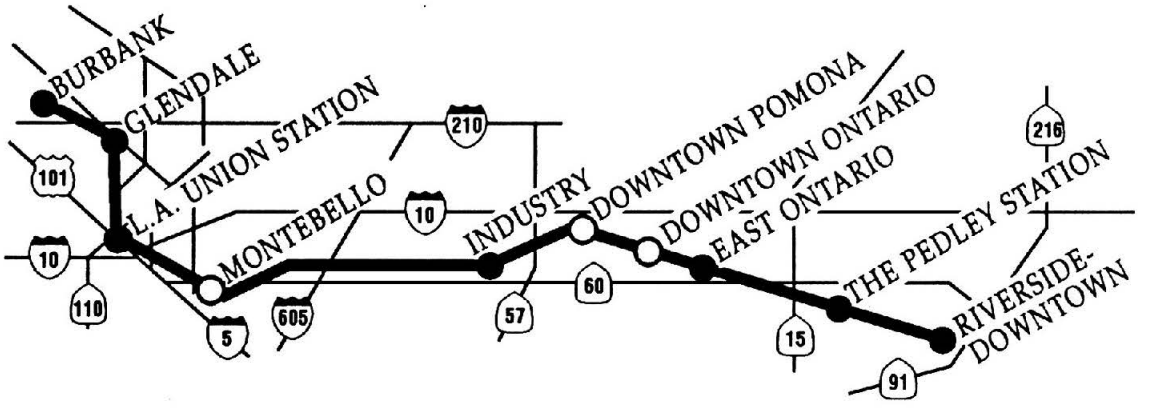
TABLE 2-9
RIVERSIDE-LOS ANGELES VIA ONTARIO SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	3 Peak Directional 1 Mid-day	6/14/93
Service Expansion #1	Pending Further Analysis	

As shown, three roundtrip trains, plus one mid-day comprised the start-up service on June 14, 1993. The mid-day service provides an early afternoon departure from Los Angeles to Riverside for passengers requiring earlier return service. The Riverside County Transportation Commission is currently reviewing service expansion alternatives.

Operating Conditions

Trains are currently stored overnight at the Downtown Riverside station. In the future, trains for this line will be stored at a common facility north of the Downtown station. No intercity



METROLINK

RIVERSIDE LINE

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● METROLINK STATIONS
○ FUTURE STATIONS

Figure 2.5

service is operated along the Union Pacific alignment.

The SCRRA agreement with the Union Pacific consists of operating rights during the morning and evening peak periods. During these windows, Metrolink trains receive absolute top priority over freight movements. During off-peak hours, Metrolink trains and freight trains will be dispatched according to general priority guidelines. Union Pacific retains dispatching authority on this line except for the portion north of Soto Junction.

Station Descriptions

Seven stations, including Union Station, are located on this line. The distance between stations ranges from a minimum of five miles to 16.1 miles as shown in Table 2-10 . When the line opened on June 14, 1993, only the Riverside, Pedley, East Ontario, and Industry stations were open. The Pomona and Montebello stations are scheduled to open in late 1994.

TABLE 2-10
RIVERSIDE-LOS ANGELES VIA ONTARIO STATION SPACING

Station	Distance (miles)
Riverside	-
Pedley	6.8
East Ontario (Haven)	8.1
Downtown Ontario	3.9
Pomona	5.8
Industry	8.0
Montebello	16.1
Union Station	9.1
Total Distance	**57.8**

Riverside:

The Riverside Station is located on Vine Street between 10th and 14th streets, northwest of the ATSF right-of-way. This station will serve three Metrolink lines: Riverside-Los Angeles via Ontario, San Bernardino/Riverside-Irvine, and Riverside-Los Angeles via Fullerton.

The Riverside Station may also serve

Riverside (cont)

as an intercity passenger terminal in the future. Caltrans is currently studying the feasibility of implementing intercity service to the Coachella Valley from Los Angeles along the ATSF San Bernardino subdivision. In addition, Amtrak has previously expressed a willingness to stop one or both of its long distance services in Riverside.

The Riverside Station is part of a larger mixed-use/commercial redevelopment project which includes the construction of a variety of retail shops, restaurants, and office space, as well as movie theaters.

The station design includes parking for 375 vehicles on-site. An additional 100 spaces are available for expansion purposes at an adjacent lot. An on-site bus turnaround facility is also provided.
Connecting services are operated by Riverside Transit Agency. The travel time to Union Station from Riverside is 68 minutes.

Pedley:

The Pedley Station is located at the intersection of Limonite Avenue and Van Buren Boulevard, east of the Union Pacific right-of-way. The station is located within a county redevelopment zone.

The site plan includes spaces for approximately 300 vehicles. The Riverside Transit Agency is the local fixed-route provider. The travel time to Union Station from Pedley is approximately 59 minutes.

East Ontario:

The East Ontario station is located in the northwest quadrant of the railroad and Haven Avenue. The station has 500 parking spaces and is located approximately one mile from the Ontario International Airport.

East Ontario (cont)

Omnitrans is the local fixed-route provider. The travel time to Union Station from East Ontario is approximately 50 minutes.

Downtown Ontario:

The proposed Downtown Ontario station is located approximately 4 miles west of the West Ontario station at the intersection of Euclid Avenue and State Street, between the SP and UP alignments. The station is proposed as a joint Metrolink and intercity rail facility with separate boarding platforms on each rail line.

The Downtown station is planned as part of a mixed-use master plan redevelopment project and will include a bus staging facility, retail/food shops, and office space. The projected total number of parking spaces at build-out is approximately 725.

Pomona:

The Pomona site is located west of Garey Avenue and north of 1st Street, between the Southern Pacific and Union Pacific alignments. It is not scheduled to open until late 1994. It will also function as a joint Metrolink/Amtrak facility as Amtrak's "Sunset Limited" currently stops at this station on the Southern Pacific tracks.

A total of 300 parking spaces are planned at this facility. Local service is provided by the MTA.

Industry:

This station is located between Brea Canyon Road and Grand Avenue, north of the UP alignment. The station is situated immediately north of the junction of the Pomona (SR 60) and Orange (SR 57) Freeways.

A total of 500 parking spaces are available at this facility. Local service is provided by the MTA. The

Industry (cont)	travel time to Union Station from Industry is approximately 33 minutes.
Montebello:	The Montebello site is located between Garfield and Vail Avenue, south of the Union Pacific line. A total of 500 parking spaces are planned for this facility. Local service will be provided by MTA. Due to the large number of employers located within close proximity of the station, this site is anticipated to be a major destination point along the line. The station is not planned to open until late 1994.
Union Station:	See discussion under the Ventura County Line description.

OPENING 1994

5. OCEANSIDE - LOS ANGELES
(Opening March 1994)

Service Description

This service extends 87.3 miles between the city of Oceanside and the Los Angeles Union Station along the former ATSF San Diego subdivision (Figure 2.6). The alignment roughly follows the Santa Ana Freeway corridor (I-5) through north San Diego County, central Orange County, and Los Angeles County. The total trip time between Oceanside and Union Station is two hours, for an average speed of 45 mph. The line is jointly funded by the Orange County Transportation Authority (OCTA), the LACMTA, and the State.

Service Levels

The anticipated service levels for the Oceanside-Los Angeles Line are shown in Table 2-11. Service levels are presented in terms of the number of directional trains to be operated during the initial start-up phase, as well as the first service expansion. The number of trains shown under service expansion is based on the SCRRA service schedule shown in Table 2-2.

As shown, three roundtrip trains comprise the start-up service in May 1994. It should be noted, however, that the OCTA has been

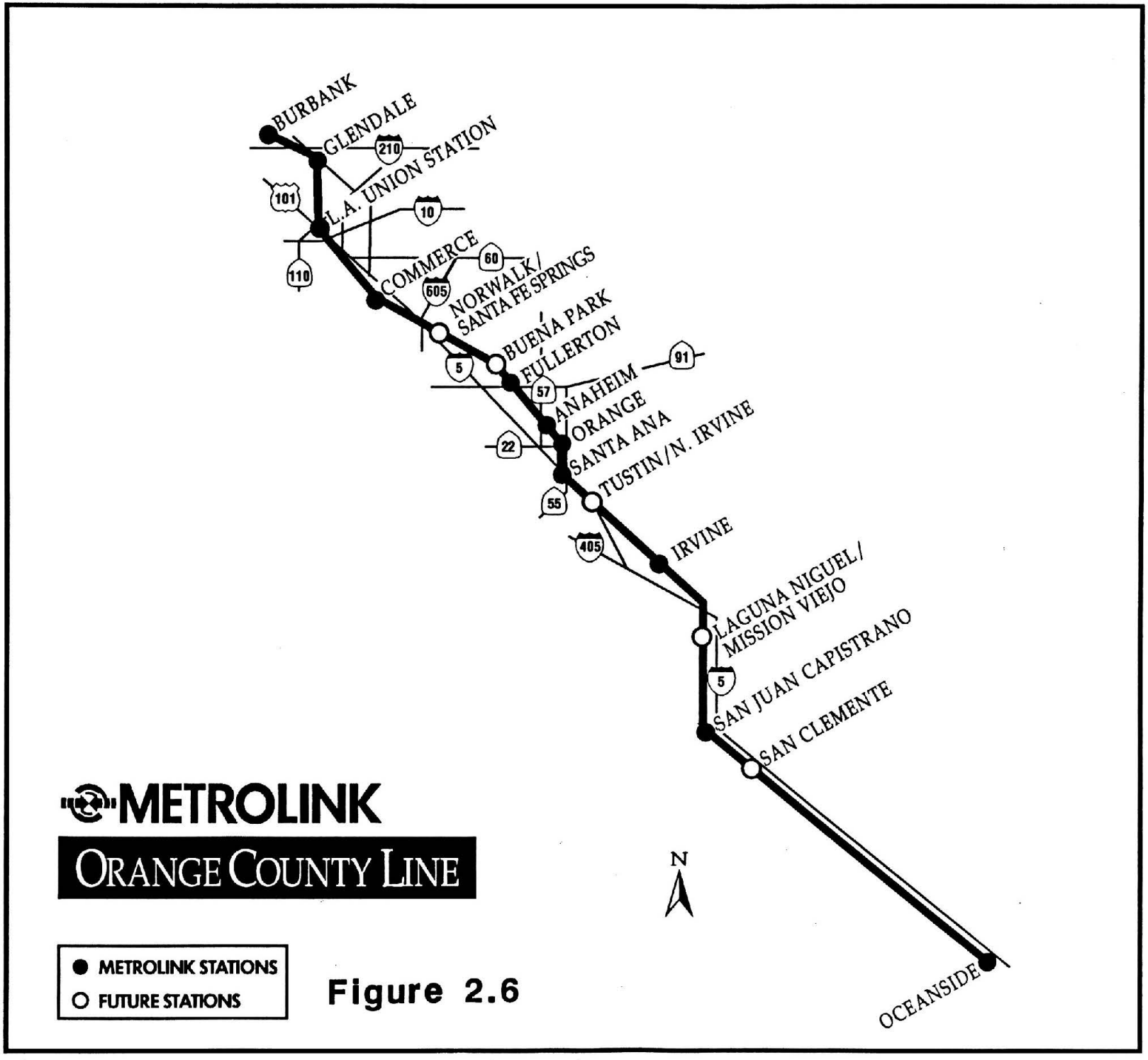

BURBANK
GLENDALE
210
L.A. UNION STATION
101
10
110
COMMERCE
60
605
NORWALK/
SANTA FE SPRINGS
BUENA PARK
FULLERTON
5
91
57
ANAHEIM
ORANGE
SANTA ANA
22
TUSTIN/N. IRVINE
55
405
IRVINE
LAGUNA NIGUEL/
MISSION VIEJO
5
SAN JUAN CAPISTRANO
SAN CLEMENTE
OCEANSIDE
METROLINK
ORANGE COUNTY LINE
N
METROLINK STATIONS
FUTURE STATIONS

Figure 2.6

TABLE 2-11
OCEANSIDE-LOS ANGELES SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	3 Peak Directional	5/16/94
Service Expansion #1	1 Shoulder Directional	1/0/95*
	5 Off-Peak	4/0/95*

* Proposed date of service change

operating one weekday commuter rail roundtrip between San Juan Capistrano and Union Station under contract to Amtrak since April 1990. In May 1994, Metrolink will assume operation of this trip and add two others as part of the start-up.

In January 1995, an additional roundtrip is planned, as well as the addition of five off-peak roundtrips. The off-peak service consists of both mid-day and late evening "sweeper" return service from Los Angeles. Again, these trips will be coordinated with Amtrak schedules to provide the maximum scheduling possible for Metrolink passengers.

In addition, unlike any of the other Metrolink lines, Amtrak operates nine "San Diegan" round trips along the Oceanside-Los Angeles Metrolink service alignment. Schedules of the two services will be integrated in order to provide the highest level of service frequencies possible within the peak period.

Operating Conditions

Metrolink trains will be stored overnight in Fallbrook at a joint maintenance facility with North San Diego County Transit District (NCTD). NCTD is the agency responsible for developing commuter rail service southbound from Oceanside to San Diego. The NCTD is not a member of the SCRRA, but works closely with the OCTA in the coordination of services and facilities where possible.

The Oceanside-Los Angeles service operates along right-of-way owned by two different agencies. South of Fullerton to the San Diego County line, the right-of-way is owned by the Orange County Transportation Authority. Between the County line and Oceanside, the right-of-way is owned by North County Transit District. Between Redondo Junction and Union Station, the right-of-way is owned by LACMTA. Ownership of the line by public agencies gives Metrolink absolute control in train dispatching and operating functions, including Amtrak intercity and ATSF freight trains.

North of Fullerton south of Redondo Junction, the ATSF owns the right-of-way, however. The SCRRA has negotiated an exclusive "use-right" agreement in order to operate Metrolink service. The use-right consists of morning and evening peak period windows when Metrolink trains will have absolute priority in dispatching functions. Trains requiring use of the tracks outside of these peak period windows will receive general priority status and ATSF will maintain the dispatching function.

Station Descriptions

Fifteen stations, including Union Station, are located on this line. The distance between stations ranges from a minimum of 2.2 miles to 21.6 miles as shown in Table 2-12. Because exact sites have not yet been selected for all of the stations indicated in Table 2-12, station spacings may be revised upon final station selections.

TABLE 2-12
OCEANSIDE-LOS ANGELES STATION SPACING

Station	Distance (miles)
Oceanside	–
San Clemente	21.6
San Juan Capistrano	7.6
Laguna Niguel/Laguna Hills/ Mission Viejo*	5.3
Irvine Spectrum	7.0
Tustin/North Irvine*	5.0
Santa Ana	4.8
Orange	2.5
Anaheim	2.2
Fullerton	5.5
Buena Park	4.4
Norwalk	4.4
Commerce	7.7
Union Station	9.3
Total Distance	**87.3**

* Alternative station locations are under review.
Station spacing estimates are based on OCTA Commuter Action Plan.

Oceanside:

The Oceanside Station is located at 235 S. Tremont, northeast of the rail line. This station currently serves as a stop on the Amtrak "San Diegan" service. It also functions as a transit terminal and park-and-ride lot.

San Clemente:

The existing station used by Amtrak on its "San Diegan" service is located at the intersection of Avenida Del Mar and Avenida Victoria. The station is located adjacent to the San Clemente Pier in a residential area. Limited parking is available.

Due to the incompatible adjacent land uses, the city of San Clemente has determined to relocate the station approximately one mile farther north near the intersection of Avenida Pico and El Camino Real.

The station is served by OCTA's bus division.

San Juan Capistrano:

The San Juan Capistrano station site is currently used by Amtrak's "San Diegan" service and OCTA's commuter rail service. The site is located on Verdugo Street, just west of Camino Capistrano and east of the rail alignment.

The facility has 130 park-and-ride spaces reserved for commuter rail and intercity rail passengers. The city plans on expanding existing parking facilities. The station is served by the OCTA bus division.

Laguna Niguel/
Laguna Hills/
Mission Viejo:

A site has been selected in the city of Laguna Niguel on Forbes Road, south of Crown Valley Parkway and west of the ATSF line.

The station will open with 190 parking spaces, with future expansion capabilities of 300. The site is

Laguna Niguel (cont)

currently under environmental review. The station is not expected to open until late 1994.

Irvine Spectrum:

This station is known as the Irvine Transportation Center and functions as a joint commuter rail/ intercity rail station. The Amtrak "San Diegan" stops at this station on a daily basis. The station is located at the northeast corner of Barranca Parkway and Ada, south of the ATSF alignment.

The station will serve two Metrolink lines: Oceanside-Los Angeles and San Bernardino/Riverside-Irvine.

The station has parking facilities for 336 vehicles, loading zones for taxis and vanpools, restrooms, public telephones, vending machines, luggage lockers, and bicycle racks and lockers. The station is currently served by four OCTA local routes.

Tustin/North Irvine:

The Tustin/North Irvine site is located at the intersection of Jamboree Boulevard and Edinger Avenue. Development of the station is a joint effort between the cities of Tustin and Irvine. No opening date has been set at this time.

The station will serve two Metrolink lines: Oceanside-Los Angeles and San Bernardino/ Riverside-Irvine. OCTA is the local fixed-route provider for the county.

Santa Ana:

Known as the Santa Ana Regional Transportation Center, the Santa Ana station opened in 1985. The station is located at the southeast corner of Santa Ana Boulevard and Santiago Avenue, west of the ATSF alignment. The station functions as a joint commuter/intercity rail station for the Amtrak "San Diegan" line, as well

Santa Ana (cont)

as a transit terminal for local and regional providers.

It is expected that the Santa Ana Station will function as an origin and destination for Metrolink passengers as the Santa Ana Civic Center, a major governmental employment center, is located just west of the station. The station will serve two Metrolink lines: Oceanside-Los Angeles and San Bernardino/Riverside-Irvine.

The facility currently provides parking for over 400 vehicles and is served by local taxi vendors and the OCTA. A parking structure is also planned for the future. Station amenities include a cafe, retail shops, Amtrak ticket desk, banquet facilities, and office space.

Orange:

The Orange Station is located at the city's historic depot site, north of Chapman Avenue and east of the ATSF line.

Closed in 1971, the station will be refurbished for use as a Metrolink station. The station will serve two Metrolink routes: Oceanside-Los Angeles Line and the San Bernardino/Riverside-Irvine Line.

Existing city plans call for bus layover and park-and-ride facilities. Four OCTA bus routes currently operate in the nearby vicinity and will be rerouted to the station.

Anaheim:

The Anaheim Station is currently located off Katella Avenue, in the parking lot of the Anaheim stadium. The station functions as a joint intercity/commuter rail terminal. Amtrak's "San Diegan" service serves this station.

The station has parking facilities for 400 vehicles in a separate lot

Anaheim (cont)

from the stadium.

OCTA currently directly serves the station with one route, with other routes within the immediate vicinity.

Fullerton:

The Fullerton Station is located at 120 E. Santa Fe Avenue, in the northeast quadrant of Harbor Boulevard and the ATSF line. The existing station was constructed in 1930 and currently functions as an intercity/commuter rail station. The station serves the Amtrak "San Diegan" line.

The station will serve two Metrolink lines: Oceanside-Los Angeles and San Bernardino/ Riverside-Los Angeles via Fullerton.

The station is part of the Fullerton Transportation Center which includes an OCTA bus facility and park-and-ride parking structure for 290 vehicles. Commercial and retail restaurants are located within the immediate vicinity.

Buena Park:

The site of the Buena Park Station is located near the intersection of Malvern Avenue and Dale Street, north of the ATSF line. This site is located approximately one mile north of the junction of the Artesia Freeway (SR 91) and the Santa Ana Freeway (I-5).

The station will serve two Metrolink lines: Oceanside-Los Angeles and San Bernardino/ Riverside-Los Angeles via Fullerton.

Site plans have not been developed. No opening date has been selected for the station. The local transit provider is OCTA.

Norwalk:

The Norwalk Station is located south of Imperial Highway, west of the ATSF alignment. It is situated approximately one mile north of the Santa Ana Freeway (I-5). The station will also be the Metrorail Green Line eastern terminus.

The station will serve two Metrolink lines: Oceanside-Los Angeles and San Bernardino/ Riverside-Los Angeles via Fullerton.

Preliminary station design plans call for the construction of approximately 300 parking spaces. The station lies within the service transit territory of the RTD. It is anticipated the station will open in December 1994.

Commerce:

The Commerce Station is located on 26th Street, south of the ATSF alignment. The site is situated immediately south of the Santa Ana Freeway (I-5).

Until additional facilities are built, only a limited number of trains can stop at Commerce. Two Metrolink lines could serve this station: Oceanside-Los Angeles and San Bernardino/ Riverside-Los Angeles via Fullerton.

Parking facilities are available for approximately 150 spaces. Future parking expansion will provide 300 spaces. Transit services can be provided by MTA and Commerce Municipal Bus Lines.

Union Station:

See discussion under the Ventura County Line description.

6. SAN BERNARDINO/RIVERSIDE - IRVINE

Service Description

Existing regional plans call for the service to originate in the City of San Bernardino and extend to the City of Irvine in Orange County for a distance of 59 miles (Figure 2.7). The alignment roughly follows the Riverside Freeway (SR 91) along the ATSF San Bernardino subdivision through Riverside County into Orange County, where the route turns south along the OCTA Olive branch at Atwood.

From Atwood the route continues south a distance of approximately six miles until it connects with the San Diego subdivision just north of the city of Orange. The line then continues southbound to the existing Irvine Transportation Center.

The total trip time from Riverside to Irvine is approximately 75 minutes, for a speed of 47 mph. The line is a jointly-funded project of the Riverside County Transportation Commission, the Orange County Transportation Authority, and the State.

Service Levels

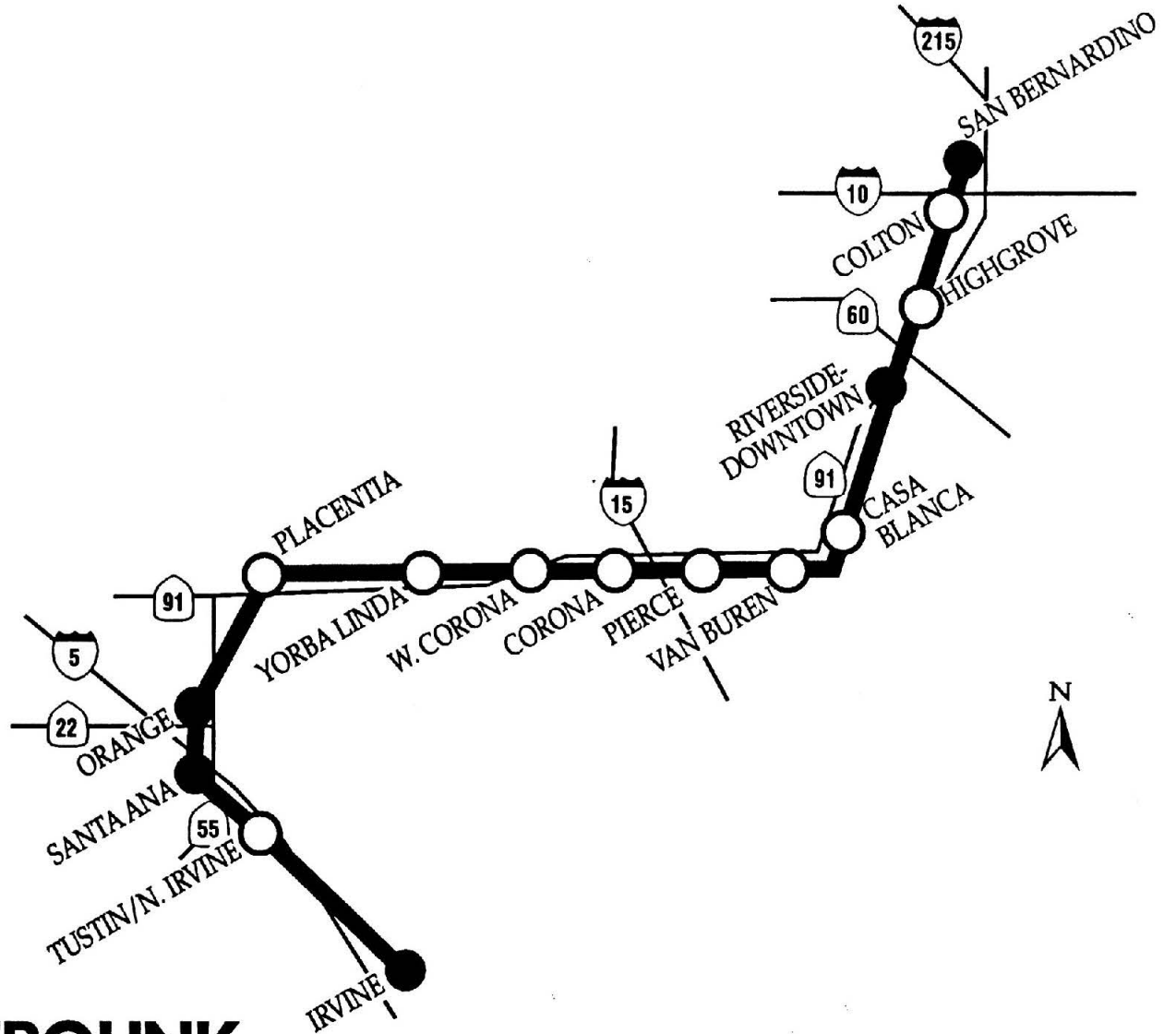
The anticipated service levels for the San Bernardino/Riverside-Irvine line are shown in Table 2-13. Service levels are presented in terms of the number of directional trains to be operated during the initial start-up phase.

TABLE 2-13
SAN BERNARDINO/RIVERSIDE-IRVINE SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	2 Peak Directional	1996
Service Expansion	None determined	

As shown, two roundtrip trains comprise the start-up service in FY 1995-1996. The current operating plan will turnback one of the trainsets arriving in Irvine to Los Angeles along the Oceanside-Los Angeles line. No schedule for shoulder or off-peak service has been developed at this time.

Figure 2.7


215
SAN BERNARDINO
10
COLTON
HIGHGROVE
60
RIVERSIDE-
DOWNTOWN
91
CASA
BLANCA
15
PLACENTIA
91
YORBA LINDA
W. CORONA
CORONA
PIERCE
VAN BUREN
5
22
ORANGE
SANTA ANA
55
TUSTIN/N. IRVINE
IRVINE
N
METROLINK
SAN BERNARDINO / RIVERSIDE-IRVINE LINE
EXISTING STATIONS
FUTURE STATIONS

Operating Conditions

Metrolink trains will be stored overnight at the San Bernardino depot. The line will share right-of-way with intercity passenger service for much of its alignment. Two Amtrak transcontinental routes operate along the San Bernardino subdivision between Atwood and San Bernardino. In addition, Amtrak's "San Diegan" service operates along the same Metrolink alignment between the cities of Orange and Irvine, providing service between San Diego and Los Angeles.

The SCRRA agreement with the ATSF includes a mixture of operating use-rights and ownership. Between Atwood and San Bernardino, the SCRRA has obtained use-rights only with specific windows during AM and PM peak periods when Metrolink trains will have absolute priority. ATSF maintains dispatching authority on this segment. South of Fullerton the OCTA owns the right-of-way and, therefore, Metrolink has absolute authority in train operations and dispatching functions.

Station Descriptions

Eleven stations, including the Irvine terminus, are expected to serve this line during its start-up period. Additional stations within Riverside County may be phased in during successive years pending funding arrangements. The distance between stations ranges from a minimum of 2.5 miles to 9.7 miles as shown in Table 2-14.

TABLE 2-14
SAN BERNARDINO/RIVERSIDE-IRVINE STATION SPACING

Station	Distance (miles)
San Bernardino	-
Colton/Highgrove*	6.7
Downtown Riverside	3.3
Western Riverside	9.7
West Corona	7.4
Yorba Linda*	8.4
Northeast Anaheim*	6.1
Orange	5.0
Santa Ana	2.5
Tustin/North Irvine	4.5
Irvine	5.4
Total Distance	59.0

* Alternative station locations are under review. Arbitrary mileposts have been used for these sites in order to approximate station spacings.

San Bernardino:	See description under the San Bernardino-Los Angeles Line.
Colton/Highgrove:	Specific sites for the Colton and Highgrove stations have not been determined. Consideration is currently being given to combining the two stations in conjunction with a Caltrans park-and-ride lot.
Riverside:	See description under the Riverside-Los Angeles via Ontario Line discussion.
Western Riverside:	The RCTC is currently evaluating several sites in the general area of La Sierra Avenue.
West Corona:	The West Corona site is located within the city of Corona in the southeast quadrant of Auto Center/ Serfas Club Drive and the ATSF alignment. The site is situated just one-half mile north of the 91 freeway. The station will serve two Metrolink lines: San Bernardino/Riverside - Irvine and Riverside - Los Angeles via Fullerton. The site design process is currently underway. Preliminary plans call for approximately 500 parking spaces, as well as bus turnaround facilities. The Riverside Transit Agency is the fixed-route local provider for Riverside County and intends on serving the station.
Yorba Linda:	Station locations are currently under review. No specific site has been identified. The station will serve two Metrolink lines: San Bernardino/Riverside-Irvine and Riverside-Los Angeles via Fullerton.

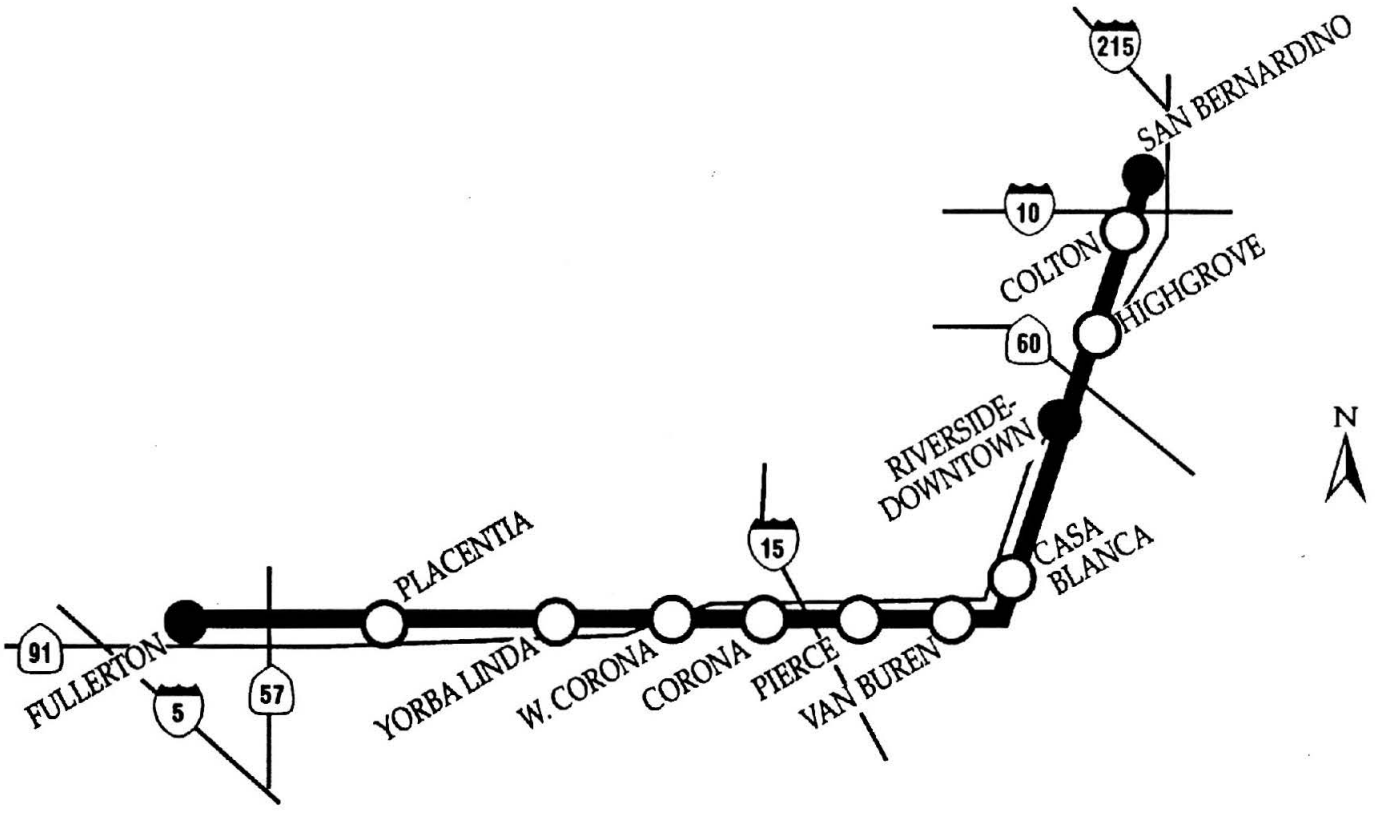
Yorba Linda (cont)	Connecting services to/from the station would be provided by the County Transit District, the local fixed-route operator within Orange County.
Northeast Anaheim:	A site has been identified at Tustin and La Palma Avenue within the City of Anaheim. Current planning efforts view this station as a destination point to serve the northeast Anaheim industrial employment center. A corresponding origin facility could be constructed within the city of Anaheim at the intersection of Orangethorpe and Lakeview avenues. The Orange County Transportation Authority is the local transit provider.
Orange:	See description under the Oceanside-Los Angeles Line discussion.
Santa Ana:	See description under the Oceanside-Los Angeles Line discussion.
Tustin/North Irvine:	See description under the Oceanside-Los Angeles Line discussion.
Irvine:	See description under the Oceanside-Los Angeles Line discussion.

7. RIVERSIDE - LOS ANGELES VIA FULLERTON

Service Description

Existing regional plans call for the service to originate in the City of Riverside and extend a total of 61.8 miles through Riverside and Fullerton in Orange County and terminating in Los Angeles (Figure 2.8). The distance from Riverside to Los Angeles is 62.8 miles. The alignment roughly follows the Riverside Freeway (SR 91) along the ATSF San Bernardino subdivision through Riverside County to Fullerton in Orange County where it continues west to

Figure 2.8



METROLINK

RIVERSIDE–L.A. VIA FULLERTON LINE

● EXISTING STATIONS
○ FUTURE STATIONS

downtown Los Angeles.

The San Bernardino Subdivision is one of ATSF's most heavily utilized transcontinental main lines. Prior to the adoption of a use-right with ATSF, a detailed engineering study was completed in cooperation with ATSF to determine the extent of improvements required to permit commuter rail services on the line. The line is a jointly funded project of the State and four transportation commissions: San Bernardino, Riverside, Orange, and Los Angeles.

Service Levels

The anticipated service levels for the Riverside-Los Angeles via Fullerton Line are shown in Table 2-15. Service levels are presented in terms of the number of directional trains to be operated during the initial start-up phase.

TABLE 2-15
RIVERSIDE-LOS ANGELES VIA FULLERTON SERVICE LEVELS

Service Level	# (RT) Trains	Start Date
Start-Up	2 Peak Directional	Summer 95
Service Expansion #1	None scheduled	

As shown, two roundtrip trains comprise the start-up service in FY 1995-96.

Operating Conditions

Trains will be stored overnight at a Riverside storage facility. The Metrolink line will share right-of-way with intercity passenger service and freight traffic for much of its alignment.

The SCRRA agreement with the ATSF provides for operating use-rights on the San Bernardino subdivision. The agreement stipulates specific times during the AM and PM peak periods when Metrolink trains will have absolute priority. ATSF maintains dispatching authority on this segment.

According to the terms of the ATSF purchase agreement between the five member agencies and the SCRRA, the ATSF is selling its fee interest in the Pasadena subdivision and has agreed to terminate all "through" freight service along the subdivision by early 1994.

These rerouted "through" trains will begin using the San Bernardino subdivision at that time. This agreement provides the necessary right-of-way for the proposed extension of the Metrorail Blue Line.

Station Descriptions

Ten stations, including the Union Station terminus, are expected to serve this line during its start-up period. Additional stations may be developed within Riverside County pending financial considerations. The distance between stations ranges from a minimum of 3.0 miles to 9.7 miles as shown in Table 2-16.

TABLE 2-16
RIVERSIDE-LOS ANGELES VIA FULLERTON STATION SPACING

Station	Distance (miles)
Riverside	-
Pierce Street	9.7
Serfas Club	7.4
Yorba Linda*	8.4
Placentia*	7.5
Fullerton	3.0
Buena Park	4.4
Norwalk	4.4
Commerce	7.7
Union Station	9.3
Total Distance	**61.8**

* Alternative station locations are under review. Arbitrary mileposts have been these sites in order to approximate station spacings.

Riverside: See description under the Riverside-Los Angeles via Ontario Line discussion.

Pierce: See description under the San Bernardino/Riverside-Irvine discussion.

Serfas Club: See description under the San Bernardino/Riverside-Irvine discussion.

Yorba Linda: See description under the San

	Bernardino/ Riverside-Irvine discussion.
Placentia:	Alternate station locations are currently under review. A precise location has not yet been determined. OCTA is the local transit provider.
Fullerton:	See description under the Oceanside-Los Angeles Line discussion.
Buena Park:	See description under the Oceanside-Los Angeles Line discussion.
Norwalk:	See description under the Oceanside-Los Angeles Line discussion.
Commerce:	See description under the Oceanside-Los Angeles Line discussion.
Union Station:	See description under the Ventura County Line discussion.

OPENING POST-1995

8. HEMET - RIVERSIDE

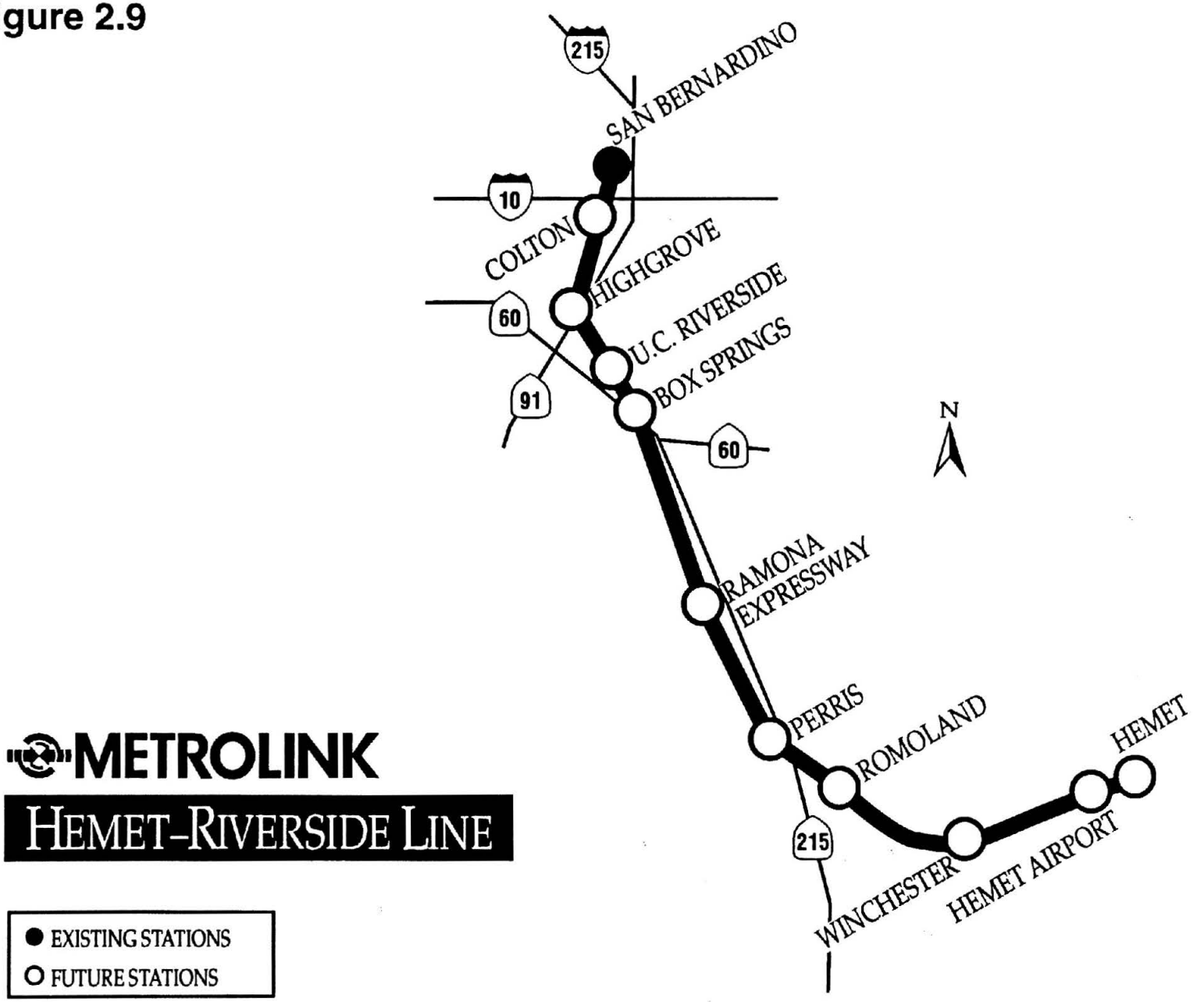
Service Description

This service will operate over the San Jacinto branch of the ATSF Railroad. The route extends approximately 39.6 miles between Riverside on the San Bernardino subdivision and Hemet (Figure 2.9). The alignment roughly follows the Escondido Expressway (SR 215) through Riverside County. The line will be funded solely by the Riverside County Transportation Commission (RCTC).

Service Levels

As currently envisioned, the Hemet line will act as a feeder service to the other lines bound for Orange County: Riverside-Los Angeles via Fullerton and San Bernardino/Riverside-Irvine. In addition, the Hemet Line will also feed the Riverside-Los Angeles via Ontario Line.

Figure 2.9


215
SAN BERNARDINO
10
COLTON
HIGHGROVE
60
U.C. RIVERSIDE
BOX SPRINGS
91
60
N
RAMONA EXPRESSWAY
PERRIS
ROMOLAND
HEMET
215
WINCHESTER
HEMET AIRPORT
METROLINK
HEMET-RIVERSIDE LINE
EXISTING STATIONS
FUTURE STATIONS

As an alternative to extending a complete commuter train Metrolink consist to Hemet, the Riverside County Transportation Commission is studying the possibility of operating all-day service utilizing Diesel Motorized Units (DMUs). No determinations regarding service levels or operating scenarios have been made at this time.

Operating Conditions

As part of the multi-county agreement with the ATSF, the Riverside County Transportation Commission purchased the entire right-of-way. Therefore, Metrolink service will have absolute priority throughout the day. Limited freight service will continue to be operated by ATSF. Metrolink trains will be stored overnight at a layover facility near the point of origin of service.

Station Descriptions

Ten stations, including downtown Riverside, are ultimately expected to serve this line at total build-out. At this time, the phasing of the station construction along this line has not been determined. Table 2-17 lists the proposed station sites along the line. No detailed information is currently available.

TABLE 2-17
HEMET-RIVERSIDE STATION SPACING

Station	Proposed Intersection*	Spacing** (miles)
Hemet	State St./Front St.	-
Hemet Airport	Sanderson Ave./ATSF Line	3.7
Winchester	Winchester Rd./ATSF Line	4.1
Romoland	Watson Rd./ATSF Line	6.4
Perris	3rd St./C St.	4.2
Ramona Expwy	Ramona Expwy./A St.	4.5
Box Springs	Alessandro Blvd./SR 215	5.3
UC Riverside	Watkins Dr.	5.2
Highgrove	Center St.	3.3
Riverside	14th St./Vine	2.9
Total Distance		**39.6**

* Locations according to 1990 Morrison-Knudsen Conventional Commuter Rail Report.

** Station spacing per 1991 Southern California Commuter Rail Regional System Plan.

9. REDLANDS - SAN BERNARDINO

Service Description

This service will operate over the Redlands subdivision of the ATSF Railroad. The route extends approximately 10 miles southeasterly from San Bernardino, passing near the City of Loma Linda, and terminating in Redlands (Figure 2.10). The line is the sole project of the San Bernardino Associated Governments.

Service Levels

As currently envisioned, the Redlands Line will act as a feeder service to two other San Bernardino County lines: San Bernardino/ Riverside-Irvine and San Bernardino - Los Angeles.

Two service concepts have been under study for this line. One involves extending all trains serving the San Bernardino station along this branch line. The other would establish a stand-alone, all-day service between San Bernardino and Redlands and provide guaranteed meets with all Metrolink trains. The latter concept will be reviewed in the context of a similar concept for the Hemet-Riverside Line. No determinations have been made regarding the frequency of service on this branch at this time.

Operating Conditions

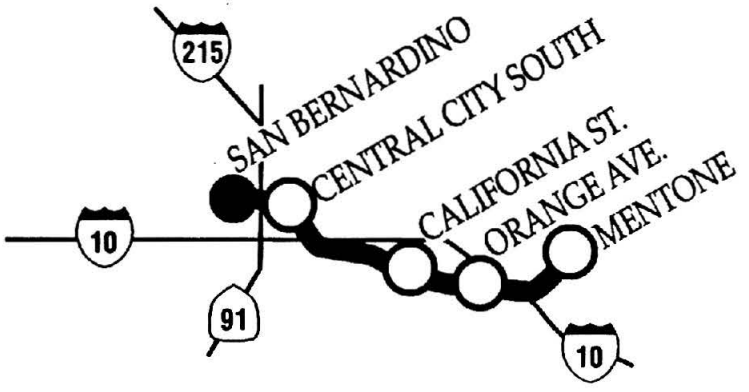
Limited freight service continues to be operated by ATSF along the branch from San Bernardino to the vicinity of Orange Street in downtown Redlands. Trains cannot operate in excess of 10 mph due to the deteriorating condition of the tracks. Service is provided to customers on a demand-response basis, which averages less than one roundtrip per day. Implementation of service along this line, therefore, requires significant capital investment.

As part of the multi-county agreement with the ATSF, the San Bernardino Associated Governments purchased the entire right-of-way. Therefore, Metrolink trains will have absolute priority throughout the day.

Station Descriptions

Five stations, including the San Bernardino Depot, are expected to serve this line as shown in Table 2-18.

Figure 2.10



METROLINK

REDLANDS–SAN BERNARDINO LINE

● EXISTING STATIONS
○ FUTURE STATIONS

TABLE 2-18
REDLANDS-SAN BERNARDINO STATION SPACING

Station	Proposed Intersection (miles)	Spacing*
San Bernardino	3rd St./Mt. Vernon	-
Central City South	Rialto Ave./E St.	0.9
California Street	California St./I-10	5.4
Orange Street	Orange St./Redlands Blvd.	3.7
Total Distance		**10.0**

* Station spacing per 1991 Southern California Commuter Rail Regional System Plan.

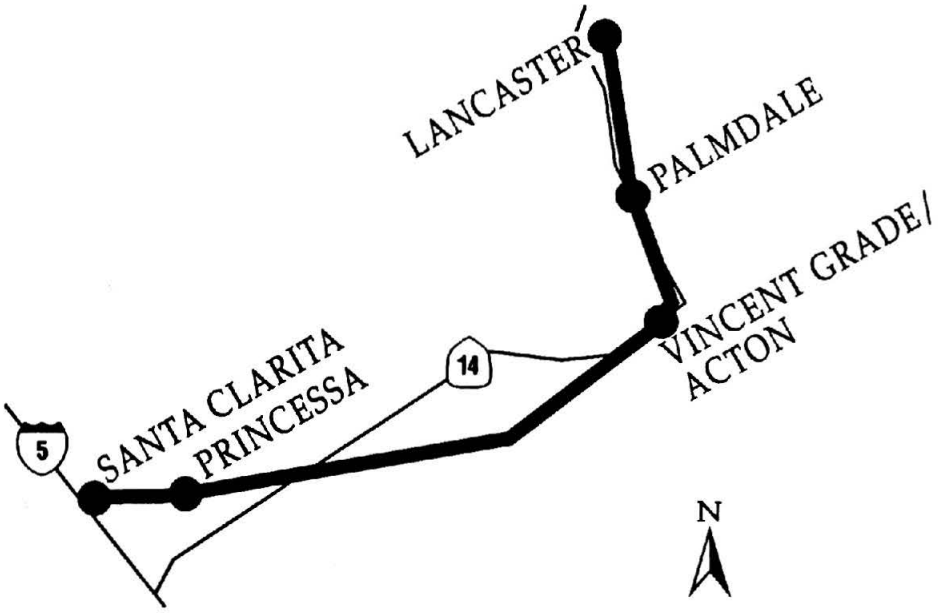
LINE EXTENSION UNDER STUDY

10. LANCASTER - SANTA CLARITA CORRIDOR

The Lancaster-Santa Clarita Line is an extension of the Santa Clarita Line along the Saugus Branch now owned by LACMTA. From the current terminus station of Santa Clarita, the line would extend eastward, south of the Antelope Valley Freeway (SR 14), to a point just south of Palmdale city limits where the alignment turns north through the cities of Palmdale and Lancaster (Figure 2.11).

The Palmdale/Lancaster vicinity is a rapidly growing residential community and employment complex in northern Los Angeles County. The United States Edwards Air Force Base, a landing point for the space shuttle, is located just north of Lancaster.

Figure 2.11



METROLINK

LANCASTER–SANTA CLARITA LINE

EXISTING AND PROPOSED AMTRAK INTERCITY SERVICE

This section describes Amtrak Intercity services which operate within the Metrolink service territory. Amtrak routes are described in terms of the existing level of service and projected service increases. A listing of Amtrak routes operating within Metrolink corridors are listed in Table 2-19 in bold typeface. Proposed additional trains are shown in normal typeface.

As shown, five of the nine Metrolink corridors have Amtrak Intercity service operating on them. In addition, Amtrak service is expected to increase in five of the Metrolink corridors. The remainder of this text presents a brief description of these Amtrak expansions in further detail.

1. VENTURA COUNTY LINE: Proposed Santa Barbara Amtrak Extension

As referenced in Table 2-19, the Ventura County Line shares trackage on virtually its entire alignment with the Amtrak "Coast Starlight" and San Diegan/Santa Barbara extension trains. Specifically, Amtrak operates one "Coast Starlight" roundtrip and two Santa Barbara roundtrip extensions along the SP trackage.

Caltrans Division of Rail expects to begin extending a third San Diegan/Santa Barbara train through Los Angeles in the near future. It is proposed that this train will extend past Santa Barbara to San Luis Obispo. This train would represent the fourth train in the corridor.

Lastly, the San Francisco-Monterey Rail Study reviewed the feasibility of running a Coast Route train between San Francisco-Salinas-Los Angeles. This train would provide an additional frequency in the San Diegan Corridor between San Luis Obispo, Santa Barbara, and Los Angeles as shown in Table 2-19. Therefore, if all the proposed extensions are implemented, a total of five Amtrak trains will be operating in the Ventura County Line corridor.

2. SANTA CLARITA LINE: Proposed Amtrak San Joaquin Extension

As shown in Table 2-19, Caltrans Division of Rail has recommended the extension of one daily San Joaquin roundtrip to the city of Los Angeles. The San Joaquin extension would share trackage with the Santa Clarita Line between Santa Clarita and Los Angeles along the Southern Pacific (SP) Saugus branch.

TABLE 2-19
AMTRAK ROUTES ON METROLINK CORRIDORS
CURRENT AND PROPOSED

Metrolink Route	Amtrak Route	Origin/Destination	Shared Trackage	RT Trains
Ventura County	Coast Starlight	LA/Seattle	Moorpark-LA (SP)	1
	San Diegan	San Diego/Santa Barb.	[same as above]	2
	San Diegan	LA/Santa Barbara/SLO	[same as above]	1
	SF/Salinas/SLO/ LA	San Francisco/LA	[same as above]	1*
Santa Clarita	San Joaquin Extn.	Bakersfield/LA (overnight)	Santa Clarita-LA (SP Saugus branch)	1
San Bernardino	Southwest Chief	LA/Chicago (via Flagstaff)	Claremont-SB (ATSF (Pasadena sub.)	1
Riverside	--	--	--	-
Oceanside-LA	San Diegan	San Diego/LA	Oceanside-Fullerton (ATSF S. Diego sub.) Fullerton-LA (ATSF (S. Bernardino sub.)	9
	San Diegan	San Diego/LA	[same as above]	1**
San Bernardino-Riverside-Irvine	Desert Wind	LA/Chicago, IL (via Las Vegas)	S. Riverside-Irvine	1
	LA-Coachella Valley	LA/Coachella Valley	Colton-Atwood (ATSF S. Bernardino sub.)	3*
Riverside - LA via Fullerton	Desert Wind	LA/Chicago	San Bernardino-LA	1
	LA-Coachella-Imperial Co.	LA/Coachella Valley	Colton-LA (ATSF San Bernardino sub.)	3*
Hemet-Riverside	--	--	--	
Redlands-San Bernardino	--	--	--	-

* Under review by Caltrans Division of Rail; not included in current programming.
** Additional frequencies currently under review

As envisioned, the proposed San Joaquin Extension would operate as an overnight train arriving in Los Angeles in the early morning with a late evening departure. It is proposed this route will be implemented sometime during the next five years. Caltrans' ability to actually implement service is dependent on financial considerations and the successful interface of several institutional arrangements.

Total Number of Trains North of Los Angeles

Table 2-20 illustrates the total number of combined Metrolink/Intercity trains north of Los Angeles by 1996 as described in Items #1 and #2 above. By combining the total number of current and projected Amtrak intercity trains with the 17 Metrolink trains to be operating by November 1, 1993, a minimum of

TABLE 2-20
AMTRAK/METROLINK ROUNDTRIPS
NORTH OF LOS ANGELES (by 1996)

Metrolink	Amtrak/Metrolink	Current (RT) Trains	#Proposed Add'l. (RT) Trains	Total
Moorpark-LA	Amtrak: Coast Routes	3	1	4
Moorpark-LA	Amtrak: SF/Salinas /SLO/LA	0	1	1
Moorpark-LA	Metrolink: MP-LA	6	3	9
Santa Clarita-LA	Amtrak: Bakersfield/ LA	0	1	1
Santa Clarita-LA	Metrolink: SC-LA	5	3	8
Total Trains		**14**	**9**	**23**

* Currently under review by Caltrans Division of Rail; not included in 1991-96 plan

23 roundtrip trains are expected to operate between Burbank and Los Angeles by 1996.

3. SAN BERNARDINO LINE: Proposed Amtrak Rerouting

As depicted in Table 2-19, the Amtrak "Southwest Chief" currently shares track with the San Bernardino Line between Claremont and San Bernardino on the ATSF Pasadena subdivision. Sometime in early 1994, it is expected this service will be rerouted to the ATSF San Bernardino subdivision as the west end of the Pasadena subdivision in Los Angeles County will be converted to a light rail operation. The precise timing of this shift is dependent upon the completion of the track improvements required on the ATSF San Bernardino subdivision.

Two Metrolink lines are planned to operate on the ATSF San Bernardino subdivision: Riverside-Los Angeles via Fullerton and San Bernardino/Riverside-Irvine. In addition, north of Fullerton, the Oceanside-Los Angeles Metrolink line will operate.

4. OCEANSIDE - LOS ANGELES: Proposed San Diegan Expansion

The Oceanside-Los Angeles Line operates along the same track as the highly successful Amtrak "San Diegan" line. The Los Angeles-San Diego corridor, known as the LOSSAN I corridor, operates nine daily roundtrip trains between Los Angeles and San Diego. Caltrans Division of Rail plans to implement a tenth train along this corridor (Table 2-19).

The LOSSAN II corridor refers to that portion of the "San Diegan" between Los Angeles and Santa Barbara. Two additional roundtrips are proposed to operate along this corridor. See Item #1 for a

complete discussion.

5. SAN BERNARDINO/RIVERSIDE - IRVINE: Proposed Intercity Route

In December 1991, the Riverside County Transportation Commission completed a feasibility study which reviewed the capital and operating costs associated with implementing new intercity passenger rail service between Los Angeles and the Coachella Valley, with a proposed extension to Imperial County.

In November 1992, Caltrans Division of Rail conducted a license plate survey of the corridor near Beaumont to collect travel data. The data collected from this effort is being used to further refine the patronage and revenue projections included in the feasibility study. Following this further evaluation, a determination will be made by Caltrans regarding the future programming of the service.

As currently proposed, the service would provide three daily roundtrips along the ATSF San Bernardino Subdivision between Los Angeles and Colton, where it would turn southeasterly along the Southern Pacific Yuma Line. If implemented, the proposed intercity service would share track with the San Bernardino/Riverside-Irvine Line between Colton and a point known as Atwood within Anaheim, as well as the Riverside-Fullerton-Los Angeles Line (Table 2-19).

Table 2-21 includes this proposed service in the total number of roundtrips projected between Los Angeles-Fullerton.

6. RIVERSIDE - LOS ANGLES via FULLERTON

See Item #5 above for description.

Total Number of Trains Between Fullerton - Los Angeles

Given the high volume of trains proposed along the "San Diegan" corridor and the anticipated number of Metrolink and Intercity trains to be operated along the San Bernardino Subdivision, the issue of track capacity becomes critical. Table 2-21 provides the combined number of Metrolink and Intercity trains expected to operate within the next five years between Los Angeles and Fullerton.

TABLE 2-21
AMTRAK/METROLINK ROUNDTRIPS
BETWEEN FULLERTON & LOS ANGELES
(by 1996)

Metrolink Corridor	Amtrak/Metrolink Route	Current # (RT) Trains	Proposed (RT) Trains	Total
Ocean-LA	Amtrak: San Diegan*	9	1	10
Ocean-LA	Metrolink	1	8	9
SB/Riv-LA via Ful	Metrolink	0	2	2
SB/Riv-LA via Ful	Amtrak: (LA-Coachella Valley)**	0	3	3
SB/Riv-LA via Ful	Amtrak: Desert Wind	1	0	1
SB/Riv-LA via Ful	Amtrak: Southwest Chief***	0	1	1
Total Trains		**11**	**15**	**26**

* Additional frequencies are currently under review
** Currently under review by Caltrans Division of Rail; not included in current programming; this route would also operate along the Oceanside-Los Angeles Metrolink corridor south of Los Angeles.
*** Reroute from the Pasadena subdivision expected early 1994.

As shown, a total of 26 roundtrip trains are expected to be operating on the ATSF track between Fullerton and downtown Los Angeles by 1996. Metrolink trains account for 11 of these with service along the Oceanside-Los Angeles and Riverside-Fullerton-Los Angeles corridors.

A total of 10 Amtrak "San Diegan" trains are expected to operate, with some possibility of one or two more although these are not included in Table 2-21. Should Caltrans implement service between Los Angeles-Coachella Valley, an additional three trains would operate in the Fullerton-Los Angeles segment. No increase in service is expected on the "Desert Wind." Finally, the rerouting of the Amtrak "Southwest Chief" (as described under Item #3) will add one additional roundtrip by early 1994.

CHAPTER 3

OPERATING, MAINTENANCE-OF-WAY, AND CAPITAL BUDGETS

OPERATING, MAINTENANCE-OF-WAY, AND CAPITAL BUDGETS

The following chapter presents a summary of the SCRRA Capital Improvement Plan, as well as the operating and maintenance-of-way budgets for Fiscal Years 1992/93 and 1993/94.

OPERATING BUDGET

OPERATING COST CATEGORIES

SCRRA categorizes operating expenses as train operations and services, general and administrative, or insurance. Train operating costs are further subdivided among Amtrak, SCRRA, and maintenance-of-way (MOW) contingency. These categories are discussed briefly below.

Amtrak Train Operations

Amtrak's operating costs are the primary driver of SCRRA's budget. Budget cost estimates were developed from the *Amtrak Cost Proposal for Commuter Rail Operations* (July 1991) which presented costs for both initial and intermediate levels of service on the San Bernardino, Moorpark, and Santa Clarita rail lines. A brief description of Amtrak operations responsibilities and the basis for cost allocation among rail lines follows.

Base Cost of Service. Encompasses direct costs, costs common to all lines and allocated among them, and general and administrative overhead.

Direct costs. These include 1) train operation, such as provision of engineers and conductors; 2) maintenance of equipment in the layover facility; and 3) such maintenance-of-way functions as right-of-way inspection and normal, periodic MOW labor and materials. These are allocated among rail lines based on Amtrak's estimate for each route.

Common costs. These include 1) transportation management and train crew training - allocated among rail lines by percent of direct train operations costs; 2) maintenance, repair, cleaning, and inspection of rolling stock - allocated by percent of car and locomotive miles; 3) maintenance and inspection of track, signal and communications systems, and related facilities, allocated by percent of direct MOW costs; 4) materials purchasing, handling, and storage (except for

fuel and utilities) - allocated by percent of car and locomotive miles; 5) general management (other than transportation), training, and office supplies - allocated by percent of all direct costs; 6) switching at Union Station and Taylor Yard - allocated by percent of route train operations costs.

General and Administrative Overhead. Based upon contract formulas. For years when annual direct costs are less than $10 million, the G&A overhead equals direct costs divided by 0.94, minus direct costs. If annual direct costs exceed $10 million, the overhead payable to Amtrak is $638,000 plus direct costs in excess of $10 million, divided by 0.945, minus direct costs in excess of $10 million.

Contingency. Ten percent of Amtrak's base cost.

Management Fee. Based upon contract formulas, this fee will vary between 5.7 and 10 percent of the approved budget each year. (For years when the approved budget is less than $10 million, Amtrak's management fee will equal 5.7 percent of the approved budget. For annual budgets in excess of $10 million, this fee would be $570,000 plus 5.5 percent of the amount by which the approved budget exceeds $10 million.)

Performance Incentives. Amtrak's contract specifies different incentives (and penalties) for on-time performance, equipment availability, and ridership growth.

In any fiscal year, Amtrak's additional compensation (management fee plus performance incentives) is capped at 10 percent of the approved budget.

SCRRA Train Services

The cost of SCRRA train services includes fuel procurement, dispatching, security, railroad operating agreements, utilities, MOW contingency, general and administrative, and insurance. These and other SCRRA operating expenses are described below. All SCRRA costs are allocated by train-miles, unless otherwise noted.

Fuel. SCRRA estimated fuel costs based on data provided by General Motors, manufacturer of the locomotives.

Dispatching. Dispatching is divided among rail operators with Southern Pacific responsible for west and north lines, Union Pacific dispatching its line between the Los Angeles River and Riverside, Santa Fe covering the San

Bernardino subdivision, and SCRRA dispatching the remaining lines. SCRRA costs are allocated among rail lines based on an estimate provided by Amtrak.

Security. SCRRA provides security for facilities (layover facilities and Taylor Yard) and police services along routes and on-board trains. The costs of providing security and police services at stations are borne by local jurisdictions or counties.

Rail Operating Agreements. The costs for operating agreements between SCRRA and Southern Pacific, Union Pacific and Santa Fe railroads (for dispatching and maintenance of way) - allocated by train-miles.

Los Angeles Union Passenger Terminal. SCRRA is responsible for a share of LAUPT rail yard and station maintenance costs. Yard costs will vary in direct proportion to SCRRA's share of total LAUPT train movements.

Utilities. Estimated utility costs include telephone, and water and power for maintenance, layover and ticketing facilities.

Special Trains. SCRRA is responsible for the costs of special trains, estimated to be nine per month in FY 1992-93, declining to one per month in FY 1994-95.

Maintenance-of-Way Contingency

This budget item covers maintenance-of-way costs for SCRRA-owned lines in excess of Amtrak contract requirements, generally intended for such major maintenance events as flood damage or derailments.

General and Administrative

Personnel. Salaries and fringe benefits for the eight people who staff SCRRA operations, plus the labor cost of additional support provided by three LACMTA full-time equivalents.

Direct Costs. Expenses relating to dues and subscriptions, public notices, in-house printing and graphics, travel, community outreach, and office supplies. These cost estimates are escalated by inflation for projections. Note: No cost allocations are included for LACTC administrative functions such as personnel, accounting, purchasing, and management information systems.

Revenue Collection. Revenue collection costs are for servicing and maintenance contract for ticket vending machines, performing financial clearinghouse functions (bank card transactions, money counting, etc.), ticket supplies), and the ticket-by-mail program.

Marketing. Marketing costs include advertising, printing of informational material, research (including customer surveys), maps and train schedule production, and promotions. Future years' costs were projected based on those budgeted for Caltrans and Tri-Rail; costs for eight months of FY 1992-93 were assumed proportionately higher for system start-up marketing efforts.

Union Station Passenger Services. SCRRA is responsible for paying a share of LAUPT's total cost for ticket window and customer assistance. Cost projections are based on salaries and wages of two full-time equivalents, escalated by inflation.

Fare Inspection. SCRRA pays for part-time help to augment use of extra board for fare inspection. Cost projections assume a relatively significant effort initially, to increase with train-miles in future years.

Audits. The estimated cost of financial and performance audits of SCRRA and its contractors. Projections assume an intensive effort in the first year of operation, thereafter increasing with inflation.

Customer Information. Cost of a telephone information line. First-year cost is for eight months; future years are annualized and increase with inflation. The estimate is comparable to amounts budgeted by Caltrans and Tri-Rail.

Legal and Other. Provision for professional services for legal, planning studies, and general consulting assistance. Cost projections for future years increase by inflation.

Insurance

Liability and Property. Estimated annual premiums for public liability policy and property insurance on rolling stock, SCRRA structures, and other equipment. Cost projections assume that the first $2.5 million of liability insurance is self-insured.

Self-Insurance Reserve. Initial deposit into a $5 million self-insurance pool (shared equally with SCRTD's

Blue Line) is assumed in Fiscal 1992-93. Cost in future years is an estimate of Metrolink claims paid from the pool. The self-insurance reserve account has been removed from the operating budget and is now carried as an off-line budget item funded by all member counties.

Claims Administration. Cost of services for review and administration of claims.

SCRRA 1993/94 BUDGET

The number of train-miles will triple during Fiscal Year 1993/94 as service is extended to all five counties. Table 3-1 provides a comparison of the adopted 1993/94 operating budget with the 1992/93 eight-month start-up budget.

TABLE 3-1
COMPARISON OF FY 92/93
AND FY 93/94 BUDGETS

	FY 92/93	FY 93/94	Change
Train-Miles	211,800	668,600	+216%
Route-Miles	115.3	294.1	155%
Budget ($000)	$17,288	$42,996	+149%

As more lines are introduced to the system, a clear economies-of-scale will become apparent as the overall system becomes more efficient.

Exhibit 3-1 shows the adopted 1993/94 Operating Budget and by county share for all lines. Exhibit 3-2 shows the forecasted operating performance data for FY 1993/94, as well as actual performance standards for FY 1993/94. As shown, operating costs/passenger decrease significantly with each succeeding year of operation - from $18.29 in FY 92/93 to a projected $10.20 in FY 1994/95.

MAINTENANCE-OF-WAY BUDGET

The member agencies of the SCRRA have purchased several hundred miles of railroad rights-of-way. Many of these rights-of-way are being maintained by the SCRRA. To acknowledge the size of this effort and its special funding arrangement, a separate budget for this work has been established.

The costs of maintaining the rights-of-way are paid for by the users. The railroads have agreed to contribute what they have historically spent to maintain the rights-of-way to freight standards. Based on federal enabling legislation, Amtrak has contributed to railroad maintenance-of-way based on "avoidable costs." The balance of maintenance-of-way costs will be funded through the Metrolink operating budget on those rights-of-way used by Metrolink or by the individual owner counties of non-operating rights-of-way.

This formula should lead to a fairly low cost for Metrolink over time. However, for the first several years, this will not be the case since railroads have done less maintenance on these lines during the negotiating period than they should have. This means that some catch-up and deferred maintenance must be done now.

There are several areas more in need of work than typical. The first is along the Los Angeles River and the Union Station area where the track and signals are old, the tonnage high, and the track speeds too low. The SCRRA is rehabilitating this area, but it still needs high maintenance. Another area is the Saugus line, especially north of Sylmar. It is a steep, curving section with a difficult wet tunnel segment. Both extra maintenance and capital investment will be needed to bring this line up to good condition. The third area is the line in Orange County. The line has ongoing water problems in the rainy season, high speeds, and old signals. Capital work being done will help a great deal, but in the meantime there will be more than normal maintenance.

Table 3-2 summarizes the maintenance-of-way budget for FY 1993/94. Exhibit 3-3 includes a detailed budget according to each county's share.

TABLE 3-2
MAINTENANCE-OF-WAY
BUDGET SUMMARY

	Miles	FY 93/94 Cost
Operating Routes		
Railroads		$3,622,000
Metrolink		$5,985,000*
Subtotal	**183.0**	**$9,607,000**
Non-Operating Routes		
Railroads		$ 881,000
Counties		$1,238,000
Subtotal	**57.7**	**$2,119,000 ****
TOTAL MAINTENANCE-OF-WAY	**240.7**	**$11,725,000**

* Operating Budget
** MOW Budget

CAPITAL IMPROVEMENT PLAN

The original SB 1402 Capital Program is approximately half complete at the beginning of the 1993-94 fiscal year. The program is still under budget overall with two exceptions. The Santa Clarita Line budget was increased because speed improvements between Burbank and Sylmar were added to the SB 1402 Plan. On the San Bernardino line signal improvements and construction of a flyover were not part of the SB 1402 plan but were part of the railroad purchase agreement.

Additional scope items have been added to the program beyond the basic SB 1402 projects. These include increased funding up to $23 million for signal and siding improvements requested and paid for by Caltrans north of Moorpark to Goleta in Santa Barbara County.

There will be ongoing work along the Los Angeles River, at Union Station, and replacement trackwork north to Burbank within Los Angeles County; and completion of other work now underway. Most of the capital improvement work in FY 93/94 and beyond will take place outside Los Angeles County. By the end of FY 93/94, approximately 83% of the Metrolink SB 1402 capital program will have been either commenced or completed.

Metrolink capital improvements are funded in a variety of ways. For many of the projects, state rail bonds approved by the voters as Propositions 116 and 108 in 1990 have been used. Proposition 116 funds do not require any matching dollars, while Proposition 108 funds require a 50% match in local revenues. Each county has agreed to fund a certain level of improvements on lines impacting that county. These local funds have involved in some cases using other state grants obtained by that county (i.e. State Transit Capital Improvement grants) and local sales taxes approved by the voters in that county for transportation purposes. Among the counties in Metrolink, only Ventura County does not have such a locally approved transportation sales tax.

During the past two years considerable progress has been achieved on the implementation of the original SB 1402 plan. Listed below, by route, are the major projects which have either been completed or undertaken in the past two years. Copies of the 1993/94 capital budget are also included as Exhibits 3-4 and 3-5.

Moorpark-Los Angeles

The Southern Pacific mainline through the San Fernando Valley has been substantially double-tracked with a new CTC system installed. Near Union Station a new bridge has been constructed over the Los Angeles River which will save several minutes of travel time for each commuter train. Work continues on the installation of a new signalling system with additional controlled sidings.

Santa Clarita-Los Angeles

Sections of this track have been upgraded and a new signal system is gradually being extended towards Santa Clarita. Corrective work will be undertaken at the Newhall Tunnel which will permit trains to operate more quickly along the route.

San Bernardino-Los Angeles

In the Los Angeles County section of the route a completely new track and signal system has been installed between Los Angeles and Claremont and a passenger track "flyover" completed near El Monte over the freight line of the Southern Pacific Railroad. In San Bernardino County work is underway on a new signal system and the construction of a passenger track "flyover" at the Santa Fe freight tracks in San Bernardino. Work has already been completed on two passing tracks. Following the completion of these improvements and the construction of the Cal State Los Angeles and Rancho Cucamonga stations, construction of this line will be complete.

Riverside-Los Angeles via Ontario

The extensive double-tracking on this route has been completed. Since service began, two minutes have been taken out of the westbound schedule as individual projects have been completed. Additional double track will be built in connection with the Downtown Pomona and proposed Downtown Ontario stations.

Oceanside-Los Angeles

Construction is currently underway on all portions of this route: double track in much of Orange County, new crossovers in Los Angeles County, and new sidings in San Diego County.

San Bernardino/Riverside-Irvine

The Santa Fe Railway has completed a 13-mile section of new double track in Riverside County and is close to completion on a section of double track within Orange County. Work will begin shortly on improving the 6-mile Olive District in Orange County to permit the start-up of service to Irvine in 1995. Metrolink will complete the Riverside train storage facility in 1994.

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
PROPOSED FY 93/94 OPERATING BUDGET
BASELINE: PEAK TRAIN MILES
SUBSIDY ALLOCATION BY COUNTY ($K)

20-May-93

PEAK BASELINE

OPERATING SUBSIDY (SPLIT BASED ON TRAIN MILES)	TOTAL FY 93/94	LACMTA SHARE	OCTA SHARE	RCTC SHARE	SANBAG SHARE	VCTC SHARE
SAN BERNARDINO - LOS ANGELES *						
TRAIN MILES	226.5	150.8			75.7	
SPLIT		66.6%			33.4%	
SUBSIDY (LESS MOW)	**5,478.9**	**3,646.8**			**1,832.1**	
MOORPARK - LOS ANGELES						
TRAIN MILES	119.6	83.1				36.5
SPLIT		69.5%				30.5%
SUBSIDY (LESS MOW)	**6,204.5**	**4,311.0**				**1,893.5**
SANTA CLARITA - LOS ANGELES *						
TRAIN MILES	118.9	118.9				
SPLIT		100.0%				
SUBSIDY (LESS MOW)	**5,255.2**	**5,255.2**				
RIVERSIDE - LOS ANGELES VIA ONTARIO (UP) *						
TRAIN MILES	123.8	74.5		29.4	19.9	
SPLIT		60.2%		23.8%	16.1%	
SUBSIDY (LESS MOW)	**5,058.2**	**3,044.3**		**1,201.5**	**812.4**	
OCEANSIDE - LOS ANGELES *						
TRAIN MILES	79.7	19.5	60.2			
SPLIT		24.4%	75.6%			
SUBSIDY (LESS MOW)	**3,917.9**	**957.5**	**2,960.4**			
MOW - COMMUTER RAIL SHARE	**5,984.6**	**3,191.7**	**1,903.0**	**245.1**	**568.2**	**76.6**
TOTAL OPERATIONS SUBSIDY	**31,899.3**	**20,406.6**	**4,863.4**	**1,446.6**	**3,212.7**	**1,970.1**

* BURBANK TURN TRAIN MILES & COSTS ARE ALLOCATED TO LA-SB (1 RT), LA-RIV (1 RT), LA-SC (1/2 RT) & LA-OCN (1/2 RT).

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Exhibit 3-1

Exhibit 3-2

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
OPERATING PERFORMANCE DATA

	FY 92/93 *(Actual)	FY 93/94 (Forecast)	FY 94/95 (Forecast)
OPERATING REVENUES			
Operating Revenues (000)	$2,538	$11,097	$19,482
Fare Revenues (000)	$2,538	$11,057	$19,441
Fare Recovery Ratio	17.1%	28.1%	41.4%
Local Subsidies (000)	$14,642	$31,899	$31,081
Subsidy/Passenger Mile	$0.55	$0.35	$0.18
Subsidy/Boarding	$15.59	$11.28	$6.27
Revenue/Passenger Mile	$0.10	$0.12	$0.11
Revenue per Passenger	$2.70	$3.92	$3.93
OPERATING EXPENSES			
Operating Costs (000)	$17,180	$42,996	$50,563
Operating Cost/Revenue Vehicle Hour	$879.90	$612.53	$524.18
Operating Cost/Revenue Vehicle Mile	$23.11	$16.08	$13.76
Operating Cost/Passenger Boarding	$18.29	$15.20	$10.20
Operating Cost/Passenger Mile	$0.65	$0.47	$0.30
VEHICLE UTILIZATION			
Train Miles (000)	208.7	668.6	918.8
Revenue Vehicle Hours	19,525	70,194	96,462
Revenue Vehicle Miles (000)	743.5	2674.4	3675.2
Average System Speed (MPH)	38.1	38.1	38.1
PASSENGER UTILIZATION			
Total Boardings	939,456	2,828,000	4,956,000
Average Weekday Boardings	5,399	11,090	19,435
Boardings/Revenue Vehicle Hour	48	40	51
Passenger Miles	26,431,955	91,951,946	171,054,981
Average Passenger Miles/Trip	28.14	32.51	34.51

* 8 months

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

PROPOSED FY 1993-94 MAINTENANCE OF WAY BUDGET

REVENUE ESTIMATES ARE FOR INFORMATION ONLY

MAINTENANCE OF WAY	TOTAL FY 1993/94	FREIGHT / AMTRAK SHARES	BALANCE TO OPERATING BUDGET	BALANCE TO MOW BUDGET
OPERATING ROUTES	**$9,606,545**	**$3,621,988**	**$5,984,557**	
LOS ANGELES COUNTY	4,416,495	1,728,176	3,191,727	
ORANGE COUNTY	3,465,259	1,340,965	1,902,974	
RIVERSIDE COUNTY	357,723	0	245,107	
SAN BERNARDINO COUNTY	1,255,326	552,847	568,185	
VENTURA COUNTY	111,742	0	76,564	
NON - OPERATING ROUTES	**$2,118,672**	**$881,025**		**$1,237,649**
LOS ANGELES COUNTY	2,059,009	832,787		1,226,224
SAN BERNARDINO COUNTY	59,663	48,238		11,425

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
PROPOSED FY 93/94 CAPITAL BUDGET
($=THOUSANDS)

METROLINK LINES	TOTAL FY 93/94 PLAN	MTA	OCTA	RCTC	SANBAG	VCTC
LINE SUMMARY						
SAN BERNARDINO - LOS ANGELES	25,209	9,121	0	0	16,088	0
VENTURA - LOS ANGELES	33,208	25,157	0	0	0	8,051
SANTA CLARITA/HUMPHRIES - LOS ANGELES	21,315	21,315	0	0	0	0
RIVERSIDE - LOS ANGELES (UP)	4,477	1,729	0	2,182	566	0
SHARED FACILITIES	0	0	0	0	0	0
FULLERTON - LOS ANGELES	30,575	30,575	0	0	0	0
OCEANSIDE - FULLERTON	62,036	0	62,036	0	0	0
SAN BERNARDINO/RIVERSIDE - FULLERTON	56,288	6,350	16,704	26,924	6,310	0
SPECIAL PROJECT						
LOCOMOTIVE EMISSIONS REDUCTION PROGRAM	176	71	46	24	28	7
TOTALS	233,284	94,318	78,786	29,129	22,992	8,058

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Exhibit 3-4

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
PROPOSED FY 93/94 CAPITAL BUDGET
($=THOUSANDS)

METROLINK LINES	TOTAL FY 93/94 PLAN	MTA	OCTA	RCTC	SANBAG	VCTC
CATEGORY SUMMARY						
SAN BERNARDINO - LOS ANGELES	20,082	8,792	0	0	11,290	0
VENTURA - LOS ANGELES	30,171	22,120	0	0	0	8,051
SANTA CLARITA/HUMPHRIES - LOS ANGELES	19,201	19,201	0	0	0	0
RIVERSIDE - LOS ANGELES (UP)	1,794	1,227	0	567	0	0
SHARED FACILITIES	0	0	0	0	0	0
FULLERTON - LOS ANGELES	22,002	22,002	0	0	0	0
OCEANSIDE - FULLERTON	42,220	0	42,220	0	0	0
SAN BERNARDINO/RIVERSIDE - FULLERTON	36,696	0	12,704	17,682	6,310	0
SPECIAL PROJECT						
LOCOMOTIVE EMISSIONS REDUCTION PROGRAM	176	71	46	24	28	7
ROLLING STOCK	**60,942**	**20,905**	**23,816**	**10,857**	**5,364**	**0**
LOCOMOTIVES	17,635	4,880	7,163	3,629	1,962	0
PASSENGER CARS	42,597	15,760	16,444	7,031	3,362	0
ROLLING STOCK PROCUREMENT & TESTING	710	265	208	197	40	0
TOTALS	**233,284**	**94,318**	**78,786**	**29,129**	**22,992**	**8,058**

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CHAPTER 4

INTEGRATION OF SCHEDULES AND FARES

INTEGRATION OF SCHEDULES AND FARES

For the Southern California region to obtain the greatest benefit from the Metrolink commuter rail service, a deliberate effort must be made to integrate and coordinate other transportation modes to form an efficient transportation network. This was a primary consideration in the creation of the SCRRA. One of its initial missions was to ensure that the objectives outlined for all Proposition 116-funded rail projects were met. The objectives are:

- The project is supported by well-integrated local transit services,
- Duplicate or competitive bus and rail services are avoided, and
- Reasonable transit alternatives for rail travelers to ride to and from rail stations are provided.

Not only were the affected jurisdictions involved in this process, but many operators of connecting transportation services were consulted as well.

COUNTY TRANSIT INTEGRATION PLANS

In 1992, SCRRA prepared a comprehensive Transit Integration Plan. The report addressed seven general categories of coordination which would benefit the user, the Metrolink system and the region. Information was developed using the adopted Transit Integration Plans of LACMTA, OCTA, RCTC, and SANBAG. The plans fulfilled Proposition 116 requirements and met guidelines prepared by a Joint Peer Review Committee. Elements of the plan included the planning process, public information and marketing, facilities and access, service, schedules, financial analysis, and fares as discussed below.

Plan Development Process

From the start, Metrolink development has been a partnership of the SCRRA, County Transportation Agencies, transit providers, and local jurisdictions. Member agencies coordinated staff, consultants, SCRRA personnel and others to address the impacts on transit caused by Metrolink commuter rail service. Discussions included the seamless travel concept, timetables, route deviations and schedule adjustments, avoiding service duplication and incentives. The resulting transit integration plans were developed from these early

planning activities.

Due to the critical role of Union Station as the hub of the three initial lines, LACMTA commissioned a Bus/Rail Interface Plan from a working group of affected agencies to consider alternatives and focus on the most practical solutions. As a result of this process, all major transit operators (public and private) were included in meetings and discussions. The plan that evolved is a product of those coordinated efforts. For example, shuttle bus service and DASH operated by LADOT is provided from a new loading area on the second level of Union Station while LACMTA fixed route service is provided from both the new loading area and another loading facility on the street level of the terminal. Taxi and shuttle access has also been maintained. An urban design team was employed to ensure that signage within Union Station was developed to facilitate passenger understanding and use of the many transportation options available.

The Union Station process has been replicated on a smaller scale throughout the development of the first lines. Each station was reviewed for existing and potential transit opportunities as summarized in the Metrolink Feeder Bus Report and the Station Access Plans and Service Matrix, as well as the fare and transfer agreement discussions discussed below.

Public Information and Marketing

The Joint Powers Authority (JPA) structure of the SCRRA ensures it has a separate identity and an independent public information and marketing department. This unit has made presentations all along each of the rail lines and has assisted in the evaluation of input from the series of public hearings regarding fares and schedules. The telephone information element of the marketing unit as described in Chapter 1 provides information about Metrolink and connecting services - an arrangement which further integrates Metrolink into the regional transit network. In addition, timetables and related Metrolink information are placed in strategic locations, such as transit operators' ride guides, kiosks, transportation stores and other identified areas.

Signage is a major factor in getting patrons to, through and from the Metrolink system. Metrolink coordinated roadside "trailblazer" and "pathfinder" signs with Caltrans and local jurisdictions to direct patrons to Metrolink stations. Prominent signs in stations direct passengers to connecting service and a feeder service map is displayed in each station.

Metrolink has formed a regional marketing group made up of representatives from all the transit operators along commuter rail corridors. The purpose of the group is to update members on all Metrolink marketing programs and encourage cooperative ventures and

cross-promotional programs.

Facilities and Access

SCRRA and its member agencies' staff worked with the local jurisdictions on station guidelines to guarantee that every station meets certain specifications with regard to parking, security and pedestrian access. Local jurisdictions were encouraged to provide a minimum of 300 parking spaces. All stations provide priority spaces for the disabled. SCRRA has adopted a policy requiring a minimum of 10 percent of the spaces be designated for carpools and has suggested that they be located conveniently close to the station platforms.

To assure that stations are safe and secure, the SCRRA coordinated a review of station plans with security personnel, who advised on such physical design issues as providing fencing, adequate lighting and reducing obstructions to visibility. In addition, SCRRA has adopted guidelines for station security to be considered by jurisdictions in station planning.

Service

In general, the goal of Metrolink is to offer a service that allows patrons to access the station, ride the line, and connect to their destination points with a minimum of impediments. To achieve that goal, a system approach connecting a variety of feeder and distribution systems was established and a Feeder Bus Report was prepared for each station. Additionally, an *Analysis of Express Bus vs. Metrolink Service* was prepared to make sure there was no duplication of service. Each member agency will continue to work with the various transit operators to monitor the use of express buses and to recommend modifications based on usage.

For planning purposes, it was assumed that the primary mode of access to each station will be by auto. Thus, although a number of shuttle and other access alternatives have been proposed, their implementation will be phased to complement the system as demand increases. Table 4-1 lists the public transit operators and connecting shuttles currently operating at each of the Metrolink stations. As part of the station access plans, local taxi and other shuttle service operators have been consulted and provided an opportunity to participate.

TABLE 4-1
METROLINK TRANSIT CONNECTIONS
BY LINE AND STATION

MOORPARK - LOS ANGELES

Station	Transit Connections
Moorpark	Moorpark Transit Santa Clara River Valley Amtrak Intercity Service
Simi Valley	Simi Valley Transit Amtrak Intercity Service
Chatsworth	MTA LADOT Commuter Express Flat Fare Taxi Service Amtrak Intercity Service
Van Nuys	MTA Van Nuys TMA Shuttle LADOT DASH Amtrak Intercity Service
Burbank	MTA LADOT Commuter Express Burbank Airport Shuttle Flat Fare Taxi Service Media District Clean Fuel Shuttle City of Burbank Shuttle
Glendale	MTA Glendale Beeline Shuttle Amtrak Intercity Service

SANTA CLARITA - LOS ANGELES

Santa Clarita	Santa Clarita Transit Sylmar/San Fernando MTA
Burbank	See Moorpark Line
Glendale	See Moorpark Line

SAN BERNARDINO - LOS ANGELES

Station	Transit Connections
Montclair	Omnitrans Inland Empire Connection Foothill Transit MTA
Claremont	Foothill Transit Pomona Valley Transit Authority
Pomona	Same as Claremont Station
Covina	Foothill Transit
Baldwin Park	MTA Foothill Transit
El Monte	City of El Monte Trolley MTA Cal State LA/El Monte Busway
Cal State LA (upon opening)	City of Alhambra CSULA Campus Shuttle City of Monterey Park County of Los Angeles MTA Cal State LA/El Monte Busway
LA Union Station	Metro Red Line Amtrak Intercity Service Metrolink Shuttle Buses MTA/DASH/Taxi

RIVERSIDE - LOS ANGELES VIA ONTARIO

Riverside	Riverside Transit Agency
Pedley	Riverside Transit Agency
East Ontario	Omnitrans
Pomona (upon opening)	Foothill Transit
Industry	Foothill Transit MTA
Montebello (upon opening)	MTA

Schedules

Metrolink schedules coordinate with connecting Amtrak services. When examining the relationship between existing and proposed bus services compared with Metrolink schedules, it was apparent that Metrolink's average headway of approximately 45 minutes could be accommodated by virtually all bus operators without significant wait times. Schedule coordination will undergo constant evaluation as part of the on-going process to maximize use of the Metrolink system.

Financial Analysis

The local transit operators serve Metrolink by revising fixed route systems and implementing new rail feeder routes. Costs to provide the rail feeder/distribution type services are estimated and set aside. The service levels are included in Short Range Transit Plans and the State Transportation Improvement Plan.

Fares

The SCRRA Board adopted a fare system which offers a variety of options without requiring additional payment for transfers. This concept, called a "seamless fare", has been supported by all connecting transit operating agencies.

SCRRA adopted a $2.50 base fare with the concept that 50 cents of that fare would be used to implement coordination agreements with various transit operators and potentially fund some portion of the coordinated service. The agreement reached with connecting transit operators is discussed next.

Interagency Operator Transfer Agreements

In order for Metrolink and connecting services to provide a "seamless fare", all the affected operators had to sign agreements. Working together, SCRRA's Technical Advisory Committee, SCRRA staff and consultants and representatives from Foothill Transit, LADOT, Omnitrans, OCTA, Riverside Transit Agency, Santa Clarita Transit, Simi Valley Transit, and LACMTA developed an agreement. Pertinent points of the interagency operator transfer agreement are:

- Metrolink will honor valid transfers from connecting bus/rail transit operators and value them at $1.00 toward the applicable Metrolink fare.

- Bus/rail transit operators will honor validated Metrolink fare media as transfers valid for a base fare under limited conditions;

- at times when rail service is available,
- on transit routes directly serving or within walking distance of Metrolink stations,
- for a single local boarding in the operator's base zone,
- in the same direction of travel.

- Bus/rail transit operators will be reimbursed for accepting Metrolink transfers at the rate of one fixed route base fare plus one transfer charge per two boardings or in some cases on a per boarding basis.

- Bus/rail transit operators are using internal ridership counts as the basis for invoicing SCRRA for reimbursement. Transit operator internal ridership counts are subject to review by Metrolink staff. Eventually Metrolink will conduct ridership surveys as another way to verify transfer use.

- Bus/rail transit operators may choose monthly, bi-monthly or quarterly invoice/reimbursement schedules.

- Invoices will be paid within 30 days of receipt of complete and accurate invoices, submitted within 30 days of the end of the billing period.

- Disagreements will be resolved by establishing joint survey teams to conduct passenger surveys to determine transfer rates.

As the fare policy was developed to include a transfer in each trip purchased and the rate of transferring was projected for the equation, the reimbursement of other transit operators is not expected to negatively impact SCRRA's operating budget.

CHAPTER 5

LONG RANGE TECHNOLOGY

LONG RANGE TECHNOLOGY

CLEAN LOCOMOTIVE PROGRAM

SCRRA is taking a leadership role nationwide to reduce emissions from its locomotive fleet. Starting with its original order of 17 F59PH locomotives, which represented a 25 percent improvement in emission control compared to the standard F40 passenger locomotive, SCRRA has several initiatives underway to further reduce locomotive emissions.

Clean Diesel

A number of additional steps are underway to reduce diesel locomotive emissions. SCRRA was the first railroad to implement CARB recommendations to retard injector timing by four degrees and use low sulfur fuel as emission reduction strategies. These modifications led to a 20 percent emission reduction. A jointly funded research effort with SCAQMD and GM-EMD is currently developing aftercooling hardware to be demonstrated on an SCRRA locomotive in late 1994. Electronic unit injection will be included in the next SCRRA order of eight locomotives from GM-EMD. These strategies should produce an additional 10 percent emission reduction.

Natural Gas

The goal of the Clean Locomotive Program is to reduce emissions to 80 percent below the older F40 commuter locomotives by 2000. Use of natural gas as a locomotive fuel is the best strategy to achieve that objective. Liquified natural gas (LNG) will be demonstrated because more fuel can be stored in a liquified state than in a compressed gaseous state. To achieve the 2000 goal, SCRRA has initiated a number of programs:

- SCRRA joined a nine member national consortium to fund a study of LNG safety and infrastructure issues. SCRRA's contribution is $50,000 for the one year study conducted by Southwest Research Institute. The report will be completed mid-1994.

- SCRRA joined a seven member national consortium to develop ultra-low emission technology for LNG fueled locomotives. The four year program is managed by Southwest Research Institute. Table 7-1 lists the consortium participants and their proposed funding contributions. SCRRA funded $250,000 for the first year

TABLE 5-1
PROPOSED FUNDING PARTNERS,
ULTRA LOW-EMISSION LNG R&D*

Partner	Status	Proposed** Commitment
U.S. Department of Energy	Requested	$3,350,000
Federal Railroad Administration	Requested	200,000
Gas Research Institute	Committed	500,000
General Motors***	Requested	1,000,000
So. California Gas Company	Committed	1,000,000
SCRRA	Requested	1,750,000
SCAQMD	Requested	1,750,000
Caltrans	Potential	TBD
Total Investment		**$9,550,000**

* Proposed Funding Partners for Ultra Low-Emission LNG Research and Development Locomotive Study as Proposed by Southwest Research Institute, Fiscal Years 1993-1996.
** Proposed by SWRI.
*** GM also investing $1.4 million in developing a natural gas engine.

of the research program. For the remaining three years, annual allocations of approximately $500,000 will be required. Ventura County Air Pollution Control District and San Diego Association of Governments have contributed to SCRRA's allocation to the project. SCRRA will demonstrate LNG fueled locomotives starting in 1995 using the technology developed by Southwest Research Institute.

- SCRRA and the Union Pacific (UP) Railroad have formed a staff working group to address LNG implementation issues of mutual concern. The UP Railroad will be initiating LNG fueled freight locomotive service in 1994. SCRRA will assist the UP Railroad on outreach in the South Coast Air Basin. The UP Railroad will makes its fueling facility and technical expertise available for SCRRA's future LNG demonstration program.

If the LNG research, development and demonstration program proves successful, SCRRA may decide to convert the entire locomotive fleet beginning in fiscal year 1997. Approximate cost per locomotive for LNG conversion is estimated at $550,000. Assuming a fleet of 30 locomotives, conversion would cost $16.5 million. Table 5-2 outlines SCRRA funding requirements for the LNG conversion program. Total estimated cost through deployment in 1997-98 would be $20.3 million, plus costs identified by the LNG infrastructure.

TABLE 5-2
REQUIRED SCRRA FUNDING,
ULTRA LOW-EMISSION LNG R&D*

Year	Research & Development		Demonstration**	Deployment***	Total Cost to SCRRA
	Locomotive	Infrastructure			
FY 1993-94	$250,000	$50,000			$300,000
FY 1994-95	550,000		$1,000,000		1,550,000
FY 1995-96	500,000		1,000,000		1,500,000
FY 1996-97	450,000				450,000
FY 1997-98				$16,500,000	16,500,000
Total SCRRA Costs	**$1,750,000**	**$50,000**	**$2,000,000**	**$16,500,000**	**$20,300,000**
TOTAL R&D PROGRAM COSTS	**$9,550,000**	**$300,000**	**$2,000,000**	**$16,500,000**	**$28,350,000**

** Required funding from SCRRA for Ultra Low-Emission LNG Research and Development Locomotive Study as provided by Southwest Research Institute and General Motors-Electromotive Division.
** Cost will increase if more locomotives are tested.
*** Deployment costs will be determined following completion of the R&D program and will include LNG infrastructure costs.

ZERO EMISSION STRATEGIES

Two research efforts are underway to develop a power source with zero emissions for commuter locomotives. South Coast Air Quality Management District has contracted with Jet Propulsion Laboratory in Pasadena for a first phase of conceptual work to develop a fuel cell powered locomotive. The U.S. Department of Energy has been asked to participate in this project's next phase. A production model fuel cell locomotive will not be available for at least a decade and maybe longer.

SCRRA funded a feasibility study (Southern California Accelerated Rail Electrification Program, May 8, 1992) of overhead electrification of its commuter rail lines. The study found that from an emissions reduction perspective, electrification of only commuter rail lines would not be cost-effective. While the study noted that electrification of the passenger and freight mainline rail system in Southern California would be cost-effective as an emissions reduction strategy, the capital cost of such an undertaking would be over $4 billion plus the cost of new locomotives and supporting infrastructure. Moreover, electrification would only achieve a 76% emission reduction.

As a follow-up to the SCRRA electrification study the California Transportation Commission is working with SCAG to identify funding sources to begin electrification of high use freight lines. This effort relates directly to SCAG's preparation of a transportation control measure affecting locomotives for the 1994 Air Quality Management Plan. Electrified commuter service could operate on

some of the electrified freight lines. However, electrification of the first freight lines could not be completed until late in this decade, at the earliest.

CHAPTER 6

INSTITUTIONAL ORGANIZATION

INSTITUTIONAL ORGANIZATION

JOINT POWERS AUTHORITY (JPA) STRUCTURE

In the summer of 1990, when the commuter rail program was being discussed among the counties, there was no specific institutional structure established. LACMTA, SANBAG, and VCTC were on the verge of acquiring rights-of-way for commuter rail and could therefore develop services on those lines first. The other counties agreed that LACMTA, SANBAG and VCTC would form an "Interim" Joint Powers Authority (JPA) to move those projects along. OCTA and RCTC served as ex-officio members. The Interim JPA was formed in October 1990 and lasted until September 1991.

In the meantime, discussions progressed between the counties on a more permanent five-County JPA. Outstanding issues included: voting shares, staff control, and disposition of assets in the future. Eventually all were resolved and by August 1991 all county agencies had approved the JPA Agreement and the SCRRA was officially formed.

The transportation agencies of Los Angeles, San Bernardino, Ventura, Orange and Riverside counties comprise the JPA for the Southern California Regional Rail Authority. Voting rights are apportioned as follows: Los Angeles County, 4 votes; Ventura County, 1 vote; San Bernardino, Orange and Riverside counties, 2 votes each. Non-voting ex-officio members are Caltrans, the Southern California Association of Governments (SCAG), and the San Diego Association of Governments (SANDAG).

STAFFING OF SCRRA

The JPA calls for SCRRA administrative staff to be provided by the LACMTA, the member agency with the best ability to get the program up-and-running quickly. Assisting the assigned SCRRA staff are staff from support sections of the LACMTA and its Rail Construction Corporation. In addition, staffing and other support needs can independently be directly obtained by SCRRA. Currently, the rail authority relies heavily on consultants and contractors.

During its first year, SCRRA was managed by an Executive Director, who was assisted by a Deputy Executive Director. Once SCRRA's focus shifted from planning to operations, the staffing structure shifted to address the heightened needs of operations. The Deputy Executive Director was placed in charge of Metrolink operations and related functions. The engineering/ construction section expanded with the acquisition of the rights-of-way. Because some of the member agencies wanted the SCRRA to coordinate management of the

rights-of-way for them, in addition to the construction of new lines, this section is involved in managing and maintaining over 200 miles of rights-of-way. Functions of the Authority are now divided among operations and engineering/construction.

Technical Advisory Committee

SCRRA's Technical Advisory Committee (TAC) represents the member agencies at the staff level. There is one committee member representing each county on the JPA. This group meets biweekly and develops the policy positions the Executive Director takes to the board. The TAC is the focus for reaching consensus between county positions.

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