

UC Berkeley

IURD Working Paper Series

Title

Land Use Law and Policy for Maximizing Use of California's New Inter-Regional Rail Lines

Permalink

<https://escholarship.org/uc/item/5nb6f3qx>

Author

Bernick, Michael S., Esq.

Publication Date

1990-09-01

Peer reviewed

Working Paper 523

Land Use Law and
Policy for Maximizing
Use of California's
New Inter-Regional
Rail Lines

*A Report to the California State Senate
Transportation Committee:
Senator Quentin Kopp, Chair*

Michael S. Bernick, Esq.
Arnelle & Hastie, Attorneys-at-Law

September 1990

Funded by a grant from the
California Policy Seminar

University of California at Berkeley

CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY.....	1
Introduction: What Californians are Buying With The Inter-Regional Rail Lines.....	5
Part I: The Planned Expansion of Inter-Regional Rail Lines	
Chapter 1: California's Ambitions Plans for Inter-Regional Rail...And the Limited Projected Ridership.....	7
Chapter 1 Adendum: Who Will Ride These Inter- Regional Lines?.....	15
Chapter 2: Auburn-Sacramento-Oakland- San Jose Corridor.....	20
Chapter 3: Southern California Commute Corridors: Oceanside-San Diego Los Angeles-Oxnard, Riverside- Orange County.....	33
Chapter 4: Los Angeles-Fresno-Bay Area Sacramento Corridor.....	42
Part II: State Policies to Abet Densities Around Commuter and Urban Rail Stations	
Chapter 5: Realistic Legislation (Building on SB2559) to Maximize Use of California's New Inter-Regional Rail Lines.....	47
Chapter 6: CTC Guidelines for Land Use Near Rail Transit Stations.....	52
Chapter 7: Financing Through Rail Transit Development Districts.....	70
Chapter 8: Revenue Sharing by Rail Transit Operators and Municipalities.....	77
Chapter 9: Inter-Regional Rail and California's Growth.....	87

EXECUTIVE SUMMARY

Quietly in recent years, the California state government and local governments have been laying the groundwork for an enormous investment in inter-regional rail lines during the 1990s and beyond. Studies have been commissioned by the state legislature and local transportation authorities, and plans drawn up for improving existing lines and building new inter-regional lines. Seven major inter-regional lines have been the subject of study, and plans for improvement:

Auburn-Sacramento-Oakland-San Jose

Los Angeles-San Clemente

Oceanside-San Diego

Riverside-Orange County

Santa Barbara-Los Angeles

San Jose-San Francisco

Sacramento/Bay Area-Fresno-Los Angeles

The result of such improvements will be a new rail network running throughout the state, as indicated in chart 1-2.

Yet, the projections for ridership on these lines are very modest. Most of the rail plans call for incremental improvements in service. In the study of the Auburn-Sacramento-Oakland-San Jose line, for example, the principal consultant, Wilbur Smith & Associates, presents seven levels of service improvement, ranging from small track and signal improvements to implementation of high-

speed service. Yet, at the high-speed service, costing \$551.7 million, the ridership is projected to be only 10,000-14,000 passenger trips per day by year 2010. Even the San Jose-San Francisco Caltrain upgrading, at a cost of \$1.46 billion, will bring only an additional 58,000 passenger trips per day by the year 2005.

If these rail investments are to be sound investments of public funds, ridership must be greater. Increased ridership for these inter-regional lines lies in good part in the same approach needed for better utilization of the urban rail lines: greater densities of development, especially residential development, around the commuter stations.

These seven lines usually are grouped together as inter-regional lines. However, an important distinction needs be drawn between stations that serve mainly inter-city travelers and stations that serve mainly commuters on these lines. For inter-city stations, the important land use considerations are not residential densities but rather adequate parking and connection with local transit services. For commuter stations, though, density development offers the best promise for increased ridership.

Of the seven lines, only one--Sacramento/Bay Area-Fresno-Los Angeles is exclusively an inter-city line. The other lines include inter-city and commuter stations. For example, on the Santa Barbara-Los Angeles line, the stations from Oxnard to Los Angeles are stations from which commuter traffic originates or can originate.

SB2559 introduced this past legislative session raises the

issue of linking land use with rail transit. It establishes three demonstration sites: cities or counties which agree to density bonuses for residential development within one-half mile of their rail transit stations. In return for these density bonuses, the three demonstration sites receive consideration in a variety of state housing, rail and bond programs.

In the next legislative session, to build on SB2559 and advance this concept of land use and rail transit, three approaches are possible, that do not involve new state expenditures:

1. Strengthening the guidelines for distribution of rail funds by the California Transportation Commission under Section 164.57 of the Streets and Highways Code: Currently, Section 164.57 of the Streets and Highways Code is silent regarding land use surrounding rail transit stations. Amendment to this section could mandate high priority in funding for urban and commuter routes that show density development within a one-half mile radius of the stations. As a guideline, the Commission could set for rail stations outside of major city business districts, zoning for a minimum of 2500 residential units.

2. Instituting revenue-sharing agreements between transit operators and municipalities: A proposal put forward in a previous companion study undertaken with the drafting of SB2559, urged that the increased revenues gained by the transit operators be shared with local municipalities. The proposal was based on the financial dynamic of rail: the major portion of rail costs are fixed costs, not marginal costs.

The proposal was not included in SB2559, but is equally

appropriate to the inter-regional lines. It would provide a financial incentive for municipalities to zone for higher density around rail transit stations, while leaving the transit agency better-off financially than prior to densities.

3. Establishment of Rail Transit Development Districts: The most ambitious approach, the rail transit development districts offer a variant of tax increment financing, to induce private development around the stations. Through the rail transit development district, the cost of public improvements in the area are not only borne by the adjacent landowners but are spread throughout the municipality, reflecting the benefit gained throughout the municipality.

Introduction
What Californians Are Buying with the Inter-Regional Rail Lines

"The proposed inter-regional rail lines will be a waste of money. A complete waste of money!"

The speaker is not an anti-government crusader, but one of the best-known real estate lawyers in the state, Mr. Stephen Finn of Brobeck, Phleger and Harrison. Over the past two decades, Finn has represented projects throughout the state, and taught land use law at UC Berkeley's Boalt Hall.

Finn would like to see the inter-regional lines built. Yet, he believes that, like the BART system, the value of these lines will be squandered by too low density development in the vicinity of the stations. He believes that unless action is taken by the state before these lines are built, no densities will result.

And he's right.

This study is a companion study to "The Promise of California's Rail Transit Lines in the Siting of New Housing", completed earlier this year. This prior study focused on the urban rail lines in the state: BART, LA Metro, and light rail in Sacramento, San Jose, and San Diego. The main theme: the stations on these lines are surrounded by low density commercial or residential, when they should be linked to higher density housing.

In the course of that study, I began to look into the inter-regional rail lines in the state, being planned for development. I was struck by the low riderships projected. Ridership

projections on rail transit lines are notoriously higher than actual ridership, as detailed by a recent Department of Transportation study. Yet, even the projections show riderships of, say, only 15,000-22,000 per day on the proposed Auburn-Sacramento-Oakland-San Jose line.

Over the past four months, in concert with the University of California, Berkeley, Institute of Urban and Regional Development, I have looked more closely into these proposed lines. The first section of this study, undertaken for the State Senate Transportation Committee, outlines the ridership projections, the costs, and land use relating to these lines.

The second section then focuses on state-level policies to promote greater densities around the commuter stations of the inter-regional lines.

Chapter 1

California's Ambitious Plans for Inter-Regional Rail... And the Limited Projected Riderships

Quietly in recent years, the state government and local governments have been laying the groundwork for an enormous investment in inter-regional rail lines during the 1990s and beyond. Studies have been commissioned by the state legislature and local transportation authorities, and plans drawn up for improving existing lines and building new inter-regional lines.

Seven major commuter and inter-city lines have been the foci of study:

Auburn-Sacramento-Oakland-San Jose
Sacramento/Bay Area-Fresno-Los Angeles
Los Angeles-San Clemente
Oceanside-San Diego
Riverside-Orange County
Santa Barbara-Los Angeles
San Jose-San Francisco.

Chart 1-1 starts with the network of rail right-of-ways existing in California in 1990, and existing Amtrak services that currently use these lines infrequently. Chart 1-2 highlights these seven lines which, if upgradings proceed as planned, will remake the state rail network. Chart 1-3 indicates the large sums earmarked for these lines just from the \$1.9 billion Proposition 116 rail bond act.

The major line in scope is the Sacramento/Bay Area-Fresno-Los Angeles line, linking the north and south and providing an alternative to air travel between these four major locations. Alternately,

suggestion has been made of using the existing coast line between Los Angeles and San Francisco as the main state line, though no formal study has been made in recent years of the cost or ridership.

One idea has underlied all of the major studies: incremental improvements in service. In the study of the Auburn-Sacramento-Oakland-San Jose (ASOS) line, for example, the principal consultant, Wilbur Smith & Associates, presents seven levels of service improvement, ranging from small track and signal improvements, to implementation of high-speed service. The track and signal improvements amount to between \$8.4 million and (the amount recommended by Wilbur Smith & Associates) 85 million. In contrast, one level of high-speed service costs an additional \$551.7 million and a second level (125 mph) an additional \$597-800 million.

Chart 1-4 sets out the costs, projected ridership increases, and maximum speed of the various rail lines and service increases. For a number of the lines--ASOS, Santa Barbara-Los Angeles, Sacramento/Bay Area-Fresno-Los Angeles--various upgrades are set out. For other lines--Oceanside-San Diego, Riverside-Orange County--the studies focus on one level of immediate upgrade, primarily for commuter service.

The immediate upgrades involve relatively modest costs of less than \$100 million per line. Concomitantly, the increases in ridership are modest, ranging from 1500-1800 riders for the Santa Barbara-Los Angeles line to 5000-7000 for the ASOS line.

In contrast, the implementation of high-speed service throughout the state involves considerable costs, ranging from \$597-800 million for high speed on ASOS, to over \$16 billion for mag-level on the Sacramento/Bay Area-Fresno-Los Angeles line. The projected ridership for high-speed or mag-level service is greater than for the

incremental upgrades, but still modest. High-speed on ASOS is projected to bring only 10,000-14,000 passenger trips per day by the year 2010, while the Sacramento/Bay Area-Fresno-Los Angeles mag-lev system is expected to bring only 18,000-27,000 daily passenger trips.

The low number of riders projected is even more disturbing in the context of a recent report by the United States Department of Transportation on rail ridership throughout the nation. The report, "Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs", examines ridership on ten system, including the heavy rail projects in Washington, Atlanta, Baltimore and Miami, and light rail projects in Buffalo, Pittsburgh, Portland and Sacramento.

In all of the systems, actual ridership was greatly below projected ridership. Only in Washington, in fact, was actual patronage more than half of that forecast and even there ridership remained 31% below that originally anticipated.

RAIL RIDERSHIP
FORECAST AND ACTUAL RIDERSHIP
U.S. Department of Transportation: 1989

	<u>Washington, D.C.</u>	<u>Atlanta</u>	<u>Baltimore</u>	<u>Miami</u>
Weekday Rail Boardings (Thousands)				
	HEAVY RAIL			
Forecast	569.6	--	103.0	239.9
Actual	411.6	184.5	42.6	35.4
	LIGHT RAIL			
	<u>Buffalo</u>	<u>Pittsburgh</u>	<u>Portland</u>	<u>Sacramento</u>
Forecast	92.0	90.5	42.6	50.0
Actual	29.2	30.6	19.7	14.4

In summary, the expansion of rail networks in California has gained popular support, indicated by the relatively easy wins of Propositions 108 and 116 on the June 1990 ballot. However, this popularity has not yet translated into ridership on the existing rail lines. Nor has the popularity translated into projections of high ridership for the planned lines, as chapters 2-4 describe in greater detail.

Chart 1-1
Inter-Regional Rail Right-of-Ways

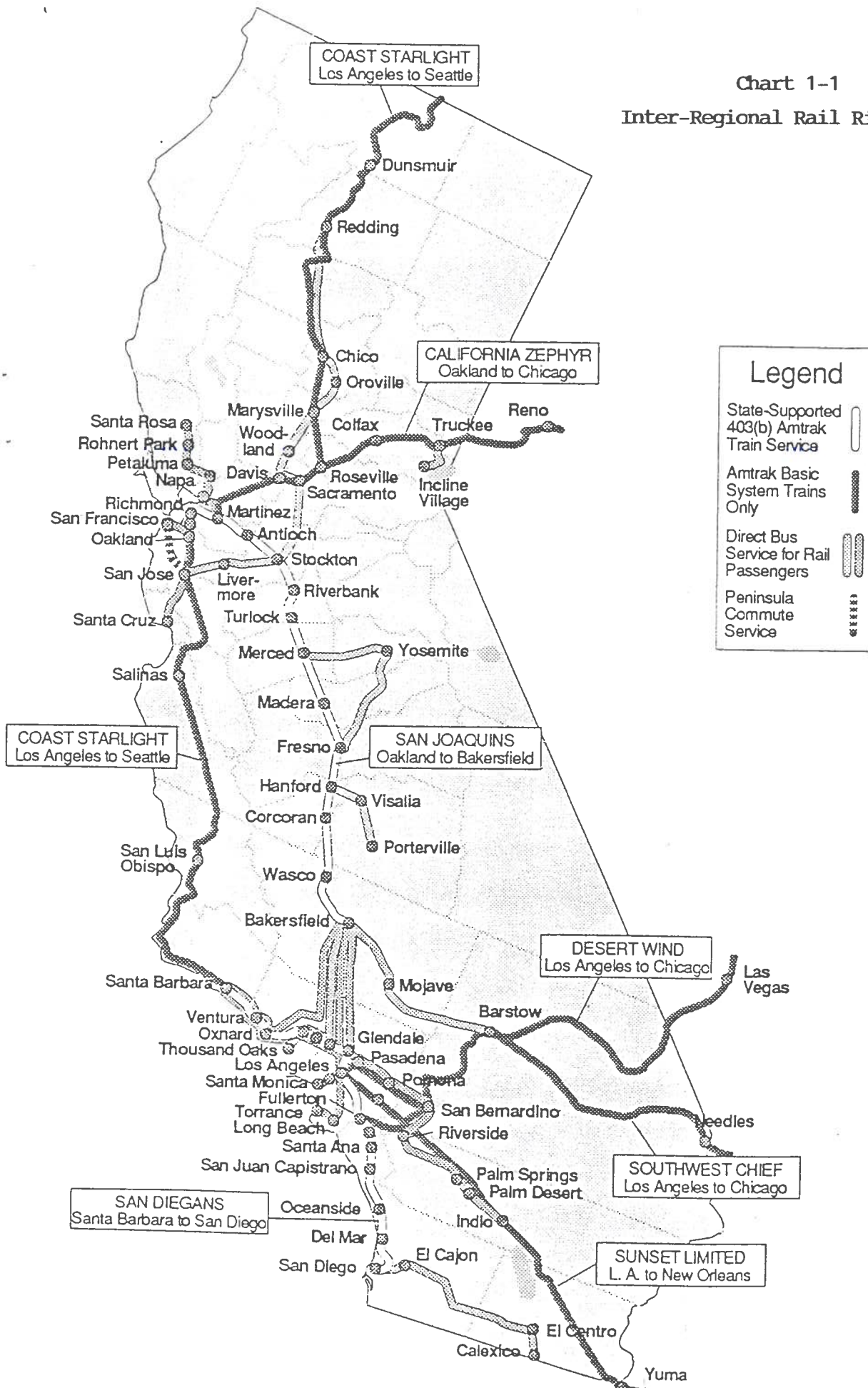


Chart 1-2
Planned Inter-Regional Rail Line Upgrades

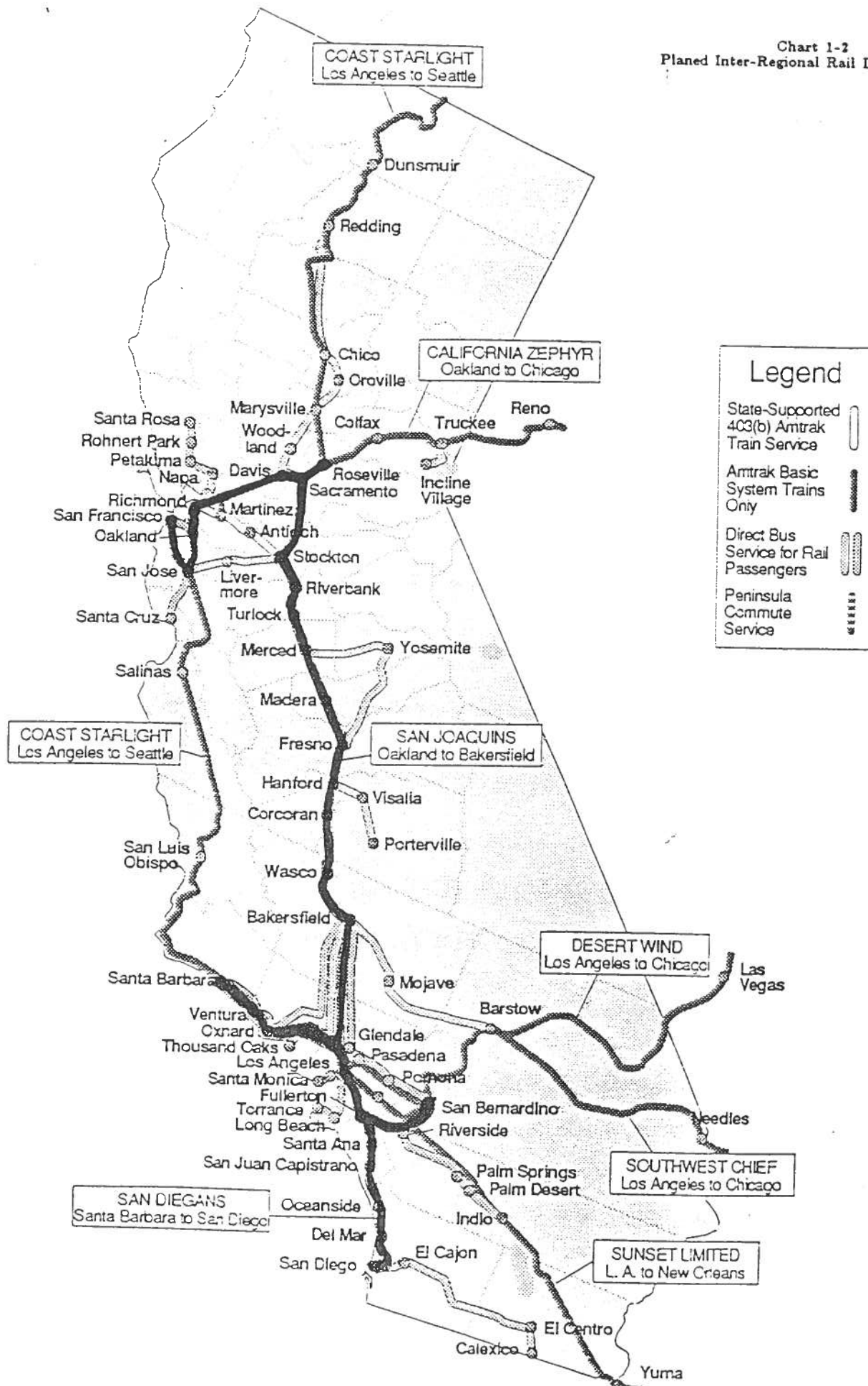
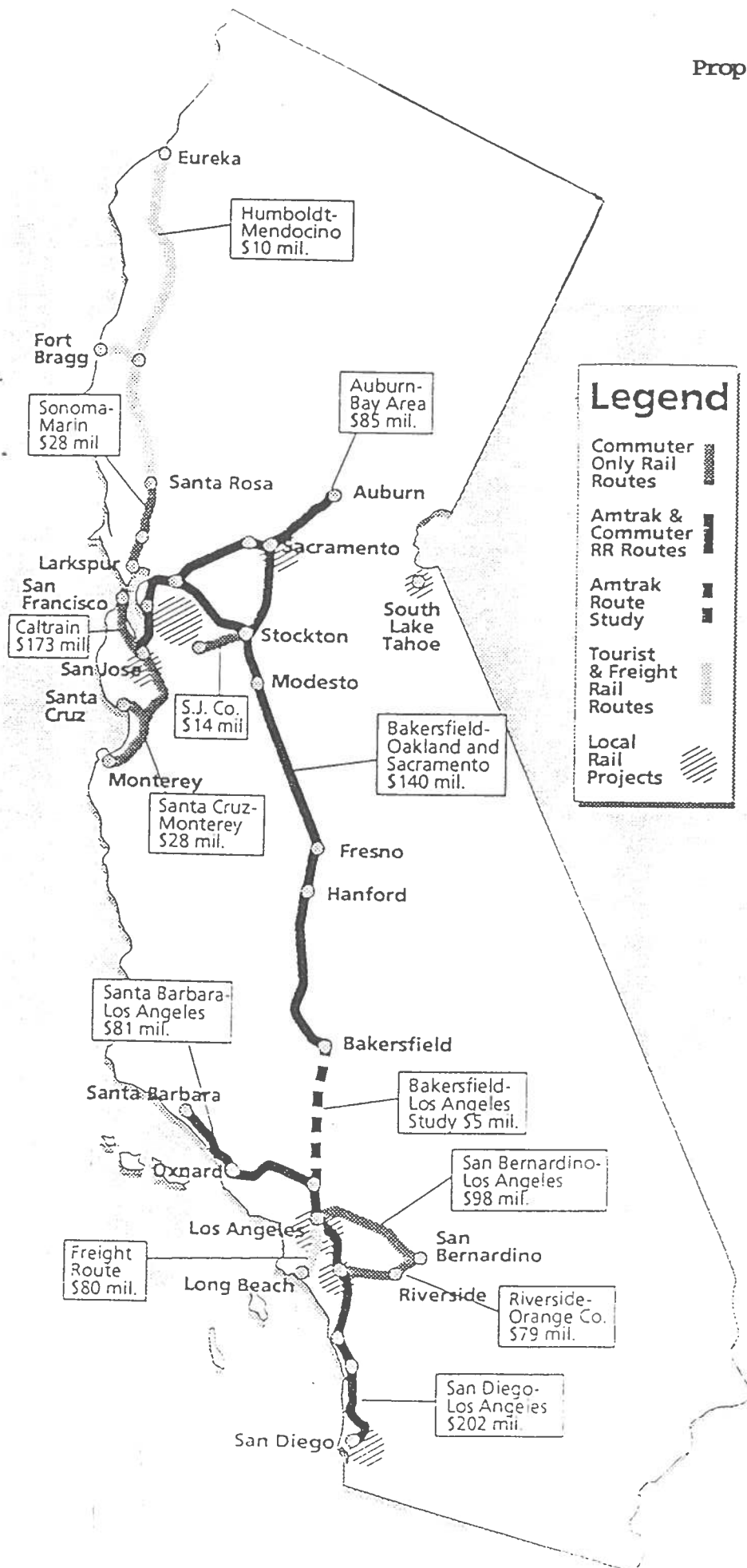


Chart 1-3

Prop. 116 Rail Projects Funded



Commuter & Intercity Rail Projects

San Diego-Los Angeles \$202 mil.
 Caltrain \$173 mil.
 Bakersfield-Oakland and Sacramento \$140 mil.
 San Bernardino-Los Angeles \$98 mil.
 Auburn-Sacramento-Oakland-San Jose \$85 mil.
 Santa Barbara-Los Angeles \$81 mil.
 Long Beach-Los Angeles (Alameda St. freight corridor) \$80 mil.
 S.B./Riverside-Orange Co. \$79 mil.
 Sonoma-Marin \$28 mil.
 Santa Cruz & Monterey Co. \$28 mil.
 San Joaquin Co. Corridor \$14 mil.
 Humboldt-Mendocino \$10 mil.
 Bakersfield-LA Study \$5 mil.

Local Rail Systems

Los Angeles County light rail and Metro Rail \$229 mil.
 City of Irvine monorail \$125 mil.
 Sacramento Light Rail \$100 mil.
 BART and light rail in Alameda and Contra Costa Counties \$98 mil.
 San Diego County commuter and light rail \$77 mil.
 Santa Clara County Light Rail \$47 mil.
 San Francisco MUNI \$35 mil.
 BART Extension in San Mateo Co. \$10 mil.
 Vallejo-San Francisco ferry service \$10 mil.
 South Lake Tahoe rail corridor \$7 mil.

Statewide Projects

Purchase of standard design rail cars \$100 mil.
 Public transit projects in non-urban counties \$73 mil.
 Bicycle commuter projects \$20 mil.
 Vessels and ferry facilities \$20 mil.
 State Museum of Railroad Technology (partial funding) \$5 mil.
 Right of way preservation study \$1 mil.

CHART 1 - 4
INTER-REGIONAL RAIL CORRIDORS
RECENT STUDIES: Ridership & Costs

(14)

RAIL LINE	SERVICE	COST	INCREASED RIDERSHIP	MAXIMUM SPEED	STUDY
1. CALTRAIN San Jose-S.F.	Electrified Line	\$1.46 Billion	58,000 (Yr 2005)	79 mph	BART/CALTRAIN Alternatives Analysis 1989
2. ASOS (1)	Level IIB Upgrade: Planned Line Upgrade: Intermediate	\$85 Million	5,000 - 7,000 (Yr 2010)	70 mph	Intercity Rail Corridor Upgrade Study, October 1989
ASOS (2)	Level V Upgrade: High Speed	\$551.7 Million	10,000 - 14,000 (Yr 2010)	110 mph	Intercity Rail Corridor Upgrade Study, October 1989
ASOS (3)	Level VI Upgrade: Mag-Lev	\$597-\$800 Million	15,000 - 22,000 (Yr 2010)	125 mph	Intercity Rail Corridor Upgrade Study, October 1989
3. Oceanside- San Diego	Planned Line Upgrade: Intermediate	\$57.7 Million	3,950 (Yr 1995)	70 mph	San Diego-Oceanside Commuter Rail Study, December 1989
4. Santa Barbara- Los Angeles (Phase 1)	Planned Line Upgrade: Commuter	\$28.2-\$46.9 Million	2,500 - 2,600 (Yrs 1991-92)	75 mph	L.A.-Santa Barbara Rail Corridor Study, August 1988
Santa Barbara- Los Angeles (Phase 2)	Planned Line Upgrade: Inter-City	\$84.881 Million	8,600 - 9,300 (Yr 1995)	75 mph	L.A.-Santa Barbara Rail Corridor Study, June 1989
5. Sacramento, Bay Area, Fresno, Los Angeles (1)	Planned Line Upgrade: Intermediate	\$142.6 Million	1,900 - 2,200 (Yr 1996)	79 mph	L.A.-Fresno-Bay Area/ Sacramento Corridor Study, March 1990
Sacramento, Bay Area, Fresno Los Angeles (2)	Electrified Rail Line	\$6.25 Billion	9,700 - 12,000	110 mph	L.A.-Fresno-Bay Area/ Sacramento Corridor Study, March 1990
Sacramento, Bay Area, Fresno, Los Angeles (3)	High Speed Rail	\$7.7 Billion	18,000 - 27,000	185 mph	L.A.-Fresno-Bay Area/ Sacramento Corridor Study, March 1990
6. Riverside- Orange County	Planned Upgrade: Intermediate	\$89.5 Million	4,900 (Yr 1993)	60 mph	Riverside-Orange County Commuter Rail Assessment (1988)

Chapter 1: Addendum
Who Rides the Inter-Regional Lines?

Who rides the inter-regional rail lines in California?

The data on inter-regional rail ridership in California is limited, reflecting the limited inter-regional service over the the previous two decades. The data that does exist, though, indicates that at low levels of inter-regional service, ridership is a mix of regular commuters, business travelers on one-day trips, and recreational travelers.

At higher levels of service, the variety of travelers continues. However, at these higher levels, commuters grow in absolute and relative numbers. The data suggest the possibilities of increasing ridership by increasing service levels and also access to the stations, including residential densities around the suburban stations, and employment densities around the urban centers. The one exception to this finding is the Sacramento-Bay Area-Fresno-Los Angeles line, which is a long-haul and non-commuter line.

Here are four of the major recent studies.

1. Amtrak's San Diegan service in the Los Angeles to San Diego corridor was surveyed in 1984. At the time, the service level was very low: the San Diegan service consisted of only 7 trips daily. The ridership was varied among purposes as follows:

Percent of Train Boardings (San Diegan) 1984

	Total	Commute Times
Commute to/from Work	21%	50%
Business	13%	19%
Visit to Friends	27%	13%
Other (shopping, school, vacation, recreational day trip)	39%	18%

2. A more complete level of inter-regional service has been operating for some years on the 47-mile CalTrain line between San Jose and San Francisco.

In October 1988, CalTrans surveyed 4465 passengers. At the time, the CalTrain service included 52 trains per day--26 in each direction, providing better than 20 minute headways during peak commute times in the morning and evening.

The majority of ridership was commute ridership from homes on the Peninsula to jobs in San Francisco. In the evening commute, more than three quarters of the riders boarded at the downtown San Francisco station (Fourth and Townsend). The majority of riders came from Santa Clara County stations, with an average trip length of 25 miles. 68% claimed that they had a motor vehicle available to them for the trip they took on CalTrain, but chose CalTrain for the convenience.

In terms of access to the station, 50% of the trips were made by drive-alone automobile. Only 19% were made by walking. However, this 19% becomes more significant when the low residential densities surrounding the stations are taken into account.

Moreover, among the San Mateo riders, 26% walked to the station. Only 4% of the San Mateo riders and 8% of the Santa Clara riders used public transit to the station.

In the suburban locations, commute riders indicated no willingness to take buses to the rail stations. In contrast, there was willingness to walk to the rail station, when the commute was negotiable.

3. Late last year, the Orange Country Transportation Commission staff surveyed surveyed 1551 morning riders on the rail line from San Clemente/San Juan Capistrano in Orange County to downtown Los Angeles. At the time, service on the line was very low, with only two trains in the morning commute hours--the 571 leaving San Diego at 5:21 a.m. and arriving in Los Angeles at 7:55, and the 573 leaving San Diego at 6:25 and arriving in Los Angeles at 9:15.

The ridership picture which emerged was (consistant with the CalTrain data) of an affluent and professional ridership: 81% were either in managerial/supervisory or professional/technical cateogires. A third of the riders had annual household incomes of \$100,000 or more.

The majority (61%) were using the service as a commute service, in place of driving to work. 70% listed a destination of downtown Los Angeles, with 11% going to Fullerton and 13% to Santa Ana. A number emphasized that they had chosen housing near the stations, precisely to be within walking distance of the line.

4. To determine the potential of commute ridership on another

rail line--the San Diego-Oceanside--in 1989 the San Diego Association of Governments (SANDAG) in conjunction with Morrison-Knudsen Engineers, surveyed motorists using northbound off-ramps at eight interchanges along I-5 between North University City and Oceanside. These off-ramps were near four proposed stations on the envisioned commuter line: Santa Fe Depot (downtown San Diego), Old Town, Miramamar, and Sorrento Valley.

Videotape equipment recorded the license plates of vehicles using the off-ramps; the license plate numbers were then recorded on log forms to the California Department of Motor Vehicles, which mailed survey forms to registered owners of the vehicles. Of 12,500 survey forms mailed, 1,795 responses were received. The motorists were questioned as to whether they would use an upgraded commuter rail service in place of driving.

The responses indicated an interest in commuter rail from motorists working near the Santa Fe Depot station, where parking was not free. At the other suburban stations on this line, with free or low cost parking, there was less interest, even though the stations were in close proximity to workplaces. This result is consistent with other survey data from BART and San Diego light rail, indicating that in suburban locations, with free or abundant parking, rail ridership will be limited even if the station is located near the workplace.

These four studies do not constitute extensive data on the reality or, more importantly, the promise of inter-regional rail ridership. None, for example, measures existing ridership by

geographic area or distance from the rail station. None measures well the demand for housing near the rail stations, if an upgraded commuter service existed.

What they do begin to indicate is a potential for commuter ridership on these lines, and also the obstacles to realizing this potential. Reliance on bus feeders to rail stations will not succeed, unless a new form of feeders can be developed. Nor will rail ridership increase at the suburban office locations, so long as free and abundant parking exists near the offices. As with the intra-regional lines, the increase in commuter ridership lies in significant part in walking proximity of residence to the station.

Chapter 2

Auburn-Sacramento-Oakland-San Jose (ASOS) Corridor

The Auburn-Sacramento-Oakland-San Jose Corridor (ASOS Corridor), set out in chart 2-1, is a 167 mile rail line owned by Southern Pacific.

The ASOS Corridor Advisory Committee, established by the state legislature, has plans to invest \$85 million in the line to provide additional trains and greater speeds in the short run, with a possible further investment of \$590-\$800 million for further upgrades to a high-speed system.

Yet, the initial \$85 million investment in capital improvements is likely to buy additional ridership of only 5000-7500 passenger trips per day, and even the \$590-800 million high speed system will only buy additional ridership of 15,000-22,000 passenger trips per day.

The eighteen projected stations for this corridor are surrounded by a variety of commercial and residential uses, but only one station--downtown Sacramento--has plans for significant density of development related to the proposed station.

Segments of the ASOS line currently are used by Amtrak for long distance services between Oakland and Chicago and between Los Angeles and Seattle via Oakland. Currently a resident of, say, Oakland could use this line to travel to Sacramento, but the travel time would be 131 minutes--far lengthier than even travel by bus.

At the same time, the ASOS corridor is facing some of the worst projected gridlock in the state. The corridor is served by I-80

between Auburn and Oakland and I-880 between Oakland and San Jose. In 1988, the National Strategic Transportation Planning Study by the federal government chose the I-80 corridor as one of five nationwide to study. The conclusion: "In the absence of a new approach to the provision of transportation services, all but 10 miles of the 110 miles of I-80 will operate under congested conditions during peak periods in Year 2015. Many sections of I-80 would be severely congested for two to three hours."

In the late 1980s, a number of state and local legislators residing in the corridor began to look upon this rail line as a means of reducing auto travel. In 1988, Assembly Concurrent Resolution 132 (Hannigan) directed a study of how service on the rail line might be upgraded to provide an alternative to commuters and to others using the corridor. Specifically, the Resolution called for identification of short-term improvements on the existing rail line; and identification of longer-term improvements necessary to achieve high speed rail travel times of 85 minutes from Sacramento to Oakland and two hours from Sacramento to San Jose.

The resulting study, under the direction of principal consultant Wilbur Smith Associates, noted the technological feasibility of seven forms of upgrading the service, as set out in chart 2-2.

These forms of upgrading, characterized as Scenarios I-VI including II-A and II-B, differ in the number of trains per hour, the number of stations, and the speed of trains.

In Scenario I, for example, the service could be upgraded at

a minimal capital cost increase of \$8.4 million to \$14.7 million. The upgrade, though, would involve primarily adding two locomotives to provide three corridor trains in each direction between San Jose and Sacramento and also provide service between Sacramento and Stockton. Train speeds would continue to be slow--with maximum speeds of 60 mph--and feeder bus service would serve between Auburn and Sacramento.

In contrast, Scenario VI includes upgrade to serving all stations in the Corridor between San Jose and Sacramento on an hourly basis. It would also include eight express trains, providing express service every three to four hours. It would provide for peak period service in both directions, serving work-oriented trips into Oakland in the morning and out of Oakland in both directions in the afternoon. Existing diesel technologies which are operating today in various countries of the world at speeds in the 110 mph to 125 mph range could be used for the express service. The cost for this upgrade is estimated between \$597 and \$800 million.

As well as costs and speeds of various forms of upgrading, the study further looked at patronage for the various scenarios. The patronage estimates ranged from an additional 1,500-2,500 passenger trips per day by Year 2010 for Scenario I, to 15,000-22,000 passenger trips per day for Scenario VI, as set out in chart 2-3.

Comparing costs of upgrading and projected increased ridership, the study consultant Wilbur Smith recommended Scenario II-B as the most cost-effective scenario. Both the cost per passenger trip served and the cost per passenger mile served, Wilbur Smith claimed, would be significantly lower with Scenario II-B than with

any of the other scenarios, as indicated in chart 2-4. Scenario II-B promised daily passenger trips of 5,000-7,5000.

The Policy Advisory Committee, headed by Mayor James Spering of Suisun City, voted in late 1989 to pursue Scenario II-B. Wilbur Smith and Associates is currently studying in greater detail the potential station sites, and refining train operation concepts and revenue estimates. The study is to be completed in August 1990.

Eighteen stations are planned for the line, at the following locations:

- Auburn
- Rocklin
- Roseville
- McClellan AFB
- Marconi (LRT)
- Sacramento (Downtown)
- Davis
- Suisun City
- Martinez
- Richmond
- Berkeley
- West Oakland
- Oakland (Jack London Square)
- Coliseum
- Newark
- Great America
- San Jose (Downtown)
- San Jose (Alma)

A number of these station locations were chosen due to proximity to major recreational areas: Great America Amusement Park in Santa Clara, Oakland Coliseum, Jack London Square in Oakland. Others tie into local transportation networks: Marconi light rail transit station in Sacramento, Richmond BART station, Alma light rail transit station in San Jose.

Yet, the remaining twelve stations are surrounded by lower density residential and commercial zoning. In the Sacramento region, the Rocklin and Roseville stations are surrounded by low residential densities. The McClellan station is outside of the Air Force base gates, and therefore draws upon the workforce at the station. Yet, the zoning on other sides of the station is for a mix of residential at 5 units per acre and light industry.

The Richmond station near the BART station is in a redevelopment zone in downtown Richmond, where the city and Redevelopment Agency are actively courting development. Among the projects planned in the area are a Kaiser Hospital structure, the rehabing of the Hotel Don for 60 apartments, and a mixed use development of 920,000 sq. feet.

In Oakland, the consultant's recommendation is for a station initially at the existing West Oakland Amtrak station at Sixteenth/Wood, and subsequently with service upgrade at Third/Center. The Sixteenth/Wood station is in a mixed middle and lower-income West Oakland neighborhood of detached single family homes, aging industrial projects, and housing projects. The Third/Center site is adjacent to the West Oakland BART station, also surrounded by a similar mix of low density housing and

industrial.

The location of a station in the Newark-Fremont area is under consideration, with several sites in contention. Among these sites are the Ardenwood Regional Park Site, adjacent to the the park and a single family neighborhood, and the more vacant Stevenson Boulevard Site, at the Stevenson Boulevard intersection with the Southern Pacific tracks.

In the Great America area, three sites are in contention, with the City of Santa Clara recently voting to support the site at the southwest quadrant of the Lafayette and Tasman intersection. The site is a city-owned site in the city's Bayshore North Redevelopment Area.

In downtown San Jose, the proposed station is the existing Caltrain-Amtrak station between Park Avenue and the Alameda. A second station is planned at the Alma Avenue light rail transit station, currently under construction.

One station on the ASOS line that currently is planning development aimed at maximizing the use of the inter-regional line is the downtown Sacramento station. The land immediately surrounding the proposed stations is owned by Southern Pacific and includes 240 acres of mainly abandoned railyards. Near the station, east of the Sacramento River and north of Richards Boulevard is another 1000 acres, owned by a number of landowners. Southern Pacific hired the design firm of ROMA to design densities for the entire area, linked to the station.

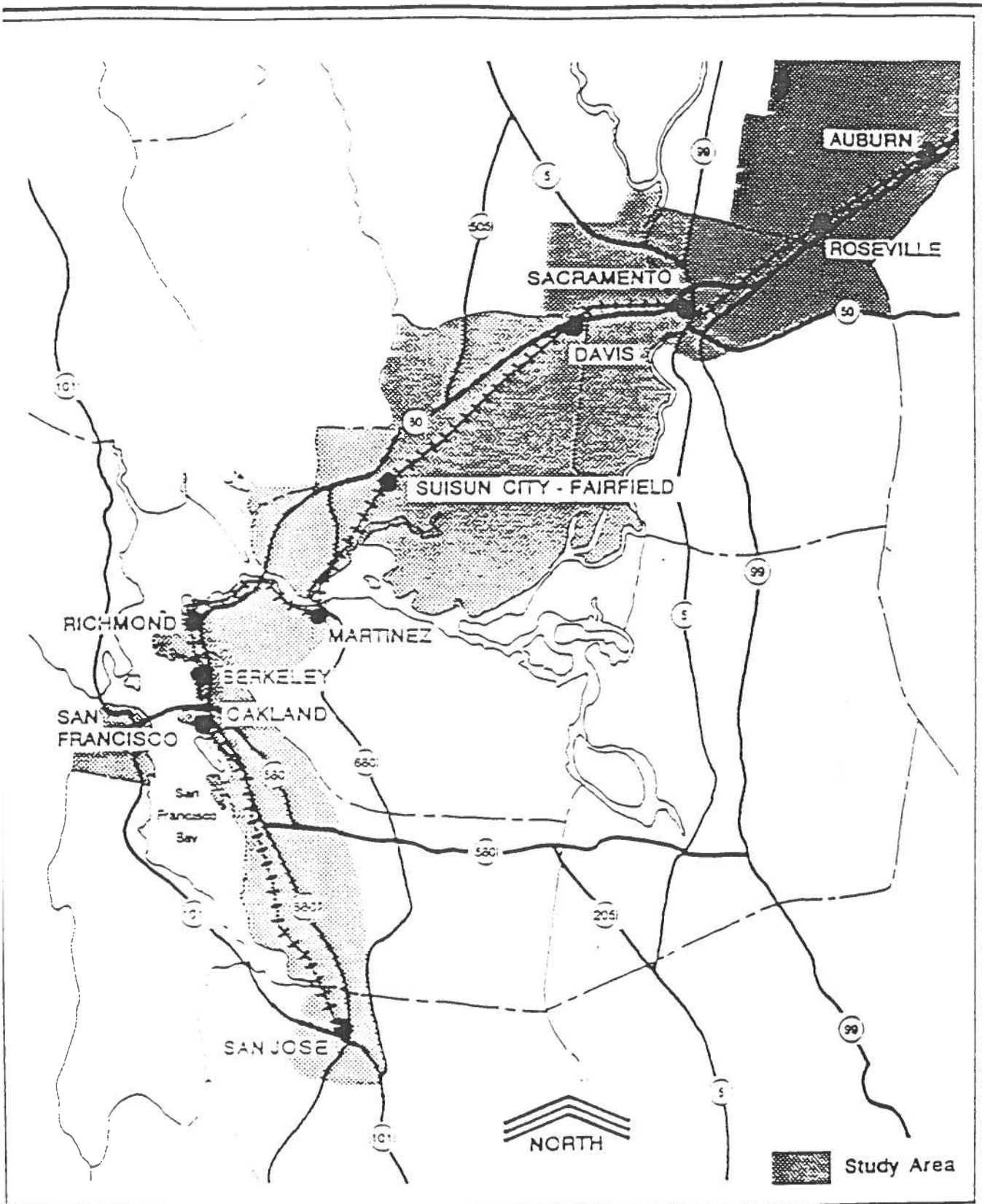
The ROMA design is shown on charts 2-5 and 2-6. It features office structures in the quarter-mile immediately surrounding the

station, which the ROMA architects envision as a center for back-office space. Outside of the office area are a mix of high density 50-100 units per acre and 10-50 units per acre housing north of Richards Boulevard, including housing fronting the American River.

The area north of Richards Boulevard currently is a patchwork of warehouses and aged industrial. ROMA is arguing for this area to be designated as a Redevelopment area, enabling the assembling of larger parcels of land and a coherent land plan.

ROMA has been a main proponent of concentrating higher density residential, rather than commercial, in the land surrounding the intra-regional rail stations, such as the BART stations. It's inclusion of office uses at the Sacramento inter-regional station reflects its view of this station as one of the few downtown stations on the line (along with the downtown San Jose station and the downtown Oakland station) that will be receiver stations on the line.

Chart 2-1
Auburn-Sacramento-Oakland-San Jose Rail Line
ASOS STUDY (WILBUR SMITH ASSOCIATES)



THE AUBURN - SACRAMENTO - OAKLAND - SAN JOSE
INTERCITY RAIL CORRIDOR

PSii

SUMMARY COMPARISON OF ALTERNATE OPERATING SCENARIOS
ASOS STUDY
(WILBUR SMITH ASSOCIATES)

ONE WAY TRAINS PER DAY SAN JOSE - SACRAMENTO										NUMBER OF STATIONS				COSTS (\$ 1989 millions)			AUBURN 5.3 TRAVEL TIME (hour 3/4 min.)	
STAGE	SCENARIO	NUMBER OF TRAIN SETS	LOCAL		EXPRESS SERVICE	TOTAL	AUBURN EXTENSION	LOCAL		EXPRESS SERVICE	AUBURN EXTENSION	TOTAL	MAXIMUM SPEED (MPH)	CAPITAL	O&M (Annual)			
			INTERCITY SERVICE	EXPRESS SERVICE				INTERCITY SERVICE	EXPRESS SERVICE									
1	I	2	6	0	0	6	0	8(a)	0	0	0	8	60	\$8.4 to 14.7*	\$6.6	5		
2	II-A	4	12	0	0	12	2	9(b)	0	0	3(f)	12	70	61.4	12.6	1		
3	II-B	4	12	0	0	12	2	12(c)	0	0	6(g)	18	70	64.8	13.2	1		
4	III	6	20	0	0	20	4	15(d)	0	0	6(g)	21	79	189.9	20.6	3.45		
5	IV	10	16	8	8	24	8	20(e)	4(h)	4(h)	6(g*)	24	110	519.4	25.6	1		
6	V	14	24	4	4	28	4	20(e)	4(h)	4(h)	6(g*)	24	110	551.7	28.2	1		
7	VI	17	40	8	8	48	8	20(e)	4(h)	4(h)	6(g*)	24	125	\$597.3 to 800**	\$43.7	2.40 ¹		

Station Locations

- (a) Sacramento, Davis, Suisun City/Fairfield, Martinez, Richmond, Berkeley / W. Oakland, Oakland, San Jose
- (b) Above plus Alameda
- (c) Above plus Coliseum, Newark, Great America
- (d) Above plus Vacaville, Crockett, Pinole
- (e) Above plus Dixon, Hayward, Santa Clara and Auburn extension stations
- (f) Auburn, Roseville, Marconi
- (g) Same as (f) plus Newcastle, Rocklin, McClellan
- (g*) These six stations would be served by trains offering local intercity service between Auburn and Sacramento and express service between Sacramento and Oakland, and between Oakland and San Jose.
- (h) Sacramento, Berkeley, / W. Oakland, Oakland, San Jose

- * Higher cost estimate assumes addition of two complete train sets
- ** Lower capital cost estimate assumes high performance diesel locomotives; higher estimate provides for electrification and replacement of diesel locomotives (No operating or maintenance costs for an electrified system have been calculated as yet).
- (i) Travel times are for express service

Chart 2-3
COMPARISON OF ALTERNATIVE SCENARIOS
AMOUNT OF SERVICE SPEED, TRAVEL TIMES AND DAILY PATRONAGE
ASOS STUDY
(WILBUR SMITH ASSOCIATES)

SCENARIO	TRAIRTS PER DAY	AVERAGE TRAIN SPEED	MAXIMUM TRAIN SPEED ¹	TRAIN RUN TIMES		WEEKDAY PATRONAGE IN 2010
				OAKLAND	SAN JOSE (minutes)	
I	6	39.1	60	131-154	1992	1,500 - 2,500
II-A	12	44.4	70	130	1804	3,000 - 4,500
II-B	12	40.3	70	130	190	5,000 - 7,000
III	20	43.3	79	115	175	7,500 - 10,000
IV	24	50.2	110	100	150	9,000 - 13,000
V	28	49.6	110	100	150	10,000 - 14,000
VI	48	53.3	125	85	120	15,000 - 22,000

¹ Refers to Sacramento to San Jose line segments.

² Via Oakland - San Francisco bus connection and San Francisco - San Jose by Caltrain.

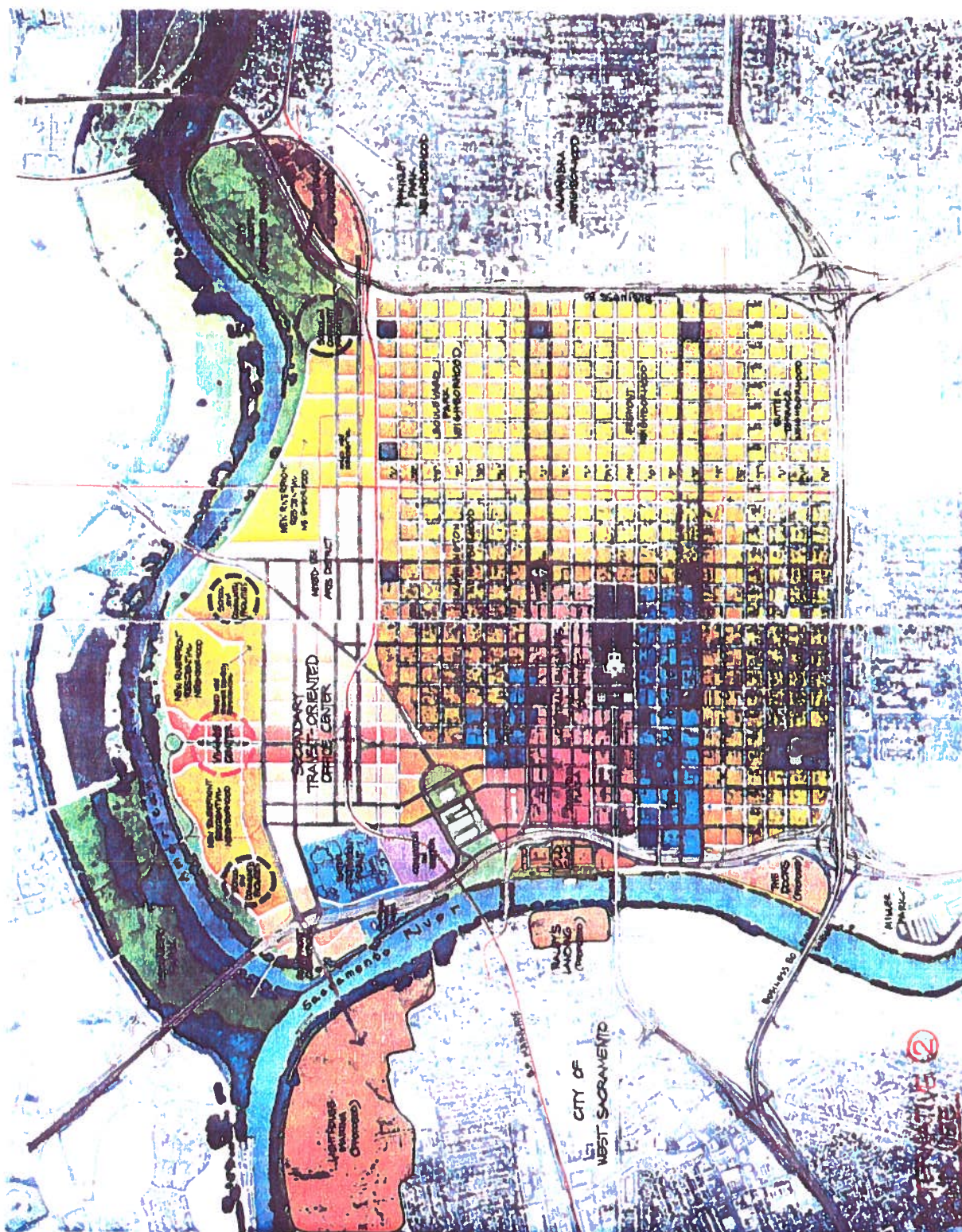
TP-74/82B

Chart 2-4
COMPARISON OF ALTERNATIVE SCENARIOS
TOTAL COST PER PASSENGER TRIP
ASOS STUDY
(WILLBUR SMITH ASSOCIATES)

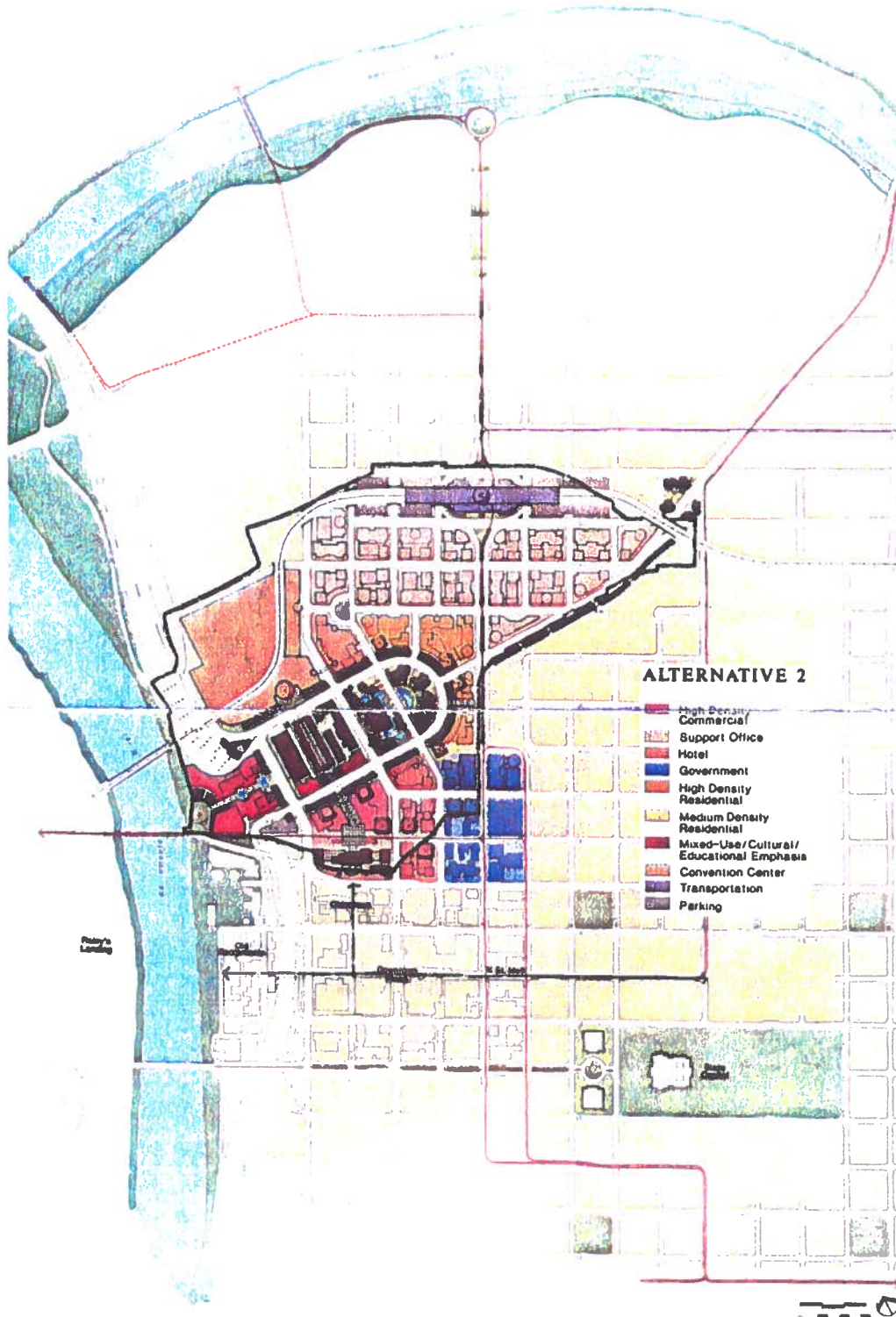
SCENARIO	CAPITAL, COST 1982 (millions)	ANNUALIZED CAP. COST ¹ (millions)	ANNUAL, O&M COST (millions)	TOTAL, ANNUAL, COST (millions)	ANNUAL, PASSENGER TRIPS ²	TOTAL, COST PER TRIP
I-A	\$ 8.4	\$.890	N/A	N/A	0.45 - 0.91	N/A
I-B	14.7	1.558	\$ 6.630	\$8.188	0.45 - 0.91	\$ 9.00 - \$18.20
II-A	61.4	6.508	12.640	19.148	0.90 - 1.64	11.70 - 21.30
II-B	64.7	6.858	13.230	20.088	1.50 - 2.56	7.80 - 13.40
III	189.9	20.129	20.640	40.769	2.25 - 3.65	11.20 - 18.10
IV	519.4	55.056	25.590	80.646	2.70 - 4.75	17.00 - 29.90
V	551.7	58.480	28.170	86.650	3.00 - 5.11	17.00 - 28.90
VI	\$597.3	\$63.314	\$43.690	\$107.004	4.50 - 8.03	\$13.30 - \$23.80

¹ Used on capital recovery factor of 0.106 (30 year service life and 10% discount rate).

² Represents range of fullrange projections for Year 2010.



DOWNTOWN SACRAMENTO STATION ON ASOS LINE



SOUTHERN PACIFIC RAILYARDS MASTER PLAN

Prepared by ROMA Design Group and Associated Consultants

Chapter 3

Southern California Rail Commute Corridors: Oceanside-San Diego, Los Angeles-Oxnard, Riverside-Orange County

Among the rail corridors in Southern California, three have been studied in some detail, with ridership projections, station locations, and proposed costs.

Oceanside-San Diego

The Oceanside-San Diego line, as set out in chart 3-1, is a 42 mile line between downtown San Diego and communities to the north, including Solana Beach, Encinitas, Carlsbad and Oceanside. The line is part of the 128 mile line between Los Angeles and San Diego owned by the Atchison, Topeka and Santa Fe Railway Company (AT&SF). AT&SF operates a small amount of freight traffic on the line. Amtrak operates eight trains each way.

The Los Angeles-San Diego (LOSSAN) Corridor study in 1987 recommended a program of improvements on the full inter-city corridor. The state subsequently authorized \$46 million for re-railing on the corridor, and improvement work is in progress.

Additionally, the Oceanside-San Diego segment became seen as a means of reducing commuter traffic on congested Interstate 5. The engineering firm of Morrison-Knudsen Engineers was commissioned in 1989 to work with the San Diego Association of Governments (SANDAG) in examining the possibilities of improving the commuter service on the corridor.

In December 1989, Morrison-Knudsen delivered its "San Diego-Oceanside Commuter Rail Study", recommending an upgrading of commuter service through four train service each morning and each

evening, and an increase to nine stations. The trip time between Oceanside and San Diego would be 55 minutes.

The cost of this upgrade was set at \$57.7 million, with operating cost subsidies of \$3.2 million per year. Daily ridership for 1995 was estimated to be 3,650 passenger trips. The SANDAG Board of Directors approved the upgrade on December 15, 1989.

Nine stations are planned for the line:

1. Oceanside Transportation Center
2. Carlsbad (Grand)
3. Carlsbad (Poinsettia)
4. Encinitas
5. Del Mar
6. Sorrento
7. Mirimar
8. Old Town
9. San Diego (Santa Fe Depot)

The boarding projections are spread among the stations as follows for the year 1995:

Station	Ons	Offs
Oceanside	370	0
Carlsbad (Grand)	171	0
Carlsbad (Poinsettia)	359	8
Encinitas	300	27
Del Mar	303	23
Sorrento Valley	110	109
Miramar	362	80
Old Town	0	475

The projections indicate a ridership distributed relatively equally, but with modest ridership at all stations.

Carlsbad (Poinsettia) Station Design

Of the nine stations, the only one with some density development planned for the station is the Carlsbad (Poinsettia) station.

At this station, the Newport National Corporation (NNC) owns approximately 59 acres at the northwest corner of Poinsettia Lane and Avenida Encinas.

NNC is planning a phased mixed-use commercial project including specialty and convenience retailing, Class A and B office, restaurants, hotel, movie complex, bowling and entertainment center. The development totals 600,000 square feet, and construction is to begin in April 1991 in three phases.

Phase 1 will consist of site improvements, as well as construction of 48,000 square feet of specialty retailing, the 60 lane bowling and entertainment center and a six to eight screen movie complex. Phase I also will include the construction of the first of three Class A office buildings, with 54,000 square feet in a three story structure.

Los Angeles-Oxnard

The Los Angeles-Santa Barbara rail corridor, as set out in chart 3-2, is an 103-mile line linking downtown Los Angeles to the communities in the north--including Glendale, San Fernando Valley, Simi Valley, Moorpark and Oxnard. The line is owned by Southern

Pacific. For some years, Amtrak has operated one daily round trip between Santa Barbara and Los Angeles, and Southern Pacific has operated freight service.

An early study completed in August 1988 examined commuter rail on the corridor. It recommended a starter line commuter service from Oxnard to Los Angeles, consisting of two daily round trips in peak hours, at improvement costs of \$28-\$47 million.

The commuter line was seen mainly as providing work trips to Los Angeles, though an estimated 10-15% of the ridership potential of the line was defined in terms of non-work trips.

Shortly thereafter, the state legislature created the Southern California Regional Intercity State Rail Corridor Study Group to examine further improvements in service on the corridor. In June 1989, the group's report was released, recommending a program of capital improvements costing \$84.88 million. These improvements would support eight trains per day (four each way). Ridership was projected at between 8,600-9,300 passenger trips per day by 1995, with farebox recovery reaching 100% by that time.

During the 1989=1990 fiscal year, the California Transportation Commission programmed \$2.6 million for track construction and improvements on the line. Proposition 116 contained \$81 million dedicated to this line.

The 1989 inter-city study recommended 10 stations:

Downtown Los Angeles
Glendale
Burbank
Van Nuys
Chatsworth
Simi Valley
Oxnard
Ventura

Santa Barbara
Goleta

The recommended travel time with these improvements between Santa Barbara and Los Angeles was approximately 2.5 hours, and 1 hour between Chatsworth and Los Angeles.

Riverside-Orange County

The Riverside-Orange County Corridor was examined in 1988 by a team of consultants headed by Sharon Greene and Associates and Schiermeyer Consulting Services. The consultants recommended initial service of four trips each weekday, originating at Riverside: 2 trips proceeding directly to Irvine and two trips proceeding through Fullerton and Anaheim to Irvine.

The proposed line, as set out in chart 3-3, includes five stations in Riverside and twelve in Orange County:

Riverside (7th Street)
Riverside (Madison Street)
Riverside (La Sierra)
Corona (Sheridan/Main)
Corona (Serfas Club)
Anaheim (Imperial Highway)
Anaheim (La Palma)
Orange (Lincoln)
Placentia (Chapman)
Fullerton (State College)
Fullerton (Amtrak)
Anaheim (Lincoln)
Anaheim (Amtrak)
Orange (Chapman)
Santa Ana (Amtrak)
Tustin (Jamboree Road)
Irvine (Amtrak)

The travel time between Riverside and Irvine on the direct trips was estimated at 74 minutes, while the travel time with the

additional stops at 92.5 minutes. Average speed would be 40 mph. Trains would depart Riverside starting at 6:00 a,m, to arrive in Irvine starting at 7:15.

The cost estimated for improving the line for this basic commuter service was \$89.5 million. Projected ridership was set at 4,884 daily boardings in 1993, rising to 8,017 daily boardings by the year 2010.

In April 1990, Morrison-Knudsen Engineers was hired by the Riverside County Transportation Commission to further study improvements in Riverside-Orange County commute service, as well as service between Riverside and San Bernardino county.

Chart 3-1
San Diego-Oceanside Commuter Line

San Diego-Oceanside Commuter Rail

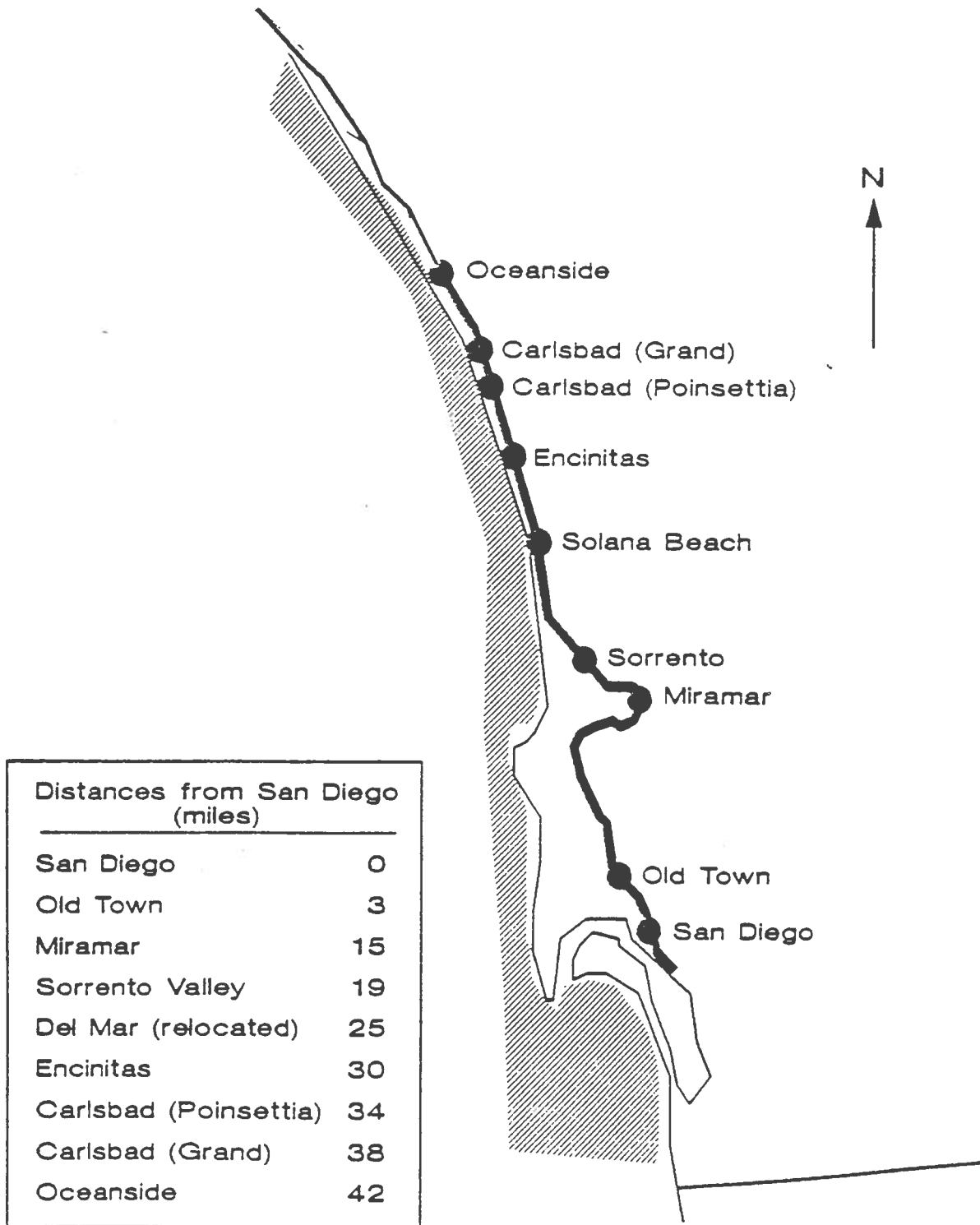
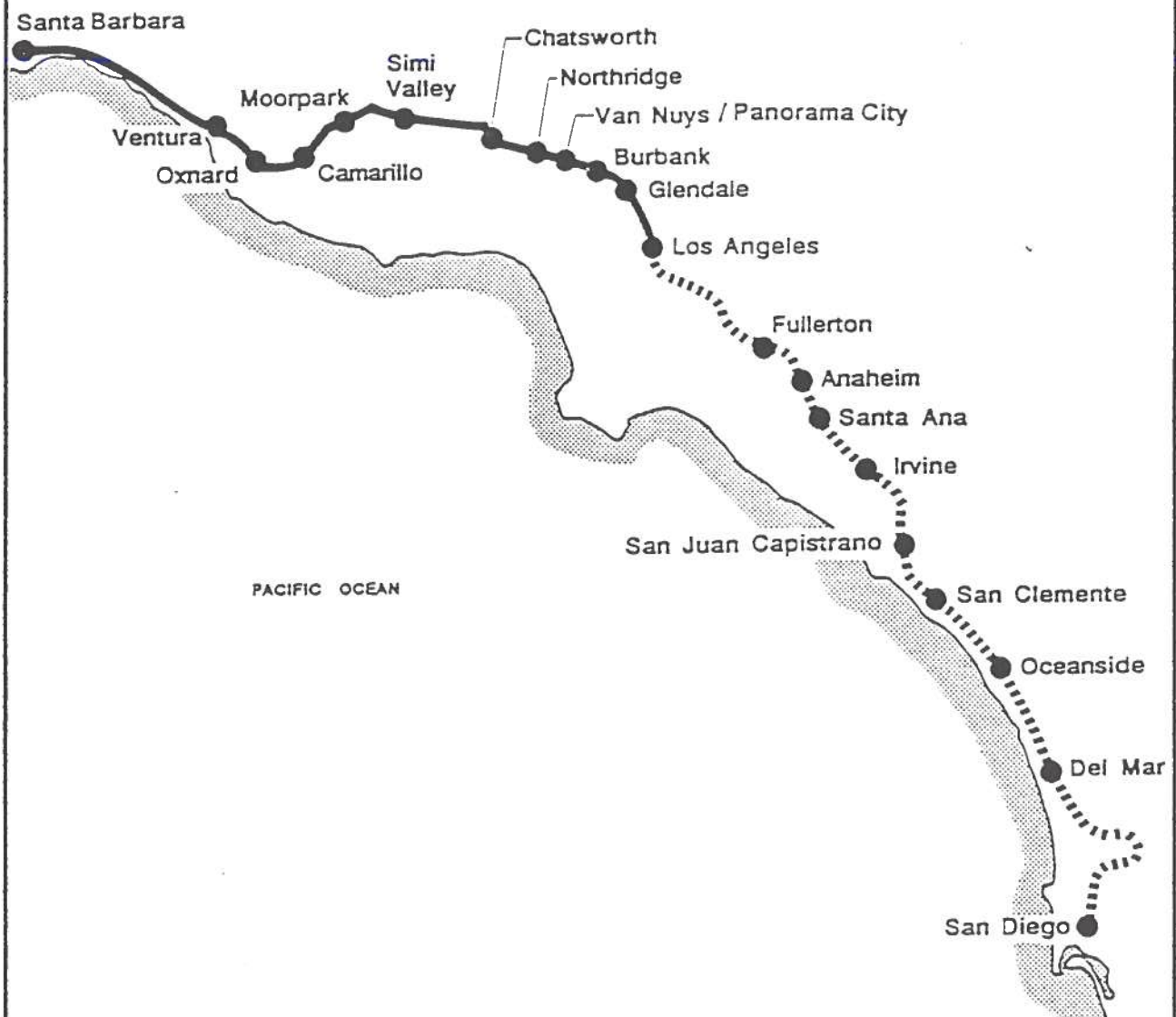


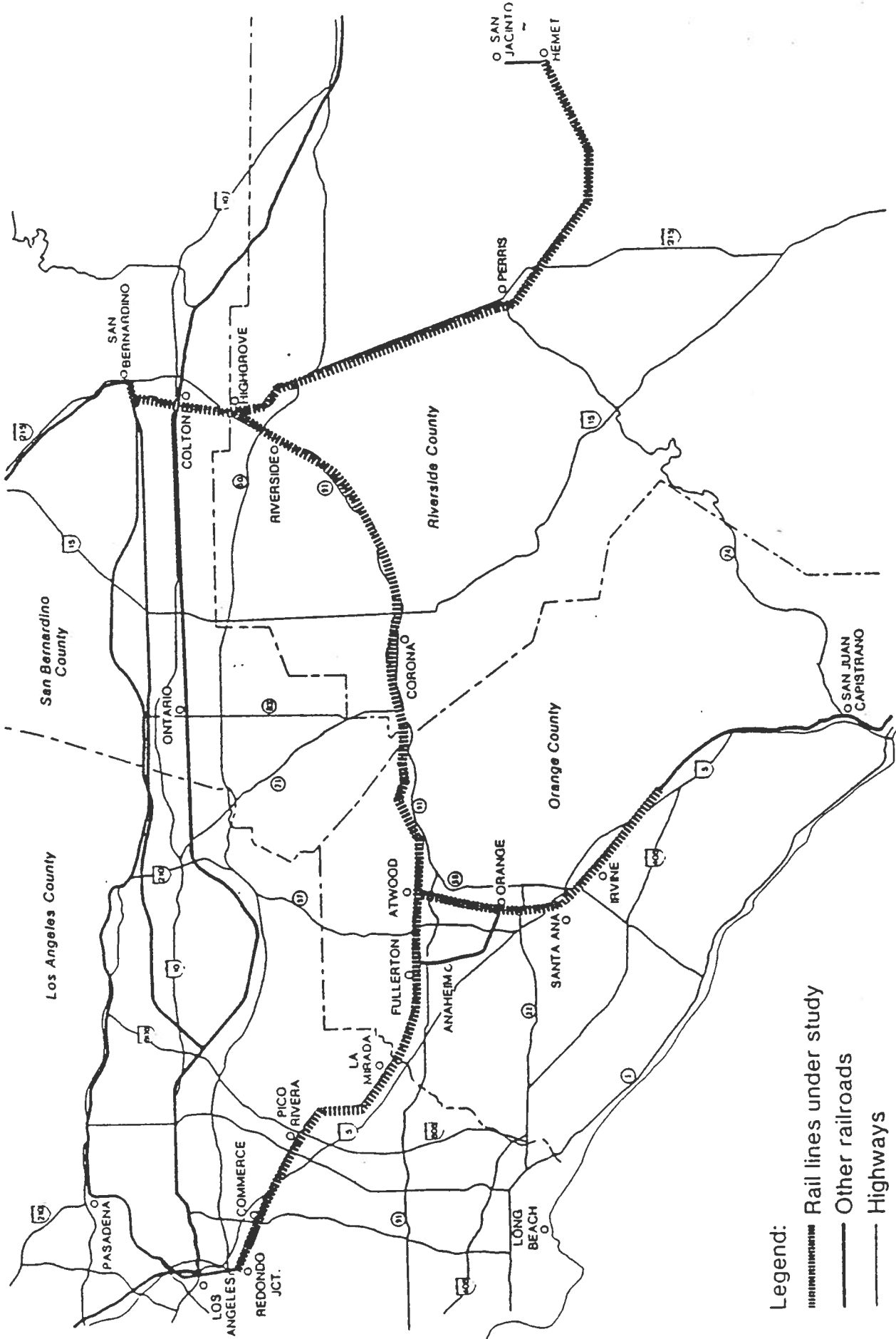
Figure A
THE SAN DIEGO - LOS ANGELES -
SANTA BARBARA STATE RAIL CORRIDOR

- San Diego - Los Angeles Corridor
- Los Angeles - Santa Barbara Corridor



Los Angeles - Santa Barbara Rail Corridor Study

Riverside-Orange County Commuter Rail Lines



- Legend:
- Rail lines under study
 - Other railroads
 - Highways

Chapter 4

Los Angeles-Fresno-Bay Area-Sacramento Corridor

The Los Angeles-Fresno-Bay Area-Sacramento corridor links major employment and residential centers in the north, central, and south parts of the state, as set out in chart 4-1. Currently, Amtrak's San Joaquin train service operates between Oakland and Bakersfield, with Amtrak Thruway bus connections to Los Angeles, Sacramento, San Jose and San Francisco. The San Joaquin train makes three trips per day in each direction (in the morning, mid-day and evening), with each trip at 6 hours 10 minutes between Oakland and Bakersfield.

AB971, signed into law on June 20, 1988, directed a study of the Los Angeles-Fresno-Bay Area/Sacramento corridor for development as a rail corridor through the state, possibly as a high speed rail corridor. The idea behind AB971: the rail corridor could serve as an alternative to the increasingly crowded airlines, as well as to road traffic between these destinations.

The resulting study, submitted by Parsons Brinckerhoff Quade & Douglas, set out six levels of possible increased service in the corridor, varying as follows on the four key elements of speed, cost, travel times, and projected ridership increase.

I. Speeds and Type of Service

Level 1: Status quo

Level 1a: 79 mph maximum speed service expanded and extended

by direct rail to Sacramento and Los Angeles

Level 2: New high speed (185 mph potential) electrified rail line between Bakersfield and Los Angeles crossing the Tehachapis; 110 mph maximum speed Bakersfield to Sacramento; 79 mph maximum speed Stockton to Oakland

Level 2a: Same as Level 2, except route between Bakersfield and Sacramento is electrified and achieves 125 mph maximum speeds.

Level 3: New high speed rail links between Central Valley and Bay Area; 185 mph maximum speeds on entire system with state-of-the-art equipment and dedicated passenger tracks.

Level 4: Magnetic Levitation (Maglev) system built (as an alternative to Level 3) over Level 2 alignment; 300 mph maximum speeds on the entire system.

This system of levels holds out the possibility of incremental improvements of service. Level 2, for example, could be implemented, and later the service upgraded to Level 3 or Level 4.

II. Capital Costs

The capital costs associated with each of these upgraded Levels are as follows:

Level 1a: \$142,636,000

Level 2: \$6,256,089,000

Level 2a: \$ 882,995

Level 3 (185 mph) (Via Panoche Pass): \$7,794,518 (cumulative \$14.4 billion)

Level 3 (185 mph) (Via Altamont Pass): \$6,811,682

Level 4 (300 mph): \$16,419,076 (cumulative \$23.5 billion)

III. Travel Times

The travel times are as set out below:

Los Angeles-Sacramento

	<u>Travel Time +</u>	<u>Stops</u>
Level 1a	6:59**	10
Level 2	4:42	4
Level 2a	3:56	4
Level 3	3:07	4
Level 4	1:57	4

Los Angeles-Oakland/San Francisco

	<u>Travel Time +</u>	<u>Stops</u>	<u>Desti- nation</u>
Level 1a	7:33	15	OAK*
Level 2	6:01	9	SF*
Level 2a	5:19	9	SF*
Level 3	3:21	6	SF#
Level 4	2:13	6	SF#

- + Without schedule pad
- * With 1 bus connection
- ** With 2 bus connections
- # Via Panoche Pass

IV. Projected Ridership

The ridership projected increases area as follows:

Level 1a: 570,000-660,000 riders/year

Level 2: 2.9 million to 3.7 million riders/year

Level 2a: 3.0 million to 3.8 million riders/year

Level 3: 5.3 million to 7.3 million riders/year

Level 4: 5.9 million to 8.1 million riders/year

The study recommends as a first improvement to this line that the capital improvements slightly above Level 1a service implemented at total cost of \$272.03 million.

In discussion of the stations, the consultant PBQ&D team emphasizes three elements:

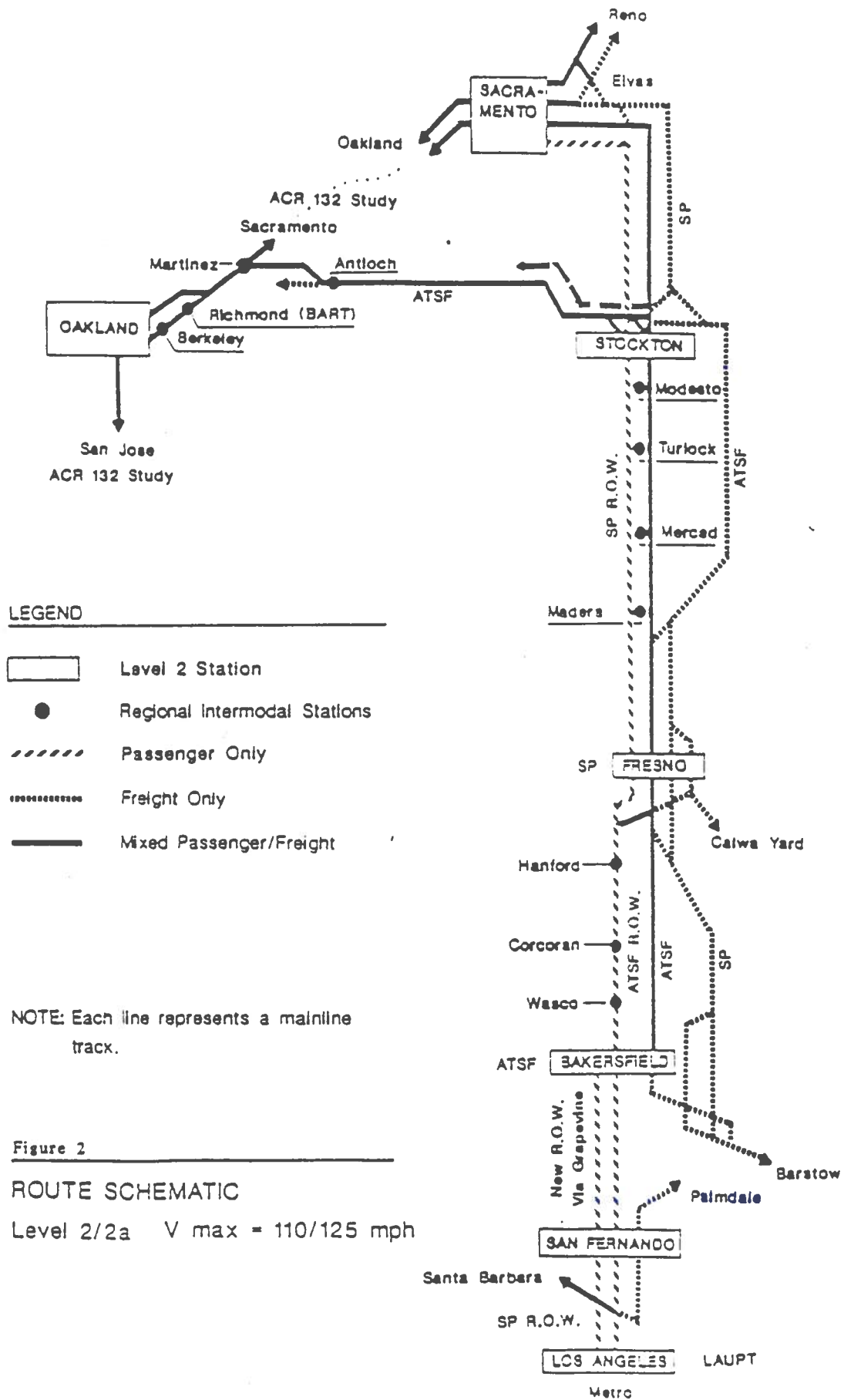
1. the stations must be safe and clean, desirable places to wait.

2. the stations must be coordinated with local transit, including light rail transit, metro rail transit, city bus, regional bus, airport limo, taxi and rental car services.

3. the stations must have adequate parking.

No discussion is included about land use surrounding the stations. This line differs from the others, as the study notes, in serving mainly as an alternative to air travel and lengthy vehicle travel between major cities, rather than as a commute line.

Chart 4-1
Los Angeles-Fresno-Bay Area-Sacramento Corridor



Chapter 5
Realistic Legislation (Building on SB2559) to Maximize Use
of California's New Inter-Regional Rail Lines

As the previous section outlined, though the state is looking into investing more than twenty billion dollars in inter-regional rail transit, these stations are not being planned with residential or commercial densities.

What densities should be pursued? How should these densities be pursued?

No single model of development will be applicable to all stations. The downtown Sacramento station on the ASOS line should not have the same development patterns as the suburban Fairfield station or Martinez station on the line. The downtown Sacramento station is an intermodal station, and also near the Sacramento central business district. The Santa Fe Depot station on the Oceanside-San Diego line, near downtown San Diego, should not have the same development as the Carlsbad or Del Mar stations on the line.

Yet, density residential will be appropriate for the commuter stations outside of central business districts, in the same way it is appropriate for intra-regional rail stations outside of downtown stations. The same dynamics of potential ridership are at work, especially at the planned higher levels of commuter service.

How to achieve this development?

Over the past four months, various permutations of legislation have been examined, in concert with local transit and local government officials throughout the state. This report's recommendations: To build on the demonstration projects of SB2559, introduced earlier this year, with legislation that has two major components:

1. Mandates the California Transportation Commission (CTC) in the distribution of rail funds to (1) give priority to routes and stations that show high density development within a one-half mile radius, and (2) encourage for stations outside of major central business districts, zoning for a minimum of 2500 residential units, unless there is showing of substantial health or safety hazards.

Borrowing from Mr. Tom Cook, Director of Housing and Land Use at the Bay Area Council, there are 500 acres of land within a one-half mile radius of the transit station. If (1) half of this area is available for new development, (2) half of the available half will be used for housing, and (3) the new housing will be built at a modest 20 units per acre, then 2,500 units of housing could be accommodated. Clearly, at 40 units per acre, double the number of housing units is possible.

2. Encourages the development of revenue-sharing agreements between rail transit operators and local governments to enable local governments to share the increased revenues brought by additional residential development.

Beyond these two measures, a third more aggressive development measure is the establishment of a new financing district, a rail transit development district, utilizing a variant of tax-increment

financing. Such a district would make transit stations more attractive locations for development by distributing the costs of public improvements not only among the adjacent landowners but among the broader local population.

All three measures rely on the private market for housing. None involve government-owned residential or government low income residential. They will not result in housing development at transit stations where a private market does not exist, as, say, the Richmond station on the ASOS line. However, such stations are the exception in California. At the majority of rail transit stations, a market does exist, if zoning allowed for greater density and/or if localities could recoup costs associated with residential development. The three measures go toward achieving higher density residential zoning or providing financial incentives to localities.

Senate Bill 2559 (Mass Transit, Housing Development Siting), introduced earlier this year by this Senators Kopp and Greene, seeks to test the idea of linking housing and transit stations by establishing three demonstration sites throughout the state. As drafted, the bill designates that these sites are to be chosen by the Department of Housing & Community Development (HCD), in cooperation with CTC.

To be chosen, the three localities must agree to grant a "density bonus" to a housing developer whose project is within the one-half mile radius. The density bonus means an increase of between twenty-five percent and one-hundred percent over the otherwise maximum allowable residential density.

As incentive to be chosen, the three localities receive the

following benefits: 1. consideration for inclusion in the regional transportation improvement program of the rail transit project connected to the density development, 2. consideration for housing assistance under the Rental Housing Construction Program and the Urban Predevelopment Loan Program, and 3. consideration in a variety of state bond fund programs, including water, sewer, and open space bonds.

SB2559 is a start, in raising the issue of linking rail transit and residential development. It also is very limited in impact in setting only three demonstration sites throughout the state, from over 100 potential sites. Further, it does not even give priority in the various state programs to the sites, only "consideration".

As originally drafted, the sites were to be given priority in state programs. But this priority mandate was watered down, after opposition arose from the state programs affected. Thus, the use of the term "consideration" rather than priority in later drafts.

Yet, though institutional opposition can be expected to any state mandates for higher densities around rail transit stations, such mandates are important in the near future, prior to the construction or upgrading of the lines. Once the stations are set, the state of California or the transit agency has greatly reduced leverage in land use.

For example, on the current BART line, the land surrounding the Warm Springs station in the Fremont area is zoned mainly for single family housing . The Bay Area Council has urged that the City of Fremont develop a new specific plan for the Warm Springs station area, providing for higher density residential. This is a

view shared by most professional planners in the Bay Area, who support density development near rail. Yet, the chances of achieving higher density residential are mixed, because BART and the state and the Bay Area Council have little leverage over the City of Fremont. The City has been promised and planned for a BART station for some time.

The next three chapters examine in greater detail the land use laws and policies relevant in the near future for rail station densities.

Chapter 6
California Transportation Commission Guidelines for
Land Use Near Rail Transit Stations

As set out in chapter 5, one focus of policies to promote density residential must be the California Transportation Commission (CTC). It is the nine person appointed CTC, that is responsible for distributing the great bulk of California's transportation funds, through the State Transportation Improvement Program (STIP). CTC assembles requests from the regional transportation agencies and through the STIP process decides their priority for state funds.

Currently, CTC is set to distribute state rail funds under the legislative mandates set out in Sections 164 et seq. of the Streets and Highways Code, and the implementing guidelines drawn up by the California Department of Transportation, and approved by the Commission at its December 1989 meeting. The legislative mandates and implementing guidelines are largely silent regarding land use in the vicinity of the stations.

To achieve greater development near rail transit stations, at no additional public monies, amendment would be appropriate to Section 164.57, regarding rail transit funding guidelines. Such amendment would set out the achievement of residential densities as a high priority, and even set a rough guideline of 2500 units per acre, as follows:

"The Commission shall give high priority in funding of urban rail transit and commuter rail projects to routes

that show high density development within a one-half mile radius of the stations. As a guideline, the Commission shall encourage for urban rail and commuter rail stations outside of major city business districts, zoning for a minimum of 2500 residential units within a half-mile radius"

Let's explain.

The Current Guidelines For Rail Funding Under Sections 164, 164.50, 164.57 of the Streets and Highways Code, and Commission Regulations

As noted in the Introduction, an earlier companion study to this present study, "The Promise of California's Rail Transit Systems in the Siting of New Housing", examined the intra-regional rail networks, and the role of CTC in promoting densities within one-half mile of these stations. In that study, general observations were made pointing out that rail station residential density could be an element in distributing the Proposition 108, Proposition 111, and even Proposition 116 funds.

Now, building on SB2559, introduced with the release of that earlier study, it is time to say more about the legislative mandates in the distribution of rail transit funds.

To review, the passage of Propositions 108, 111, and 116 in June provided an estimated \$18.5 million in new state transportation funds over the next ten years. Of this amount, at least \$3.4 billion, and more likely \$8.5 billion, is available for rail transit.

Section 164(d) of the Streets and Highways Code sets out the

distribution of the \$18.5 billion, as follows:

1. Three billion five hundred million dollars for funding the 1988 State Transportation Improvement Program shortfall.
2. Three billion dollars for intercity rail, commuter rail and urban rail transit.
3. One billion two hundred fifty million dollars for inter-regional rails.
4. One billion dollars for traffic system management.
5. Three billion dollars for flexible congestion relief.
6. Three billion dollars for subvention to counties and cities pursuant to Section 2105.
7. Two billion dollars for state-local transportation partnership.
8. One hundred fifty million dollars for retrofit soundwalls.
9. One hundred million dollars for environmental enhancement and mitigation program.
10. Five hundred million dollars for transit operations and capital improvement.
11. One billion dollars for maintenance and rehabilitation of state highways, although the Legislature recognizes that the total rehabilitation cost is three billion eight hundred million dollars."

The major non-designated funds are under the categories of Flexible Congestion Relief, for which planning is done on a seven year basis by regional agencies, and the State-Local Partnership, for which planning is done on a year by year basis by local governments.

Sections 164.50 and 164.55 go on to divide rail projects into three categories: urban rail, commuter and intercity services. By urban rail is meant primarily the intra-regional systems, like BART, LA Metro Rail, and the light rail systems. The commuter and intercity rail include the intra-regional systems. Distinction is drawn between "commuter" and "intercity" rail in these sections. Yet, as we have seen in Section 1, nearly all of the intercity lines, such as Los Angeles-Santa Barbara, Los Angeles-San Diego,

and Auburn-Sacramento-Oakland-San Jose, include commuter runs.

For all of the rail systems, Section 164.57 directs the Commission to consider the following factors in its guidelines for distributing rail funds:

1. the reasonable financial and technical phasing of right-of-way preservation,
2. the development of institutional structures to operate the rail services, and
3. the integration of the proposed rail service with existing rail services.

None of these legislative mandates are specific or significantly restrictive. Only indirectly do they address land use, as densities can be said to increase ridership.

Similarly, with the guidelines drawn up by the Department of Transportation and approved by the Commission, only indirectly is land use addressed. These guidelines include certain threshold criteria: regional review, financial capacity, allowable time frame (the project must be completed and in use by June 30, 2001), and cost control measures. They also include ranking criteria. Though, in line with Sections 164.50 and 164.55, separate ranking criteria are drawn up for "intercity" rail and for commuter/urban rail projects, the ranking criteria for these are similar. These ranking criteria include,

- Passenger carrying ability
- Amenities for passengers
- Travel time savings
- Service reliability
- Emission reductions savings
- Passenger service priority

The Development of New Guidelines for Land Use Near Rail Transit

Stations

To restate the recommended amendment to Section 164.57 of the Streets and Highways Code introduced earlier in this chapter:

"The Commission shall give high priority in funding of urban rail transit and commuter rail projects to routes that show high density development within a one-half mile radius of the stations. As a guideline, the Commission shall encourage for urban rail and commuter rail stations outside of major central business districts, zoning for a minimum of 2500 residential units."

Three aspects of this amendment should be emphasized.

1. Focus on urban rail and commuter stations; exclusion of inter-city stations: One of the main themes of this study is that residential densities and mixed-use densities make sense for urban rail and commuter stations, not for inter-city rail stations. The language of this amendment reflects this theme. The emphasis on density applies only to stations that are commuter, outside of major central business districts. These stations, for example, would include many of the stations on the inter-regional/inter-city lines, but would exclude stations on the inter-regional Bay Area/Sacramento-Fresno-Los Angeles line, and certain stations on other inter-regional lines, such as the Santa Barbara station or the downtown Sacramento station.

2. Guideline of 2500 residential units within a half-mile radius: A figure of 2500 residential units is given in the amendment. The figure is not a minimum or maximum, but listed as a guideline. Cities or counties can come in with explanation of why this figure

may not be appropriate for their particular circumstances.

The 2500 unit figure draws on the analysis of Tom Cook, Director of Housing and Land Use at the Bay Area Council. As Cook calculates, there are 500 acres of land within a one-half mile radius of the transit station. If (1) half of this area is available for new development, (2) half of the available half will be used for housing, and (3) the new housing will be built at 20 units per acre, then 2500 units of housing could be accommodated.

The 20 units per acre represents a modest density for most of the state. It is higher than the existing densities in most areas of the state, outside of San Francisco, Oakland, parts of Los Angeles and San Diego. On the other hand, it is lower than the 70-90 units per acre existing at urban transit stations in the Bay Area, at Pleasant Hill and Hayward. It represents not high rise development, but a mix of multi-family dwellings, no higher than three-to-four stories.

3. Priority for higher densities: The amendment also includes priority for cities and counties that accept higher density development around the rail transit station.

Though the amendment includes a guideline figure, it leaves zoning power in the local government. In doing so, it differs from the legislative attempts at regional decisionmaking in land use, that have proved so unsuccessful during the past fifteen years in the state legislature.

Periodically, since the mid-1970s, state legislators have sought to take land use decision-making out of the hands of the local governments and place it in the hands of regional agencies

and/or the state government. Near uniformly, these measures have not been successful.

One telling example is worth noting, as it relates to land use planning in California: the case of the New Town legislation. The legislation arose in the early 1980s from concern among planners that local governments were preventing the needed major residential developments in the state.

In April 1981, an Affordable Housing Task Force created by Governor Brown released a draft report recommending that on an experimental basis, in a few locations throughout the state, a New City development be undertaken. The report claimed that the need to provide housing should not be blocked by local desire to prevent growth, and if local governments were unwilling to allow development, "the developer must look to the state for relief and help." AB893 in 1981, following the Task Force recommendation, proposed a California Communities Act, creating the California Communities Commission. The Commission would have been given authority to designate sites for development as "California communities", approve and modify community plans, and basically take land-use decision-making for these major projects out of the hands of local governments. The Commission would have been seven members, appointed by the Governor and legislative leadership.

AB893 represented textbook planning. Prior to development of a California community, a project sponsor would have been required to submit a plan with the following components:

- a. scheme for financing public improvements and services, operating costs as well as capital costs.

b. a comprehensive land use plan designating the use of each parcel and dedicating 25% of the land to open space or park purposes.

c. an estimate of the number of jobs and their income levels and a plan for ensuring balance between jobs and housing.

d. a plan for providing housing for all income ranges with at least 25% available to low and moderate income households.

AB893 passed the state legislature, but was vetoed by Governor Brown. In his veto message, Brown noted that "the concept of home rule by county and city governments is firmly established in the California Constitution and tradition". He opposed a commission that was not elected.

Earlier this year, the Assembly Committee on Local Government once again took up the issue of New Towns. The hearing focused on large scale residential developments proposed in the state, including California Springs in Los Angeles County, Sutter Bay in Sutter County, Rancho San Benito in San Benito County, and Mountain House in San Joaquin County. The hearing was prompted by concern that these major residential projects could not make it through current local approval processes, given the opposition to large-scale residential growth prominent in local communities throughout the state, and the power of local governments in blocking these projects.

The Assembly Local Government Committee heard from developers and developer-representatives interested in greater state involvement in land use decisionmaking. But as of this time, no legislative action has been taken, and none is likely.

The amendment noted above in this chapter does not take land use decisionmaking out of the hands of cities and counties. It sets a guideline for development, but leaves decisionmaking in local authorities.

Chapter 6
California Transportation Commission Guidelines for
Land Use Near Rail Transit Stations

As set out in chapter 5, one focus of policies to promote density residential must be the California Transportation Commission (CTC). It is the nine person appointed CTC, that is responsible for distributing the great bulk of California's transportation funds, through the State Transportation Improvement Program (STIP). CTC assembles requests from the regional transportation agencies and through the STIP process decides their priority for state funds.

Currently, CTC is set to distribute state rail funds under the legislative mandates set out in Sections 164 et seq. of the Streets and Highways Code, and the implementing guidelines drawn up by the California Department of Transportation, and approved by the Commission at its December 1989 meeting. The legislative mandates and implementing guidelines are largely silent regarding land use in the vicinity of the stations.

To achieve greater development near rail transit stations, at no additional public monies, amendment would be appropriate to Section 164.57, regarding rail transit funding guidelines. Such amendment would set out the achievement of residential densities as a high priority, and even set a rough guideline of 2500 units per acre, as follows:

"The Commission shall give high priority in funding of urban rail transit and commuter rail projects to routes

that show high density development within a one-half mile radius of the stations. As a guideline, the Commission shall encourage for urban rail and commuter rail stations outside of major city business districts, zoning for a minimum of 2500 residential units within a half-mile radius"

Let's explain.

The Current Guidelines For Rail Funding Under Sections 164, 164.50, 164.57 of the Streets and Highways Code, and Commission Regulations

As noted in the Introduction, an earlier companion study to this present study, "The Promise of California's Rail Transit Systems in the Siting of New Housing", examined the intra-regional rail networks, and the role of CTC in promoting densities within one-half mile of these stations. In that study, general observations were made pointing out that rail station residential density could be an element in distributing the Proposition 108, Proposition 111, and even Proposition 116 funds.

Now, building on SB2559, introduced with the release of that earlier study, it is time to say more about the legislative mandates in the distribution of rail transit funds.

To review, the passage of Propositions 108, 111, and 116 in June provided an estimated \$18.5 million in new state transportation funds over the next ten years. Of this amount, at least \$3.4 billion, and more likely \$8.5 billion, is available for rail transit.

Section 164(d) of the Streets and Highways Code sets out the

distribution of the \$18.5 billion, as follows:

1. Three billion five hundred million dollars for funding the 1988 State Transportation Improvement Program shortfall.
2. Three billion dollars for intercity rail, commuter rail and urban rail transit.
3. One billion two hundred fifty million dollars for inter-regional rails.
4. One billion dollars for traffic system management.
5. Three billion dollars for flexible congestion relief.
6. Three billion dollars for subvention to counties and cities pursuant to Section 2105.
7. Two billion dollars for state-local transportation partnership.
8. One hundred fifty million dollars for retrofit soundwalls.
9. One hundred million dollars for environmental enhancement and mitigation program.
10. Five hundred million dollars for transit operations and capital improvement.
11. One billion dollars for maintenance and rehabilitation of state highways, although the Legislature recognizes that the total rehabilitation cost is three billion eight hundred million dollars."

The major non-designated funds are under the categories of Flexible Congestion Relief, for which planning is done on a seven year basis by regional agencies, and the State-Local Partnership, for which planning is done on a year by year basis by local governments.

Sections 164.50 and 164.55 go on to divide rail projects into three categories: urban rail, commuter and intercity services. By urban rail is meant primarily the intra-regional systems, like BART, LA Metro Rail, and the light rail systems. The commuter and intercity rail include the intra-regional systems. Distinction is drawn between "commuter" and "intercity" rail in these sections. Yet, as we have seen in Section 1, nearly all of the intercity lines, such as Los Angeles-Santa Barbara, Los Angeles-San Diego,

and Auburn-Sacramento-Oakland-San Jose, include commuter runs.

For all of the rail systems, Section 164.57 directs the Commission to consider the following factors in its guidelines for distributing rail funds:

1. the reasonable financial and technical phasing of right-of-way preservation,
2. the development of institutional structures to operate the rail services, and
3. the integration of the proposed rail service with existing rail services.

None of these legislative mandates are specific or significantly restrictive. Only indirectly do they address land use, as densities can be said to increase ridership.

Similarly, with the guidelines drawn up by the Department of Transportation and approved by the Commission, only indirectly is land use addressed. These guidelines include certain threshold criteria: regional review, financial capacity, allowable time frame (the project must be completed and in use by June 30, 2001), and cost control measures. They also include ranking criteria. Though, in line with Sections 164.50 and 164.55, separate ranking criteria are drawn up for "intercity" rail and for commuter/urban rail projects, the ranking criteria for these are similar. These ranking criteria include,

- Passenger carrying ability
- Amenities for passengers
- Travel time savings
- Service reliability
- Emission reductions savings
- Passenger service priority

The Development of New Guidelines for Land Use Near Rail Transit

Stations

To restate the recommended amendment to Section 164.57 of the Streets and Highways Code introduced earlier in this chapter:

"The Commission shall give high priority in funding of urban rail transit and commuter rail projects to routes that show high density development within a one-half mile radius of the stations. As a guideline, the Commission shall encourage for urban rail and commuter rail stations outside of major central business districts, zoning for a minimum of 2500 residential units."

Three aspects of this amendment should be emphasized.

1. Focus on urban rail and commuter stations; exclusion of inter-city stations: One of the main themes of this study is that residential densities and mixed-use densities make sense for urban rail and commuter stations, not for inter-city rail stations. The language of this amendment reflects this theme. The emphasis on density applies only to stations that are commuter, outside of major central business districts. These stations, for example, would include many of the stations on the inter-regional/inter-city lines, but would exclude stations on the inter-regional Bay Area/Sacramento-Fresno-Los Angeles line, and certain stations on other inter-regional lines, such as the Santa Barbara station or the downtown Sacramento station.

2. Guideline of 2500 residential units within a half-mile radius: A figure of 2500 residential units is given in the amendment. The figure is not a minimum or maximum, but listed as a guideline. Cities or counties can come in with explanation of why this figure

may not be appropriate for their particular circumstances.

The 2500 unit figure draws on the analysis of Tom Cook, Director of Housing and Land Use at the Bay Area Council. As Cook calculates, there are 500 acres of land within a one-half mile radius of the transit station. If (1) half of this area is available for new development, (2) half of the available half will be used for housing, and (3) the new housing will be built at 20 units per acre, then 2500 units of housing could be accommodated.

The 20 units per acre represents a modest density for most of the state. It is higher than the existing densities in most areas of the state, outside of San Francisco, Oakland, parts of Los Angeles and San Diego. On the other hand, it is lower than the 70-90 units per acre existing at urban transit stations in the Bay Area, at Pleasant Hill and Hayward. It represents not high rise development, but a mix of multi-family dwellings, no higher than three-to-four stories.

3. Priority for higher densities: The amendment also includes priority for cities and counties that accept higher density development around the rail transit station.

Though the amendment includes a guideline figure, it leaves zoning power in the local government. In doing so, it differs from the legislative attempts at regional decisionmaking in land use, that have proved so unsuccessful during the past fifteen years in the state legislature.

Periodically, since the mid-1970s, state legislators have sought to take land use decision-making out of the hands of the local governments and place it in the hands of regional agencies

and/or the state government. Near uniformly, these measures have not been successful.

One telling example is worth noting, as it relates to land use planning in California: the case of the New Town legislation. The legislation arose in the early 1980s from concern among planners that local governments were preventing the needed major residential developments in the state.

In April 1981, an Affordable Housing Task Force created by Governor Brown released a draft report recommending that on an experimental basis, in a few locations throughout the state, a New City development be undertaken. The report claimed that the need to provide housing should not be blocked by local desire to prevent growth, and if local governments were unwilling to allow development, "the developer must look to the state for relief and help." AB893 in 1981, following the Task Force recommendation, proposed a California Communities Act, creating the California Communities Commission. The Commission would have been given authority to designate sites for development as "California communities", approve and modify community plans, and basically take land-use decision-making for these major projects out of the hands of local governments. The Commission would have been seven members, appointed by the Governor and legislative leadership.

AB893 represented textbook planning. Prior to development of a California community, a project sponsor would have been required to submit a plan with the following components:

- a. scheme for financing public improvements and services, operating costs as well as capital costs.

b. a comprehensive land use plan designating the use of each parcel and dedicating 25% of the land to open space or park purposes.

c. an estimate of the number of jobs and their income levels and a plan for ensuring balance between jobs and housing.

d. a plan for providing housing for all income ranges with at least 25% available to low and moderate income households.

AB893 passed the state legislature, but was vetoed by Governor Brown. In his veto message, Brown noted that "the concept of home rule by county and city governments is firmly established in the California Constitution and tradition". He opposed a commission that was not elected.

Earlier this year, the Assembly Committee on Local Government once again took up the issue of New Towns. The hearing focused on large scale residential developments proposed in the state, including California Springs in Los Angeles County, Sutter Bay in Sutter County, Rancho San Benito in San Benito County, and Mountain House in San Joaquin County. The hearing was prompted by concern that these major residential projects could not make it through current local approval processes, given the opposition to large-scale residential growth prominent in local communities throughout the state, and the power of local governments in blocking these projects.

The Assembly Local Government Committee heard from developers and developer-representatives interested in greater state involvement in land use decisionmaking. But as of this time, no legislative action has been taken, and none is likely.

The amendment noted above in this chapter does not take land use decisionmaking out of the hands of cities and counties. It sets a guideline for development, but leaves decisionmaking in local authorities.

Chapter 7 Rail Transit Development Districts

Rail transit proponents in California have made a number of attempts in California to utilize tax exempt financing to abet the expansion of rail transit lines. Mainly these attempts have been variants of the assessment district, aimed at providing additional funds to the transit line, as with the special benefit assessment districts created under Public Utilities Code Section 33000 et seq.

However, there is an alternate approach of utilizing tax exempt financing to abet residential development around rail transit stations. This approach, which might be termed "rail transit development districts", would draw upon elements of tax increment financing. It would more widely distribute the cost of public improvements in the area surrounding the stations, and reduce these costs through the use of tax exempt instruments.

Let's explain.

The Use of Special Benefit Assessment Districts in California to Fund Rail Transit Systems

The major attempt to use tax exempt financing in California to promote rail transit development has been the special benefit assessment district law enacted by the state legislature in 1983. The law, contained in Public Utilities Code Section 33000 et seq., authorizes the Southern California Rapid Transit District Board (SCRTD) to form special benefit districts in the vicinities of its transit stations.

Section 33000 et seq. was not the first attempt at special

benefit districts for transit. In 1968, the state legislature enacted special benefit district legislation, under Public Utilities Code Section 99000 et seq. enabling any transit district to establish assessment zones in areas adjacent to a transit station. The districts would be used to finance any bonded indebtedness sought by the transit boards for public improvements. In the years since, though, these provisions have not been utilized.

The provisions of Section 33000 et seq, though, were utilized in 1984. The construction of the first 4.4 mile segment of the 18.6 mile LA Metro was estimated at that time to cost \$1.25 billion. Federal funds were committed totaling \$695 million, state funds of \$214 million, Los Angeles County funds of \$177 million, and Los Angeles City funds of \$34 million. A shortfall of \$130 million remained.

In 1984, the SCRTD established two special assessment districts in the central business district to make up this shortfall. A Benefit Assessment Policy Task Force was assembled, and in 1985 delivered its recommendations. The Task Force found that property near the transit stations would benefit through increased land values, lease rates, occupancy levels, retail sales, and reduced parking costs. The Task Force proposed two special assessment districts: (1) a district covering real property within one half mile of the four downtown Metro Rail stations and, (2) a district covering real property within one-third mile of the Wilshire/Alvarado station.

The districts would exempt residential uses, as well as certain

classes of tax exempt property. Initial assessment rates would be \$.28 per square foot graduating to \$.40 per square foot as a maximum rate. All property would be assessed at the same rate, regardless of use, value or distance from the Metro Rail stations.

The districts were approved by the City Council in July 1985, and in August 1986 SCRTD approved the levying of assessments at the uniform rate of \$.30 per square foot. Assessment bills were sent to commercial property owners.

However, the assessment was challenged by the secretary of the SCRTD. The challenge claimed that the assessment scheme did not meet constitutional standards, as parties affected by the assessment scheme were not able to vote on it.

The trial court upheld the assessments, but the court of appeals reversed, and held the assessment process unconstitutional. The appellate court found that the assessments violated the equal protection clauses of both the state and federal constitution because persons who did not own property in the district were not able to vote on the assessment, even though they were affected. Commercial tenants bore the brunt of the assessment because of standard "pass through" clauses in their lease agreements, but they were unable to vote. Other area residents benefited from the transit district, but also were unable to vote. The court concluded:

"We are convinced that the benefits and burdens of the SCRTD's assessment fall indiscriminately on property owner and nonproperty owner alike. As a result, there is no basis for concluding that nonproperty owners are

substantially less interested in an election called to validate the assessment districts than are property owners."

At the present time, the court's ruling is being appealed by the SCRTD.

The Use of Special Districts to Abet Development Near Rail Transit Stations

The special benefit district authorized by Public Utilities Code Section 33000 et seq. aimed at providing more funds to the transit district, to make up a \$130 million financing shortfall. This aim differs from the aim of encouraging private development around the transit stations. Yet, there is an alternate means of utilizing tax exempt financing to abet development around transit stations. The means: a variant of redevelopment financing.

Redevelopment financing is a creature of state law, authorized under the Community Redevelopment Law, Section 33000 et seq. of the Health and Safety Code. Under redevelopment law, an area is designated as "blighted", due to deteriorated properties or lack of development.

When a redevelopment plan is drawn up, the assessed value of all property in the redevelopment area is added together and used as the "base year" assessed value of the area. In the following years, all of the taxes paid on this "base year" assessment go to the city, county, school districts and other taxing agencies. However, property taxes on new structures, such as taxes paid on new buildings constructed, and the property taxes on existing buildings improved, go to the redevelopment authority.

The redevelopment authority uses its tax revenue for improvements in the area. Section 33670 of the Health and Safety Code enables the authority to bond against its tax stream, through use of tax allocation bonds. Tax allocation bond funds can be used to acquire real property, clear and prepare land to redevelop, rehabilitate real property that was acquired by the agency, or relocate persons occupying property acquired by the agency.

The redevelopment financing process, in short, abets development in select areas by both utilizing the lower-interest funds available through tax exempt financing, and through spreading the costs of development widely among the population of a city and county.

Regarding this second point, a contrast can be drawn with the traditional assessment financing tools in California--the Improvement Act of 1911 (section 5000 et seq. of the Streets and Highways Code), the Municipal Improvement Act of 1913 (section 10000 et seq. of the Streets and Highways Code), and the Improvement Bond Act of 1915 (section 8500 et seq. of the Streets and Highways Code)--as well as with the newer Mello-Roos Community Facilities District financing (section 53311 et seq. of the Government Code).

These assessment and Mello-Roos financing tools encourage private development in an area by financing the costs of public capital improvements--new roads, sewers, street lighting, off-street parking, fire protection--over a period of time, and with the lower interest rates available through tax exempt financing. The costs of these developments in assessment and Mello-Roos financings are

borne by the adjacent landowners. In contrast, in redevelopment financing, the costs are spread throughout the city or county, since the tax increment goes to the redevelopment district, rather than to the city's or county's General Fund.

The principle of redevelopment financing can be applied to development around transit stations through a form of financing that might be termed "rail transit development districts".

In brief outline, these districts would freeze the property tax base in the same way that redevelopment districts freeze the "base year" assessment. The additional revenue, the tax increment, could be used to provide improvements in the area, in lieu of charging these improvements to the landowners.

The redevelopment authority must make a showing of "blight" for an area to be designated a district. With a rail transit development district, the eligibility would be the area within one-half mile of the transit station. The increment of financing would be administered by a local rail transit development district board, similar to a Redevelopment district board, most likely staffed by the local planning office.

The rail transit district tax increment would not be utilized for the major Redevelopment purposes: acquiring real property, rehabilitating property, or relocating persons in the district. Rather, the tax increment would be used for the more common assessment district purposes connected with new development--streets, sewers, street lighting. It could also be utilized for police or fire services, as provided for in the Mello-Roos financings.

The rail transit district approach gives rise to an important policy question: what is the need for development incentives for rail transit station areas relative to other areas, such as inner city areas. The tax increment created by rail transit districts would go to the district areas, rather to the city or county as a whole. The result: the city or county general fund is left with fewer revenues.

In policy discussions, tax exempt financing, such as redevelopment financing, often is portrayed as "new money", an addition to regular city or county revenues. Of course, this is inaccurate: the tax allocation that goes to the redevelopment authority means less revenue for the General Fund.

Whether or not the rail transit district development should be enacted then depends on judgments about the value of development near transit stations and development in other areas.

One middle position would be to limit rail transit district financing to station areas that have other impediments to development. Rather than a finding of "blight" as with redevelopment financing, there would be a lesser standard of, say, "obstacles to development". Rail transit district financing would not be available to station locations in higher income areas, such as Rockridge or North Berkeley on the BART line, where housing markets are strong. It would be available to station areas like West Oakland, or even Richmond, where residential markets are weaker.

Chapter 8

Revenue Sharing By Transit Operators and Municipalities

A key financial dynamic about rail transit systems is that once the system is established and in operation, the majority of costs are fixed costs. The four major cost areas for rail transit--labor, materials, services, and power--all have high fixed costs and small marginal costs.

One result of this dynamic is that the rail transit operator could share a percentage of revenues from increased ridership due to higher densities around the rail transit station, and still be financially ahead of its position prior to the density development. A percentage of the increased revenue obtained by the rail transit operator could be shared with the local city or county, to help offset municipal costs of new residential.

This idea of revenue-sharing between rail transit operators and municipalities was introduced in the companion study, "The Promise of California's Rail Lines in the Siting of New Housing", but did not become part of SB2559. Now it is time to say more the possibility of revenue-sharing as a means of achieving densities.

Let's take the BART system. BART accounting does not break down the costs into fixed costs and marginal costs, nor does it do revenue comparisons. However, close study of BART financial records indicates the degree to which in an operating transit system marginal revenues exceed marginal costs.

BART accounting provides monthly revenue/expense statements. Charts 8-1 and 8-2 are the statements for September 1988 and

September 1989.

In September 1988, weekday ridership averaged 206,449 passenger trips. As chart 8-1 indicates, net passenger revenue for the month was \$7.962 million, and total operating expense was \$15.302 million.

In September 1989, weekday ridership rose to average 224,413 passenger trips. As chart 8-2 indicates, net passenger revenue for the month was \$8.368 million, and total operating expense was \$15.562 million.

In other words, between the two time periods, ridership increased 17,964 passenger trips. Revenue increased by \$376,000 while costs increased by \$260,000, leaving a surplus of marginal revenues over marginal costs of \$116,000.

Taking another period, in August 1988, average weekday ridership was 204,445 passenger trips. Net passenger revenue totaled \$6.522 million, and total operating expense was \$13.429 million. In August 1989, passenger trips averaged 219,246. Net passenger revenue was \$6.744 million and operating expense was \$13.503 million. Between the two periods, revenue increased by \$220,000 and expenses by a more modest \$74,000, leaving a surplus of increased revenues over increased costs of \$146,000.

These two time periods look at BART prior to the earthquake. The biggest increases in ridership appear in comparing the months prior to and after the October 1989 earthquake.

Charts 8-3 and 8-4 are the revenue/expense statements for May 1989 (pre-quake) and May 1990 (post-quake).

In May 1989, weekday ridership averaged 211,835. Net passenger

revenue for the month was \$6.659 million, and total operating expense was \$14.171 million.

In May 1990, weekday ridership rose to an average of 243,342 passenger trips. Net passenger revenue for the month was \$7.849 million and total operating expense was \$15.635 million. Between the two periods, revenue rose by \$1.190 million and expenses by a greater \$1.4 million, seemingly a reversal of the trend of the previous two periods.

However, between May 1989 and May 1990, service improvements were made separate from marginal costs, including 1. opening the system an hour earlier on weekdays, at 4 a.m. rather than 5 a.m.; 2. operating four additional trains during the AM rush hour; 3. operating four additional trains during the PM rush hour; and 4. opening the system an hour earlier on Sundays, at 8 a.m. rather than 9 a.m. Mr. Joseph Evinger, chief of operating budgets at BART, estimates the costs of these structural service improvements at \$500,000-\$600,000. With this amount factored in, the marginal revenues do rise above the marginal costs by \$290,000-\$400,000. (1)

(1) A few caveats about both the revenue and cost figures. First, both the revenue and cost figures for September are greater than for August and May, since for BART accounting, September is a five-week month period, and the other two months are four weeks. Second, the cost figures do not evenly distribute capitalized costs, and according to Evinger costs incurred in one month sometimes are recorded in subsequent months. Third, the professional and technical expenses by BART for such non-operating expenses as extensions planning are booked irregularly.

Further, these three monthly revenue-cost comparisons underestimate the surplus of marginal revenues over marginal costs by including in the cost column the professional and technical expenses related to system extensions, not train operations. For example, in May 1990, "professional and technical" expenses totaled \$413,000 compared to \$402,000 in May 1989. In October 1989, "professional and technical" expenses totaled \$484,300 compared to \$393,000 in October 1988. If these "professional and technical" expenses are omitted, the surplus of marginal revenues over costs becomes greater.

Given this dynamic of marginal revenues over marginal costs, let's say the City of Hilldale has a rail transit station in its boundaries. The City agrees to zone for higher density within a one-half mile radius of the station, and zones for an additional 2000 units of housing, over the housing that would otherwise be built with conventional zoning. Assuming 1.2 commuting occupants per unit, at 35% rail transit commuting usage (consistent with data at residential developments within one-half mile of existing suburban BART stations), an additional 784 persons would be using the transit system each day, or an additional 1568 passenger trips per day.

Using an average daily fare of \$5.00 on the inter-regional lines, and 200 commuting days per year, this additional ridership would generate an additional \$784,000 per year for the rail transit system.

This \$784,000 would constitute the marginal revenues of

increased density. The marginal costs could be computed by examining the costs primarily of added vehicles and accompanying power, maintenance, and personnel costs. The additional ridership is likely to follow a ridership pattern similar to the ridership pattern of the population at large, with greatest ridership at the morning and evening rush hours.

If the rail transit system is not near capacity during the rush hour, then the marginal costs will be minor, even minimal. No additional vehicles or accompanying personnel will be needed. However, if the system is at or near capacity, then additional trains will be needed. Chart 8-5 includes the increased costs incurred by the BART system, immediately after the earthquake when ridership jumped from 220,000 passenger trips per day to 357,000 passenger trips per day. This enormous jump in ridership required considerable additional station agents, train operators, maintenance workers, police personnel, cash handlers, power costs, transit vehicle consumable parts, and additional express buses. The far more modest jump in ridership that will accompany higher density at any one station will require far more modest increases in each of these categories.

Once the marginal costs are calculated, the City of Hilldale will be able to negotiate with the transit district for part of the surplus of marginal revenues over marginal costs.

**CHART 8-1
SEPTEMBER 1988
BART REVENUE/EXPENSES**

PERIOD ENDED: OCT 02, 1988
REPORT NO: EP0378

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
BUDGET PERFORMANCE REPORT
DISTRICT SUMMARY BY ACCOUNT (IN \$000)

FINANCE DEPARTMENT - ACCOUNTING
PROCESS DATE: 10-14-88

PERIOD		CURRENT PERIOD		FISCAL YEAR TO DATE	
BUDGET	ACTUAL	\$ VAR	% VAR	BUDGET	ACTUAL
\$ 0.691.9	\$ 0.775.3	\$ 83.4	1.0 %	\$ 23,286.9	\$ 23,480.4
1,015.3	812.6	202.7	20.0	2,723.3	2,454.1
REVENUES					
GROSS PASSENGER REVENUE					
DISCOUNTS AND DEDUCTIONS					
NET PASSENGER REVENUE					
OTHER OPERATING REVENUE					
TOTAL NET REVENUE					
8,143.3	8,352.9	219.6	2.7	21,794.4	22,239.3
LABOR EXPENSES					
HOURLY REGULAR TIME					
HOURLY OVERTIME					
SUBTOTAL HOURLY					
8,772.6	8,309.5	463.1	5.3	23,447.1	21,813.5
SALARIED REGULAR TIME					
SALARIED OVERTIME					
SUBTOTAL SALARIED					
3,479.4	3,209.6	269.8	7.8	10,377.0	9,987.9
73.2	69.8	3.4	4.6	199.1	207.8
3,552.6	3,279.4	273.2	7.7	10,576.1	10,195.7
TEMPORARY HELP (AGENCY)					
6.5	65.9	59.4	913.8	18.4	150.3
12,131.7	11,654.8	476.9	5.5	34,041.6	32,159.5
CAPITALIZED LABOR					
OTHER LABOR CREDITS					
VACANCY FACTOR					
820.5	747.1	81.4	9.8	2,353.2	2,074.2
59.3	89.2	30.4	51.3	155.3	238.5
486.1	0	486.1	100.0	1,349.4	0
10,957.8	10,019.0	938.8	1.3	30,183.7	29,845.7
CCST CENTER EXPENSES					
MATERIAL USAGE					
PROFESSIONAL & TECHNICAL					
TRAVEL					
MISCELLANEOUS					
934.8	040.2	86.6	9.3	2,783.8	2,143.1
DIRECT PROGRAM EXPENSE					
MATERIAL USAGE					
RENTAL & MAINT. CONTRACTS					
PROFESSIONAL & TECHNICAL					
EXPRESS BUS SERVICE					
SHUTTLE BUS SERVICE					
BUS TRANSFER AGREEMENTS					
ELECTRIC POWER					
OTHER UTILITIES					
3,520.3	3,635.9	115.6	3.3	10,504.8	10,352.7
SUBTOTAL PROGRAMS					
4,455.1	4,404.1	29.0	.7	13,288.6	12,495.8
TOTAL NON LABOR					
15,412.9	15,302.1	110.8	.7	43,472.3	42,342.5
7,269.6	6,939.2	330.4	4.5	21,677.9	20,104.2
OPERATING SURPLUS/DEFICIT					
FINANCIAL ASSISTANCE					
SALES TAX REVENUE					
PROPERTY TAX REVENUE					
OTHER FINANCIAL ASSISTANCE					
DEBT SERVICE ALLOCATIONS					
CAPITAL ALLOCATIONS					
9,071.5	0,001.7	269.8	3.0	23,872.3	23,602.6
104.1	0	104.1	100.0	104.1	62.6
168.8	0	168.8	100.0	168.8	79.1
1,204.4	1,228.2	23.8	2.0	3,550.3	3,637.1
364.2	364.2	0	.0	1,092.5	1,092.5
7,775.8	7,209.3	566.5	7.3	19,502.4	19,014.7
TOTAL FINANCIAL ASSISTANCE					
NET OPERATING RESULT					
\$ 506.2	\$ 270.1	\$ 236.1	46.6-X	\$ 2,175.5	\$ 1,089.5
FAREBOX RATIO					
OPERATING RATIO					
PASSENGER MILES					
RAILCOST PER PASSENGER MILE					
49.81 X	52.94 X	54.65 X	52.94 X	47.30 X	49.56 X
70.315.0	71,865.0	19.34	189,609.0	106,192.0	52.52 X
20.14	19.34		20.34	21.14	20.34

UNFAVORABLE VARIANCE INDICATED BY "-"
ACTUAL INCLUDES COMMITMENTS

PERIOD USED: OCT 01, 1989
REPORT NO: B90073

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT
BUDGET PERFORMANCE REPORT
DISTRICT SUMMARY BY ACCOUNT (IN 5000)

FINANCE DEPARTMENT
PROCESS DATE: 10-13-89

BART REVENUE/EXPENSES									
BUDGET		CURRENT PERIOD		FISCAL YEAR TO DATE					
ACTUAL		VAR		ACTUAL					
		%		VAR					
REVENUES									
GROSS PASSENGER REVENUE		\$ 24,229.3	\$ 25,103.0	\$ 873.7	3.6 %				
DISCOUNTS AND CREDITS		2,745.7	2,856.0	150.3	5.5 %				
NET PASSENGER REVENUE		21,483.6	22,207.0	723.4	3.4 %				
OTHER OPERATING REVENUE		1,499.0	1,875.2	380.2	25.4 %				
TOTAL NET REVENUE		22,982.6	24,082.2	1,103.6	4.8 %				
LABOR EXPENSES									
HOURLY REGULAR TIME		22,741.0	20,038.9	2,702.1	11.9 %				
HOURLY OVERTIME		1,202.2	1,523.0	720.8	60.0 %				
SUBTOTAL HOURLY		23,943.2	21,561.9	1,981.3	8.3 %				
SALARIED REGULAR TIME		10,530.5	9,653.6	876.9	8.3 %				
SALARIED OVERTIME		234.0	305.5	71.5	30.6 %				
SUBTOTAL SALARIED		10,764.5	9,959.1	805.4	7.5 %				
TEMPORARY HELP (AGENCY)		185.6	204.8	19.2	10.3 %				
GROSS LABOR		34,893.3	32,125.8	2,767.5	7.9 %				
CAPITALIZED LABOR		2,798.8	2,058.1	740.7	26.5 %				
OTHER LABOR CREDITS		990.2	381.2	605.6	61.5 %				
VACANCY FACTOR		1,187.4	1,187.4	0	100.0 %				
NET LABOR		29,916.3	29,686.5	225.8	.8 %				
COST CENTER EXPENSES									
MATERIAL USAGE		287.2	150.7	136.5	47.5 %				
PROFESSIONAL & TECHNICAL		1,196.5	923.3	273.6	22.9 %				
TRAVEL		60.2	23.7	36.5	60.6 %				
MISCELLANEOUS		1,573.3	1,253.4	319.9	20.3 %				
SHRINKAGE FACTOR		131.0	0	131.0	100.0 %				
SUBTOTAL COST CENTERS		2,986.6	2,391.1	595.5	19.9 %				
DIRECT PROGRAM EXPENSE									
MATERIAL USAGE		1,665.7	1,723.0	57.3	3.4 %				
RENTAL & MAINT. CONTRACTS		859.5	439.8	420.1	48.9 %				
PROFESSIONAL & TECHNICAL		27.1	23.1	4.0	14.8 %				
EXPRESS BUS SERVICE		1,614.5	1,574.9	39.6	2.5 %				
SHUTTLE BUS SERVICE		65.4	67.0	2.4	3.5 %				
BUS TRANSFER AGREEMENTS		2,044.1	2,045.7	0	0 %				
ELECTRIC POWER		5,110.3	4,905.7	204.6	4.0 %				
OTHER UTILITIES		167.7	103.5	63.8	38.0 %				
SHRINKAGE FACTOR		128.0	0	128.0	100.0 %				
SUBTOTAL PROGRAMS		11,430.7	10,681.5	549.2	4.8 %				
TOTAL NON LABOR		14,417.3	13,272.6	1,144.7	7.9 %				
TOTAL OPERATING EXPENSES		44,333.6	42,559.1	1,374.5	3.1 %				
OPERATING SURPLUS/(DEFICIT)		21,351.0	18,872.9	2,478.1	11.6 %				
FINANCIAL ASSISTANCE									
SALES TAX REVENUE		25,985.1	26,210.1	225.0	.9 %				
PROPERTY TAX REVENUE		120.0	142.6	22.6	18.8 %				
OTHER FINANCIAL ASSISTANCE		3,629.4	3,545.2	84.2	2.3 %				
DEBT SERVICE ALLOCATIONS		3,545.2	3,545.2	0	0 %				
CAPITAL ALLOCATIONS		18,930.5	19,269.8	339.3	1.8 %				
TOTAL FINANCIAL ASSISTANCE		2,420.5	356.9	2,063.6	85.3 %				
NET OPERATING RESULT		2,420.5	2,817.4	396.9	16.4 %				
FAREBOX RATIO									
OPERATING RATIO		51.64 %	53.77 %	56.07 %	108.6 %				
PASSENGER MILES		74,620.0	77,040.0	2,420.0	3.2 %				

BART REVENUE/EXPENSES

BUDGET	CURRENT ACTUAL	PERIOD \$ VAR	% VAR	REVENUES	BUDGET	FISCAL YEAR TC ACTUAL	DATE \$ VAR	% VAR
\$ 7,301.4	\$ 7,915.4	\$ 614.0	8.4 %	GROSS PASSENGER REVENUE	\$ 83,639.9	\$ 85,251.7	\$ 1,611.8	1.9 %
834.3-	1,236.2-	401.9-	47.0-	DISCOUNTS AND DEDUCTIONS	9,859.1-	10,073.1-	214.0-	2.2-
6,447.1	6,659.2	212.1	3.3	NET PASSENGER REVENUE	73,780.8	75,178.6	1,397.8	1.9
398.6	576.0	177.4	44.5	OTHER OPERATING REVENUE	5,049.1	5,818.7	769.6	15.2
6,345.7	7,235.2	389.5	5.7	TOTAL NET REVENUE	78,829.9	80,997.3	2,167.4	2.7
5,903.2	5,415.5	483.3	7.0	LABOR EXPENSES	79,921.4	73,872.0	6,049.4	7.6
524.5	475.3	49.2	9.4	HOURLY REGULAR TIME	4,545.6	5,827.1	1,281.5-	28.2-
7,427.7	6,395.2	532.5	7.2	SUBTOTAL HOURLY	84,467.0	79,699.1	4,767.9	5.6
3,642.9	3,358.3	284.6	7.8	SALARIED REGULAR TIME	39,331.3	36,945.2	2,386.1	6.1
73.4	58.3	15.1	20.6	SALARIED OVERTIME	814.6	774.4	40.2	4.9
3,716.3	3,416.6	299.7	8.1	SUBTOTAL SALARIED	40,145.9	37,719.6	2,426.3	6.0
4.6	57.9	53.3-	1,158.7-	TEMPORARY HELP (AGENCY)	75.8	629.5	554.1-	731.0-
11,148.6	10,369.7	778.9	7.0	GROSS LAOCR	124,688.7	118,048.6	6,640.1	5.3
577.7-	633.2-	55.5	9.6	CAPITALIZED LAOCR	8,234.4-	8,313.9-	79.5-	1.0
74.1-	57.7-	16.4-	22.1-	OTHER LAOCR CREDITS	790.0-	768.6-	21.4-	2.7-
444.7-	0	444.7-	100.0-	VACANCY FACTOR	4,960.4-	0	4,960.4-	100.0-
10,052.1	9,678.8	373.3	3.7	NET LABCR	110,703.9	108,966.1	1,737.8	1.6
65.9	112.5	46.6-	70.7-	COST CENTER EXPENSES	911.3	584.6	326.7	35.8
369.5	402.4	32.2-	8.9-	MATERIAL USAGE	4,644.5	3,519.3	1,127.2	24.3
11.1	12.3	1.2-	10.8-	PROFESSIONAL & TECHNICAL	157.7	145.7	12.0	7.6
409.2	432.2	23.0-	5.6-	TRAVEL	4,803.3	4,558.6	244.7	5.1
0	0	0	0	MISCELLANEOUS	414.1-	0	414.1-	100.0-
855.7	959.4	103.7-	12.1-	SHRINKAGE FACTOR	10,104.7	8,808.2	1,296.5	12.8
500.4	604.0	103.6-	20.7-	SUBTOTAL CCST CENTERS	10,104.7	8,808.2	1,296.5	12.8
203.1	298.3	95.2-	46.9-	DIRECT PROGRAM EXPENSE	5,869.5	5,531.9	337.6	5.8
29.8	11.9	17.9	60.1	MATERIAL USAGE	2,381.4	2,138.0	243.4	10.2
353.0	521.7	31.3	5.7	RENTAL & MAINT. CONTRACTS	340.7	129.0	211.4	62.0
24.6	18.7	5.9	24.0	PROFESSIONAL & TECHNICAL	6,435.3	6,393.9	41.4	0.6
625.2	625.2	0	0	EXPENSES BUS SERVICE	264.6	267.1	2.5-	0.9-
1,472.1	1,380.1	92.0	6.2	SHUTTLE BUS SERVICE	6,876.8	6,876.8	0	0
71.0	73.3	2.3-	3.2-	BUS TRANSFER AGREEMENTS	15,074.6	13,679.7	1,394.9	9.3
0	0	0	0	ELECTRIC POWER	752.5	679.4	73.1	9.7
3,479.2	3,533.2	54.0-	1.6-	OTHER UTILITIES	380.4-	0	380.4-	100.0-
4,334.9	4,492.6	157.7-	3.6-	SHRINKAGE FACTOR	37,615.0	35,656.1	1,958.9	5.1
14,387.0	14,171.4	215.6	1.5	SUBTOTAL PROGRAMS	47,719.7	44,504.3	3,215.4	6.7
7,541.3-	6,936.2-	605.1	8.0	TOTAL NCH LABCR	158,423.6	153,470.4	4,953.2	3.1
8,727.3	8,752.4	25.1	0.3	OPERATING SURPLS/(DEFICIT)	79,593.7-	72,473.1-	7,120.6	8.9
556.9	766.0	209.1	37.5	FINANCIAL ASSISTANCE	88,268.0	91,258.3	3,030.3	3.4
1,204.4-	1,204.4-	0	0	SALES TAX REVENUE	7,818.0	8,265.5	447.5	5.7
261.5-	261.5-	0	0	PROPERTY TAX REVENUE	497.8	662.8	165.0	33.3
7,918.3	8,152.5	234.2	4.3	OTHER FINANCIAL ASSISTANCE	13,297.7-	13,289.5-	8.2	0.1
\$ 277.0	\$ 1,216.3	\$ 939.3	339.1 %	DEBT SERVICE ALLOCATIONS	3,755.5-	3,755.5-	0	0
44.81 %	46.55 %			CAPITAL ALLOCATIONS	79,530.1	83,181.6	3,651.5	4.6
47.58 %	51.05 %			TOTAL FINANCIAL ASSISTANCE	63.6-	10,708.5	10,772.1	6,937.3 %
58,959.0	63,969.0			NET OPERATING RESULT	46.57 %	48.99 %		
22.4	21.3			OPERATING RATIO	49.76 %	52.78 %		
UNFAVORABLE VARIANCE INDICATED BY "-"				PASSENGER MILES	675,851.0	685,430.0	9,579.0	1.4
				RAILCOST PER PASSENGER MILE	21.4	20.4	1.0	4.7
				ACTUAL INCLUCES COMMITMENTS				

Chapter 9
Inter-Regional Rail and California's Growth

It is one of the dirty secrets of California planning that most Californians prefer to live in single family residences in relatively low density areas, rather than in high-density areas.

Local planners enjoy devising high density schemes for development, schemes for avoiding suburban sprawl, schemes for downtown malls, schemes for concentrating development. At the same time, Californians are voting with their feet, buying homes in areas further and further from their workplaces, to obtain single family residences rather than multi-family residences. Persons working in the Bay Area are purchasing homes in San Juaquin County, in Tracy and even in Modesto, to be able to live in single family residences rather than condominiums or multi-family residences.

Yet, while recognizing this general desire for single-family residences, two important caveats should be noted in regard to rail transit station densities. First, the residential densities advocated in this study do not require the acceptance of more than a small fraction of the housing market.

The residential densities envisioned will require only a small portion of potential homebuyers or renters. The existence of such a market for housing around transit, as discussed in this report, is underscored by the willingness of residential developers to build around many of the existing stations, if only density zoning could be achieved.

Second, as with so many "common goods" in the state, transportation access for all will require compromises in land use. It is by now conventional wisdom that California cannot build its way out of gridlock, with more freeways or roadways. Moreover, as documented in the previous companion study, the experience of rail transit systems indicates that ridership on these systems will not increase simply because ridership is politically correct. Some greater densities are needed, and the inter-regional rail lines are as appropriate candidates as are the intra-regional rail lines.

