

LITTLE HOOVER COMMISSION



TRANSPORTATION: KEEPING CALIFORNIA MOVING

January 1992

LITTLE HOOVER COMMISSION

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January 29, 1992

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The Honorable Pete Wilson
Governor of California

The Honorable David Roberti
President Pro Tempore of the Senate
and Members of the Senate

The Honorable Willie L. Brown Jr.
Speaker of the Assembly
and Members of the Assembly

The Honorable Kenneth L. Maddy
Senate Minority Floor Leader

The Honorable Bill Jones
Assembly Minority Floor Leader

Dear Governor and Members of the Legislature:

A Twilight Zone version of Hell is a man trapped for eternity behind the wheel of his car in a traffic jam as punishment for his driving misdeeds. For many Californians, that Hell feels like reality as they face the daily frustrations of the State's inadequate freeways and highways.

The State has taken steps to address this situation, but an intensive investigation by the Little Hoover Commission has concluded that a lack of leadership and inadequate planning continue to thwart the improvements that are needed.

Specifically, the State fails to perform adequate cost/benefit analyses of projects, has been unable to develop a high-speed train program, allows poor project management to waste badly needed funds, and has shown itself incapable of coping with the transportation demands created by growth.

The Commission found many examples of these problems. Among them:

- * Despite the evident need for transportation modes other than highways, the California Department of Transportation (Caltrans) devotes less than one percent of its personnel to mass transportation.
- * The pursuit of a high-speed train system has been derailed by inaccurate cost estimates. Caltrans has estimated the cost at between \$14 billion and \$15 billion. However, the TGV Company of France, who has operated such a system for more than a decade, estimates the cost at between \$5 billion and \$7 billion.
- * By 2010, the number of vehicle miles traveled will increase by 52 percent. Yet the number of highway miles is not expected to increase by more than 22 percent.
- * Without a project manager for a Stockton interchange, the project was delayed by one year and costs for consultants were 70 percent higher than initially budgeted.

These examples illustrate failures that have been evident to the Commission in previous transportation studies. But they are all the more distressing at a time when the State has been handed a voter mandate and greatly increased funding to tackle transportation issues. In June 1990, voters approved Propositions 108, 111 and 116, providing \$18.5 billion in new revenues, forming a state consensus favoring multi-modal development and establishing a growth management plan.

To make effective use of the tools that the voters have handed to Caltrans, the Commission believes the State needs to enact several reforms. The attached report contains six findings and 12 recommendations.

Finding #1: The state consensus to develop a system encompassing a variety of transportation modes is hindered by a highway bias in Caltrans and a lack of advocacy in the Governor's Cabinet.

Recommendations:

1. The Governor and Legislature should enact legislation to establish a new Transportation Agency.
2. The Governor and the Legislature should enact legislation requiring a management study to determine how Caltrans can be reorganized to promote the development of a multi-modal transportation system.
3. The Legislature should adopt a resolution indicating that, in any future revision of the federal Surface Transportation Reauthorization Act, the State of California favors maximum flexibility in the use of federal transportation funds and a requirement that regional and local transportation agencies coordinate their transit systems with state plans as a condition of receiving federal funds.

Finding #2: The State has not adopted an adequate long-term plan for the state transportation system, thus hindering the cost-effective development of a system that will improve future mobility.

Recommendation:

4. The Governor and the Legislature should enact legislation directing Caltrans to develop a transportation improvement plan that can promise improved mobility to Californians over the next 20 years.

Finding #3: The State does not adequately evaluate transportation alternatives based on cost-effectiveness, thus leading to unnecessary delay and expense for transportation projects.

Recommendations:

5. The Governor and the Legislature should enact legislation that mandates the establishment of a 20-year horizon for planning and funding of the transportation system.
6. The Governor and the Legislature should enact legislation directing Caltrans to develop cost/benefit criteria that could be used by state, regional and local transportation agencies in evaluating transportation options.

Finding #4: The State has not been effective in developing a high-speed train system, thereby preventing an alternative to auto and air travel.

Recommendations:

7. The Governor and the Legislature should enact legislation requesting a franchise to build, operate and finance a high-speed train system to include Sacramento, San Francisco, Fresno, Bakersfield, Los Angeles and San Diego. The legislation should establish a commission, appointed by the Governor and the Legislature, to review proposals and award a franchise.
8. The Governor and the Legislature should place before the voters a revenue bond proposal to partially pay for the construction and initial operations of the high-speed train system awarded to the franchisee.
9. The Legislature should adopt a resolution urging Congress and the President to allow federal airport and highway trust funds to be used to provide partial financing for a high-speed train system in California.
10. The Governor and the Legislature should enact legislation to establish a consortium that would guide development of the high-speed train system.

Finding #5: Caltrans has not assigned project managers to major highway projects, thus leading to project delay and higher project costs.

Recommendation:

11. The Governor should issue an executive order requiring Caltrans to reorganize its district operations to ensure that a project manager is assigned to every major project. A major project should be defined as emergency projects or projects that are the most cost-effective in moving people.

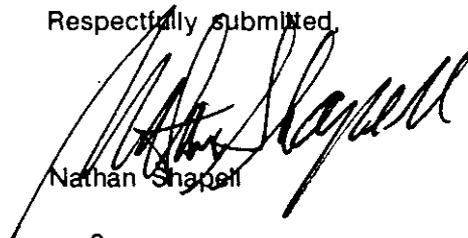
Finding #6: The Congestion Management Program has several flaws that may prevent linking transportation and land-use planning.

Recommendation:

12. The Governor and the Legislature should enact legislation to improve the Congestion Management Program through a state growth management program.

With the voter mandate on funding and transportation modes, the State can move forward and address its transportation needs. But without underlying reform, these new tools will become a lost opportunity and Californians will enter the 21st Century bogged down on highways and freeways that cannot meet the daily demands placed on them. The Commission urges the Governor and the Legislature to make the needed reforms outlined in this report.

Respectfully submitted,



Nathan Shapell



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EXECUTIVE SUMMARY

The Little Hoover Commission last reported on California's transportation system in 1988. The Commission sounded a warning that chronic funding shortfalls, slow project delivery and a lack of policy direction threatened to cripple the State's future mobility.

Since that report, the State has taken a number of bold steps to improve transportation. The most notable action was voter approval of Propositions 108, 111 and 116 in June 1990. These measures provided \$18.5 billion in new transportation revenue, formed a state consensus favoring multi-modal development, and established a growth management program. In the last few years the State also has taken action to speed project delivery, provide long-term policy direction and develop high-speed train systems.

The Commission has examined these recent transportation measures in this report. The Commission's investigation reveals that, while the State has made significant improvements in transportation, California's transportation policy is plagued by a lack of leadership, inadequate planning, little cost/benefit analysis, ineffective high-speed train development, poor project management and a deficient growth management program. The Commission believes that the Governor and the Legislature must address these issues to ensure cost-effective use of public funds as well as the future mobility of California citizens.

Finding #1

The state consensus to develop a system encompassing a variety of transportation modes is hindered by a highway bias in Caltrans and a lack of advocacy in the Governor's Cabinet.

While the automobile will continue to be the dominant mode of transportation for the foreseeable future, voters and transportation officials in California recently have reached a consensus that the State should develop a multi-modal transportation system. However, state government entities have not shifted their orientation sufficiently to ensure the cost-effective development of a multi-modal transportation system. The entities' current orientation may hinder the State's ability to meet California's future mobility needs.

Recommendation #1 The Governor and the Legislature should enact legislation to establish a new Transportation Agency.

- a) The secretary of the Transportation Agency should provide policy and budget direction to the Governor to promote the efficient development of a multi-modal transportation system.
- b) The Agency should be staffed with existing personnel positions from Caltrans and the Business, Transportation and Housing Agency.
- c) The Business, Transportation and Housing Agency should become the Business and Housing Agency.

Recommendation #2 The Governor and the Legislature should enact legislation requiring a management study to determine how Caltrans can be reorganized to promote the development of a multi-modal transportation system.

- a) The study should recommend how Caltrans' headquarters and districts can be organized to work most effectively with local and regional transportation agencies in developing a statewide, multi-modal transportation system.
- b) The study should recommend clearly delineated responsibilities for Caltrans and local agencies in the development of travel modes, particularly commuter and urban transit systems.
- c) The study should be conducted by an independent management consultant.
- d) The study should be reviewed by the Governor and the Legislature for their approval.

Recommendation #3 The Legislature should adopt a resolution indicating that, in any future revision of the federal Surface

Transportation Reauthorization Act, the State of California favors:

- a) Maximum flexibility in the use of federal transportation funds.
- b) A requirement that regional and local transportation agencies coordinate their transit systems with state plans as a condition of receiving federal funds.

The resolution should be transmitted to Congress and the President.

Finding #2

The State has not adopted an adequate long-term plan for the state transportation system, thus hindering the cost-effective development of a system that will improve future mobility.

Propositions 108 and 111, also known as the Transportation Blueprint for the 21st Century, represent the first long-term transportation plan adopted by the State since the 1958 California Freeway Plan. The Blueprint's failure to address economic factors causing highway congestion, however, will prevent the Blueprint from ensuring long-term mobility improvement in California. This weakness in the Blueprint will lead to chronic traffic congestion, unfair distribution of transportation costs and inefficient investment of transportation funds.

Recommendation #4

The Governor and the Legislature should enact legislation directing Caltrans to develop a transportation improvement plan that can promise improved mobility to Californians over the next 20 years.

- a) The plan should address the economic factors that perpetuate highway congestion and make recommendations to control the growth in vehicle miles traveled.
- b) The plan should establish priorities for the development of a statewide, multi-modal transportation system.
- c) The plan should address how transportation costs can be distributed equitably among users of the system.
- d) The plan should be based on the consensus principles established by the public and

private transportation officials on the California Transportation Directions Committee.

- e) The plan should establish realistic funding estimates and financing mechanisms.
- f) The plan should be developed in consultation with regional transportation planning agencies.
- g) The plan should be submitted to the Governor and the Legislature for their review and approval.

Finding #3

The State does not adequately evaluate transportation alternatives based on cost-effectiveness, thus leading to unnecessary delay and expense for transportation projects.

Declining transportation revenues in the 1970s led the State to study ways to use transportation funds more cost-effectively. Seventeen years after the completion of this study, however, the State is not making transportation decisions based on cost/benefit criteria. Consequently, the State is not using transportation funds in the most cost-effective manner.

Recommendation #5

The Governor and the Legislature should enact legislation that mandates the establishment of a 20-year horizon for planning and funding of the transportation system.

- a) This time frame will assist Caltrans and local transportation agencies in establishing transportation priorities in a cost-effective manner.
- b) Caltrans' right-of-way acquisition requirements should be limited to a level achievable in the 20-year time horizon.

Recommendation #6

The Governor and the Legislature should enact legislation directing Caltrans to develop cost/benefit criteria that could be used by state, regional and local transportation agencies in evaluating transportation options.

- a) The criteria should include as factors the operations and maintenance costs of transit and highway systems.
- b) The study should investigate whether cost/benefit analysis could become a component of the existing environmental

review process, so as not to add another layer of review to project development.

Finding #4

The State has not been effective in developing a high-speed train system, thereby preventing an alternative to auto and air travel.

The State on several occasions has taken steps toward developing a high-speed train system. However, because of the complicated review processes, a lack of involvement by proven high-speed train experts, unrealistic expectations of private-financing and premature commitment to magnetic-levitation technology, the State has not been effective in developing such a system. The State needs to develop a high-speed train system to provide relief to increasingly congested highways and airways.

Recommendation #7

The Governor and Legislature should enact legislation requesting a franchise to build, operate and finance a high-speed train system to include Sacramento, San Francisco, Fresno, Bakersfield, Los Angeles and San Diego. The legislation should establish a commission, appointed by the Governor and the Legislature and chaired by a high-speed train expert, to review proposals and award a franchise.

- a) The commission should give priority to awarding the franchise to a wheels-on-rail proposal.
- b) The commission should give priority to awarding the franchise to the proposal that would require the least amount of public funds.
- c) The commission should be funded by the Proposition 116 funds for the Bakersfield - Los Angeles study.

Recommendation #8

The Governor and the Legislature should place before the voters a revenue bond proposal to partially pay for the construction and initial operations of the high-speed train system awarded to the franchisee.

Recommendation #9

The Legislature should adopt a resolution urging Congress and the President to allow federal airport and highway trust funds to be used to provide partial financing for a high-speed train system in California.

Recommendation #10

The Governor and the Legislature should enact legislation to establish a consortium that would guide development of the high-speed train system.

- a) The consortium should be led by the franchisee, who would be responsible for planning and financing the system.
- b) The consortium should include project managers from Caltrans and the Public Utilities Commission, who should guide the system through the State's regulatory and development process.
- c) The consortium should include subcontractors responsible for constructing the system.
- d) The consortium should include representatives from local jurisdictions impacted by development of the system.

Finding #5

Caltrans has not assigned project managers to major highway projects, thus leading to project delay and higher project costs.

Caltrans long has been criticized for the complications and delays in their highway development process. The previous Caltrans director attempted to reform the process by requiring the assignment of project managers to each project. The project managers were to be responsible for making sure the projects were developed on schedule. In general, however, Caltrans has not carried through with assigning project managers, thus leading to unnecessary project delays and higher project costs.

Recommendation #11

The Governor should issue an executive order requiring Caltrans to reorganize its district operations to ensure that a project manager is assigned to every major project. A major project should be defined as emergency projects or projects that are the most cost-effective in moving people.

- a) Given the personnel limitations in assigning a project manager to every project, Caltrans should assign project managers to major projects only.
- b) Caltrans should determine which projects are major projects in consultation with local and regional transportation agencies.
- c) District directors should hold project managers accountable and responsible for getting major projects out on time and on budget.

- d) Caltrans should establish a procedure allowing a project manager who moves to another assignment to transfer project management responsibility to another district employee.

Finding #6

The Congestion Management Program has several flaws that may prevent linking transportation and land-use planning.

The Congestion Management Program was one of the most notable reforms established by Proposition 111. The program seeks to link local land-use decisions to the capacity of transportation systems. While the program has helped bring together land-use, air quality and transportation decision-makers, the program also has some deficiencies.

Recommendation #12

The Governor and the Legislature should enact legislation to improve the Congestion Management Program through a state growth management program. Improvements in the Congestion Management Program should include, but not be limited to, the following:

- a) Coordinate the goals and functions of existing planning agencies to streamline the planning process;
- b) Require consistency between jurisdictions in the identification of principal arterials in CMPs and standardization of traffic forecast models;
- c) Establish strategies that encourage local governments to prevent traffic congestion in addition to the CMP's current requirement to mitigate traffic congestion after it occurs;
- d) Allow CMP "maintenance of effort" requirements to be averaged over a multi-year period and exclude from the maintenance of effort calculation maintenance or emergency expenses; and
- e) Establish provisions to minimize and mechanisms to resolve conflicts between jurisdictions within the CMP process.

The State cannot afford to be satisfied with the transportation achievements of the past few years. By implementing the recommendations contained in this report, California can improve mobility, save money and speed up project delivery.

INTRODUCTION

The 20th Century has been a dynamic era for transportation in California. The State's primary transportation activities have moved from an annual grading of dirt roads (1900s-1910s) to rebuilding main rural roads as divided highways (1920s-1930s) to rebuilding main highways as freeways and expressways (1940s-1960s) to a decline in new freeway construction and an emphasis on freeway widening and operational improvements (1970s-1980s).¹

On June 5, 1990, California entered a new transportation phase. On that day, state voters approved three ballot measures -- Propositions 108, 111 and 116 -- that provided \$18.5 billion in additional transportation revenue and established a variety of new programs. The measures signalled a departure from the State's previous role as a road-builder to a role that emphasizes the development of a variety of transportation modes (multi-modal). Proponents promised that the measures would move California into the 21st Century by improving traffic flow, reducing peak-hour traffic, expanding transit systems and reducing air pollution. Given the severity of California's transportation problems, however, the goals of the ballot initiatives, as expressed by the proponents, were ambitious indeed.

In this study, the Little Hoover Commission reviews whether the ballot measures will be able to deliver on their promise of a better transportation future. The Commission also examines other recent efforts to improve the state transportation system.

Background

Under its mandate to promote effective and efficient methods to meet the policy goals of state government programs, the Little Hoover Commission has examined facets of California's transportation policy since

1965. Through a series of eight reports, the Commission has fought successfully for improvements in transportation organization, financing and project delivery. Some of the recommendations from the Commission's 1988 report that have been implemented by state officials include:

- o Address California's long-term funding shortfall;
- o Allow Caltrans to contract out transportation services; and
- o Appoint a commission to examine California's 20-year transportation needs.²

There also were some recommendations from the previous report that the State has not implemented. These recommendations include:

- o Direct Caltrans to undertake a study to streamline the environmental clearance process.
- o Require Caltrans to implement a long-range planning process.³

An additional recommendation that the State has not yet addressed is reform of distribution formulas for transportation funds, particularly the county minimum and North/South Split formulas. The Commission has reviewed this issue in several previous reports, as has the California Transportation Commission,⁴ and therefore chose not to analyze the issue in-depth again in this report. **Instead, the Commission reiterates its concern that distribution formulas reduce the State's discretion in establishing transportation priorities, and believes that the formulas need to be reformed.** The Commission agrees with former Caltrans Director Robert Best, who told the Commission, "Priorities are chasing funding, rather than vice-versa."⁵

Passage of Propositions 108, 111 and 116 in June 1990 prompted the Commission to take another look at California's transportation policy. The measures changed the course of the State's transportation future by establishing programs such as:

- o **Flexible funding.** About one third of the \$18.5 billion provided by the measures can be used by local and regional transportation agencies for either highways or public transit. Previously, very few state transportation funds had this flexibility.
- o **Rail funding.** More than one sixth of the \$18.5 billion is directed to the development of intercity, commuter and urban rail systems. These funds increased the State's commitment to rail from about

\$100 million in fiscal year 1989-90 to an average of about \$450 million per year in the 1990s.⁶

- o **Congestion management program.** One of the measures required urbanized counties to develop plans to mitigate the impacts of land-use decisions on regional transportation systems. The program is the State's first comprehensive attempt to manage growth.

The four years since the Commission's last transportation study also saw a bold attempt within Caltrans to reform the project delivery process, as well as several state efforts to plan and develop a high-speed train system. The Commission examines all of the above initiatives in this report.

The Commission's investigation reveals that, while the State has made significant improvements in transportation, California's transportation policy still has a number of shortcomings. The Commission believes it is crucial that the Governor and the Legislature promptly address these issues to ensure cost-effective use of public funds as well as the future mobility of California citizens.

*Scope and
Methodology*

The Commission initiated its study of transportation in April 1991. Chairman Nathan Shapell appointed Commissioner Barbara Stone as Chair of the Transportation Subcommittee, which was responsible for overseeing and directing the study. Chairman Shapell also appointed Commissioners Mary Anne Chalker, Angie Papadakis, Abraham Spiegel and Richard Terzian as subcommittee members.

The purpose of the study was to analyze recent changes in California's transportation policy, brought on either by the ballot measures or by other legislative or administrative action. The Commission focused on the extent to which:

- o The state government is prepared to lead the development of a multi-modal transportation system;
- o The transportation measures approved by voters in June 1990 will satisfy California's long-term transportation needs;
- o California's transportation decisions are based on cost-effectiveness;
- o The State's pursuit of high-speed train development has been effective;
- o Recent administrative reforms in the Department of Transportation (Caltrans) have improved the department's project delivery; and

- o The Congestion Management Program will be effective in preventing traffic congestion.

Obviously, the Commission could not address every important transportation issue in this report. One such issue that the State should address is ways to encourage private railroads to cooperate with the State and local government entities in allowing passenger travel on existing railroad rights-of-way.

The Commission held two public hearings on the State's transportation system. The first hearing was on August 22, 1991 in Los Angeles and addressed issues in transportation organization and project delivery. The second hearing was held on October 17, 1991 in Sacramento and focused on issues in the State's rail program and in transportation planning.

The Commission also interviewed 36 transportation officials in Orange, Riverside, Santa Clara and San Joaquin Counties. These counties experience moderate to severe traffic congestion, according to criteria established by the Commission.

The next section of the report describes six findings and twelve recommendations, and is followed by a conclusion and endnotes.

FINDINGS AND RECOMMENDATIONS

Finding #1

The state consensus to develop a system encompassing a variety of transportation modes is hindered by a highway bias in Caltrans and a lack of advocacy in the Governor's Cabinet.

While the automobile will continue to be the dominant mode of transportation for the foreseeable future, voters and transportation officials in California recently have reached a consensus that the State should develop a multi-modal transportation system. However, state governmental entities have not shifted their orientation sufficiently to ensure the cost-effective development of a multi-modal transportation system. The entities' current orientation may hinder the State's ability to meet California's future mobility needs.

Transportation Decline

For an entire generation after World War II, California's transportation policy was guided by a consensus in favor of highway development. This consensus began to fall apart in the late 1960s and early 1970s as:

- * Public concerns over air pollution and community disruption slowed down the freeway-building program;
- * Inflation eroded the purchasing power of gas tax revenues;
- * The energy crisis reduced gasoline consumption, thus reducing highway revenues through the gas tax; and
- * Rapid urbanization depleted rights-of-way for new freeway capacity.⁷

The State went through the 1970s and 1980s without the transportation consensus that had characterized the previous generation. In fact, this period saw several shifts in priorities. Governor Ronald Reagan supported the State's freeway construction program, although at a reduced funding level compared to the 1960s. Reagan's successor, Governor Edmund G. (Jerry) Brown, Jr., changed courses by favoring operational improvements in the freeway system and encouraging public transportation development. The course changed again when Brown's successor, Governor George Deukmejian, reduced state support for public transportation and encouraged a return to freeway construction.⁸

In addition, these governors were reluctant to increase transportation funding through the state gas tax. Governor Reagan flatly rejected a gas tax increase during both of his terms in office. Governor Brown waited until the end of his second term to approve an increase, which went into effect after he left office. Governor Deukmejian also rejected attempts to raise the gas tax during most of his two terms.

This period saw a decline in highway travel speeds. Population growth, number of vehicles registered and rate of vehicle miles traveled increased faster than the capacity of the state transportation system. Predictably, highway congestion increased.

*New
Transportation
Consensus*

The State's mounting traffic congestion problems spurred Governor Deukmejian and legislative leaders to take action late in Deukmejian's second term. By developing a coalition with business, labor, education, law enforcement and others, state lawmakers placed a 10-year transportation plan on the June 1990 ballot. The plan was contained in two measures, Proposition 108 and Proposition 111. Voter approval of these measures, as well as their approval of another transportation funding measure, Proposition 116, provided the first transportation consensus in 20 years.

The new consensus broke away from the 1950s freeway accord by calling for the development of a multi-modal transportation system. About half of the funds provided by Propositions 108, 111 and 116 were not designated exclusively to highways, a significant break from past transportation funding priorities. Of the \$18.5 billion in new transportation funding, \$3.5 billion was dedicated to the construction and operation of rail systems and \$6 billion was designated as "flexible" funds to be used for either highways or transit.⁹

The consensus for multi-modalism was solidified later in 1990 with a report by the California Transportation Directions (CTD) Committee. Composed of 43 public and private transportation officials, the CTD Committee was

established by Caltrans to develop a 20-year vision for California's transportation system. The committee endorsed the concept of multi-modalism when it called for a restructuring of existing programs and redirecting of existing resources "to encourage explicit multi-modal planning and investment."¹⁰

Thus, after a generation without a consistent transportation policy direction, California began the 1990s with a new consensus -- the need to develop a variety of transportation modes. This new consensus does not ignore that highways will continue to be the dominant mode of travel in California, but it does stress that highways cannot continue to be the only viable mode of travel. As with the previous consensus that gave birth to the state freeway system, the new consensus will require the consistent leadership of state government. The Little Hoover Commission has reviewed two state entities that will have a major role in implementing the new consensus: Caltrans and the Business, Transportation and Housing Agency.

*Caltrans --
Still a Highway
Department*

In reviewing Caltrans' ability to implement the new transportation consensus, the Commission found that Caltrans has made some shifts toward multi-modalism. However, the Commission also found many indicators that Caltrans is, predominantly, a highway agency.

The most notable area where Caltrans has shifted to a multi-modal approach is the intercity rail program. The department's primary activities have been to prepare a five-year rail passenger development plan and to contract with Amtrak to operate state-supported trains on Amtrak's intercity routes. The two main routes with state-supported trains are the "San Diegans" (Santa Barbara - San Diego) and the "San Joaquins" (Stockton - Bakersfield). On the following pages, Figure 1 and Figure 2 show the operating performance of these two routes since the inauguration of state-supported service.¹¹

Figure 1

SAN DIEGANS' ANNUAL PERFORMANCE

State Fiscal Year	Revenue/Cost Ratio	
	Riders	Revenue/Cost Ratio
1973-74	381,844	
1974-75	356,630	
1975-76	376,900	
1976-77*	607,976	36.0%
1977-78**	753,246	38.4%
1978-79	967,316	50.8%
1979-80	1,218,196	60.4%
1980-81***	1,238,135	61.4%
1981-82	1,167,718	62.0%
1982-83	1,131,146	59.1%
1983-84	1,221,256	76.4%
1984-85	1,240,003	84.4%
1985-86	1,394,320	88.1%
1986-87	1,461,003	93.3%
1987-88****	1,661,512	104.6%
1988-89	1,717,539	108.5%
1989-90	1,746,673	103.2%

* Fourth round trip (first State-supported train) inaugurated 9/1/76; fifth round trip (second State-supported train) inaugurated 4/24/77.
 ** Sixth round trip (third State-supported train) inaugurated 2/14/78.
 *** Seventh round trip (not State-supported) inaugurated 10/26/80.
 **** Eighth round trip (fourth State-supported train) inaugurated 10/25/87; one round trip extended to Santa Barbara 6/26/88 (State-supported north of Los Angeles only).

Source: Caltrans

As indicated in Figure 1, the first two state-supported trains on the San Diegans route began running in the 1976-77 fiscal year. A third train was added in 1980-81 and a fourth in 1987-88. Ridership on the San Diegans has increased from 607,000 passengers in 1976-77 to 1.75 million passengers in 1989-90. The San Diegans' revenue-to-cost ratio has increased from 36 percent to 103 percent during this same period, indicating that passenger fares more than cover operating costs.

Figure 2

SAN JOAQUINS' ANNUAL PERFORMANCE

State Fiscal Year		
	Riders	Revenue/ Cost Ratio
1973-74*	38,770	
1974-75	66,990	
1975-76	66,530	
1976-77	87,642	
1977-78	80,611	
1978-79	87,645	
1979-80**	123,275	29.5%
1980-81	159,498	32.0%
1981-82	189,479	40.1%
1982-83	186,121	41.8%
1983-84	248,275	58.4%
1984-85	269,837	60.3%
1985-86	280,798	63.0%
1986-87	304,668	66.3%
1987-88	340,573	77.4%
1988-89	370,190	86.9%
1989-90***	418,768	77.5%

* Service started 3/6/74; figures are for four months only.

** State support started 10/1/79; figures are for nine months, during which time ridership totalled 93,206. Second round trip added 2/3/80.

*** Third round trip added 12/17/89

Source: Caltrans

Figure 2 indicates that the first state-supported train on the San Joaquins route began service in the 1979-80 fiscal year and a second in 1989-90. Ridership during this period increased from 123,000 to 418,000 passengers per fiscal year. Further, the revenue-to-cost ratio rose from 29.5 percent in 1979-80 to 77.5 percent in 1989-90. Thus, Caltrans' assistance in getting increased service on these routes has improved the convenience and cost-effectiveness of intercity rail travel.

Some officials interviewed by Commission staff believe that Caltrans is slowly shifting away from its traditional emphasis on highways. This shift may be related to the changes occurring in Caltrans' personnel. A 1987 study found that the professionals recruited by the department to build the freeway system were predominantly male, native-born and raised in farm country. A much larger proportion of the new hires are women, foreign-born and raised in an urban area. These newer employees do not have the "old-

school ties" and "remembered experiences" of the generation that built the freeway system. As one Caltrans observer put it, "When you go to pick your successor, it is human nature to want to pick someone very much like yourself. But in this organization it won't be possible. The people are different and so are the needs."¹²

Despite these signs that Caltrans is shifting toward multi-modalism, the Commission found widespread opinion and other indications that Caltrans is still predominantly a highway agency:

- * In discussing Caltrans' proposal to study a new highway corridor in Placer County, a member of the Placer County Board of Supervisors said, "There is a great deal of mistrust among the thousands of concerned residents of this region....that Caltrans' multi-modal talk is mere window dressing. There is also the feeling that Caltrans, along with the various local public works departments with their entrenched highway/freeway thinking, presents a formidable obstacle to cleaner air, less congestion, energy efficiency and low-cost transportation."¹³
- * An official with the Santa Clara County Public Works Department believed that transit is not considered when Caltrans examines alternatives for a particular corridor. "When they do, it is an exception," he said in an interview with Commission staff.¹⁴
- * Caltrans had been so slow in implementing rail service between Sacramento and the San Francisco Bay Area, a requirement of Proposition 116, that the Legislature required Caltrans to give regular progress reports.¹⁵
- * A Caltrans deputy district director, employed by the department for 40 years, said that the department long has had a highway bias. As an example, the official pointed out that Caltrans believes that it has a role in the construction and operation of commuter highway systems but not in commuter rail systems. Caltrans considers commuter rail systems to be the responsibility of local and regional agencies.¹⁶
- * The same official noted that Caltrans' distinction between commuter train systems and intercity train systems does not make sense. He pointed out that there is no good reason why Caltrans should consider the Los Angeles - San Diego route an intercity route (and thus worthy of state support) while considering the San Jose - San Francisco route a commuter route (and thus not worthy of state support). The official believed that both routes serve similar demands and should receive state support.¹⁷

- * An official with the San Joaquin County Public Works Department said that "rail is not yet seen by Caltrans as a serious mode."¹⁸
- * The executive director of the Western Riverside Council of Governments said, "Caltrans is a highway agency, that's their role. Most people in Caltrans have been in highways. I don't think anyone at the state level is focused on rail."¹⁹
- * Legislation introduced in the 1991-92 session would require a study of whether a Department of Rail and Mass Transportation should be formed outside of Caltrans. The bill's author believes that such an analysis is necessary because Caltrans' organization and purpose have been geared toward the construction and maintenance of the highway system. The bill was approved by the Assembly and, at the time of this writing, is being held by the Senate Transportation Committee.
- * Caltrans has not effectively promoted high-speed train development, which is discussed in greater detail in Finding #4.

Thus, while Caltrans is making some shifts toward multi-modalism, many indicators point to a continued highway emphasis in the department.

*Reasons for
Caltrans'
Highway
Orientation*

There are several reasons for Caltrans' orientation toward highways. The roots of Caltrans' highway orientation are in legislation. With the 1947 Collier-Burns Act and the establishment of the 1959 Freeway and Expressway System, the Governor and the Legislature provided the department (then known as the Department of Public Works' Division of Highways) with extraordinary authority and funding to develop, construct, operate and maintain the highway system.²⁰

Despite an attempt to refashion the Division of Highways as a multi-modal department when the State established Caltrans in 1972, the massive freeway building effort of the 1950s and 1960s had a lasting impact on the department's organizational structure. A Senate Office of Research study found in 1990 that **less than one percent of Caltrans personnel were assigned to mass transit.**²¹

Although the Governor and Legislature also have given Caltrans broad authority to develop a statewide passenger rail system, state lawmakers have never directed or funded the department to design, construct, operate and maintain a system patterned after the 1959 Freeway and Expressway model.²² Adriana Gianturco, director of Caltrans

during the Jerry Brown Administration, advocated such a role for the department, but found few supporters within the Capitol or in Caltrans:

There was no enthusiasm in the Administration for expanding the powers of Caltrans and possibly Caltrans itself.

The legislative response to the notion of Caltrans becoming the powerhouse in the transit arena was universally negative. The pro-freeway types in the Senate and Assembly thought any such activity would only divert Caltrans from what they saw as its real mission -- building highways.

As for the transit advocates, both inside and outside of the Legislature, their reaction seemed to be that the very idea of a bunch of old highway engineers being able to change their spots and lay rail instead of asphalt was both frightening and absurd.

And how about the people in Caltrans, the engineers and others to whom I talked about a new era of glory for the organization? The reaction was a big ho-hum in about 95 percent of the cases, I'd say. Many seemed to think that transit was a lot of foolish silliness, just as their critics outside said they did. Others were way past the stage of getting excited about anything that wasn't something they were used to doing.²³

A second factor that has hindered a multi-modal orientation in Caltrans is the opposition of local governments and transit districts. These entities have a history of developing urban and commuter transit systems, and, when Gianturco proposed that Caltrans take a stronger role in the development of public transit, reaction of the local transit providers was not positive.

"Their reaction to Caltrans messing around on what they considered to be their turf was, I guess, predictable," Gianturco told the Commission. "It went over like a lead balloon."²⁴ Similar negative reactions were expressed by some, although not all, of the local transportation officials interviewed by Commission staff. The attitude helps explain why Caltrans takes responsibility for the development of commuter highways but not commuter railways.

A third factor that has discouraged a multi-modal emphasis in Caltrans is funding priorities that favor highways. Prior to the passage of Propositions 108, 111

and 116 in 1990, the vast majority of state transportation funds were directed to highways. For example, in the 1988 State Transportation Improvement Plan (STIP), a five-year funding schedule for transportation projects, about 96 percent of the funds were directed to highways.²⁵

Although voter approval of Propositions 108, 111 and 116 allowed regional transportation agencies greater flexibility in the use of state transportation funds, this flexibility has not led to a decreased emphasis on highways. For example, in the Flexible Congestion Relief program, regional transportation planning agencies requested about 96 percent of the funds for highway projects.

In addition, most of the federal transportation dollars that flow to Caltrans have been directed to the highway system. Most federal transit funds do not flow to the State at all; they go directly to regional and local governments.

However, both regional transportation planning agencies and the federal government may be placing less of an emphasis on highway funding in the future. Regional transportation planning agencies have signalled that they plan to use more state flexible funding on non-highway projects. The federal government recently approved major legislation, the Surface Transportation Reauthorization Act, which will allow states to have more flexibility in using federal transportation funds. These shifts in local and federal funding priorities may encourage Caltrans to move more toward multi-modalism.

Thus, Caltrans' highway orientation can be explained by factors other than the dominance of highway travel in California. These factors include a legislative mandate favoring highways, local resistance to the department adopting a strong transit role and funding priorities that favor highway development. While highways will continue to be the dominant mode of travel in the future, Caltrans' extreme emphasis on highways hinders the development of a multi-modal transportation system.

*Transportation
Has Lost Stature
in the
Governor's
Cabinet*

Another entity that will be required to help lead the State's new multi-modal consensus is the Business, Transportation and Housing Agency. For many years, however, this agency has placed a greater emphasis on business than on transportation. This orientation makes it difficult, if not impossible, for the State to provide leadership in developing a multi-modal transportation system.

The State's agency structure was established in 1961 to assist the Governor in policy making and planning. The structure places state departments under ten agencies, with each agency headed by a secretary. Each agency secretary communicates directly with the Governor and helps shape the Governor's policy and budget.²⁶

The role of transportation in the agency structure has been modified by legislation over the years. When the agencies were first established, the State had a Highway Agency. In 1965, the Highway Agency became the Transportation Agency. Legislators changed the Transportation Agency to the Business and Transportation Agency in 1969, and finally to the Business, Transportation and Housing Agency in 1980.²⁷ This legislative transformation of the agency has diminished the role of transportation in the agency structure.

In contrast to the years when the agency focused on transportation, in recent years the agency has had more of a business focus. This focus is personified by the people who have headed the agency recently. For example, Kirk West, Governor Deukmejian's first secretary of the agency, was the president of the California Taxpayers Association and is now a lobbyist for the California Chamber of Commerce. John Geoghagen, Deukmejian's second secretary, was formerly employed by the Shell Oil Company. Carl Covitz, the current secretary, is the owner of a development company.

While a business background does not necessarily preclude an agency secretary from having expertise in transportation issues, it does decrease the likelihood that a transportation expert and advocate will be part of the Governor's Cabinet. The importance of having a strong transportation advocate in the agency structure was illustrated during the Deukmejian Administration. Governor Deukmejian wanted to eliminate state participation in the intercity rail program. Dana Reed, Deukmejian's Undersecretary of the Business, Transportation and Housing Agency, pushed very hard for the Governor to continue state support for intercity rail. Reed's interest in transportation and access to the Governor through the agency helped save the program.²⁸

Given the consensus for multi-modalism and increased funding for transportation, it is appropriate for transportation to have a prominent place once again in the Governor's agency structure.

*Consequences of
Lack of State
Leadership*

Without a strong state role in coordinating the multi-modal transportation system, the system is likely to develop in a fragmented manner. System development will be based on regional priorities, not state priorities. Regional transportation planning agencies will continue to work directly with the federal government in obtaining transportation funding assistance. As a result, system development will not necessarily be based on the most cost-effective state priorities.

Concern over the fragmented development of California's highway system compelled the State to assume transportation leadership in the 1950s. In the legislative resolution that led to the development of a statewide freeway and expressway plan, the California State Senate proclaimed: "California is rapidly developing individual freeways and expressways and segments thereof, but in many cases on a piecemeal basis.... There is a need for the establishment of a plan for a statewide system of freeways and expressways determined without regard to present jurisdiction...." The need to develop a cohesive, statewide transportation network remains valid in the 1990s.²⁹

In addition, Caltrans' bias toward highways will encourage legislative efforts to divide the department, such as the Assembly bill currently being held by the Senate Transportation Committee. A separate department for rail and mass transit would create new "turf" that would hinder the effective integration of a variety of transportation modes. This division also would discourage an impartial analysis by the state of the best transportation solution.

Thus, the lack of strong state leadership in the development of a multi-modal transportation system would increase the likelihood that the system will not develop in an integrated and cost-effective manner.

Recommendation #1 The Governor and the Legislature should enact legislation to establish a new Transportation Agency.

- a) The secretary of the Transportation Agency should provide policy and budget direction to the Governor to promote the efficient development of a multi-modal transportation system.
- b) The Agency should be staffed with existing personnel positions from Caltrans and the Business, Transportation and Housing Agency.
- c) The Business, Transportation and Housing Agency should become the Business and Housing Agency.

Recommendation #2 The Governor and the Legislature should enact legislation requiring a management study to determine how Caltrans can be reorganized to promote the development of a multi-modal transportation system.

- a) The study should recommend how Caltrans' headquarters and districts can be organized to work most effectively with local and

regional transportation agencies in developing a statewide, multi-modal transportation system.

- b) The study should recommend clearly delineated responsibilities for Caltrans and local agencies in the development of travel modes, particularly commuter and urban transit systems.
- c) The study should be conducted by an independent management consultant.
- d) The study should be reviewed by the Governor and the Legislature for their approval.

Recommendation #3

The Legislature should adopt a resolution indicating that, in any future revision of the federal Surface Transportation Reauthorization Act, the State of California favors:

- a) Maximum flexibility in the use of federal transportation funds.
- b) A requirement that regional and local transportation agencies coordinate their transit systems with state plans as a condition of receiving federal funds.

The resolution should be transmitted to Congress and the President.

Finding #2

The State has not adopted an adequate long-term plan for the state transportation system, thus hindering the cost-effective development of a system that will improve future mobility.

Propositions 108 and 111, also known as the Transportation Blueprint for the 21st Century, represent the first long-term transportation plan adopted by the State since the late 1950s. The Blueprint's failure to address economic factors causing highway congestion, however, likely will prevent the Blueprint from ensuring long-term mobility improvement, fair distribution of transportation costs, efficient investment of transportation funds and better air quality.

*The 1958
California
Freeway System
Plan*

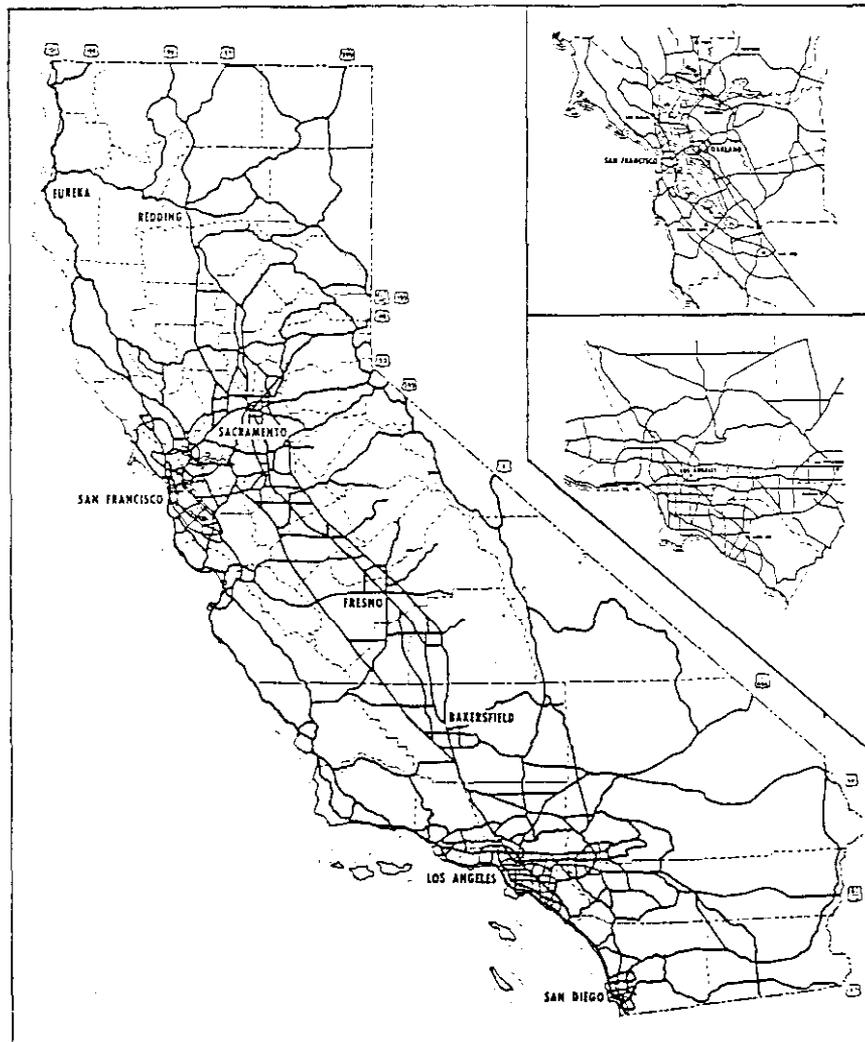
The Transportation Blueprint is California's first long-term transportation plan since the 1958 California Freeway Plan. The Commission examined the 1958 Plan to determine why the plan eventually failed to meet the State's expectations of long-term mobility improvements. This review is helpful in understanding why the 1990 Blueprint also is likely to fail in bringing long-term improvements in mobility.

In 1957, the California State Senate directed the then-Department of Public Works to undertake a study that would form the basis of a statewide system of freeways and expressways. The department produced the study, The California Freeway System, in September 1958.

The 1958 Plan contended that California's highway system was inadequate for the State's growing population and economy. The plan anticipated that vehicle miles traveled (VMT) would triple by 1980. The plan proposed to accommodate this growth in travel by constructing 12,250 miles of freeways over a 20-year period. On the following page, Figure 3 indicates the system envisioned by the 1958 plan.

Figure 3

THE 1958 FREEWAY PLAN PROPOSED
12,250 MILES OF FREEWAYS



Source: The California Freeway System, Division of Highways, 1958

As indicated by Figure 3, the 1958 plan called for freeways to serve most areas of the State.

The assumption that the growth of VMT could be accommodated on the freeway system turned out to be the major flaw of the 1958 plan for two reasons. First, the plan did not anticipate that public opposition to freeway building, particularly in urbanized areas, would slow down the program.³⁰

Second, the plan did not anticipate that additional tax increases would be needed to construct the system. In 1958, the Division of Highways believed that the proposed

plan was "economically feasible and can be accomplished within the framework of present highway user finances." By 1967, however, the Division believed that an additional \$23 billion in revenue would be needed to meet the targets outlined in the plan. This cost increase was too much for the Governor, Legislature and public to accept.³¹

As a result, freeway construction slowed to a crawl during the 1970s. Figure 4 shows the trend for construction prices, construction expenditures and freeway construction between 1970 and 1980.

Figure 4

FREEWAY CONSTRUCTION PRICES, EXPENDITURES AND MILES COMPLETED, 1970-1980

Year	Construction Prices (1970 = 100)	Construction Expenditures (1970 = 100)	Miles of Freeway Completed
1970	100	100	276
1971	109	90	182
1972	120	74	236
1973	132	59	146
1974	135	51	88
1975	199	36	62
1976	237	23	64
1977	206	31	36
1978	240	25	35
1979	274	23	40
1980	352	21	36

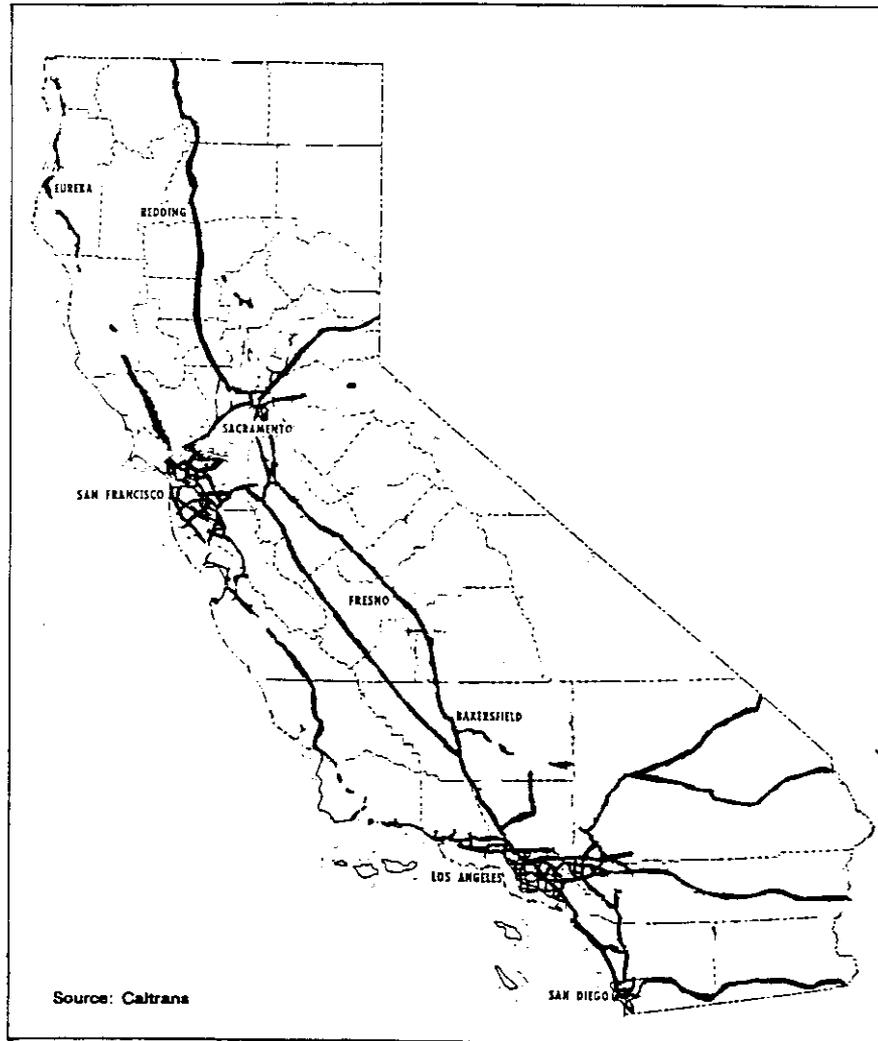
Source: California's Freeway Era in Historical Perspective, Jones, 1989

As indicated in Figure 4, inflation had caused construction prices to more than triple between 1970 and 1980. In contrast, construction expenditures in 1980 were about one-fifth the level they were in 1970. This combination resulted in a precipitous decline in freeway miles built during the decade.

On the following page, Figure 5 shows California's current freeway system.

Figure 5

THE FREEWAY SYSTEM IN 1990 IS ONE-THIRD THE SIZE PROPOSED IN 1958



As shown in Figure 5, the 1990 freeway system is only a fraction of the scale envisioned by the 1958 freeway plan. Although freeway construction declined, VMT continued to grow and traffic congestion, predictably, increased. Thus, the 1958 plan's attempt to accommodate VMT growth failed.

*The 1990
Blueprint -- A
Repeat of 1958*

The Blueprint has several similarities to the 1958 plan. Like the earlier plan, the Blueprint found that California's transportation system was no longer adequate for the State's needs: "Traffic congestion has become unbearable and is expected to double -- even triple - - in some areas in just 10 years."³²

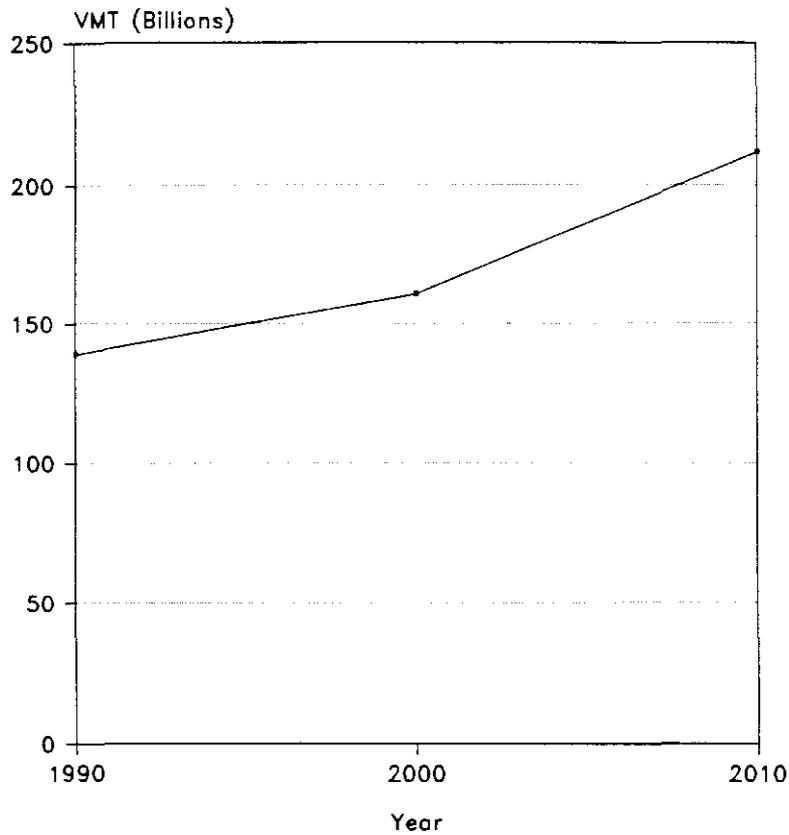
Also like the 1958 plan, the Blueprint proposed to accommodate VMT growth through capacity enhancements to the State's transportation system. The Blueprint proposed to increase transportation capacity through highway expansion, highway operational improvements and public transit expansion.

Finally, the Blueprint shared the 1958 plan's assumption that VMT growth can be accommodated by capacity increases. Unlike the 1958 freeway plan, however, the Blueprint was not developed based on an estimate of future VMT. The Blueprint did not provide an analysis of whether the projects funded by the plan will adequately accommodate the growth in VMT. As a result, it is unknown whether the Blueprint projects can ensure long-term mobility improvements.

Forecasts developed by Caltrans suggest that future capacity increases may be outpaced by VMT growth. On the following page, Figure 6 provides Caltrans' forecasts for VMT on state highways between the years 1990 and 2010.

Figure 6

**INCREASE IN VEHICLE MILES TRAVELED (VMT)
1990 through 2010**



Source: Caltrans

As indicated in Figure 6, Caltrans expects the VMT on state highways to grow from 139 billion in 1990 to 211 billion in 2010, a jump of 52 percent.

In contrast, Caltrans forecasts that state highway lane miles may increase by only 22 percent during this same period.³³

*Why VMT is
Growing So Fast*



number of observers believe that the rapid growth in VMT can be explained by economic incentives that encourage people to drive. These incentives include:

- o **Lack of highway tolls.** California's tradition of providing "freeways" allows people to drive as much as they want at whatever time of day they want without having to pay for the use of the system.³⁴
- o **Low gas prices.** The price of gasoline is at a near historic low in California, when adjusted for inflation. The price is even less when one considers that vehicles today are more fuel efficient than they were in the past.³⁵
- o **Low parking costs.** Most employers, including the State of California, provide free or subsidized parking to their employees. A 1988 survey found that 91 percent of employees in Los Angeles, Riverside, San Bernardino and Ventura Counties park free at work.³⁶
- o **Low bridge tolls.** There are only a handful of bridges in California that require a toll. The toll for all but one of these bridges is \$1 (the Golden Gate Bridge toll is \$3). By comparison, the toll for the Oakland-San Francisco Bay Bridge in 1936 was equivalent to about \$12 in today's dollars.³⁷
- o **Low trucking costs.** The United States Department of Transportation estimates that heavy trucks only pay 65 percent of their fair share of highway taxes.³⁸

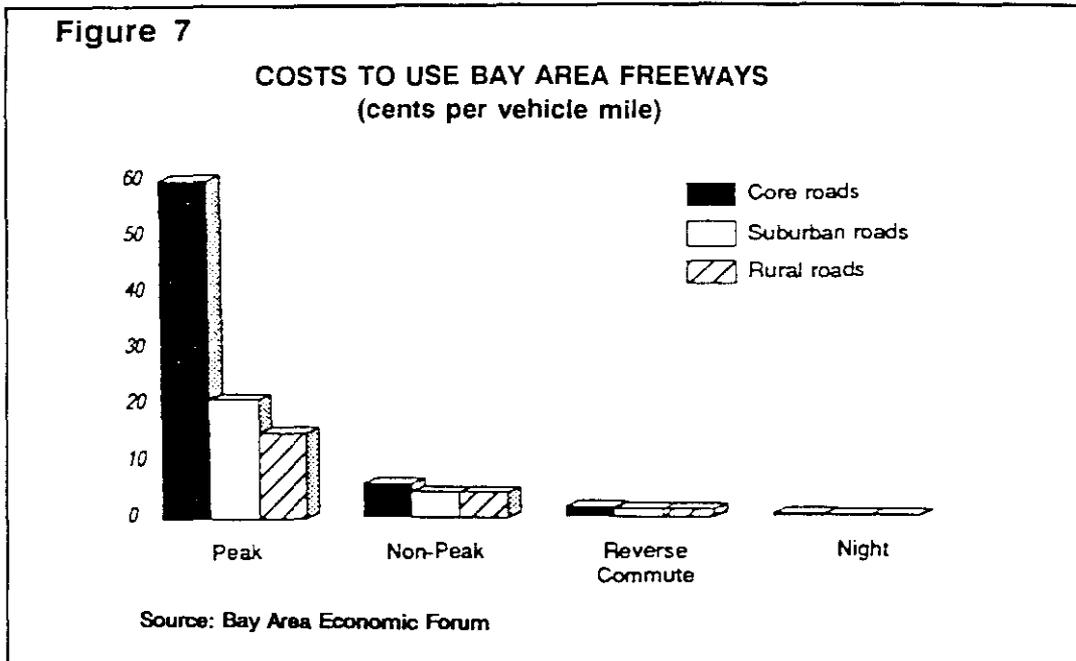
Since most driving costs are fixed (such as vehicle purchase price, insurance, registration, and routine maintenance), there are few economic incentives to encourage motorists to limit their driving. Thus, VMT has climbed steadily in California, putting unrelenting strain on the highway system. A 1991 report by three San Francisco Bay Area regional governments summarized the problem:

The costs of owning and operating an automobile are much lower in the United States than in any other developed nation. The low cost of driving and the substantial public investment in roads and highways combine to stimulate motor vehicle travel, while discouraging the use of alternative modes such as transit. Enormous growth in vehicle ownership and vehicle miles traveled (VMT) over the past several decades has impeded attainment of air quality standards and led to increasingly severe traffic congestion in the Bay Area.³⁹

How to Control VMT

A number of authorities argue that the growth in VMT cannot be controlled unless drivers pay more of the "true" costs of driving. Examples of highway costs not paid directly through driving fees include:

- o **Parking costs.** Two researchers found in 1990 that if the cost of free employee parking in Los Angeles was reflected in the gas tax, it would increase the gas tax by \$2.40 per gallon.⁴⁰
- o **Congestion costs.** Congestion costs are based on the theory that a person who drives during peak travel periods imposes increased costs on other drivers in terms of delay and wasted fuel. Figure 7 illustrates the costs of driving for a variety of roads at a variety of times of day in the San Francisco Bay Area.



As shown in Figure 7, the cost, in driver time and fuel, to use heavily traveled roads during peak hours is 60 cents per vehicle mile. The cost to use the same roads during non-peak hours is about 5 cents per vehicle mile.

Advocates of "congestion pricing" believe that users of the highway system should pay more to travel during peak hours than during non-peak hours. This would regulate the use of the highway system in the same way that, for example, a phone company regulates use of the telecommunications system. Californians for Better Transportation, a business-oriented research group, estimates that the "congestion cost" of wasted time and fuel for the average California motorist was \$1,194 in 1988.⁴¹

- o **Public safety costs.** Most auto-related police, fire and paramedic services come from local general funds, not motorists. A researcher calculated that the cost of these services for the city of Pasadena was equivalent to a 21-cent increase in the gas tax in 1982-83.⁴²
- o **Air pollution costs.** The Bay Area Economic Forum, a public/private group, found in 1990 that a conservative estimate of the vehicular cost of air pollution was equivalent to 1.5 cents per vehicle mile. This is equal to a 30-cent increase in the gas tax for a vehicle averaging 20 miles per gallon.⁴³

Thus, there are many driving costs that are not reflected in driving fees. Total costs not paid directly by motorists amount to thousands of dollars per year for each motorist.

Effectiveness of Controlling VMT

Studies indicate that selectively imposing higher driving costs would be a highly effective way to improve the transportation system and reduce commuter travel costs. For example, Singapore charges a \$2.50 daily license fee for autos entering the city center. This fee has resulted in the following changes:

- * The entry of single-passenger cars into downtown declined by 63 percent;
- * Carpools increased from a 23 percent share to a 47 percent share of traffic;
- * The share of bus trips increased from 33 percent to 69 percent; and
- * Travel costs decreased for the average commuter.⁴⁴

Los Angeles case studies show that the number of solo drivers decreases an average of 41 percent and the number of auto trips decreases 27 percent when an employer who formerly paid for parking requires the employee to pay.⁴⁵

Finally, a recent study indicates that a combination of parking fees, congestion pricing and smog fees totalling \$5 to \$6 per vehicle per day would decrease VMT by 12 percent and decrease travel times by 24 percent relative to forecasts for 2010 in Southern California.⁴⁶ Similarly, a 1991 San Francisco Bay Area study found that additional driving costs would reduce VMT.⁴⁷

Thus, a state transportation policy that addresses the economic factors perpetuating highway congestion

would ensure improved mobility for California's long-term future.

Consequences of Ignoring Economic Factors

Because the Blueprint does not address the economic factors that affect travel behavior, California will continue to suffer from traffic congestion. It is true that the Blueprint will improve short-term traffic flow by increasing the carrying capacity of the highway system. However, given the expected growth in VMT, the Blueprint may not be able to sustain traffic improvements over the long term. Traffic congestion threatens the State's economy. According to a recent survey by the California Business Roundtable, 52 percent of the businesses surveyed believed that the State's transportation system is having a detrimental impact on business.⁴⁸

In addition, the Blueprint's ignoring of economic factors allows the costs of the transportation system to be unfairly distributed. One study found that an 80,000-pound, five-axle truck does as much damage to highway pavement as about 10,000 automobiles. Yet another study indicates that trucks pay only about 65 percent of their share of highway costs.⁴⁹

The Blueprint's lack of attention to economic factors also will lead to inefficient investment of transportation resources. For example, the transit systems funded by the Blueprint, without a concomitant change in the economic factors that encourage solo driving, will attract lower ridership and require higher operating subsidies.⁵⁰

Finally, the lack of economic incentives in the Blueprint will hinder air quality improvements in California's smoggy urban areas. Studies of Southern California and the San Francisco Bay Area indicate that reasonable pricing measures would reduce vehicle air emissions significantly.⁵¹

Thus, California needs a long-term transportation plan that will control the growth in VMT. Studies show that VMT can be controlled by addressing the economic factors that cause traffic congestion. By addressing these economic factors, California can ensure improved mobility, equitable distribution of transportation costs, efficient transportation investment and cleaner air.

Recommendation #4 The Governor and the Legislature should enact legislation directing Caltrans to develop a transportation improvement plan that can promise improved mobility to Californians over the next 20 years.

- a) The plan should address the economic factors that perpetuate highway congestion and make recommendations to control the growth in vehicle miles traveled.

- b) The plan should establish priorities for the development of a statewide, multi-modal transportation system.
- c) The plan should address how transportation costs can be distributed equitably among users of the system.
- d) The plan should be based on the consensus principles established by the public and private transportation officials on the California Transportation Directions Committee.
- e) The plan should establish realistic funding estimates and financing mechanisms.
- f) The plan should be developed in consultation with regional transportation planning agencies.
- g) The plan should be submitted to the Governor and the Legislature for their review and approval.

Finding #3

The State does not adequately evaluate transportation alternatives based on cost-effectiveness, thus leading to unnecessary delay and expense for transportation projects.

Declining transportation revenues in the 1970s led the State to study ways to use transportation funds in more cost-effective ways. Seventeen years after the release of this study, however, the State is not making many transportation decisions based on cost/benefit criteria. Consequently, the State is not using transportation funds in the most cost-effective manner.

Need for Cost Efficiency

As discussed in Finding #2, the State discovered in the late 1960s that transportation revenues were not keeping pace with the goals established in the 1958 freeway plan. With the Reagan Administration opposed to a gas tax increase, Caltrans in 1972 commissioned a study to examine how to spend existing revenues in more cost-effective ways. The study, conducted by McKinsey and Company, was released in 1974.

The McKinsey study proclaimed that limited funds made the completion of the 1958 Freeway and Expressway Plan unrealistic, and recommended that the State establish the more modest goal of developing "as complete a system as possible within a specific time horizon and with the funds likely to be available." The study recommended that Caltrans establish cost-benefit guidelines to achieve this goal. One of these guidelines was "seek low-cost design alternatives." This guideline counseled Caltrans to move away from its traditional aim of building every highway to its ultimate carrying capacity. Transportation officials commonly refer to these projects as "ultimate" projects. The study stated that there was a "danger in working toward this objective with the implicit assumptions of unlimited funding and an infinite time horizon...."⁵²

The study recommended that Caltrans consider the costs and benefits of low-cost alternatives such as ramp meters, non-expandable expressways and special passing lanes. The study noted that the implementation of lower-cost alternatives would free up funds that could be used elsewhere in the highway system, perhaps to greater return than if used to build a freeway to ultimate scale.⁵³

The McKinsey study established the principle that the State should use its limited transportation funds in the most cost-effective manner. The Commission reviewed the extent to which cost-effectiveness is a consideration in state transportation decisions.

Partial Success

The State's efforts to evaluate transportation projects based on cost-effectiveness have been only partially successful. Although Caltrans does implement low-

cost alternatives to relieve traffic congestion, the Commission found that the department insists on developing some projects to an ultimate scale. The Commission also found that state decisions on rail funding have not had a cost/benefit review.

The McKinsey study succeeded in scaling back Caltrans' highway activities to some degree. At the recommendation of Caltrans, the State rescinded about 380 miles of planned freeway routes within a few years after the study's release.⁵⁴ Special lanes that divert turning or slower vehicles out of the flow of traffic are used in many parts of the State. In addition, Caltrans has used ramp-meters to regulate on-ramp traffic, thus increasing the capacity of the existing highway system.⁵⁵

However, the Commission also found that Caltrans continues to advocate ultimate projects. For example, the director of the Department of Public Works in Riverside County said that Caltrans wanted the county to purchase additional right-of-way for future expansion of Highway 91. The county was interested in simply widening the highway without purchasing additional right-of-way. Under Caltrans plan, 21 bridges would need to be replaced to span the right-of-way. Under the county's plan, only three bridges would need to be replaced, resulting in a much lower cost.⁵⁶

"We would be building bridges (under Caltrans' plan) that wouldn't have lanes for 20 years, and I'm not convinced that we would be able to build the lanes in the future," the director told Commission staff.⁵⁷

The deputy director for the Santa Clara County Public Works Department described a similar experience with Caltrans: "When we buy right-of-way, Caltrans wants the ultimate project. It could take us more than seven years just to be able to afford the right-of-way if we did that."⁵⁸

The deputy director of the San Francisco Bay Area's Metropolitan Transportation Commission said that Caltrans' initial plans for rebuilding the earthquake-stricken Cypress Freeway were of such grand scale that the project had no chance of being financed. The official said that the philosophy of many in Caltrans has been to "build what you can, where you can, as wide as you can."⁵⁹

These cases indicate that Caltrans is assuming that the highway system has "unlimited funding and infinite time horizon", two assumptions that the McKinsey study warned against.

The emergence of the rail program has stimulated new concerns about the lack of cost/benefit analysis in state transportation decisions. In 1991, the Legislative Analyst's Office stated, "To date, the CTC and Caltrans have not

reviewed individual rail projects, prior to their inclusion in the 1990 STIP, to ensure that they merit state funding based on an analysis of the expected benefits and costs of those projects." The office suggested that the Legislature require cost/benefit assessments through legislation, including specifying the various factors that should be taken into account in the assessments.⁶⁰

There also has been a lack of cost/benefit analysis in the debate over rail power-sources. The CTC has taken the view, without conducting a cost/benefit analysis, that the Southern California Regional Commuter Rail System should run on electric power at the earliest possible date. The CTC believes that prompt electrification of the system would be better for air quality in Southern California than a system powered by diesel locomotives. In support of this view, the CTC has made it clear to the Southern California Regional Rail Authority that the commission will not look favorably on applications that request funds for diesel locomotives. As a result, the authority dropped a request for state funding of diesel locomotives for the first three lines of the rail system.⁶¹

The authority, which plans to electrify the entire rail system by 2010, believes that the CTC's insistence on speedier electrification could divert funds from lines scheduled to begin operation in 1994. Without a cost/benefit analysis, it is unknown whether the CTC's view on electrification will lead to the cost-effective use of limited rail funds.⁶²

In summary, the Commission found that Caltrans has not abided by the McKinsey study's recommendation to establish a funding and time horizon for improvements to the highway system. Neither Caltrans nor the CTC have established cost-benefit criteria to evaluate the merits of state rail projects.

*Reasons for the
Lack of
Cost/benefit
Analysis*

There are several factors that lead to a lack of cost/benefit evaluation in state transportation decisions. Some are failures on the part of the State, while other factors may have little to do with the projects themselves.

A major reason why the State has not used cost/benefit analysis is that it has failed to establish reasonable transportation objectives as recommended by the McKinsey study. "California should not build toward an 'ideal' highway system to be completed in the distant future," said the study. "(The State's goal) should be to establish a balanced system within a foreseeable time horizon." Seventeen years after the McKinsey study was released, the State still has not heeded this advice.⁶³

Without reasonable objectives, Caltrans has the incentive to push for ultimate projects and to require local governments to acquire rights-of-way that will not have lanes until the distant future. Caltrans is using the assumptions of "unlimited funds" and an "infinite time horizon" that the McKinsey study warned against.

Former Caltrans Director Robert Best agrees that the State needs to define its long-term objectives to spend transportation funds efficiently. "No one at the state level is making a decision on what kind of transportation system California will have in the future," said Best. "What kind of rail system will we have? How will roads tie together with it? If you don't develop priorities, you don't invest efficiently."⁶⁴

Another reason why the State does not use cost/benefit analysis for transportation is a lack of standard, quantified criteria. The State has not established standard criteria that can be used to evaluate different transportation modes. Adriana Gianturco, having studied water project cost/benefit criteria as a graduate student, unsuccessfully sought the development of transportation criteria when she was Caltrans' director. "The closest we came to getting into costs and benefits was to use a few simple indicators, but we never got into any sophisticated work where different factors are quantified, weighted and combined in ways that have been in use for years with water projects," said Gianturco. To date, the State still has not developed standard measurement criteria that can compare the costs and benefits of different transportation modes.⁶⁵

Finally, cost/benefit analysis has not been used in transportation because other factors may take precedence. For example, one factor that may have caused the CTC to forgo a review of the cost effectiveness of 1990 STIP rail projects was a desire to get service implemented in time to gain voter support for rail bond measures that will be on the ballot in 1992 and 1994. In addition, several transportation officials voiced their concern that the project development process is already complex and that a cost/benefit analysis would add yet another time-consuming phase. In response to this concern, former Director Adriana Gianturco believes that a cost/benefit analysis should be made part of the environmental review process so that the cost/benefit analysis will not delay project development.

In summary, the lack of cost/benefit analysis is caused by the absence of statewide transportation objectives, a paucity of standard measurement criteria and a belief that other factors sometimes take precedence over cost-efficiency.

Consequences

The lack of cost/benefit analysis leads to delay, higher project costs and potentially inefficient use of transportation funds. Project delay occurs with

Caltrans' "ultimate" projects because the projects are of such large scope that they require a lengthy environmental review process, according to the executive director of the Riverside County Transportation Commission. "The projects generally advocated by Caltrans are more prone to full Environmental Impact Statement requirements, rather than Finding of No Significant Impact requirements," said the official in written testimony to the Commission. "Therefore, Caltrans' preferred projects...take longer to develop."⁶⁶

Another example of delay is illustrated by the circumstances surrounding the expansion of Southern California rail service. Specifically, rail service may be delayed if the CTC remains steadfast in its position that the Southern California Regional Rail Commuter System be electrified.

The lack of cost/benefit criteria also leads to higher project costs. "Ultimate" projects as proposed by Caltrans cost more than low-cost alternatives as proposed by local transportation agencies. In addition, the longer project development time of ultimate projects leads to additional costs caused by inflation.

Finally, the lack of cost/benefit criteria may lead to the inefficient use of transportation funds. It is unknown whether the rail projects programmed by the CTC are the most cost-effective projects to move people.

Recommendation #5 The Governor and the Legislature should enact legislation that mandates the establishment of a 20-year horizon for planning and funding of the transportation system.

- a) This time frame will assist Caltrans and local transportation agencies in establishing transportation priorities in a cost-effective manner.
- b) Caltrans' right-of-way acquisition requirements should be limited to a level achievable in the 20-year time horizon.

Recommendation #6 The Governor and the Legislature should enact legislation directing Caltrans to develop cost/benefit criteria that could be used by state, regional and local transportation agencies in evaluating transportation options.

- a) The criteria should include as factors the operations and maintenance costs of transit and highway systems.
- b) The study should investigate whether cost/benefit analysis could become a

component of the existing environmental review process, so as not to add another layer of review to project development.

Finding #4

The State has not been effective in developing a high-speed train system, thereby preventing an alternative to auto and air travel.

The State on several occasions has taken steps toward developing a high-speed train system. However, because of the complicated review processes, a lack of involvement by proven high-speed train experts, unrealistic expectations of private financing and premature commitment to magnetic-levitation technology, the State has not been effective in developing such a system. The lack of a high-speed train system indicates that intercity airport and highway traffic will continue to worsen.

Lure of High-speed Trains

High-speed train systems, as they have been developed in other countries, offer impressive benefits. Since 1981, France has operated such a system, the Train a Grande Vitesse (TGV). The TGV boasts the following features:

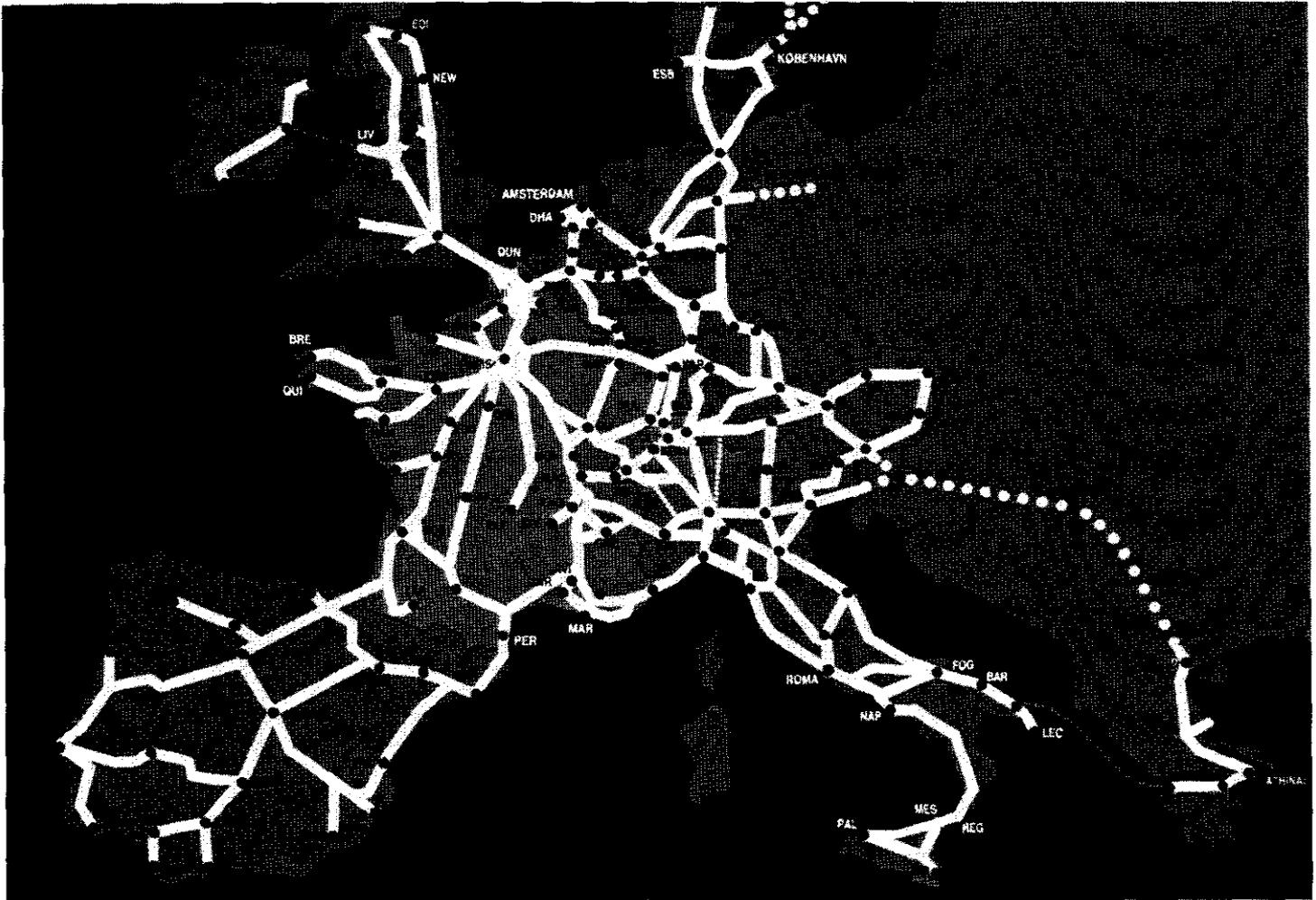
- o Travels at a maximum commercial speed of 180 miles per hour, with a test speed record of 320 miles per hour.
- o Requires half the right-of-way of a six-lane, divided highway.
- o Uses about one-fourth the energy per passenger as jet travel.
- o Allows construction of four-fifths of a mile of track each day.
- o Has operated over 150 million miles without an accident or fatality.
- o Paid for construction bonds one year ahead of schedule and operates at a 33 percent annual profit.
- o Is twice as fast as auto travel and half the cost of air travel.
- o Has conference facilities for business travelers.⁶⁷

The French national railroad company has joined with the national railroads of 13 other European countries to plan an 18,300-mile high-speed rail system, proposed to be

developed by 2015. An illustration of this proposed system is provided in Figure 8.

Figure 8

PROPOSED EUROPEAN HIGH-SPEED RAIL SYSTEM IN 2015



Source: Community of European Railways

As shown in Figure 8, the proposed European high-speed rail system would serve most of the European continent. Some of the segments, such as the Paris-London route via an English Channel tunnel, currently are under construction.

California's Failure

For ten years, California has indicated an interest in developing a high-speed train system, but all of the State's efforts have failed to get out of the planning stage. These efforts include:

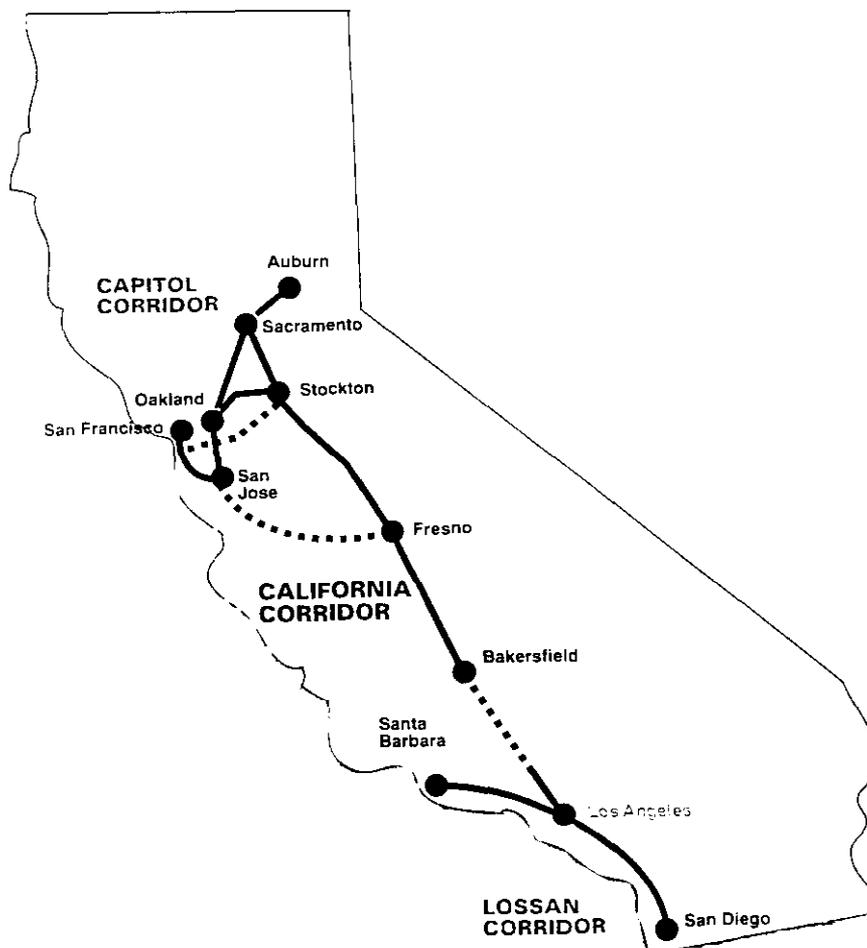
- * **1982 California Passenger Rail Financing Commission.** This commission had the authority to issue bonds for a rail system that could travel in excess of 120 miles per hour between Los Angeles and San Diego.⁶⁸ It was intended to be a joint venture with Japan, but the Japanese withdrew from the venture and the commission has been dormant ever since.⁶⁹

- * **1988 California-Nevada Super Speed Ground Transportation Commission.** This commission was authorized by the State to award a franchise for private development of a high-speed system between Los Angeles and Las Vegas. State legislation establishing the commission mandated that no public cost result from the project. In July 1990, the Bechtel Corporation submitted a proposal to build a high-speed line, but withdrew its support for the project in November 1991. The commission's future is uncertain.⁷⁰

- * **1989 San Joaquin Study Group.** This group examined the feasibility of a high-speed network from Los Angeles - Fresno - Bay Area/Sacramento. The study group was composed of representatives from railroad companies, government and labor. The group released a report in 1989 that provided a schedule for incremental improvements of the rail system, leading to eventual development of a high-speed system. Because of the estimated high costs of developing a high-speed system, however, the State has not committed to carry through with the study recommendations. On the following page, Figure 9 provides an illustration of the corridors examined by the study.⁷¹

Figure 9

HIGH-SPEED CORRIDORS EXAMINED BY THE SAN JOAQUIN STUDY



Source: Caltrans

As shown in Figure 9, the San Joaquin study anticipates offering high-speed train service to all of the State's major metropolitan centers.

- * **1990 Bakersfield - Los Angeles Study.** Proposition 116, approved by voters in June 1990, allocated \$5 million to Caltrans for preliminary engineering and feasibility studies of a high-speed passenger link

between Bakersfield and Los Angeles.⁷² Caltrans has not initiated these studies to date.⁷³

- * **1990 Work Plan for an Integrated High-Speed System.** In 1990, the State required Caltrans to prepare a work plan that would integrate high-speed trains with the State's existing commuter and intercity rail corridors. Caltrans released the work plan in March 1991, but the department is without funding to conduct the study.⁷⁴

In short, every attempt by the State to initiate the development of a high-speed train system has failed to get a project past the planning stage.

Reasons for Failure

The State's attempts to develop a high-speed train system have failed for at least four reasons. First, the State has not streamlined the environmental review process for the development of high-speed trains. The 1982 California/Japan joint venture became an administrative "nightmare" according to a Caltrans deputy director familiar with the project. The project required an analysis by the Public Utilities Commission in addition to the standard review required by the California Environmental Quality Act. The Japanese backers did not anticipate the "hassle" of these procedures and dropped out of the project.⁷⁵

Another obstacle to high-speed trains in California has been the lack of involvement of high-speed train experts in the State's studies. In the 1989 San Joaquin study, for example, Caltrans hired a consultant who was accused by one critic as having designed a system for the "1920s".⁷⁶

The TGV Company also criticized the San Joaquin study for having made unrealistic assumptions regarding fare levels, passenger ridership, operating costs and construction requirements. For example, where the study estimated that construction of the high-speed network would cost \$14.5 billion and operate at a \$16 million annual loss, the TGV Company believed that the network could be constructed for between \$5 billion and \$7 billion and operate at a \$250 million annual profit.⁷⁷

Earlier involvement of the TGV Company or some other proven expert in high-speed trains would have allowed criticisms to have been aired earlier in the San Joaquin study and perhaps would have resulted in lower cost estimates. Instead, the San Joaquin's high cost estimates have stifled state plans to move forward with a high-speed system.

A third reason that high-speed trains have not been developed in California is the State's reluctance to provide partial public financing to develop a system. Because of this reluctance to provide public funds nationwide, not a single

high-speed train proposal has gone forward in the United States. This includes well-developed proposals such as Bechtel's Southern California-Las Vegas proposal and Florida's Miami-Tampa-Orlando proposal.⁷⁸

The uncertainty of the Southern California-Las Vegas venture illustrates the difficulty that high-speed train proposals have in obtaining private financing. Two North American firms declined to move forward with proposals, believing that without public assistance or guarantees, their participation would be "excessively risky."⁷⁹ France's TGV company did not submit a proposal for the same reason.⁸⁰ The winner of the franchise, Bechtel Corporation, at first believed that it could produce the project solely with private funds, but found that private financing was unavailable. Supporters of the Bechtel proposal are now hoping to obtain government financial support to entice private investors.⁸¹

A November 1991 report by the National Research Council found that the initial costs of developing high-speed train systems, ranging from \$10 million to \$63 million per mile, likely are too steep to attract full private financing. The study stated that benefits of high-speed train systems in relieving highway and airport congestion may justify the subsidizing of high-speed rail systems through the federal airport and highway trust funds. The chairman of the study was Lawrence Dahms, who also is the executive director of the San Francisco Bay Area's Metropolitan Transportation Commission. "The only way (high-speed) rail will work is as part of a larger transportation system," said Dahms. "Other modes of transportation may benefit, so perhaps they should help pay the cost."⁸²

The fourth reason why California has not been effective in developing high-speed trains is the State's pursuit of a premature technology, magnetic-levitation (mag-lev). Mag-lev uses magnetic forces to move a train over a cushion of air along a raised guideway. Bechtel Corporation's Southern California - Las Vegas proposal was based on mag-lev technology.

While supporters are intrigued by mag-lev's potential for 300 mile-per-hour train speeds, there are a number of uncertainties about mag-lev which may have discouraged private investment in the Bechtel project. Foremost of these concerns is that mag-lev is unproven. Unlike the high-speed, wheels-on-rails systems that the French and Japanese have operated for years, there are no mag-lev systems in commercial operation.

The National Research Council study found that mag-lev had a number of unanswered questions regarding cost and safety. The study also found that mag-lev technology likely would be unfeasible for a decade or more. Study Chairman Lawrence Dahms said, "Anyone at my age (56), if

he's going to ride anything in his lifetime, is going to ride on steel wheels on steel rails."⁸³ To illustrate this point, Germany, which has been testing mag-lev for ten years, has selected wheels-on-rails for the country's first high-speed system. Germany initiated service on a Hamburg - Frankfurt - Munich line in June 1991.⁸⁴

The mag-lev technology has an additional disadvantage in that it cannot connect directly with existing rail systems. Unlike rail systems such as the TGV, mag-lev systems would not be able to use existing track to enter and leave city centers. Inability to access city centers would be a significant travel-time disadvantage for mag-lev trains.

Consequences

The State's failure to develop a high-speed ground transportation system has made Californians dependent on air travel. Air traffic at California's 14 major airports increased by 22 percent between 1985 and 1990.⁸⁵ A 1991 report from the Southern California Association of Governments, High-Speed Rail Feasibility Study, predicts that air passenger trips will nearly double between 1988 and 2010. The report says that "increasing demand may mean that passengers will not be able to fly out of their first choice airport, or not be able to get a flight at the most convenient time or face unexpected delays in flight takeoff." Moreover, expansion of airports is limited by lack of space and public resistance.⁸⁶

In France, high-speed rail has relieved commuter air traffic by 62 percent, allowing more capacity for long-distance and pleasure travelers.⁸⁷ The TGV company considers California to have the best potential high-speed rail market in the country,⁸⁸ considering that there are about seven million round-trip air passengers per year between the Los Angeles area and the San Francisco Bay Area.⁸⁹ High-speed rail likely would gain the support of environmental organizations and other airport expansion opponents, according to the president of the Train Riders Association of California.⁹⁰ Another advantage, according to the French national railroad, is that a 300-mile TGV line occupies less area than a large airport.⁹¹

State highways also will have to accommodate additional travel demand in the absence of a high-speed alternative. The traffic on state highways is growing and is particularly acute on weekends and holidays. The two-hour trip between Los Angeles and San Diego can take as long as four hours during peak travel periods. The three-hour trip between the San Francisco Bay Area and Lake Tahoe can take six hours on winter weekends. As with airports, expanded highway facilities are limited by a lack of space and public resistance.

In addition, several state highways become hazardous or impassable in bad weather. Winter fog occasionally leads

to the closure of Highway 99 and Highway 5 in the Central Valley. Dust storms over Thanksgiving weekend in 1991 led to pile-ups on both highways. The worst of the pile-ups caused 17 deaths and dozens of injuries. Snow often shuts down Highway 50 and Interstate 80 in Northern California.

High-speed trains offer a potential solution to the problems the State is experiencing with highways. The trains can operate in snow and heavy fog. Further, the relatively compact area required for a high-speed train right-of-way would help overcome public opposition to expanded transportation systems. High-speed rail systems would provide long-distance highway travelers with a faster and safer alternative.⁹²

In short, California faces severe congestion of its airport and highway facilities. High-speed trains offer the potential for continued mobility while minimizing environmental impact.

- Recommendation #7** The Governor and Legislature should enact legislation requesting a franchise to build, operate and finance a high-speed train system to include Sacramento, San Francisco, Fresno, Bakersfield, Los Angeles and San Diego. The legislation should establish a commission, appointed by the Governor and the Legislature and chaired by a high-speed train expert, to review proposals and award a franchise.
- a) The commission should give priority to awarding the franchise to a wheels-on-rail proposal.
 - b) The commission should give priority to awarding the franchise to the proposal that would require the least amount of public funds.
 - c) The commission should be funded by the Proposition 116 funds for the Bakersfield - Los Angeles study.
- Recommendation #8** The Governor and the Legislature should place before the voters a revenue bond proposal to partially pay for the construction and initial operations of the high-speed train system awarded to the franchisee.
- Recommendation #9** The Legislature should adopt a resolution urging Congress and the President to allow federal airport and highway trust funds to be used to provide partial financing for a high-speed train system in California.
- Recommendation #10** The Governor and the Legislature should enact legislation to establish a consortium that would guide development of the high-speed train system.

- a) The consortium should be led by the franchisee, who would be responsible for planning and financing the system.
- b) The consortium should include project managers from Caltrans and the Public Utilities Commission, who should guide the system through the State's regulatory and development process.
- c) The consortium should include subcontractors responsible for constructing the system.
- d) The consortium should include representatives from local jurisdictions impacted by development of the system.

Finding #5

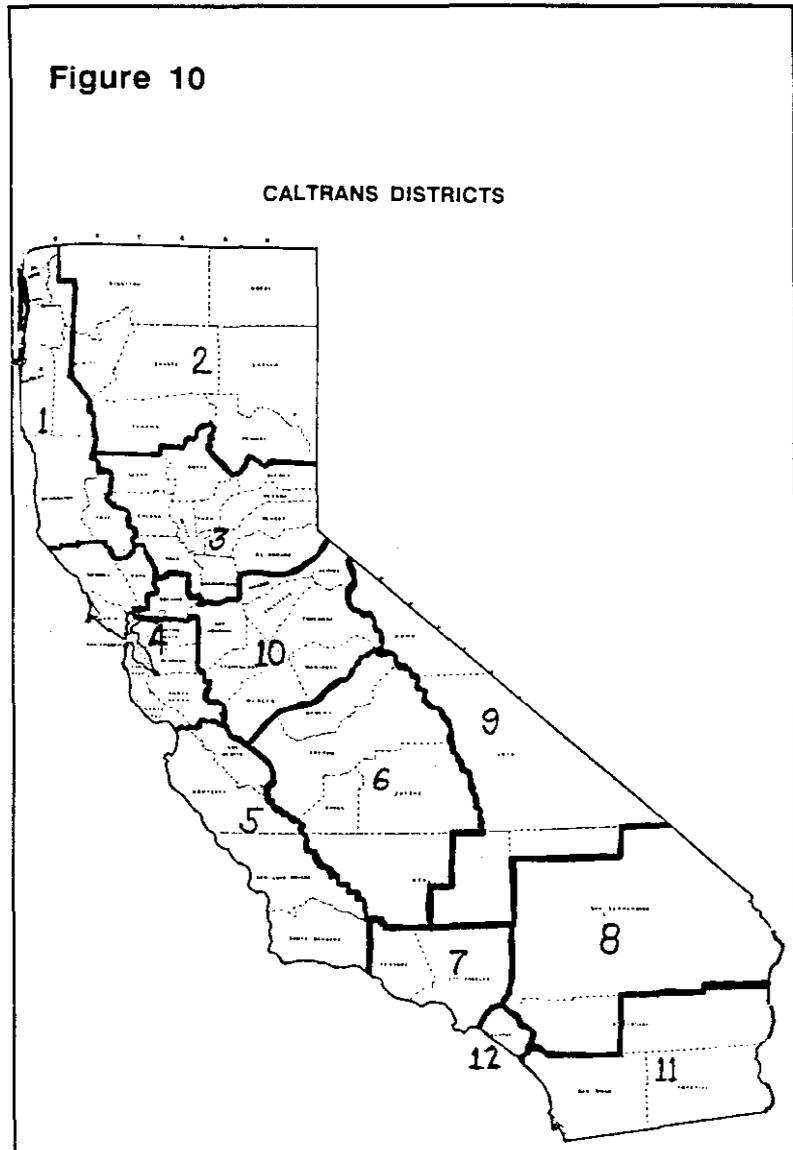
Caltrans has not assigned project managers to major highway projects, thus leading to project delay and higher project costs.

Caltrans long has been criticized for the complications and delays in its highway development process. The previous Caltrans director attempted to reform the process by requiring the assignment of project managers to each project. The project managers were to be responsible for making sure the projects were developed on schedule. In general, however, Caltrans has not carried through with assigning project managers, thus leading to unnecessary project delays and higher project costs.

*Project
Development
Process*

The highway project development process is complex and lengthy. Each state highway project (including state highway projects that are locally funded) passes through a number of development phases, such as initial study of scope and costs, environmental impact analysis, public comment, design, right-of-way acquisition and project construction.⁹³

Caltrans has 12 district offices that are responsible for moving projects through the process. On the following page, Figure 10 shows the boundaries for these districts.

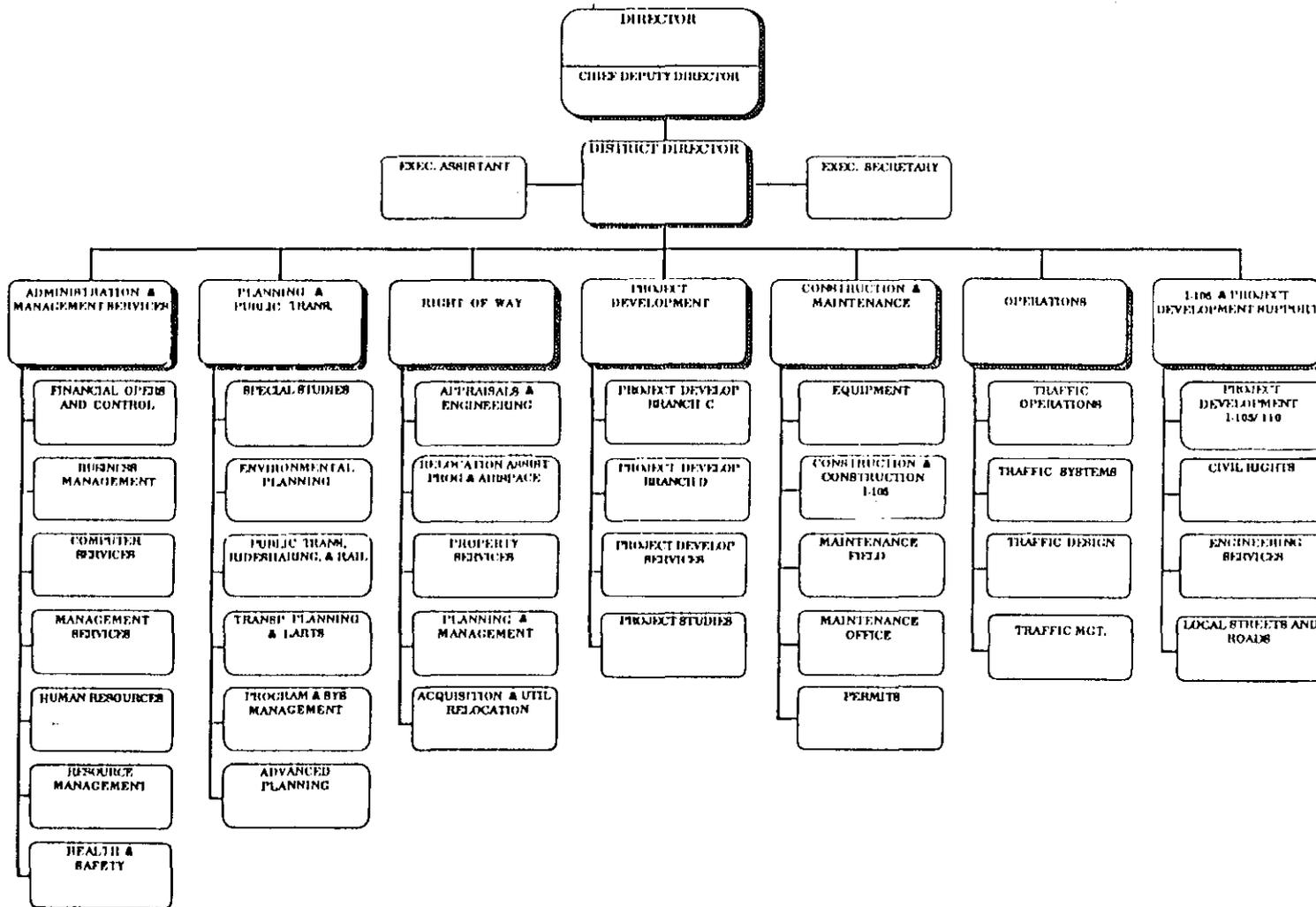


As indicated in Figure 10, the districts vary in size. When most of the districts were established in the 1920s and 1930s, each district had an approximately equal amount of highway miles. Although the highway mileage today varies substantially in each district, most of the district boundaries have been the same for more than 60 years.⁹⁴

Each Caltrans district has a number of district branches. Each branch performs specific duties related to the project development process. On the following page, Figure 11 shows the organization for District 7 as an example.

Figure 11

CALTRANS DISTRICT 7, ORGANIZATION CHART



47

Source: Caltrans

As shown in Figure 11, District 7 has seven branches, arranged horizontally, with each branch further divided into units.

Highway projects can take from 4 years to more than 30 years to advance from the initial planning stage to project completion. This period is much longer than it took to develop highways in the 1950s and 1960s. Although part of the delay is due to factors that have emerged since the 1960s (such as the requirement of environmental impact studies, the shortage of available urban rights-of-way and the State's need to coordinate with new funding partners such as local government and the private sector), there also has been a sense among transportation officials that part of the delay was a result of lengthy processes within the department. Several years ago, Caltrans looked for ways to speed up the process.

Attempt at Reform

In 1988, former Caltrans Director Robert K. Best established five task forces to review the project development process and make recommendations to speed the process by about 25 percent. The task forces included representatives from the Governor's Cabinet, local government, private engineering firms and Caltrans.⁹⁵

One of the task forces, composed of representatives from local agencies, recommended that Caltrans assign project managers at the district level. The objective was to place full responsibility and accountability for a project with an individual. The project manager concept is a tool widely used by private engineering companies.⁹⁶

The local agency task force noted that "Caltrans' approach to project delivery is traditional and compartmentalized, and has not changed dramatically in many years." The task force was concerned that projects were bounced from one branch to another in Caltrans, and that no one made sure that the project stayed on schedule. The task force complained that "delays in project delivery seriously erode the credibility of both state and local government, particularly since most local sales tax elections are predicated on the concept of being able to complete work more quickly."⁹⁷

Santa Clara County has demonstrated how project management can speed up project delivery. In 1984, county voters approved Measure A, a ten-year, half-cent sales tax increase to fund improvements in the county highway system. Caltrans originally estimated that it would take between 15 years and 17 years to complete the Measure A projects. However, the Santa Clara County Traffic Authority, which oversees implementation of the Measure A projects, used a project management approach along with other

strategies that will allow delivery of the Measure A projects within about ten years.⁹⁸

Former Director Best agreed with the local agency task force that Caltrans should have project managers, and, in June 1988, he ordered the districts to implement the concept.⁹⁹

Limited Success

In response to Best's order, Caltrans has assigned project managers to some major projects with good results. In general, however, Caltrans has not carried through with assigning project managers, thereby leading to unnecessary delays and costs for projects.

In testimony submitted to the Little Hoover Commission, a Caltrans official stated that the department has made project management an integral part of highway development:

*The establishment of project management within the Department has been under way since early 1989. All districts have selected project managers for projects.... Project management is an essential element of the Department's schedule and cost management process.*¹⁰⁰

There are two notable examples where Caltrans assigned project managers to major projects with excellent results. The first example is the Oakland/San Francisco Bay Bridge repairs that were required after the 1989 Loma Prieta earthquake. The earthquake shook loose a section of the bridge's upper deck, sending it crashing down on the lower deck. With the bridge shut down, Caltrans had to work quickly to get this critical link back into service. Caltrans assigned a project manager to the task, and the repair work was completed in one month.¹⁰¹

In another example, Caltrans assigned a project manager to repair Highway 1, which was closed in Marin County after the same earthquake. The project manager guided the project through the environmental review process in one year, which is about half the time usually required. Caltrans was able to reopen the highway within just two years. Normally, such a project would have taken between three years and six years to complete.¹⁰²

In general, however, Caltrans has not made project management, as the department claimed, "an essential element of the Department's schedule and cost management process." The executive director of the Santa Clara County Traffic Authority (and a member of the local agency task force that recommended that Caltrans assign project managers) said, "This is where Caltrans has made the least progress. Caltrans will claim that they have established

project management, but they don't hold any one person accountable."¹⁰³

This sentiment was echoed by the executive director of the San Joaquin County Council of Governments (SJCOG), "We still have to go through multiple levels to get something done." As an example of Caltrans' inability to "hold any one person accountable," another official with SJCOG cited a meeting that he attended to discuss the widening of an interstate highway linking Stockton to the San Francisco Bay Area. "Twenty-one out of the 30 people in attendance at this meeting were from Caltrans," said the SJCOG official. "They even had two landscape architects there." The official said that the example illustrates how it is difficult to have a meeting with Caltrans "where one can get results."¹⁰⁴

This same official described an interchange project for the Stockton area in which Caltrans assigned a project manager, but the project manager was not responsible for making sure that the project stayed on schedule:

*The Caltrans person assigned as project manager was from the transportation planning branch. The project manager viewed his role as just providing planning comments. Once the project got to the engineering phase, the project manager turned the project over to that division. The engineering division would then make comments on the project, many of which went beyond the scope of the study. Yet we have to pay a consultant to respond to each of these comments.*¹⁰⁵

Thus, the Caltrans district did not make the project manager responsible for ensuring that the comments from the engineering division were relevant to the study scope. Nor did Caltrans make the project manager accountable for keeping the project on schedule.

Consequences

It is difficult to compute the exact delays and costs that result from a lack of project management. A scientific assessment would require a comparison of two identical projects: one with a project manager and one without. Such a comparison is not possible given that each transportation project has unique features.

In light of this limitation, the Commission looked for other ways to assess the impact of project management on project delivery and costs. The Commission found indicators that strongly suggest that Caltrans' lack of project management is resulting in significant project delays and costs.

For instance, Caltrans had estimated that the completion of projects funded by Santa Clara County's sales tax measure would take between 15 years and 17 years. Santa Clara County used a project management approach and will complete the projects in an estimated ten years. Thus, project management was able to speed project delivery by as much as 41 percent.

In another example, the lack of an accountable project manager for a Stockton interchange study contributed to a delay of almost one year in the study's completion. Such a delay leads to higher project costs because of inflation, as well as higher consultant costs for the study. In this case, the consultant's cost will be about \$110,000, or 70 percent, more than initially budgeted.¹⁰⁶

Caltrans is not entirely to blame for delays that occur in the project development process. Often, other jurisdictions are participants in the development of a transportation project, and these other jurisdictions should accept part of the responsibility for adhering to the project schedule. Overall, however, the lack of responsible and accountable project managers in Caltrans is a significant factor that results in delays and higher costs for transportation projects.¹⁰⁷

*Reasons for the
Lack of Project
Management*

Project management has not transpired in Caltrans primarily because of a reluctance among Caltrans personnel and a concern that project management is not practical for every project.

Caltrans district personnel have been reluctant to change the project development process, according to officials interviewed by Commission staff. Some transportation officials complained that they would get an affirmative response regarding a project from the district director, but the project would get stymied when the project made its way through the district branches. Some believe that the branch personnel, because of their civil service status, are not effectively controlled by the appointed district directors. As the executive director of SJCOG put it, "These people have seen district directors come and go."¹⁰⁸

Another reason why project management has not taken hold in Caltrans is because of personnel limitations. According to one Caltrans deputy district director, a departmental task force found that the district would have to hire 38 more personnel to assign project managers to every project.¹⁰⁹

Another deputy district director in Caltrans believed that, while project management should be used for major projects, it would be unwise to assign a project manager to every project. The official believed the project managers who were most skilled or who had "the most connections" in

the district would be able to get their projects completed first, regardless of district priorities.¹¹⁰

An additional difficulty in assigning project managers relates to the lengthy project development process. Because of turnover associated with job transfers and promotions, there likely would be several project managers over the course of a project's development. Such turnover could result in a lack of continuity in the project development process.

Thus, it appears that project management in Caltrans has faltered because of recalcitrance on the part of district staff and difficulty in assigning project managers to every project. There is no question that additional personnel time is required in project management. However, this does not reduce the importance of having project managers, particularly for major projects that would provide substantial benefit to California motorists. Rather than assigning a project manager to every project, Caltrans district directors should assign a project manager to the district's highest priorities. This will allow the additional costs of personnel time to be more than offset by speedy delivery of projects that provide high mobility benefits.

- Recommendation #11** The Governor should issue an executive order requiring Caltrans to reorganize its district operations to ensure that a project manager is assigned to every major project. A major project should be defined as emergency projects or projects that are the most cost-effective in moving people.
- a) Given the personnel limitations in assigning a project manager to every project, Caltrans should assign project managers to major projects only.
 - b) Caltrans should determine which projects are major projects in consultation with local and regional transportation agencies.
 - c) District directors should hold project managers accountable and responsible for getting major projects out on time and on budget.
 - d) Caltrans should establish a procedure allowing a project manager who moves to another assignment to transfer project management responsibility to another district employee.

Finding #6

The Congestion Management Program has several flaws that may prevent linking transportation and land-use planning.

The Congestion Management Program was one of the most notable reforms established by Proposition 111. The program seeks to link local land-use decisions to the capacity of transportation systems. While the program has helped bring together land-use, air quality and transportation decision-makers, the program also has some flaws that may prevent better planning.

Program Requirements

The Congestion Management Program requires each county with an urbanized area of more than 50,000 people to develop a congestion management plan (CMP). The CMP must include the following:

- o Traffic level of service (LOS) standards on principal highways. LOS is ranked from A (low-volume) to F (stop-and-go traffic).
- o Standards for the frequency and routing of public transit.
- o A program to analyze the impacts of land-use decisions made by local jurisdictions on regional transportation systems, including an estimate of the costs associated with mitigating those impacts.
- o A seven-year capital improvement program to maintain or improve the LOS and transit performance standards, and to mitigate regional transportation impacts created by local land-use decisions.¹¹¹

The Congestion Management Program also requires each regional transportation planning agency to develop a uniform transportation and traffic computer model and data base to determine the quantitative impacts on regional transportation systems by traffic generated by new development. Counties submit their CMPs to the regional transportation planning agency to ensure that the CMP is consistent with regional transportation plans. If the regional transportation planning agency finds that a county's CMP is inconsistent, the agency can request the State Controller to withhold state transportation funds from the county.¹¹²

Counties began preparing their first CMPs in 1990. The Governor's Office has indicated that it expects the Congestion Management Program to remain a part of its proposed Growth Management platform. Governor Wilson plans to unveil this platform in 1992.

Partial Success

In interviews with officials throughout the State, the Commission found that the Congestion Management Program has helped bring together transportation, air

quality and land-use officials. However, many officials also expressed concern that the program may not lead to better planning.

Some officials believe that the CMP has encouraged inter-agency communication. For example, an official with the air pollution control district in San Joaquin County believes that the CMP has increased communication between the air district and transportation officials in San Joaquin County. He noted, for example, that the air district's suggestions to include ridesharing, flexible work hours and vanpools have been incorporated into the CMP.¹¹³ Other officials interviewed by Commission staff agreed that the CMP has led to increased inter-agency communication and planning.¹¹⁴ Some officials noted, however, that a number of jurisdictions were providing growth management planning even before the CMP was established. In these areas, the CMP had little impact on increasing inter-agency communication.¹¹⁵

The CMP may also have had an impact in making people in some areas more sensitive to the effects of growth. For instance, the San Joaquin air district official noted that the CMP has helped make developers, local officials and the public more sensitive to the impacts of growth on air quality and transportation systems. The official cited as an example a developer who proposed to build a residential development that would include bicycle lanes.¹¹⁶

Despite these favorable impressions of the CMP program, several officials communicated to the Commission concerns regarding the program:

- o The executive director of the Orange County Transportation Authority stated that the CMP merely is adding another layer of planning to overburdened local governments. "There is a notion that you can plan your way out of problems," said the official.¹¹⁷
- o This official, along with another local transportation official, believed that some local governments may find it more attractive to forgo state transportation funds rather than attempt to meet the requirements of the CMP. The officials believed that the amount of state transportation funds may be too small to cover the costs of implementing the CMP in small jurisdictions.¹¹⁸
- o A Concord City Council member testified before the Commission that the CMP legislation did not define "principal arterial" when directing counties to establish traffic level of service standards. The official speculated that various jurisdictions would apply their own definition to this term, leading to inconsistency between jurisdictions.¹¹⁹

- o The same person believed that the traffic level of service standards used as a measurement criteria were highly technical and subjective in nature. The official feared that this feature would make CMPs difficult for regional transportation planning agencies to evaluate.¹²⁰
- o The same person noted that jurisdictions are setting their traffic level of service standards at the lowest possible level. This practice allows jurisdictions to avoid preparing deficiency plans called for by the congestion management legislation.¹²¹
- o The same person said that the CMP "maintenance of effort" requirement is unreasonable. The requirement states that jurisdictions must maintain the financial level of effort from the previous year to qualify for state transportation funds. According to the official, jurisdictions do not have the financial resources to meet this requirement. In addition, jurisdictions may find that a large outlay for deferred maintenance in one year may not be needed again the next year.¹²²
- o Two local officials expressed a concern that the CMP unfairly requires a jurisdiction to mitigate the transportation impacts caused by development in another jurisdiction.¹²³ The Senate Office of Research has found that the CMP does not contain efficient procedures for resolving conflicts between jurisdictions.¹²⁴

Cause of CMP Problems

The CMP is the State's first comprehensive growth management program, and lawmakers wanted to allow local governments to have flexibility in developing their CMPs. As a result, some officials find that initial difficulties in implementation are not surprising. "It will be confusing, but the Congestion Management Program will allow 30 experiments," said one official. The official believed that these experiments will allow state policy makers to determine the optimal model for congestion management.¹²⁵

Nevertheless, the initial problems revealed by officials familiar with the CMP indicate that there is a need for additional legislative guidance. Without changes in the way the CMP operates:

- o Local governments may push development into non-urbanized areas to avoid CMP requirements;
- o Local governments may dodge CMP requirements by forfeiting state transportation funds;

- o Local governments may find loopholes to avoid mitigating the impacts of land-use decisions on regional transportation systems;
- o Local governments may conflict with one another over responsibility for mitigating the transportation impacts over land-use decisions; and
- o Regional transportation planning agencies may find CMPs difficult to analyze.

If the State ignores the above possibilities, California's future growth likely will lead to a decline in mobility.

Recommendation #12 The Governor and the Legislature should enact legislation to improve the Congestion Management Program through a state growth management program. Improvements in the Congestion Management Program should include, but not be limited to, the following:

- a) Coordinate the goals and functions of existing planning agencies to streamline the planning process;
- b) Require consistency between jurisdictions in the identification of principal arterials in CMPs and standardization of traffic forecast models;
- c) Establish strategies that encourage local governments to prevent traffic congestion in addition to the CMP's current requirement to mitigate traffic congestion after it occurs;
- d) Allow CMP "maintenance of effort" requirements to be averaged over a multi-year period and exclude from the maintenance of effort calculation maintenance or emergency expenses; and
- e) Establish provisions to minimize and mechanisms to resolve conflicts between jurisdictions within the CMP process.

CONCLUSION

The past four years have brought enormous change in California's transportation policy. The June 1990 ballot measures injected new life in the state transportation program by providing additional funding, new flexibility and a growth management program. The State developed a new multi-modal consensus to replace the freeway accord of 1958, and looked to develop a new mode of travel: high-speed trains. Finally, Caltrans attempted to speed the project development process by implementing project management. These were welcome initiatives, particularly after years of declining transportation revenues, conflicting policy directions, slow project development and worsening highway congestion.

In reviewing the latest transportation developments, however, the Little Hoover Commission found that the State has a long way to go to improve California's transportation system. In this report, the Commission has issued a number of recommendations that will require the leadership of the Governor and the Legislature.

The Commission found that Caltrans and the Business, Transportation and Housing Agency are not prepared to lead the State in the development of a multi-modal transportation system. Without state leadership, transportation development is more likely to occur on a piecemeal basis and without the guidance of cost-effective, statewide priorities. The Commission recommends that the Governor and the Legislature enact legislation to establish a new Transportation Agency and require a management study to reorganize Caltrans to ensure state leadership in the development of a multi-modal transportation system.

The Commission also found that the Transportation Blueprint measures adopted by voters in June 1990 may not

be able to accommodate expected growth in vehicle miles traveled (VMT). Studies indicate that VMT is influenced by the fees paid by drivers. A number of transportation authorities believe that selective increases in driving fees can control VMT and ensure future mobility improvements. Therefore, the Commission recommends that the Governor and the Legislature enact legislation requiring the development of a 20-year transportation plan that contains strategies to control the growth in VMT.

Further, the Commission found that the State is not making transportation decisions based on realistic assessments of future funding or on quantified cost/benefit criteria. As a result, transportation projects take longer to build and cost more than necessary. The Commission recommends that the State establish a 20-year horizon for planning and funding the growth of transportation projects, and that the State develop cost/benefit criteria to evaluate projects.

In addition, the Commission found that the State has not been effective in developing high-speed train systems, thus preventing an alternative to a future of crowded highways and airways. The Commission recommends that the State award a franchise for the development of a high-speed train system and allow voters to decide whether to commit partial public funding for the system.

The Commission also found that Caltrans has not assigned project managers that are accountable for timely project delivery. As a result, projects cost more and take longer than necessary. The Commission recommends that the Governor issue an executive order requiring Caltrans to reorganize its district operations to ensure that a project manager is assigned to every major project.

Finally, the Commission found that many transportation officials had concerns regarding the Congestion Management Program. The officials believed that flaws in the program may defeat the program's goal of linking land-use decisions to the capacity of transportation systems. The Commission recommends that the Governor and the Legislature reform the program as part of growth management legislation in the 1992 session.

The State cannot afford to be satisfied with the transportation achievements of the past few years. By implementing the recommendations contained in this report, the State can regain transportation leadership, provide for long-term mobility improvements, save money, speed up project delivery and improve travel times.

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- rail vehicles (Government Code, Section 14038a) acquiring, leasing, designing, constructing, and improving track lines and related facilities (Government Code, Section 14038b), purchasing right-of-way and offering the property to cities, counties and transit districts (Streets and Highways Code, Section 2546) and acquiring abandoned railroad right-of-way by eminent domain (Streets and Highways Code, Section 2548).
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