STATE OF CALIFORNIA

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Executive Director

A STUDY OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION

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BY THE

COMMISSION ON CALIFORNIA STATE GOVERNMENT ORGANIZATION AND ECONOMY

MAY 1977

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May 1977

Honorable Edmund G. Brown, Jr.
Governor, State of California

Honorable James R. Mills
President pro Tempore, and to Members of the Senate

Honorable Leo T. McCarthy
Speaker, and to Members of the Assembly

Transmitted herewith is the report of this Commission's study of the California State Department of Transportation (Caltrans). Several events have occurred since 1973, when Caltrans was established, which drew our attention to the department and led to the study. Most important of these is the continuing debate over the adequacy of transportation funding; the failure of the State Transportation Board to produce a state transportation plan on schedule; the direction and management of the California Highway Program, the role of Caltrans in the urban areas, as exemplified by the Diamond Lane Program in Los Angeles; and the jurisdictional relationship between the Highway Commission and the department.

At the outset, the Commission recognized that Caltrans is an extraordinarily complex bureaucracy responsible for managing an equally complex technical process. In order to keep the endeavor within manageable bounds, the Commission chose in this study to examine those factors that relate to the department's ability to resolve transportation issues effectively. To this end, attention was particularly given to the formulation of transportation policies and their manifestations in the department's programs; accordingly, the report is focused on those considerations.

The Commission continues to express concern on the adequacy of the department's program in the identification and disposal of surplus highway right-of-way and the completion of gaps in the previous system. A supplemental report addressed to these programs will be released in the near future.

May 1977

The Commission Subcommittee chaired by Carmen Warschaw, and consisting of Senator Alfred Alquist, Assemblyman Jack R. Fenton, and Robert J. DeMonte provided policy direction and guidance to this study. Within study guidelines adopted by that Subcommittee, staff work was conducted by Arthur Bauer, Transportation Policy Specialist, on loan to the Commission from the Senate Office of Research. Mr. Bauer was assisted by Nancy Coss, Senate Office of Research; Natalia Kouyoumdjian, Assembly Office of Research; and Dr. David Jones, University of California at Berkeley, Institute of Transportation and Traffic Engineering.

The Commission feels confident that the findings and recommendations contained in this report will assist the Administration and department in achieving a more effective transportation system.

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Subcommittee Chairwoman

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*Appointed to the Commission on March 15, 1977, therefore, did not participate in the study.

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SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS:

1. The unusually long consensus between the executive and legislative branches of state government, the California Highway Commission and Caltrans that gave support and direction to the development of the California highway for a generation after World War II no longer exists.
2. The legal framework in which the Highway Commission and the department operate is so inadequate for a time of uncertainty over the direction of a state transportation program that the Commission can no longer effectively exercise its role as a transportation policy-setting entity. Caltrans has regularly ignored or contravened the actions of the Highway Commission.
3. The breakdown in the framework provided by consensus and law has allowed Caltrans to operate in a unilateral fashion during the past year without being subjected to the normal system of checks and balances, a privilege that no other department of state government enjoys.
4. The erosion of the institutional framework has strengthened Caltrans' monopoly on information regarding its program to such an extent that the integrity of the information is being questioned inside and outside state government.

5. The Highway Commission's narrowness of perspective and limited scope of authority render it incapable of fairly addressing multimodal transportation issues.
6. The State Transportation Board, being unable to provide strong, affirmative leadership in the development of the California Transportation Plan has abrogated that responsibility to the Secretary of Business and Transportation.
7. The state transportation planning process has suffered from the inattention of Caltrans management and has never been integrated fully into the ongoing activities of the Department.
8. Caltrans is reluctant to participate in mass transportation development because of an unclear mandate to develop and operate any transportation mode other than highways.
9. The senior career management of Caltrans has attempted, under a succession of Directors, to provide organizational stability by redefining the character of the highway program in light of fiscal constraints, community disenchantment with the program and widely expressed environmental concerns.
10. The department is so poorly organized that the senior operational managers of the department, especially the directors of Caltrans' eleven districts, are often uncertain where responsibility rests for various aspects of the Department programs and receive conflicting direction from Sacramento--all of which only exacerbates the traditional conflict between the districts and the central office.

11. The broad-ax approach mandated by personnel laws and regulations combined with the uncertainty in a new administration's transportation policies yield a reduction in the Caltrans' work force which when combined with a sudden shift in hampered program emphasis ability to carry out the 1976-77 budget.
12. The six-year highway program promulgated by the director offers no direction to Caltrans after 1982, thus eliminating any reasonable long-term program planning.
13. The allocation formulas for distributing gasoline tax revenue between the regions of California, among the Caltrans districts and the county minimum originated when the State was predominately rural and do not take into account the highway and urban transit requirements of today.

RECOMMENDATIONS:

1. The California Highway Commission, the State Transportation Board, the Aeronautics Board and the California Toll Bridge Authority should be abolished and their activities assigned to a California Transportation Commission.
2. Appointees to the Commission should include individuals, appointed by the Governor as well as by the Senate and the Assembly, who are not legislators.
3. The Director devote more attention to the internal organization of Caltrans.

4. An internal reorganization be undertaken of Caltrans that will remove the costly and unnecessary duplication of effort associated with the bureaucratic struggles between Financial Management, the Division of Highways, and Engineering and Operations.
5. The forecasting and cash management functions should be centralized into a single unit.
6. The Commission should have a small professional staff to provide it with an independent analysis of transportation issues.
7. The practice of continuously appropriating the State Highway Account Funds to the California Highway Commission should be discontinued.
8. The commission should be responsible for adopting a transportation plan, providing policy direction to Caltrans, and recommending to the Legislature and the Governor the department's annual budget.
9. The Legislature should budget funds from the State Highway Account for specific program categories, with responsibility for the selection of specific projects resting with the California Transportation Commission.
10. Caltrans retain outside technical expertise to review and where appropriate, reform its economic forecasting methods, revenue estimating process, and its accounting system.

11. The California Transportation Plan should contain both a near-term (four-year) investment program and a long-term (eight to ten years) transportation development program. The commission should annually or biennially update the plan.

12. The requirement that the Legislature adopt goals and objectives should be abolished and assigned to the Transportation Commission.

13. The California Transportation Plan should serve as a guide for this organization of work effort within Caltrans.

14. The Caltrans "needs study" and the other efforts to identify highway and local road needs should be broader to include other modes of transportation and be fully integrated into the transportation planning process.

15. The Secretary of Business and Transportation should immediately return the responsibility for transportation planning to Caltrans. In the absence of legislation to the contrary, the Department should resume the planning in such a fashion as to complement its activities and meet the requirements of law.

CHAPTER 1: An Overview of the Department of Transportation

The Mission of Caltrans

Transportation facilities are among the most ubiquitous of public investments. Individuals and corporate enterprises alike require an extensive network of streets, highways, freeways, airways and railroads to satisfy numerous personal and corporate uses. In 1974, over 24 billion trips were made over California's vast transportation network, consisting of 188,000 miles of public roads, 17,200 miles of publicly provided bus routes, 430 miles of rail transit, 10,000 miles of interregional bus routes and 2,009 miles of interregional passenger rail routes. Automobile usage accounts for 95 percent of the individual trips, while only 4 percent is by mass transportation.

Nearly 99 percent of all individual trips, including mass transit trips, are made on the lattice of freeways, streets and roads that ties California together. While the 15,000 miles of roads owned by the State of California constitutes only 9 percent of the publicly owned roadway mileage in the state, it carries 53 percent of the vehicle miles traveled on roads. Moreover, 37 percent of this travel is on the 5,300 miles of state freeways.

Responsibility for planning, designing, constructing, operating and maintaining the state's highway system resides with the California Department of Transportation (Caltrans). Caltrans' lineage can be traced to the Bureau of Highways created in 1895. The California Highway Commission was established in 1917 to oversee highway development. At that time the Department of Public Works was established and the highway program was incorporated in the department's division

of Highways. In 1973 the Department of Public Works and the Division of Highways was abolished and a multimodal Department of Transportation was established. The new department continues to have extensive highway development responsibilities, as well as new but less extensive responsibilities in mass transit, transportation planning and aeronautics. In carrying out its mission, Caltrans is engaged in building, maintaining, and operating a vast highway network; participating with local governments in developing mass transportation systems; seeking to express statewide transportation aspirations through an ongoing planning process; and administering a limited aeronautics program. In managing these activities, the department has evolved into a large, complex organization.

Departmental Structure

Currently, Caltrans employs approximately 13,984 persons and has an operating budget slightly in excess of $1 billion. Approximately 95 percent of its budget is devoted to the highway program with the remainder distributed among mass transportation, aeronautics, planning and general support. Caltrans is one of 13 departments and major activities in the Business and Transportation Agency. The California Highway Patrol and the Department of Motor Vehicles are the agency's other two departments which have transportation-related responsibilities. The Director of Transportation is appointed by the Governor and confirmed by the Senate. Policy direction is, of course, received from the Governor and the Legislature. However, equally important in establishing departmental policies are the California Highway Commission, the State Transportation Board and the Departmental advisory committee. A lesser role is exercised in policy determination by the State Aeronautics Board and the California Toll Bridge Authority.

As of December 1976, three major organizational subdivisions exist within the Department (See Chart 1). The subdivisions are Planning and Programming, Engineering and Operations, and Administration and Legal Affairs. Although the latter performs for the most part, its housekeeping functions, Legal Division is quite significant. Because of the potential financial impact of condemnation suits and the increasing number of tort actions against Caltrans, the successes and failures of the Legal Division can be important to the department's fiscal well-being.

The Engineering and Operations subdivision is the center of activity in Caltrans. The Chief Engineer, who is also a deputy director, is responsible for the overall performance of Engineering and Operations. The Divisions of Maintenance and Operations, Project Development, Right-of-Way, and Structures and Engineering are the principle work units within Engineering and Operations. The directors of the 11 Caltrans districts report to the Chief Engineer (See Chart 2). The bulk of the Department's activity, the highway program, is the principle responsibility of the Chief Engineer.

Planning and Programming is the newest subdivision, established in December 1976 and for which a Deputy Director was appointed in January 1977. The Divisions of this unit -- Aeronautics, Highways, Mass Transportation, and Transportation Planning -- are manifestly uncertain as to their roles and responsibilities in Caltrans. The uncertainty is due in large measure to an expectation that the emergence of Caltrans as a true multimodal transportation agency will depend on these divisions. As will be seen in later chapters, this expectation remains unfulfilled.

December, 1976

CALIFORNIA
DEPARTMENT OF TRANSPORTATION

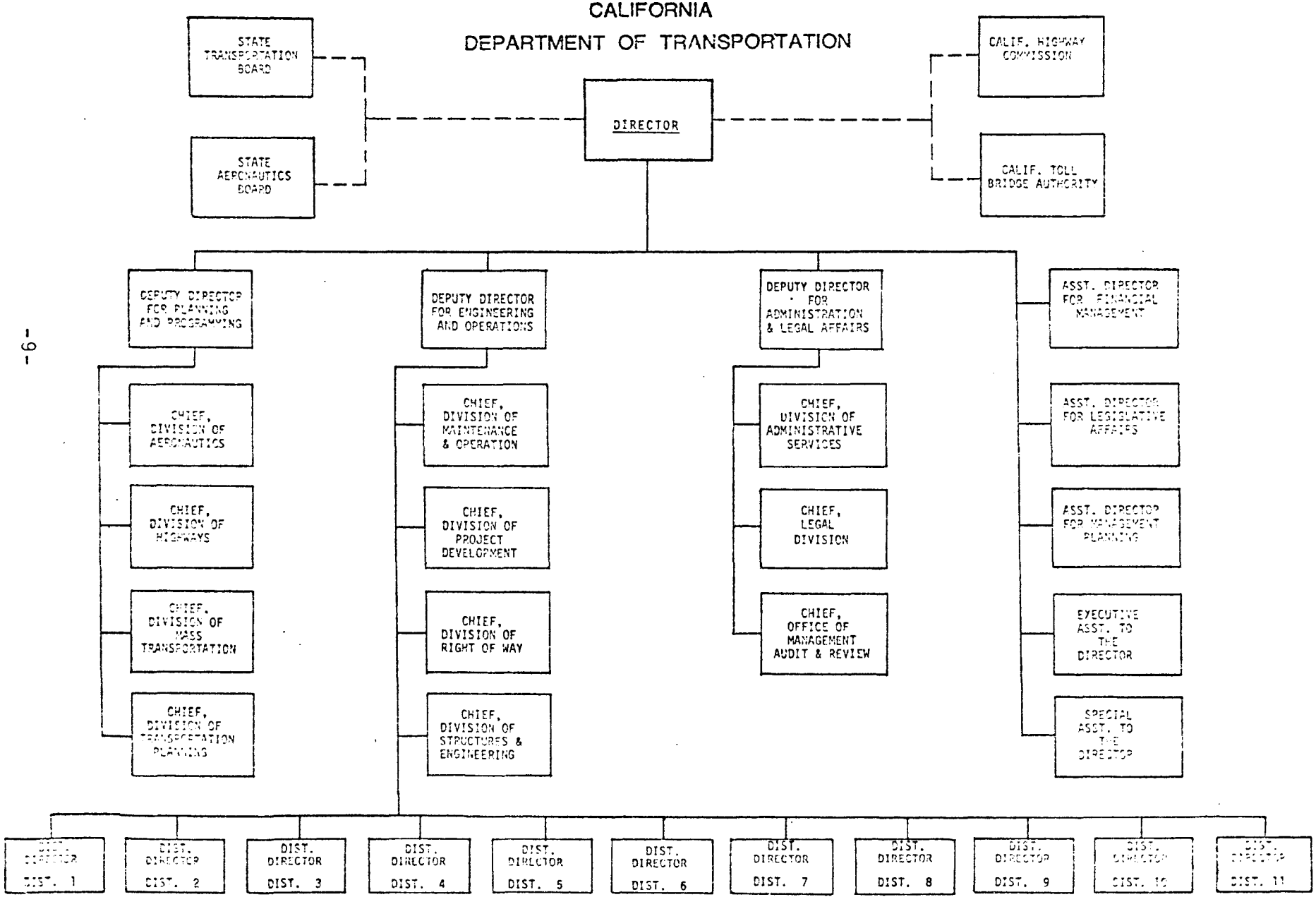


Chart 1

Chart 2

CALTRANS DISTRICT BOUNDARIES

The Divisions, all of which are mandated by statute, have encountered problems to varying degrees in carrying out their responsibilities. The Division of Transportation Planning became embroiled in a controversial planning endeavor. The Division of Mass Transit has had difficulty conceptualizing its role and has encountered institutional opposition whenever it attempted to carry out specific program activities. The Division of Highways (not to be confused with Caltrans' predecessor) is broadly responsible for developing the annual highway program elements such as new facilities, maintenance and environmental mitigation. But the division has assumed certain day-to-day responsibilities for management of the highway program which are presumably beyond the original intent of the division's role. The problems this has created are discussed below.

An important Caltrans work group, which is not included in the major subdivisions, is Financial Management. Financial Management is administered by an Assistant Director who is directly responsible to the Department's Director. It is responsible for developing departmental fiscal policy, the department's annual budget and the capital budget for the highway program. Financial Management is not statutorily mandated; it was created by administrative action in 1974 and its existence is a source of major aggravation within the department.

Organizational Inadequacies

A significant shortcoming in the management of Caltrans is the Director's failure to clearly identify the organizational responsibilities of Financial Management, and the Division of Highways, and Engineering and Operations. Frequently, conflicts arise between these three units over the management of the highway program. These conflicts are most

visible in the district offices where the highway program is actually managed. On occasion, teletype instructions from one unit are contravened by one or both of the others. The practical effect of this confusion is to place the burden for coordinating the central office activities upon the districts, a costly and unwise practice as it serves only to reduce the effectiveness of the organization.

The source of this conflict is found in a redundant process for clearing the initiation of work on highway projects budgeted by the Highway Commission. The Chief Engineer, in his capacity as Deputy Director for Engineering and Operations, is responsible for managing the implementation of the highway program. However, the Division of Highways which is primarily responsible for developing the annual highway program for purposes of budget development is also involved with project scheduling and project authorization. Moreover, Financial Management is responsible for reviewing projects as to their readiness for advertising for bids and for managing the advertising schedule.

The burden on district management is significantly increased. In preparing a project for advertising, the districts must regularly communicate with the Divisions of Right-of- Way and Project Development, both of which are under the Chief Engineer. They must also deal with Financial Management and the Division of Highways. The information used by the latter two divisions in managing those aspects of the highway program implementation for which they have responsibility is frequently developed in Engineering and Operations. This creates an intolerable dilemma for the district directors; to whom are they responsible? The Chief Engineer or the Assistant Director for the Division of Highways or Financial Management? Finally, where does

responsibility for the management of the highway program rest: the Chief Engineer, the Assistant Director for the Division of Highways or the Assistant Director for Financial Management?

Another area of unnecessary division of responsibility is found in economic forecasting. All the forecasting activities are located within Financial Management. Long-range economic forecasting and long-range revenue projections are done by the Office of Departmental Budget, while cash forecasting and cash management are in the Office of Capital Budgets. As is explained in Chapter Three, considerable controversy has swirled around the Department's revenue estimates and forecasts of long-range economic performance. It is difficult to identify clearly responsibility for forecasting. Moreover, forecasting is important to many units in Caltrans as well as to outside interests concerned with the activities of the Departments, and clear identification of which unit is responsible for forecasting might contribute to allaying fears regarding integrity of forecasts.

Boards and Commissions

The boards and commissions which oversee the activities of Caltrans have varying degrees of responsibility. The responsibilities of the Boards and Commissions are as follows:

CALIFORNIA HIGHWAY COMMISSION:

Public Financing and Budgeting Authority for Transportation

- Adopts annual budget for revenues in the State Highway Account, allocating funds for such purposes as research, planning, design, rights of way, construction, landscaping, maintenance and administration of highways, busways, bikeways and mass transit fixed guideways.

- Approves adjustments to the annual budget.
- Allocates the State Highway Account's pro rata share of funds to the Transportation Planning and Research Account.
- Approves investment plans for temporarily unused State Highway Account funds.

Other Statutory Transportation Roles:

- Selects, adopts, and determines location for state highways on routes authorized by the Legislature.
- Authorizes preliminary surveys to determine advisability of including any highway in State Highway System.
- May change or alter location of any state highway on routes authorized by the Legislature.
- Adopts resolutions for public road connections to freeways, abandonments and relinquishments, and right-of-way condemnations.
- Approves director's deeds, and conveyance of rights-of-way to federal government.
- Accepts federal grants on U.S. property.

STATE TRANSPORTATION BOARD

Public Financing and Budgeting Authority for Transportation

- Allocates annual appropriations in the State Transportation Planning and Research (TP & R) Account and reviews expenditures; advises the director on the annual report for the TP & R Account revenues and expenditures.
- Reviews Caltrans annual budgets for consistency with the California Transportation Plan and transmits budget to the Department of Finance.
- Reviews requests for transit funding from the State Highway

Account for conformance with the adopted regional transportation plans and the California Transportation Plan prior to California Highway Commission budget action.

- Requests and reviews reports from the director and others on public financial participation in transit system development.
- Provides advice and consent to the Secretary of Business and Transportation on the state's regulations for the use of the local transportation funds by California's transit districts and local governments.

Other Statutory Transportation Roles:

- Advises and assists the Legislature and the Secretary of Business and Transportation in formulating and evaluating state policy and plans for transportation.
- Adopts policy guidelines for regional transportation planning agencies to prepare their regional plans.
- Adopts a California Transportation Plan after providing progress reports to the Legislature, holding public hearings and resolving conflicts.
- Monitors progress on implementation of the adopted California Transportation Plan.
- Reviews and makes recommendations to the Legislature and to the Secretary of Business and Transportation on various regional and statewide master plans for transportation as well as other types of regional and statewide plans regarding their transportation implications.

STATE AERONAUTICS BOARD

Public Financing and Budgeting Authority for Transportation:

- Adopts that part of the annual State Aeronautics Program Budget that is for local subvention discretionary funds, and allocates these monies to local agencies for airport development and improvements. (State Aeronautics Account Funds for local subvention are continuously appropriated by the Legislature.)
- Approves adjustments to the above portion of the Aeronautics Program Budget.

Other Statutory Transportation Roles:

- Advises and assists the Director in all matters relating to aviation.
- Hears appeals from the public on Department of Transportation's Aeronautics Program actions.

CALIFORNIA TOLL BRIDGE AUTHORITY

Public Financing and Budgeting Authority for Transportation:

- Authorizes revenue bond sales, terms and conditions on toll facilities (usually supported by specific legislation).
- Sets and adjusts toll rates except in the San Francisco Bay area where such responsibility rests with the Metropolitan Transportation Commission.

Transportation Regulatory Authority:

- Prescribes conditions of use for toll facility and the issuance of permits.

Other Statutory Transportation Roles:

- Authorizes building or acquiring of toll facilities (usually supported by specific legislation).
- Adopts resolutions for relinquishment, right-of-way condemnation

and abandonment.

- Approves director's deeds, and the conveyance of right-of-way to federal government.
- May operate transportation facilities on toll facilities.

The Boards and Commissions, especially the Highway Commission, the State Transportation Board and the Aeronautics Board, behave as advocates for specific transportation modes. The Highway Commission advocates highway development, although it does have important guideway transit responsibilities. General aviation (101,577 general aviation pilots are licensed in California) has a persistent advocate in the Aeronautics Board. The State Transportation Board has usually given expression to urban interests, concerns for better mass transportation and more careful attention to multimodal consideration in transportation planning and development.

Considerable attention has been given to the notion of abolishing the department's four principle policy boards and creating a transportation commission. In 1975, the Business and Transportation Agency commissioned a consultant to review the matter. It was recommended that the Highway Commission, the State Transportation Board and the Toll Bridge Authority be merged into a California Transportation Commission. A November 1976 Caltrans evaluation of the Aeronautics Board concluded that the Aeronautics Board should be merged into a multimodal transportation commission. This interest has been shared by the Legislature as well. Legislation abolishing the four policy bodies and creating a Transportation Commission, Senate Bill 441 (Alquist), failed to pass the Senate in 1976. A similiar measure, Senate Bill 113 (Alquist), has been introduced this year. This concept is also included in

Assembly Bill 402 (Ingalls).

Issues Associated with the Consolidation of Boards and Commissions

Four issues are usually raised with the notion of consolidating boards and commissions: modal advocacy, independent staffing, excessive workload and acting as a legislative surrogate.

(a) Modal Advocacy

Modal advocacy is usually expressed in terms of a commission ensuring that existing funding levels are maintained for a particular mode and that new funds are sought to provide increased sustenance to the program. Modal advocacy may include an expression that the users of a mode have unique knowledge not easily understandable to non-users regarding its desirability and performance. Essentially, modal advocates fear that insufficient concern for the well-being of a particular mode will be lost in the Transportation Commission's efforts to give due consideration to other modes.

(b) Independent Staff

Another concern has been the appropriateness of providing a Transportation Commission with an independent staff. The Transportation Board has been Caltrans' only policy body that has had its own staff: a four-person professional staff plus clerical support. The staff has frequently identified issues which were overlooked during the planning process. The Highway Commission has no independent staff, although the Commission is not precluded by law from providing itself with a staff. Typically, the Commission has "borrowed" Caltrans employees when it needed to develop its own program. This arrangement has worked well as long as there has been a broad consensus supporting the highway

program. Because of the recent conflict over the program, the consensus is now broken and the Commission has been reluctant to use Caltrans staff.

It is difficult to say whether the Transportation Board's staff has had an important influence in the board's performance. At times in board meetings, the staff has been useful in clarifying issues. A common criticism by departmental staff, legislative staff and others, however, is that its reports have frequently been unduly pedagogical. Caltrans, particularly the Division of Transportation Planning, contends that the Board's staff engaged in unnecessary meddling in its relationship with the board, especially at times when DOTP was attempting to obtain a consensus with the board on the planning process. However, oversight by a staff to the Highway Commission may have made a significant difference in the commission's ability to respond to the Department during the recent debates about the six-year program and the 1977-78 budget. The Commissioners generally felt that because of the complex issues involved with developing the program and the budget, an independent staff would have put the commission on an equal footing with Caltrans.

(c) Excessive Workload

An argument often made by members of the Highway Commission is that a consolidated California Transportation Commission would overburden the members and they would be unable to perform in a thoughtful manner. Several members of the Transportation Board felt the opposite. Both the board and the commission have had self-imposed workloads that are heavy. However, there is a reciprocal relationship between planning and budgeting activities. If they were well managed by Caltrans and by a consolidated

commission, it is unlikely that the expanded workload would be excessive.

(d) Surrogate for the Legislature

The Highway Commission frequently refers to itself as a surrogate for the Legislature because it budgets highway funds, an action analogous to the Legislature's budgetary responsibilities. There is an element of myth to this. After all, the Commissioners are appointees of the Governor and usually go through only a perfunctory confirmation proceeding in the Senate. This procedure is applied to numerous commissions in state government as well as senior executive branch officials. Moreover, given the lack of consensus regarding the nature of California's transportation program, it's unlikely that the Legislature as a whole would look upon the Commission as its surrogate.

The State Transportation Board has never considered itself a surrogate for the Legislature. However, it is very much aware of its legislative charge to advise the Legislature on transportation matters. Although the Board members are appointed by the Governor and confirmed by the Senate, the Speaker of the Assembly and the Senate Committee on Rules each appoint one member from their respective houses to serve on the Board as non-voting members. The press of legislative business frequently precludes both representatives from attending Board meetings.

CALTRANS FUNDS

Caltrans receives funding from both the state and federal governments. State sources include state government's 3.61 cent share of California's

7 cent gas tax (local governments receive the remaining 3.39 cents) and the entire 7 cents levied on diesel fuel. Acticle XIX of the California Constitution requires that gas tax funds be used for the construction, maintenance and operations of highways as well as for the construction of guideway transit. For the 1976-77 fiscal year the State gas tax will provide Caltrans with about $439 million. Caltrans also receives funds from the Motor Vehicle Account which includes revenues collected from truck weight fees and vehicle registration fees. These are "spill-over" funds, available to the department only after allocations are made for the operations of the California Highway Patrol, the Department of Motor Vehicles and the Air Resources Board. It is estimated that Caltrans will receive $45 million from this account for the current fiscal year. Because of the claims of the other agencies, Caltrans does not anticipate receiving funds from this account in the future unless there is an increase in the weight fees.

In addition to the state's gas tax, motorists pay 4 cents per gallon into the Federal Highway Trust Fund. California receives in return about 60 percent of the $400 million annually sent to the federal government. That money does not automatically return to the state as cash, but as part of an annual apportionment based on matching funds provided by California. The state has four years in which to obligate the money by beginning work on eligible projects. The state is reimbursed in cash by the federal government as work is completed. In 1976-77, the state's apportionment is $503 million.

The federal aid program has undergone considerable transformation in

recent years. When it was first established in 1956, it had only four programs; today it has been fragmented into nearly 30 program elements. Many of the elements are irrelevant to California. In addition, beginning in 1973, federal funds formerly available to the state highway program flow directly to local government. This amounts to approximately $90 million annually, appropriated by the legislature. An important feature of the funds going to local government is the flexibility governing their use. They can fund either roadway projects or capital outlay for transit improvements.

State funds, intended for capital outlay, including all federal funds, must be distributed on the basis of three formulas. The formulas are as follows?

North-South. The law divides the state into two groups: 13 counties in the south and 45 in the north. Each year state highway construction and right-of-way funds must be apportioned so that 60 percent is expended in the south and 40 percent in the north.

District Minimums. During designated 4-year periods, minimum construction and right-of-way expenditures must be made within each Caltrans district within each county group.

County Minimums. Over the same 4-year periods, the state must spend not less than $4 million in each county, except in Alpine and Sierra counties for which the minimums are $3 million. Expenditures on Interstate Highways do not count toward satisfying county minimums.

The county minimum and the north-south split are designed to ensure tax equity, as no needs test is applied to their distribution.

District minimums, however, are derived from a needs study and ensure that a minimum amount of funds are spent in each Caltrans district on the basis of relative need.

The formulas were developed when California was a rural state with only two counties, Los Angeles and San Fransisco, having a population in excess of 500,000 persons. These formulas now work against the urban counties, particularly in Northern California where $154 million must be allocated to the 39 rural counties as a result of county minimums. Frequently, the department has found it difficult to spend $4 million over four years in some rural counties. On the other hand the $24 million that is required as a county minimum in the six counties over 500,000 does not begin to meet their transportation needs.

When the sales tax was extended to the gasoline sales in 1971, a modest amount of money has been made available to the department for multimodal transportation purposes. This has amounted to approximately $44.5 million since 1974. These funds are significant as they have been used to support programs intended to shift the department's perspective in a multimodal direction. Among the uses to which the funds have been put are transportation planning, bikeway development, AMTRAK service and railroad grade separations.

The highway program has in recent years been caught in a cost-revenue squeeze. During the 1960's, gas tax collections and vehicle registration fees grew at a rate commensurate with the cost of highway maintenance and construction. But in the late sixties and into the seventies, highway construction and maintenance costs far outpaced the growth rate of revenue from gasoline taxes and motor vehicle fees.

The buying power of the construction dollar was severely cut by a 125 percent rise in the highway construction index between 1967 and 1976 This trend was exacerbated by the fuel shortage of 1973-74 which depressed gasoline sales and tax revenue for approximately a year. Although gas tax collections have recovered, they are still not increasing at a pace sufficient to keep ahead of escalating maintenance costs. Because the gas tax is levied on the gallons purchased and not the amount of the sales, the tax is insensitive to inflation. Finally, expenses for the Highway Patrol, Department of Motor Vehicles and Air Resources Board are increasing at a rate that means that the revenues available to Caltrans from the Motor Vehicle Account will no longer be available by fiscal 1977-78 -- a sharp contrast with the $100 million transfer in the 1969-70 fiscal year.

Caltrans Personnel

Because of the depletion of fiscal resources, Caltrans has suffered a self-imposed depletion of personnel. Between July 1975 and July 1976, Caltrans lost some 2,700 of its 17,000 employees through layoffs and forced attrition. The intent was to achieve economies in personnel and administration that would free funds for capital outlay and stabilize manpower on a level proportionate to the reduced program of capital development.

The layoffs and attrition took their heaviest toll among assistant and associate engineers and right-of-way agents. Because the engineering classification includes personnel assigned to a wide range of branches at the district level, layoffs on a statewide seniority basis, as required, were insensitive to the changing program emphasis. Although the program was evolving toward a

greater emphasis on low-capital and operational improvements, the Traffic Operations Branches of the urban districts were the most heavily affected of district functions. This is due to the lower seniority of the traffic engineers manning this branch compared to the civil engineers in Project Development.

The layoff was carried out under civil service rules which are sufficiently complex and archaic to prevent management from explaining the procedures to staff, making it virtually impossible to demonstrate a logic based on fairness and good will. The same rules made functionally programmatic cuts impossible as well.

The layoff left Caltrans with a mismatch between staff skills and program activities. For example, the skills mix of the two largest urban districts (District 4 in the San Francisco Bay Area and District 7 in Los Angeles) are inconsistent with the new emphasis on low-capital and operational improvements, resulting in a substantial slippage of projects programmed for early implementation. District 7 in particular is having a difficult time in meeting its existing workload because it is short 22 transportation engineers. Additionally, the work generated by a larger program on the proposed Bus-on-Freeway Transit Program for Los Angeles might require 71 or more additional Assistant Transportation Engineers.

FUNCTION VS. MODE

An issue that has received considerable attention among those interested in the provision of transportation services is the manner in which a transportation department should be organized. One school of thought suggests that the best way to organize is around transportation modes such as air, highways and mass transit. It is argued that

planning should be done by mode and funds should come from separate modal categories. A fundamental assumption underlying this concept is that the historical domination of surface transportation by highway interests will prevent consideration being fairly given to mass transportation unless it has its own unique organizational advocates and its own separate category of funds.

The alternative argument holds that what is important in the development of a comprehensive transportation system is how effectively it responds to travel demands. It will be self-evident under a particular set of circumstances what modes would most appropriately satisfy demand. The deterrent to this happening is the categorizing of funds by modes. If there is an interest in balanced transportation, removal of these restrictions, it is argued, would ensure the fulfillment of the functional ideal without penalizing a given mode.

Caltrans is a compromise between the two points of view. Practical politics required the retention of the modal divisions -- Aeronautics, Highways and Mass Transit. The Engineering and Operations subunit is considered to be a functional unit and is supposed to be able to address engineering needs of any transportation mode. Legislation enacted in 1975 permits Caltrans to contract with a transit district to perform certain engineering and design functions which would be the responsibility of Engineering and Operations. Within the department, however, it remains an undisputed fact that Engineering and Operations is the highway program. The Division of Transportation Planning was to have provided long-term planning for all modes; it has been unable to successfully do this. The Division of Mass Transit, a modal division, has had a very difficult time, as will be seen in Chapter 4, in obtaining cooperation from the districts which are

organized functionally but hold a strong bias in support of the highway program.

The creation of governmental departments, or subunits within departments, to advocate certain programs is a common practice arising from the demands of interest groups. This, of course, is reflected in Caltrans. The concept of modal advocacy is further strengthened by the separate boards and commissions organized around a particular mode. Creating a functional department with the existing arrangement of boards and commissions would not serve to promote modal integration. If a department were organized functionally and if a Transportation Commission were created, any institutionalized modal advocacy would disappear and the department would undoubtedly drift toward the program with which it feels most comfortable, the highway program.

If the importance of both advocacy and modal integration is acknowledged, the internal arrangements of Caltrans is reasonable, except that the urban districts should develop mass transit branches. However, the present arrangement of boards and commissions does little to encourage an integreted transportation system characterized by complementary modal developments. The politically sensitive issues accompanying multimodal transportation development are probably better resolved at the commission level and not within the department.

CONCLUSIONS AND RECOMMENDATIONS

It has been nearly four years since the Department of Transportation was established. During this time, Caltrans has been led by four directors, who generally have been more concerned with the politics of transportation than with the internal operations of the department.

Consequently, one of the more glaring management failures has been the lack of attention given to the conflicts between Financial Management, the Division of Highways and Engineering and Operations. Another area where inattentive management has damaged departmental performance, as will be seen in Chapter 4, is the administration of the transportation planning process. A third inadequacy is the organization for economic forecasting and cash management. These two closely related functions are bifurcated in Financial Management. Consolidation of these functions would clearly identify where responsibility for this important activity rests and would allow for easier general as well as professional scrutiny. Creating the Planning and Programming subunit in December 1976 was very appropriate. Its creation, however, underscores management's inattention to organized matters. The concept was discussed and generally agreed upon nearly a year ago. It was followed by a protracted recruitment process, characterized by uncertainty as to the desirable qualifications of the individual to fill it.

If the public's aspirations for efficient management in government are to be realized, a department with annual budgets regularly in the neighborhood of $1 billion, such as Caltrans, requires attentive, skillful management.

Although Caltrans is called a department of transportation, it remains as a practical matter, a highway department. Several steps must be taken to overcome this. Perhaps the most important of these is the creation of a California Transportation Commission. Failure to create such a commission only contributes to costly internal conflicts and hinders the emergence of a transportation department.

The Commission makes the following recommendations:

1. The Director should correct the internal organization of Caltrans to remove the costly duplication of effort associated with the bureaucratic struggles between Financial Management, the Division of Highways and Engineering and Operations.
2. Forecasting and cash managment functions should be centralized into a single unit.
3. The Legislature should abolish the California Highway Commission, the State Transportation Board, the Aeronautics Board and the California Toll Bridge Authority and create a California Transportation Commission to assume their duties.
4. Appointees to the new Commission should include individuals, appointed by the Governor as well as by the Senate and the Assembly, who are not legislators.
5. The Commission should retain a small professional staff so that it could make an independent analysis of transportation issues.

CHAPTER 2: The Cost-Revenue Squeeze in the Highway Program

A persistent theme heard in any discussion of the highway and recurring in this report is the cost-revenue squeeze. Throughout this report, the problem is cited as a major force afflicting the nature of California's highway program. Of course it has contributed to the lay offs of 1975-76, and it has been an important factor in the changing emphasis of the highway program. In fact, at one point prior to the lay offs, Caltrans officials used the word "bankrupt" to describe the condition of the State Highway Account. It is appropriate to ask, "how can this be?" Highway programs have traditionally been "rich" by public sector standards and they are financed by the "perpetual motion machine" of gas tax revenues which, in the popular view, are generated by building more freeways and on and on in a continueing cycle. So how can the program be "broke"? And is it really broke, or just appropriately "lean"?

This chapter examines the cost-revenue squeeze on the highway program by examining the behavior of the gas tax as the economy fluctuates, the impact of inflation on the gas tax and the impact of the distribution formulas on the ability to match needs with available revenues.

REVENUES AVAILABLE FOR STATE HIGHWAY CONSTRUCTION

State Highway Account revenues are generated by a per gallon tax on motor vehicle fuel sales, vehicle licensing and registration fees, as well as funds available to California from federal aid to highway programs. The amount of revenue available for construction activities is determined by the following: the gasoline tax rate, the volume

and growth rate of gasoline sales and motor vehicle registrations, the rules and procedures governing the uses to which federal funds may be put, and prior claims on the highway account.

The sources of the cost-revenue squeeze in highway finance are numerous. Perhaps the most obvious is that the tax rate on the state's share of the gas tax has not been increased since 1953. Moreover, the sales of taxable fuels have been sluggish in the wake of the 1974 Arab oil embargo. When gasoline sales declined, although sales have recovered, their growth rate has not returned to the level of the 1960's when the growth in gasoline sales outpaced the rate of inflation. Two other factors account for the slower rate of growth in gasoline sales: the slowing of California's population growth rate and the improved fuel economy of new cars.

Another factor, unrelated to the performance of the economy, is modification of federal-aid programs which have reduced the funds available to Caltrans for construction on the state highway system. California has traditionally been a "donor" state in relation to the federal aid program. The state's motorists contribute 10.3 percent of the federal gas tax revenues which make up the Highway Trust Fund but the state receives back only 6.0 percent of the trust fund expenditures. Changes in the 1975 Highway Act have not altered California's position relative to other states, but they did redistribute funds among federal programs in a fashion that gives local government control over highway funds that had previously been programmed by the state. Expenditure of these funds is decided collectively by the cities and counties. The consequence of this policy is that fewer funds are being used on the state highway system.

In addition, revenues once available for the construction of new highways are being claimed for other purposes. For example, the other program areas taking an increasing share of the state highway fund include:

- Caltrans' own maintenance and rehabilitation activities which have increased in cost with the aging of the highway system.
- The use of gas taxes for mass transit guideways.
- The expense of operating the Department of Motor Vehicles, the California Highway Patrol and the Air Resources Board has reduced the transfer of revenues to nearly zero from the Motor Vehicle Account to the Highway Account.

The interaction of all of these factors means that the revenues available for new construction and federal matching are declining. Even if no funds are used for quideway transit, an unlikely event, as will be seen in Chapter 5, Caltrans projects that only $100 million will be available for matching purposes in 1981. This compares with $400 million available for matching and capital outlay in fiscal year 1970.

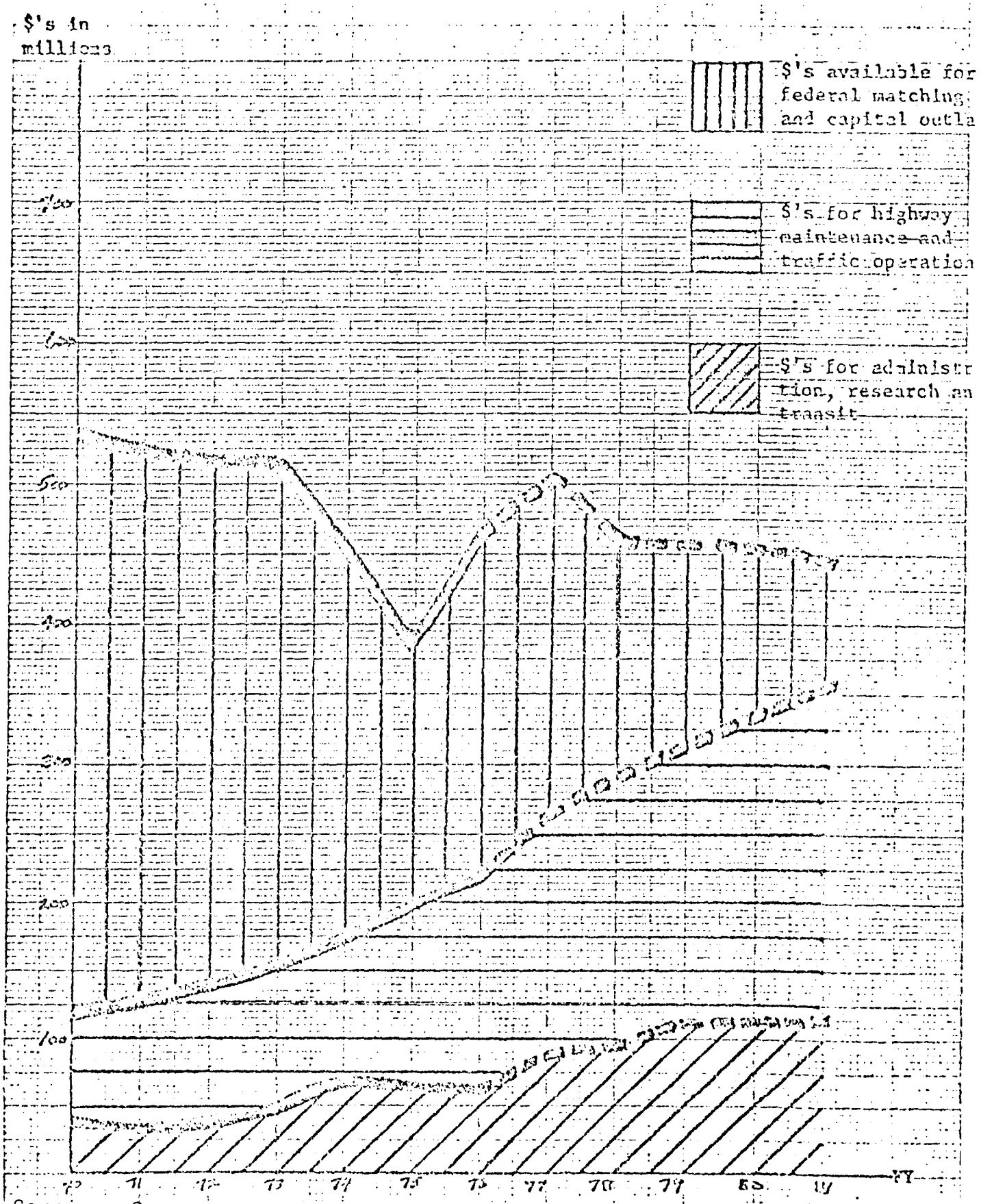
The squeeze on revenues available for capital outlay and matching is shown in Chart 3.

The same trend is evident in the combined total of state and federal dollars programmed for major construction projects. Expenditures for major construction has dropped from $612 million in 1967 to $378 million in 1976, as shown in Table 1.

The "Squeeze" on Funds Available for Federal Match

California: FY 1970-1981

HIGHWAY PROGRAM $'s



Source: Correspondence from Robert Adams, Assistant Director for Financial Management.

TABLE 1

Expenditures for Major Construction

Fiscal Year	Current $'s (millions)
1966-67	612.4
1967-68	680.2
1968-69	700.7
1969-70	701.0
1970-71	631.1
1971-72	581.8
1972-73	607.5
1973-74	449.5
1974-75	428.1
1975-76	377.5

Source: California's Highway Program in the Seventies: A System in Jeopardy, Richard M. Fettel

The stagnation in the growth of highway revenues and the preemption of funds that were once available for construction offer only a partial explanation of the cost-revenue squeeze in highway finance. Another, almost critical factor is inflation.

THE DECLINING BUYING POWER OF AVAILABLE REVENUES

If the decline in major construction activity has been significant, the decline in the real buying power of those funds has been precipitous.

Table 2 illustrates the real or deflated value of the 1966 dollar's buying power:

TABLE 2

Current and Deflated Construction Expenditures

Fiscal Year	Current Dollars (millions)	Deflated Dollars (millions)
1966-67	612.4	612.4
1967-68	680.2	667.5
1968-69	700.7	659.8
1969-70	701.0	615.5
1970-71	631.1	511.8
1971-72	581.8	436.1
1972-73	607.5	433.9
1973-74		
1974-75	428.1	237.4
1975-76	377.5	186.4

Source: Same as Table 1.

The reason for this loss in real buying power is the punishing impact of inflation on the highway construction dollar. Inflation has hit the highway program far harder than consumer durables and other goods. Thus, when we compare trends in the consumer price index and the construction price index, we find that in the seven years between 1967 and 1974, consumer prices increased 48 percent while construction costs increased 128 percent. These trends are shown in Table 3.

TABLE 3

Inflation: 1967-1976

Consumer Price Index		Wholesale Price Index	Caltrans Construction Cost Index
1967	100.0	100.0	100.0
1968	104.2	102.5	103.6
1969	109.8	106.5	107.0
1970	116.3	110.4	121.5
1971	121.3	113.9	136.0
1972	125.3	119.1	150.7
1973	133.1	134.7	150.6
1974	147.7	160.1	228.7
1975	161.2	174.9	225.7
1976	170.5	182.9	225.4

Source: Same as Table 1.

Price inflation in construction has been intense for several reasons. Highway construction prices reflect the 1974 boost in petroleum prices because asphalt and bituminous products are petroleum-based. Highway construction prices also reflect the slump in the construction industry -- a slump which led construction trade unions to seek higher wages to recover income lost due to unemployment. To keep pace with these inflationary pressures, the state gasoline tax would have had to be increased to some 18 cents per gallon from the current level of 7 cents.

To thoroughly grasp the extent of the damage which inflation inflicted on the highway construction program as compared to other state programs, it is essential to understand how and why the gas tax mechanism behaves differently from the general revenue sources that supply the majority of California's tax revenues. Both sales and income taxes are collected on the basis of a percentage of the value of sales or personal income. The income tax is graduated so that the percentage tax rate increases progressively with the level of personal income. The sales tax is a fixed percentage of the purchase price.

Inflation causes the tax collections from these revenue sources to increase without an increase in tax rate. In the case of the sales tax, this effect is relatively straightforward: the higher the cost of a commodity, the more tax collected, hence, inflated prices mean inflated tax collections. The same principle is at work in the case of income taxes, but with an added wrinkle. As in the case of sales taxes, inflation increases the tax collected due to the higher wages that are commanded by wage earners as adjustments to inflation. But higher wages can also move the

wage earner into a higher tax bracket where the percentage tax rate is higher. This amounts to a de facto increase in tax rate--one that is accomplished by inflation rather than by legislative action.

The gas tax mechanism, however, does not have a comparable built-in inflation adjuster. Tax collections fluctuate with the gallonage of gasoline sold, rather than the cost of supplying the highway product. Due to the sluggish growth of gasoline sales, the gasoline tax had (in terms of real, deflated dollars) actually declined since 1974. Thus, the failure to increase the gas tax rate is, in a very real sense, a de facto decision to reduce the highway program's share of the state's budget.

Does this mean that California "needs" a gas-tax increase? That conclusion is a policy judgement that is beyond the scope of this Commission's analysis. But we can provide background on what should be considered in reaching a judgement about the "appropriate" level of taxation. One of those issues is the magnitude of highway "needs" and the other is the ability to match dollars and needs given the current constraints on the expenditure of highway funds.

Matching Dollars and Needs: Constraints on the Effectiveness of Available Dollars

The priorities for highway investments and their programming for construction is structured by legislative formula which distributes gas tax revenues on the basis of: the north-south split, the district minimums and county minimums as described in Chapter 1.

There is little dispute that formula apportionment diminishes the cost-effectiveness of the highway dollar on a statewide basis. For example, a consulting firm retained by Caltrans, McKinsey & Co., found that the problems being "solved" by highway construction in Los Angeles are generally more severe than the problems that are being solved in the San Francisco Bay Area or San Diego.

The following table shows the percent of 1973 program projects that were proposed to deal with problems that might be called "less than severe at present".

District	Percent where safety index equalled 0	Percent where delay index equalled 0	Percent where capacity adequacy rating was less than 100
District 4 (San Francisco)	45	40	55
District 7 (Los Angeles)	10	5	40
District 11 (San Diego)	40	30	40
Statewide	30	50	45

The table shows that San Francisco and San Diego were planning to invest in projects to serve future demands while Los Angeles was struggling with a larger backlog of "now needs". Cost-effectiveness would argue for a redeployment of funds from San Francisco and San Diego to Los Angeles, if these data are still reliable. (Because the "Needs Study" currently being completed is based on "now needs" only, the district minimums would shift district shares in that direction if they were not constrained by the north-south split.

But at the same time, the maintenance and rehabilitation requirements

of the highway system are more pronounced in Northern California where inclement weather has more severe consequences. Cost-effectiveness would therefore seem to argue that more capital dollars should be spent in the south, and particularly in Los Angeles, while more maintenance and rehabilitation dollars should be spent in the north. Formula apportionment is a constraint on this kind of flexibility that would increase the payoff from added investments to the system.

The concept of cost-effectiveness, however, has serious implications for program equity and responsiveness. Discarding the allocation formula would increase cost-effectiveness at the expense of tax equity. Gas taxes generated in Northern California would be likely to flow to Southern California. Within Southern California, dollars generated in San Diego and the developing areas of metropolitan Los Angeles would be likely to be spent in Los Angeles County. This suggests that the politics of equity of expenditure among jurisdictions would have to be breached in order to invest highway funds with maximum impact.

The concept of abandoning formulas and investing in highway projects on the basis of cash effectiveness also conflicts with responsiveness to local factors. At present, familiarity with local conditions and the consensus of local governments are critical elements in the district level programming process. Personal judgement and community expectations play a major role in the programming decisions of the Caltrans districts. Formal measures of benefit and cost play a lesser role. In cases requiring a great deal of discretionary judgement, it has generally been the belief in Caltrans that the decision-maker closest to the problems is

better equipped to resolve issues that require responsiveness as well as cost-effectiveness.

The distortions which enter the highway program due to formula apportionment seem to be magnified by the separation of federal-aid funds into discrete program categories. The domino effect of the interaction between the formula minimums and the approximately 30 federal program categories has been aptly described by Richard Zettel, a long-time observer of transportation financing in California:

> "The formulas apply to bases that generally include federal funds; but the latter (and required matching funds) must be expended on specified systems of highways whose costs may be geographically distributed quite differently than in the state highway system as a whole.
>
> "One illustration may suffice to demonstrate what can potentially be an almost limitless series of complicating factors in fashioning a state highway construction budget. Consider Interstate Highway System financing. When this large federal program was initiated it resulted in a large infusion of new money into California's highway program; and the impact was not limited to Interstate highways. To illustrate, District 1 (the Redwood Empire) has no Interstate highway, yet because of the larger base (due to inclusion of Interstate funds) it was necessary to expend more state funds in District 1 to meet the district minimum. While this may have worked to the advantage of District 1, it tended to have an adverse effect elsewhere. In some cases expenditures on the Interstate system easily satisfied the district minimum requirement but made it virtually impossible, because of the constraints, to expend funds on highways other than Interstate.....
>
> "With the current shortage of funds the squeeze becomes tighter. For example, if an effort is made to maximize federal aid, including especially the Interstate funds, the use of these funds in, say, the Stockton area automatically increases the requirements to spend more money in, for instance, the Redwood Empire in order to meet the District minimum. And, of course, for every two dollars spent in the North three dollars must be spent in the South."

As the highway construction program contracts and becomes increasingly a federal matching program, the interaction between minimum and program categories is likely to become a more binding and distorting constraint.

Conclusion

This chapter has examined the cost-revenue squeeze in highway finance. It has shown that the highway construction program is in precipitous decline and that inaction on highway funding is a fundamentally different stance than opposition to a general tax increase due to the unique behavior of the gas-tax mechanism. Inaction on highway financing involves a de facto decision to reduce the construction program; in other state agencies, inaction typically results in program stabilization, not reduction.

Although the effect on the State Highway Account brought on by inflation and the method of assessing the gas tax are discussed, no conclusion is made on the merits of a gas tax increase. It should be noted, however, that the current administration appears to have concluded that the state has reached a point of diminishing returns in the construction of new highways, and that the transportation needs of the future will require the more efficient use of the existing system, concern for the mobility requirements of the disadvantaged and de-emphasis on facilitating travel. This is a significant departure from past policies that emphasized making transportation investments for economic development purposes. Determining the extent of future transportation investments will require careful consideration of the relative merits of economic growth, urban development and environmental quality. In the final analysis this determination will require a more broadly based policy arrangement than currently exists.

CHAPTER 3: The Direction and Management of the California Highway Program

Management of the highway program is an extremely complex technical process. The program policy results from the interaction of the Highway Commission and Caltrans. The political process through the commission and key departmental personnel expresses demands for highway facilities usually in terms of new facilities or improvements to the existing system, improved levels of safety and mobility or in complementing new opportunities for economic development. However, matters regarding litigation, fiscal analysis, engineering feasibility and the integration of technically complex activities such as the environmental review process all directly affect the character of the program and fall solely within the purview of Caltrans. As long as a broad consensus exists regarding the highway programs' goals, there is no question about the adequacy of information developed by the department, the technical competency of personnel and the department's ability to meet budgetary and program committments.

This chapter examines their management of the California highway program. First, an overview of the framework in which highway decisions are made is presented. Second, a discussion of the nature of the program with particular attention on recent changes. Third, an assessment of the management of the highway program. The chapter concludes with a brief discussion of legislative budgeting.

OVERVIEW

The framework in which program and budgetary decisions are made

is set out in the California Constitution, an extensive body of state law and by federal law when federal funds are involved.

Article XIX of the State Constitution requires that revenues derived from taxes on gasoline must be used for the construction, maintenance and operations of the highway program and for the construction of guideway transit facilities. Funds intended for state highway construction, including all federal funds, must be distributed on the basis of three formulas, the north-south split, the district minimum and the county minimum.

Gas tax revenues are by law continuously appropriated to the Highway Commission. The commission has three major responsibilities: location of highways on routes established by law; adoption of an annual budget including the specific projects to be constructed during the fiscal year; authorization of periodic changes to the budget; and certain ministerial actions. Intent language in law calls for the commission to undertake advance planning; however, the nature of the planning is unspecified. The notion that the commission is a surrogate for the Legislature arises from its budgetary responsibility. The State Transportation Board must determine that the budget is in conformance with the California Transportation Plan--a responsibility it is unable to exercise as no plan has been adopted.

Lastly, any major new construction requires the Department to obtain the concurrence of local governments affected by the project through the device of a street closure agreement. This requirement has been augmented in recent years by federal

requirements that investments in urban areas must be in a regional transportation improvement program.

THE CALIFORNIA HIGHWAY PROGRAM

California began constructing its statewide highway system in 1912; however, concentrated attempts for road planning and development began in earnest in 1895 when the Bureau of Highways was created by the Legislature to administer and plan the state highway system. In 1923 the first gas tax was levied, and succeeding years saw the formation of the highway program, the Division of Highways within the Public Works Department (Caltrans' predecessor), and the body of law and practice associated with California's highway program. An important milestone in the development of California's highway system was 1939 legislation which established the freeway principle and provided procedures for alotting freeway routes and acquiring rights-of-access in addition to rights-of-way. The final impetus to accelerated freeway construction was the 1947 Collier-Burns Act, wiich launched construction of 16,000 miles of state highways in California.

In 1954, Congress created the Highway Trust Fund. Anticipating an increase in federal aid with the Federal Aid to Highways Act of 1958, the 1957 Legislature requested the Department of Public Works to undertake a study which would provide a plan for a state-wide freeway and expressway system. The plan, presented to the Legislature in September 1958, proposed 12,414 miles of controlled access state highways which represented 10 percent of California's total street and road mileage and which in 1980 would serve every city of 5,000 or more and would carry from 50 to 75 percent of

all motor traffic.

Senate Concurrent Resolution 26, which requested the study, provided justification and a rationale for the planning of the freeway and expressway system. Its major points were:

a) Piecemeal development of freeways was already underway in California.

b) A cohesive freeway blueprint would inform the people and agricultural and commercial interests of state plans for the "ultimate freeway and expressway system" for the entire state.

c) There was a need to establish a freeway plan without regard to jurisdictions.

The more crucial concerns for the development of a freeway system were set forth in the actual study which was prepared, as requested by SCR 26, by the Department of Public Works and a Technical Advisory Committee. The study, published in 1958 and entitled "The California Freeway System", concluded that the existing road and street system, built primarily to service a small population whose economic activities consisted primarily of agricultural endeavors and local trade, was inadequate and insufficient to serve an expanding California economy and population. Specifically, the report stated that rapid population growth, diversified economic activities independent of agriculture, heavy traffic conditions, and land conversion to high value uses demanded a freeway system which would meet current and future transportation needs. The plan had a 1980 completion date.

The proposed freeway system captured the imagination of Californians. Legislative approval in 1959 of the California freeway and expressway system was heralded by Governor Edmund G. Brown Sr. as a "momentous occasion in our state's history". The freeway master

plan which called for a $10.5 billion freeway and expressway construction program over the next 20 years was considered to be the biggest public works project in the state's history, and the largest freeway program ever undertaken by any state. The construction program proceeded unimpeded through the 1960's. Just as it reached its peak in 1969-1970, the optimistic outlook of legislative and administrative officials and the generally favorable public view of the system began to fade. Four factors have been identified with eroding the program's widespread support and creating in the eyes of highway advocates a "crisis":

1. Large traffic volumes created serious congestion problems, particularly in urban areas.

2. The sharp increase in the California Construction Cost Index and the increasing cost of right-of-way acquisition among other factors, escalated the cost of planned projects by over 50 percent during the 1968-1973 period.

3. The leveling off of revenues from federal sources and state fuel taxes, the increased costs of operating and maintaining the existing system and the increasing cost of administrative functions, drastically limited the available dollars for new construction and right-of-way acquisition.

4. It became increasingly difficult to justify highway development to communities. Although by the end of the 1960's major highways were completed, the benefits of these developments were less visible when compared to the community problems they created, such as housing condemnation, neighborhood dislocation and environmental disruption.

The cumulative effect of all of the factors outlined above, but particularly the financial constraints, caused Caltrans and the Highway Commission to slow down the highway program. The resulting delays or outright cancellation of previously announced highway projects became a source of frustration for Caltrans and local communities where those projects were located.

In an effort to focus on the problem and provide a solution, Caltrans contracted in 1972 with McKinsey & Company Inc. to study the California highway program.

The major recommendation of the McKinsey report was to shift the emphasis of the highway program from a project orientation to a system orientation. The system-wide concept advocates that, in view of the existing financial constraints, only those improvements or projects of "statewide significance" which will benefit the overall existing system should be considered and undertaken. As a result of the endeavor, the commission, at the recommendation of Caltrans, has rescinded about 380 miles of planned freeway routes, with additional rescissions planned.

At the completion of the McKinsey Study, the mission of the highway program and the elements of the program were defined in April 1975 as follows:

> Mission
>
> To support the mission of the Transportation Program by ensuring that State highway and toll bridge location, design, construction, operation and maintenance are consistent with corridor study decisions and to the goals, objectives and priorities of regional and statewide comprehensive transportation system plans.
>
> Definitions
>
> The program elements through which this mission is accomplished:
>
> HA - Maintenance and Operations
> HB - Improvements
> HC - Local Assistance
>
> These public benefited-oriented program elements are guided and supported by administration efforts collected under an overhead element for administration:
>
> HD - Program Administration

All efforts associated with Highways, conducted by Caltrans, other than those leading to the approval of the regional and State Transportation Plans are to be budgeted and accomplished through these program elements.

The mission statement broadly emphasized that the principal activities of the highway process--location, design, construction, operation and maintenance--were to be consistent with state and regional plans.

One year later, a more elaborate mission statement was promulgated. The March 1976 statement reads:

Mission

To support the California Transportation Program by providing state highway service which is consistent with the goals, objectives, and priorities of regional and statewide comprehensive transportation system plans; by maintaining and rehabilitating state highways in a condition which preserves the structural integrity of the facility; by operating state highways so as to achieve safe, maximum use of the facility; by constructing operational improvements which facilitate making the fullest use of existing highways; by constructing new state highway facilities whose priorities justify use of the scarce state dollars; by assisting local jurisdictions in providing road and street service; and by ensuring compliance with applicable law.

Definitions

The program elements through which this mission is accomplished are:

HA - Maintenance and Rehabilitation Improvements
HB - System Operations and Operating Improvements
HC - Local Assistance
HD - Program Development
HE - New Facilities
HF - Administration

Five of these six program elements are oriented toward public benefits. The sixth, administration, is an overhead element that guides and supports the other five through administrative effort.

> All Caltrans' efforts associated directly with improving highway facilities or their use are to be budgeted and accomplished through these program elements. Efforts leading to the approval of regional and state transportation plans are excluded.

While elaborating on the five principle activities of highway development and operations, the March 1978 mission statement requires that new highway facilities will be built only if they are of sufficient priority to justify the expenditure of funds. There is no suggestion as to what criteria determines a priority. For example, investments in other programs include structural integrity and safety as criteria. In regard to new facilities, not even such a general concept as cost-benefits is suggested as a criteria. Indeed, this shift in program emphasis is clearly manifested in a 48 percent decline between 1975-76 and 1976-77 in the budgeted amount of new highway facilities. The shift in program emphasis is further highlighted by a 99 percent increase in rehabilitation and operating improvements.[2] This change in program emphasis has been a major source of conflict between the Highway Commission and Caltrans.

THE HIGHWAY BUDGETING PROCESS

Fundamentally, a budget represents choices from among competing alternatives for limited resources. Although making choices engenders conflict, the budgetary process serves to resolve the conflict. With resolution of conflict, the budget becomes a contract between the public, the body that adopted it, in this case the Highway Commission, and the implementing agency, Caltrans. Moreover, the budget is an agreed upon set of activities against which the performance of management can

be tested. Finally, the budget is a plan of action for one year, which can be one year of a multi-year plan or program.

We, therefore, examine the Caltrans budgetary process as producing a valid contract, as a useful tool for judging managerial performance and as part of a plan.

The Budget as a Contract

The Caltrans budget is usually adopted by the Highway Commission in the October preceding the fiscal year in which it will operate. This allows sufficient time for the statutory required review by the State Transportation Board and for the mechanics associated with its inclusion in the Governor's budget. Although it is included in the Governor's budget, it is not subject to legislative review and the Governor's veto since the Legislature has delegated the budgetary decisions for the highway program to the Highway Commission.

Once a budget is adopted, advertising for bids usually begins in November. A contract for a project in the succeeding fiscal year can be authorized in January, six months prior to the beginning of the fiscal year. This is an unusual practice not permitted other state agencies. The origin of this practice seems to lie in the necessity to take advantage of the entire construction season in those parts of the state with heavy winters.

The 1976-77 budget was developed and approved by October 1975. However, on June 1, 1976, a full eight months after the budget was adopted and one month prior to the beginning of the fiscal year, the director requested the Assistant Director of the Division of Highways to prepare a review of all projects, with "initial emphasis" on 1976-77 fiscal year projects. The memorandum, in part, states:

> Projects which are likely to increase roadway capacity (including auxiliary lanes), require an EIS or EIR, are in environmentally sensitive areas, or have received opposition are candidates for review by the director. Since there are many projects in the department's "pipeline", initial emphasis is being placed on those which are currently budgeted and are scheduled for advertising during the remainder of the 1976-77 budget year.[3]

Although this is an appropriate action for projects that have not been included in an adopted budget, it is certainly a questionable administrative practice with regard to projects already budgeted. The projects in the 1976-77 budget had already been environmentally cleared or were about to be cleared. Moreover, Caltrans puts all major projects through an extensive review process that includes opportunity for community involvement. To subject budgeted projects to this sort of review is unusual and certainly reduces integrity of an adopted budget.

Further frustration of the Highway Commission's desires, as expressed in the 1976-77 budget, is found in Caltrans' management of the 1976-77 right-of-way program. As is usual practice, the commission budgeted a lump sum in October 1975 for right-of-way acquisition during fiscal 1976-77. This amounted to $73.4 million. Typically, the Department recommends in June preceding the fiscal year a specific right-of-way program.

In June 1976, the Commission agreed to the director's proposal for an interim right-of-way budget of $27.4 million (later augmented to $33.5 million), with the remaining $46 million to be held in reserve until adoption of a six-year program.

Excluded from the interim program were right-of-way funds for some capital outlay projects in the 1976-77 construction budget, so that they might be further reviewed for appropriateness. The final interim program for 1976-77, totaling $35 million, was adopted in January 1977.

Even when a projected was included in the Commission's interim program, affirmative action on it was not quaranteed. For example, 11 parcels are still to be purchased to complete right-of-way acquisition for construction of a segment of I-15-E in Riverside County. The cost of acquisition amounted to $40,000. The district sought permission on July 21, 1976, to purchase the property. On August 30, 1976, the director was informed of the request and that the Chief Engineer, the Highway Program Manager, and the Assistant Director of Financial Management concurred in the purchase. Funds for I-15-E were finally released in January 1977 after the Governor authorized work on I-15-E.

The unilateral efforts of the department to contravene the Highway Commission's budgetary decisions have not been limited to the 1976-77 budget. The Commission augmented the director's recommended 1977-78 budget by $54 million prior to its adoption. A memorandum to all districts established the priorities for work. That November 9, 1976, memorandum in part stated:

> Authority to appraise or acquire parcels for projects included in the 1976-77 and 1977-78 Budgets* or the 1976 Highway Program is no longer necessary on an exception basis if the project has been included in the CHC approved Right of Way Program. Authorization to proceed with appraisals on other budgeted or programmed projects should be requested through the Chief Engineer and Program Manager. You should concentrate your efforts in terms of the following priorities as previously outlined by the Director:
>
> 1) Deliver the 1976-77 budgeted projects.
>
> 2) Deliver the 1977-78 budgeted projects.
>
> *Work on the 1977-78 budgeted projects added to the Department's recommended budget by Commission action on October 21, 1976, is subject to individual clearance.
>
> 3) Insure delivery of the projects included in the 1976 Six-Year Highway Program according to schedule.[4]

Subsequent memorandums reinforced this directive.

Manipulating the highway budget is not unusual. Typically, it may occur that unexpected resources become available or work leading to advertising falls behind schedule. In such cases, the commission will substitute projects, perhaps some intended to be placed in the succeeding fiscal year's budget. For example, when the 1975-76 moratorium was lifted, $48.9 million worth of projects budgeted for 1976-77 were transferred into 1975-76 to minimize the carryover of revenues into 1976-77. The difference between this type of action and the June 1 directive is that the director's action was unilateral and there was no suggestion that the projects being reviewed had any technical problems.

The Budget as a Measure of Managerial Performance

Two aspects of the budgetary process were used to test the performance of management. First, this Commission examined the usefullness of the information produced by the revenue forecasting methodology and the adequacy of the cash management process. Secondly, we endeavored to ascertain if the budgeted work is actually being produced. However, before examining these two specific criteria, a summary of the factors that Caltrans considers in preparing the budget is first provided.

In developing a budget, revenues and expenditures for a fiscal year must be identified. The calculation of revenues includes the cash in the State Highway Account (the state's share of gas tax revenue), transfers from the Motor Vehicle Account, and the cash California receives from the federal government for work completed on federally aided highway projects.

The second factor in the calculation of revenue is the amount of federal highway funds California is permitted to obligate or commit for future construction projects in the current year. Federal funds apportioned to a state are available for four years. They do not necessarily have to be obligated the year they are apportioned, although it has generally been considered prudent management to do so.

Similarly, the expenditure side has two elements. First, there are the "off the top" expenditures which include the cost of maintenance, operations and administration. Expenditures to meet the cost of these activities are not subject to the various distribution formulas. The second element is the expenditure for capital outlay, new construction projects, major rehabilitation projects and the like. These expenditures are subject to the distribution formula.

The obligations incurred by "off the top" expenditures are paid for during the fiscal year in which they are budgeted. Capital outlay is handled quite differently. The budget revenues (ie., federal apportionment and state funds) for a capital project are considered expended when a construction contract is awarded. Because of the long lead time necessary to complete the construction of a project, cash will be disbursed to the contractors in future fiscal years as the work is completed. Because revenues continually flow into the State Highway Account, it is unnecessary to bank the amount of funds required by a project at the time a contract is awarded.

When developing a budget, it is necessary to estimate how much cash will be available at least two years hence, in order to determine the amount of capital outlay that should be budgeted in a given fiscal year. After the budget is adopted, the schedule for advertising projects is continuously tested against cash forecasts in order to avoid awarding contracts in excess of future cash.

a) Revenue Forecasting and Cash Management

The State highway budget is an authorization to spend revenues for specific projects. However, the rate at which these projects can proceed to construction depends on several factors, including timely completion of right-of-way purchases; completion of engineering and design; obtaining environmental clearance which can consume up to two years; the anticipated amount of cash to meet contract obligations; and the amount of federal apportionment available to California.

Revenue forecasting entails estimating state revenues which will flow into the highway account from the state's share of the gasoline tax, the diesel tax and whatever remains in the Motor Vehicle Account. It also involves assessing the impact of inflation on the purchasing power of the revenues. This aspect of revenue forecasting is essentially an econometric modeling process.

The second aspect of revenue forecasting--estimating available federal apportionment--is far less complicated as it merely involves being familiar with the federal law. As a result of the 1976 Federal Aid to Highways Act, California is eligible to receive funds in nearly 30 separate categories. In estimating the amount available in a given fiscal year, it is first necessary to determine the federal apportionment that has not been obligated in previous fiscal years. The second factor is the amount of federal apportionment that

becomes available for obligation in the fiscal year for which the budget is being developed and against which new projects can be charged. Thirdly, since the federal funds come to California only after the eligible highway projects are completed, an estimate must be made of the "federal receivables" --revenues from projects under construction which will have been completed during the fiscal year.

Of considerable importance to the strength of the highway program is the accuracy of cash projections. The Auditor General found that cash projections made in June 1975 for the succeeding 15 months were regularly underestimated. The excess varied from $22.5 million over what was reported in October 1975 to $175 million overestimated in September 1976. Admittedly, part of the excess is due to the moratorium. But because long-range forecasting is of such importance to carrying out the program, greater accuracy should be expected.

Even in the short-range forecast of cash, Caltrans' accuracy is limited. For example, in May 1976 the revenues for July 1976 were underestimated by 14 percent. The estimates made in August 1976 for September 1976 were under by 10.7 percent.[5]

Concerns over the management of the cash forecasting have been sufficient for the Assembly through House Resolution 5 to ask the Legislative Analyst to review the entire procedure.

b) Contracts Awarded

The second measure of managerial performance is the rate at which contracts are awarded. Historically, 50 percent of the current fiscal year's capital outlay budget is awarded by December 31. For fiscal 1976-77, only 29.8 percent of the capital outlay budget had been awarded. Advertising and awarding of the succeeding fiscal year 1978-79 had even dropped off from 14.4 percent awarded in 1975 to 8.1 percent in 1976.

Several reasons have been offered for the delay in advertising for the current fiscal year. First, a moratorium on advertising during 1975-76 complicated the readiness of projects by dislodging the systematic flow of work. Second, the 1975-76 layoffs raised havoc with the department's ability to pursue its program in a timely and efficient fashion. Third, unanticipated reviews of projects owing to federal requirements by regional transportation planning agencies. Fourth, the unusual review of projects in June 1976 may have contributed to the delay in advertising and awarding contracts.

Perhaps the most significant reason for the delays is the shift in the highway programs emphasis from new construction to maintenance, rehabilitation and operational improvements. Some of these activities require more engineering per project dollar. Because the layoffs depleted the lower ranks of professional engineers, highway engineering technicians and junior engineering technicians

are doing the work of assistant transportation engineers. They require more intensive supervision by project engineers. This is best expressed in a request from District 7 in Los Angeles for 22 assistant transportation engineers. In making the request the deputy district director wrote:

> "...The second factor is the necessary change in staffing mix due to the change in program emphasis from new freeway construction anticipated at the time the Original Staffing Plan was developed, to heavy emphasis on smaller operational and maintenance improvements, etc. This has resulted in a need for Project Engineers to have more subordinates who can be relied on to function without the close supervision required at the HET I and JET level. The lack of these Assistants has resulted in extensive personal involvement in details by the Project Engineer, with slippage in the planning and coordination that is extremely critical in meeting tight scheduling committments..."[6]

In terms of revenue forecasting and cash management, the amount of federal funds apportioned to California but unobligated is an important indication of work being done. In September 1976, unobligated federal apportionment amounted to $313 million. By November 30, 1976, $494 million of federal apportionment were unobligated. In September 1976 the department's cash was reported at $204 million and it was estimated that future months would average $200 million. On December 31, 1976, Caltrans had $325 million in cash. The last time so much cash was on hand was in 1969. A further indicator of the department's inability to implement the budget is the extent to which capital outlay expenditures are not in conformance with the north-south split. The best indicator for determining if there is an imbalance is the amount of funds available to the north and the south in the

contingency reserve. This reserve contains funds identified for specific projects that have not been budgeted because the work required to advertise the projects is imcomplete. It is most appropriate to examine this indicator at the end of the fiscal year when unspent funds which comprise the contingency reserve are transferred to the succeeding fiscal year. In the transfer made from the 1975-76 fiscal year to its 1976-77 year, $309.8 million was brought forward. Of this amount, 27 percent ($226.2 million) was attributed to the south. Failure to minimize the contingency reserve reflects an inability of management to accomplish a program intended for a fiscal year. In light of the delays in advertising discussed above, it is unlikely that the balance is a serious breach of the law.

In the past, this indicator would have been very important because all revenues were budgeted the year they were available. This is not the case any longer because of the department's present policy of reserving some current revenues for budgeting in future fiscal years. Nevertheless, in light of the department's inability to advertise this fiscal year's budget, the contingency reserve will be higher than anticipated. This may well continue into succeeding fiscal years, compounding the problem of implementing the highway budget.

The Highway Budget as a Plan: The Six-Year Program

The third means of assessing a budget is the extent to which it is part of a long-term program or plan. A source of considerable

controversy between the Highway Commission and Caltrans has been the department's 1976 six-year highway program. In rather nebulous language, state law requires the commission to follow a policy that provides for "advance planning and continuity of fiscal policy in the construction and improvements of the State Highway System and in the administration of the expenditures from the State Highway Fund."[7] The law does not provide a time frame for the program nor does it require that the program be integrated into the annual budget. The six-year highway program carries no legal mandate nor does it represent a commitment as does a budget. In the past, long-range programs have had no standard time horizon; it often varied from 20 years to 8 years and in 1975 the commission did not even adopt a program because of the uncertain future due to funding and layoffs. The long programs have been used to ensure that the district and county minimums will be met every four years as required by law and that the north-south split is being consistently met.

The controversy surrounding the highway program has been a shift in the historic emphasis on new construction projects. For example, in 1974-75 fiscal year, a year unaffected by the moratorium and the layoffs, $235 million (74.8 percent of the budget) was programed in new highway construction. In 1982-83, $158.7 million (44.6 percent of the budget) will go to new construction. By contrast, maintenance and rehabilitation was 10 percent of the 1974-75 budget, but will be 20 percent of the 1982-83 budget. Finally, compatibility improvements (sound walls, landscaping, etc.)

was 3.5 percent of the budget in 1972-73 and will be 11.4 percent in 1982-83. Because the six-year program significantly redirects the highway program, several projects are not included in the program although right-of-way already has been purchased for them. Thus, the department is expected to initiate action to rescind these routes. This will be an important policy decision because it may prohibit future highways and, in certain travel corridors, mass transit such as busways and guideways. The department is developing information regarding the amount of right-of-way owned by Caltrans for routes not in the six-year program. The 1976-77 budget is indeed part of a plan for a future highway program. But because its emphasis is unlike past programs, the Highway Commission refused to adopt the Caltrans six-year program. Instead, the commission enacted its own six-year program which added approximately $1 billion to the proposal. Caltrans responded by ignoring the commission's action and refusing to develop the commission's program in detail for use by departmental management. Moreover, the program is being so tightly adhered to that it is impossible for program managers to plan for the work that will be necessary after the six-year period. In fact, many managers in its department view the six-year program as a six-year budget and not a flexible program in which projects could be shifted due to changing circumstances.

MANAGEMENT AMID UNCERTAINTY

Initially, because of the cost-revenue squeeze and more recently because of the continuing conflict between the director and the

Highway Commission, the highway program is being managed amid considerable uncertainty. The uncertainty is especially evident in the district offices, the department's operating level. Contributing to the uncertainty is the continuing turnover in directors (three directors in three years) each with different management style and transportation philosophies. As emphasis is shifted from capital outlay to operational improvements, commitments to local agencies for interchanges, overpasses and other capacity increasing improvements must be broken, thus weakening traditional political support for the department. Finally, the layoffs have significantly detracted from the department's ability to deploy manpower effectively.

As was suggested at the beginning of this chapter, it was obvious to the senior career management in 1973 that the orientation of the program had to be shifted. Near the completion of the McKinsey and Company study to assist the department in identifying needed changes, its purpose and results were explained as follows:

> "As some of you may recall from previous presentations on this subject, we have imposed a 20-year funding constraint on system and project design decisions. The first rough cut application of this constraint reduced an unmanageable and growing $17 billion slate of projects. This meant deferring or eliminating many proposed highway projects and rescoping a number of others.
>
> "The process of selecting projects for the 20 year "Program Growth" emphasized the highway system view rather than the project view. This new view switched emphasis from designing each project to achieve maximum project benefits (which might never be realized) to achieving maximum benefits over the entire highway system with the funds likely to be available. "Ultimate" design solutions give way to more modest proposals that permit limited funds to address more needs and to improve overall system balance and continuity."[9]

The hallmark of this endeavor was the involvement of both the Sacramento office and the district offices, as well as the involvement of the Highway Commission. As a result of this effort, over 380 miles of adopted freeway routes have been rescinded. Moreover, the commission adopted a resolution, M-114, which identifies which construction priorities it wanted to pursue.

The highway development concepts that emerged from the reassessment of the program were endorsed by the Brown Administration's first Director of Transportation, Sid McCausland. In November 1975 he wrote that:

> The Director is committed to shifting the Department's program emphasis in a manner which places high priority on the following areas in the order listed:
>
> 1. Productivity of Existing System. Strengthen the Department's capability and commitment to making the fullest use of all existing public and private transportation resources in California.
>
> 2. Preservation of Existing System. Provide a level of maintenance and rehabilitation adequate to protect the public safety and investment in California's transportation system...
>
> 3. Facilities Construction. Support the completion of capital improvement projects vital to the operational integrity of transportation systems of statewide significance.[10]

The McCausland memo was the first formal declaration that capital outlay for new highway development was no longer Caltrans' highest priority and that rehabilitation, "gap-filling" and "the completion of usable segments" would have priority claim

on funds uncommitted to the interstate element of the program. This formalized the concept that capital outlay was intended to improve the performance of the system, and not to achieve maximum project benefits.

Just as Caltrans' managers were becoming accustomed to McCausland's "down through the channels" approach, a new director with a different philosophy, was appointed. Director Adrianna Gianturco's policies, although never systematically expressed, have been summarized by departmental managers as having the following elements:

1. Projects that add to the capacity of the system are likely to be challenged.

2. Projects with growth-inducing impacts are likely to be viewed unfavorably, particularly at the urban periphery.

3. Congestion relief is seen as a mixed virtue; congestion may be valued if it contributes to carpools and mass transit rather than driving.

4. Even operational improvements that increase the throughput of the system may be challenged.

5. Improvements on the state system should have priority over local-serving projects such as interchanges and overpasses.

6. Rehabilitation projects and operational improvements have priority over major capital outlay projects.

7. Projects sized to projected demand rather than the relief of current delay will be challenged.

The interesting feature of this policy toward the highway development is the shift away from emphasizing systemwide benefits when designing a project and returning to considering the localized costs and benefits of individual projects. However, individual

projects are not being thought of in the pre-McKinsey sense of a new investment designed to maximum engineering standards or to promote localized economic benefits, without regard to the overall benefit to the performance of the entire system. Instead, projects are being assessed on localized growth-inducing and travel-facilitating effects, a set of very different criteria.

An attempt to bring these criteria to bear on the program is being made in the quadriennial highway needs study required by Section 188.8 of the Streets and Highways Code. The Code requires that the needs be computed on the "basis of and estimate of existing state highway construction needs." The needs study is used to develop the necessary data to determine the minimum expenditures in each district during the next four years. The needs are derived on a district-by-district basis. The dollar value of the needs in the past have far exceeded the anticipated revenues for the next four-year period, because a revenue constraint was not used to limit what could be identified professionally as needs.

In the past, the needs study has been used to identify the new investments that might be expected in the next four-year period. Traditionally, needs have been defined on the basis of technical criteria (safety index, land capacity figures and the like). Frequently, according to participants in past studies, the needs were overstated. The method for the current study has been considerably redefined. The director's instructions for the

study clearly singled the change. The guiding principle of the 188.8 study is stated as follows:

> "In departing from traditional needs criteria, we will be guided by the basic idea that an "existing state highway construction need" is an action we should advocate because that action solves a transportation problem better than any other alternative, returns more in benefits than it costs in resources, and is socially and environmentally responsible."[11]

The fundamental problem that has disturbed individuals conducting the study is the relationship of the study of the six-year program. The guidelines state:

> "Our estimate of existing highway construction needs should not be tailored to some preconceived dollar limit. Nevertheless, the underlying assumption should be that this needs estimate will be the basis for allocating actual revenue between 1979 and 1983.
>
> "We cannot expect highway program revenues to increase significantly, so highway solutions should be consistent with what we can actually accomplish in today's climate. Solutions should be cost effective. This means doing the best with limited resources. It includes the recognition that the cost of any action can be measured in terms of alternative opportunities that we must forego."[12]

In light of the administration's opposition to a gas tax increase, some persons working on the study have interpreted the guidelines to mean the total value of needs cannot exceed the value of the six-year program. Others argue the program has no bearing on the needs study. Suffice it to say, within Caltrans there has been considerable uncertainty as to the meaning of the instructions and the outcome of the study will be.

In an effort to bring stability to the management of the highway program, the Chief Engineer, the assistant director for Financial Management and the chief of the Division of Administrative Services issued instructions to the districts that they were to develop a work plan. The instructions explained:

> "We now face the task of producing on schedule a program of work which has been delayed and frequently revised over the past several months. The task is further complicated by impacts resulting from the work force reduction and apparent fluctuations in present and future staffing needs. Factors which have produced this instability are inflation, decreasing real income, and changes in Federal and State laws. Although we can do little or nothing to eliminate these influences, we believe the proposed Work Plan will reduce their negative effects.
>
> "You are requested to prepare a Work Plan covering in detail all the individual work activities to be accomplished by your District or Division for the fiscal years 1976-77 through 1982-83. This plan is to realistically schedule the work to be done along with the staff required to do it. In simple terms and insofar as is feasible, the plan is to account for each activity, both project-related and nonproject, to be accomplished in each year of the period covered and the staffing requirements for each activity for each year."[13]

Although the work plan initially applied to organizing the six-year highway program, it has been expanded to include the activities of the Divisions of Transportation Planning and Mass Transit. Clearly the work plan is an attempt to bring order and managerial rationality to an uncertain environment. It is important to note that the director, although aware of this activity, has never formally endorsed it.

LEGISLATIVE BUDGETING

As was noted earlier in this chapter, the State Highway Account's funds are continuously appropriated for use by the Highway Commission. Further, the Caltrans budget adopted by the Commission is not subject to review by the Legislature nor is it subject to the governor's veto. The origins of the practice evolved between 1911 and 1933. The reasons for this practice are not thoroughly documented but appear to be related to the fact that the Legislature was a part-time body, thus being unable to provide the type of oversight required by a large capital investment program and to avoid charges of "pork barrelling" highway projects.

Historically, Caltrans and its predecessor agencies, the Department of Public Works and the Division of Highways, have not been subject to close scrutiny. This is probably due to the broad consensus which for so many years surrounded the program. Because of the lack of scrutiny, several aspects regarding the management of the highway program become apparent:

1. The concept of fiscal year has little meaning. The law requires that a budget document be organized according to a 12 month time-frame referred to as a fiscal year. However, as has been seen in this chapter, the funds appropriated in the budget can be committed in the January preceding the beginning of the fiscal year. Moreover, the budget is subject to all sorts of manipulations. Projects and funds can be added or eliminated

at will by the Commission. Additionally, a director, under a broad definition of administrative discretion, can easily limit work on projects. This makes it very difficult to determine what is being accomplished with the State Highway Account funds. In fact, it is impossible to evaluate what occurred during any given fiscal year on the basis of the budget originally adopted for the year.

2. The format of the highway budget is not standardized and varies from year to year. Because of this, it is extraordinarily difficult to compare current activities with past activities. The 1975 budget had four elements; this year it has six. By statute the department is required to organize the budget around seven elements: Administration, maintenance, major construction and improvements, minor improvements and betterment, contingencies, right-of-way and other proposed expenditures including preliminary engineering. The department does not use these categories. Admittedly, statutory categories are probably inadequate because of the greater sophistication being brought to the management of the program. Two obvious omissions for example are highway operations and rehabilitation. Both are assuming a more important role in the highway programs but are not required program elements.

3. Caltrans is a public bureaucracy that enjoys freedom from the concept of checks and balances. Unlike other agencies of state government, Caltrans is not subject to the institutionalized review of the highway program (95 percent of its budget). Neither the Legislature nor the governor are required to review Caltrans'

budget in the normal course of the budget cycle. Being exempt from checks and balances, the concept of accountability need not be taken seriously.

4. The isolation of Caltrans from having to compete for funds as other agencies do because of the special continuously appropriated gas tax revenues allows the department to be insensitive to changes in transportation concepts, and demands for greater accountability. Consequently, as will be seen in Chapter 5, the department has been unenthusiastic toward concepts of mass transportation.

Legislative budgeting of State Highway Account funds has been proposed in recent years as a means of introducing accountability into the management of the highway program. The objection most frequently used to discourage legislative budgeting is that "pork barrelling" will be introduced into highway investment decisions. Aside from this political issue, several technical objections to legislative budgeting have been raised. The major concern frequently articulated is that flexibility allows changes to be made when unanticipated events such as natural disasters and modifications to federal laws occur. Further, projects intended to be advertised sometimes are delayed and an unbudgeted project is advanced into the budget. It is argued that legislative budgeting would reduce the likelihood that the funding formulas--north-south split, county minimums and district minimums--would be met.

The Legislature has available to it several ways of addressing these issues. The Legislature could budget by program categories and allow the Highway Commission to identify the specific projects. By way of example, Assembly Bill 4270 (Foran) which was active last session, had six program categories: planning, program development and administration, maintenance and rehabilitation, new facilities, local assistance, system operations and administration. Senate Bill 1149 (Alquist) provided for the same categories except it did not include new facilities and system operations. It was passed by the Legislature, but was vetoed by the governor.

Objections to the loss of flexibility are overstated. A good deal of the health and welfare activities of state government rely upon significant federal participation and are subjected to legislative budgeting. The budget act provides a means, which is used regularly, to adjust a department's budget during the fiscal year when unanticipated changes in federal funding occur. The highway program could be adapted to this procedure.

Finally, it should be recognized that the Legislature may at any time, when it is considering the budget, incorporate the highway budget into the budget act and modify it to fit the Legislature's sense of priorities. This action has been avoided because of custom and tradition, and not because of a legal prohibition.

CONCLUSIONS AND RECOMMENDATIONS

The principle feature of transportation policy in California is the erosion of the long-standing consensus that supported the highway program. The difference between the Highway Commission and the director of Caltrans over the nature of the highway program underscores this point. As this concensus declines, several weaknesses in the process for arriving at highway decisions become evident.

For example, the director's embargo on the adopted 1976-77 capital outlay budget in June 1976 and the commission's augmentation of the 1975-76 budget by $48.9 million in April 1975 raises questions regarding the integrity of the decision making process for highway development. Clearly, a premium is being placed on flexibility, but it serves to encourage a minimum of accountability.

Accountability in the decision making process for highway development is being undermined by the keystone of its statutory framework, continuous appropriation. It removes the activities of the Highway Commission and Caltrans from the customary scrutiny of legislative oversight that normally accompanies the state's budgetary process. This inadequacy is compounded by the poorly identified relationship of the Highway Commission vis-a-vis the Director of Caltrans. As a result, Caltrans is able to avoid any systematic review by other institutions of government. When a consensus supported the highway program, the department was

considered accountable if it produced the desired projects in a timely fashion.

The whole matter of accountability is highlighted by the widespread uncertainty regarding the amount of resources available to the highway program. The precipitous change in the direction of the highway program has slowed work on projects and has delayed advertising. Consequently, the amount of uncommitted funds is increasing. Moreover, the uncertainty regarding the reliability of the department's economic forecast and cash management contributes to a lack of confidence in the director's decision to shift the emphasis of the highway program.

Although the career managers of Caltrans recognize that the highway program of the past 20 years is "winding down," the lack of a consensus over the department's future activities creates a difficult environment in which to make decisions on the appropriate mix of skills that should be developed among the employees. Although the director's six-year program offers some guidance to the managers, they recognize that it is not broadly accepted. Furthermore, they believe that the six-year program is so constrained in concept that important options in program emphasis will be foreclosed and that there is no appreciation that the responsibilities of the department will continue beyond the tenure of the current director and statewide administration. This Commission makes the following recommendations:

1. Gas tax revenues should no longer be continuously appropriated.
2. The California Transportation Commission should recommend the highway budget to the Legislature and its adoption should be accomplished through the normal state budgetary process involving the Legislature and the governor.
3. The highway budget should provide funds for specific program categories, with responsibility for the selection of projects resting with the California Transportation Commission.
4. Caltrans should retain outside technical expertise to review and, where appropriate, reform its economic forecasting methods, revenue estimating process and its accounting system.
5. Caltrans work plans should be developed on the basis of a long-range highway and transit guideway development program adopted by the Transportation Commission.

CHAPTER 3 - Footnotes

1. A New Direction for the Highway Patrol, Department of Transportation, State of California, July 1974, pages 1-2 - 1-3.

2. Budgetary and Cash Management Operations: Department of Transportation, Office of the Auditor General, December, 1976, Report 239.3, page 2.

3. Memorandum to District Director Regarding Project Evaluation Reports, Heinz Hecheroth, Assistant Director - Highways, June 1, 1976, page 1.

4. Memorandum to District Director et al, Approved Program Direction, Heinz Hecheroth, Assistant Director - Highways, and C. E. Forbes, Chief Engineer.

5. Budgetary and Cash Management Operations: Department of Transportation, Office of Auditor General, December, 1976, Report 239.3.

6. Memorandum to G. V. Hood, Chief of Administrative Services regarding Permission to Use Reemployment List from W. J. Kenney, Deputy District Director O 7.

7. Section 70.2, Streets and Highways Code, California Statutes.

8. Summary, Director's Proposed State Highway 6-Year Planning Program Breakdown of Capital Outlay, 1976-77 to 1982-83, Inclusive, Rev. 11/5/76, Caltrans.

9. Implementing "A New Direction for the Highway Program in California, by C. E. Forbes, Chief, Division of Project Development and P. H. Talbot, Supervising Transportation Engineers, Caltrans, presented at 54th Annual Meeting of WASHO, May 22, 1975, page 1.

10. Memorandum to Functional Program and Line Managers regarding Directors Emphasis, November 12, 1975, pages 1 and 2.

11. Memorandum to District Directors regarding Section 188.8, Report Study from Adriana Gianturco, Director of Transportation, September 2, 1976, page 1.

12. Cp. Cit., page 2.

13. Memorandum to District Directors and Chiefs of Caltrans Divisions regarding Work Plan, from C. E. Forbes, Chief Engineer, R. G. Adams, Assistant Director - Financial Management, and G. V. Hood, Chief Division of Administrative Services, November 11, 1976, page 1.

CHAPTER 4: The California Transportation Planning Process

Beginning in 1973, Caltrans undertook an ambitious program to develop a statewide transportation plan by January 1976. California's political, geographic, and cultural diversity would obviously render such an endeavor difficult. Moreover, transportation facilities and services being provided through a complex intergovernmental process involving city and county governments, regional agencies and the federal government would not make a statewide planning effort any easier. Further, politics of transportation is characterized by on-going conflicts among advocates for various transportation modes--highways and mass transit, buses and rapid rail--and among the various levels of government. Added to the political conflicts were intense professional debates regarding the management of the highway system which is the department's traditional mainstay, and the future character of the system itself. Finally, the department was trying to adjust the highway program to the requirements imposed by environmental protection legislation and the cost-revenue squeeze.

Within this setting, it was optimistically hoped that the planning process would remove the uncertainty by providing a beacon by which the future of Caltrans could be charted. The optimism was shared by a minority within the Department. Senior management, uncertain as to what the planning process exactly meant for Caltrans, generally kept a discrete distance from it.

In this chapter we attempt to assess the planning process. To this end, the legal framework governing the transportation planning enterprise is provided. We follow that with a brief chronology of events associated with the process. Lastly, an analysis of the process is undertaken.

THE FRAMEWORK

The basic guidelines for the endeavor were found in state law enacted in 1972. The law required the plan to contain (1) regional transportation plans (2) transportation goals, objectives and policies (3) a forecast of needs and deficiencies (4) a description of the state's overall transportation system (5) an environmental impact statement and (6) a statewide implementation program including a schedule of improvements, an operating program, a financial plan and necessary legislation. Further, the law specified the types of studies and the evaluation criteria that were to be used in developing the plan. The State Transportation Board is responsible for adopting the plan, although this action can be taken only after the Legislature adopts the plan's goals and objectives.

Involved in the planning process, besides Caltrans, were 41 regional transportation planning agencies. Three of the regional agencies--the Southern California Association of Governments, the Metropolitan Transportation Commission, and the Sacramento Regional Area Planning Commission--were multi-county agencies, with the remainder being single county agencies. Twenty-three counties elected to have Caltrans prepare the regional plan.

The plan was to be adopted in 1976 and revised in 1977 and 1978. Thereafter, it was to be revised biennially. The regional plans are on a similar schedule.

CHRONOLOGY OF EVENTS

The transportation planning process began in July 1973 and was assigned to the Division of Transportation Planning, an entirely new division. A progress report to the Legislature was made in July 1974. In that report, the State Transportation Board criticized the department's list of recommended goals, expressed displeasure with the department's approval of existing planning practices and objected to the department's opinion that no action should be taken on the issue of statutory creation of regional agencies until the regional plans were available in April 1975. In submitting a second progress report, in December 1974, the board said the planning process was on schedule and that the department has made considerable progress in developing a conceptual base for the plan. Moreover, the board indicated that the department would examine the issues of energy conservation, air quality, transportation, deregulation, the leverage of private capital in transport, transit operation subsidies, new technologies and innovative modes and non-capital alternatives to meeting transportation needs. That same month, the first draft of the plan was circulated to the professional community for review.

Two additional drafts of the plan were prepared in March and July 1975. The July draft was widely circulated and public hearings were held on the proposal. It set out the following transportation goal:

> "The Transportation Goal of the State is the development, coordination, and maintenance of a transportation system that provides the optimum capability for the movement of people and commodities in the most efficient, time-effective, convenient, safe, reliable, and cost-effective manner consistent with social, economic, and environmental interests of the people of the State.[1]

It proposed four alternatives to guide transportation development in California: conservation of energy, improvement of air quality, reduced dependency on the private automobile and maximization of travel opportunities.

Although the Caltrans planning staff expected to rewrite the draft on the basis of testimony from hearings and the board's comments, the board simply rejected the plan outright. The reasons for the refusal were stated in a letter to the Legislature as:

1. A consistently incomplete analysis of transportation alternatives.
2. Inadequate consideration of low capital, non-hardware solutions to transportation problems.
3. Regional transportation plans were not adequately incorporated in the July Draft Plan.
4. An absence of comparison of the total cost and benefits of the proposed alternatives.
5. Incomplete analysis of the energy use implications of alternative transportation policies and systems.

6. Inadequate treatment of the relationships between land use and transportation planning.

7. Unsubstantiated assertions, assumptions, and conclusions about the consequences of existing and future transportation systems and policies.

8. Insufficient consideration of the full range of financial and taxation implications of a variety of alternatives.

9. A data base that was too often collected without completely defining the problems beforehand for which data was to be collected and with out full reference to critical and substantive problems.

10. The lack of a definition of issues of statewide significance.[2]

The Board requested the Business and Transportation Secretary to establish a task force to "analyze and redirect the development of the plan." The Secretary agreed, and directed the task force to prepare a plan for submission to the Legislature by July 1976. In taking this action, the Secretary put the full weight of the Brown Administration behind the redraft. He wrote to the Board:

> "As you know, since last spring I have had grave concerns about the adequacy of the document that was being prepared by Caltrans. These concerns were reinforced by the testimony we recieved at the public hearings jointly sponsored by the Board and the Agency. It is my conclusion that the Draft California Transportation Plan is not useable as a policy or program guide for transportation in California and that the Administration and the Legislature will best serve the public interest by recognizing this unfortunate circumstance in a forthright fashion and taking appropriate action."
>
> "I intend in the next two weeks to organize a planning effort along the lines suggested in your letter. This effort will be carried out by a small and carefully selected interdisciplinary team and will be managed and directed by the Agency."[3]

It should be pointed out that the Legislature has never adopted the goals and objectives proposed by the Board. One 1975 bill to accomplish this, Assembly Bill 1247 (Ingalls), cleared the Assembly but was not scheduled for a hearing in the Senate Committee on Transportation the same year. Senate Bill 550 (Mills) proposed to remove the requirement for legislative adoption of the goals and objectives, to establish the requirement for a five-year capital investment program, and to specify that the plan be deemed adopted by the Legislature if no legislative action is taken to the contrary within 90 days after the board adopts the plan. This measure cleared both houses, but died on the Senate floor in August 1976 when it returned for concurrence in Assembly amendments.

The July 1, 1976 deadline was never met. In fact, it was not until October 1976 that a draft plan was released by the task force. The goals of that plan were as follows:

> "The Transportation Goal of the state is to provide for a transportation system that supports the social, economic, and environmental well-being of the people of California."[4]

It is interesting to note that this goal places less emphasis on mobility and expresses more concern for the secondary impacts of a transportation system. It, too, was not adopted. In December 1976, the Administration sent a letter to the board rejecting the October draft. The letter, in part, read:

"We have reviewed the document with the Governor and have several major concerns about the plan as it is now written. Fundamental changes in these areas must be made if the plan is to reflect the policy of the Administration.

"The following are some of our major concerns:

(1) We seriously question both the equity and practicability of a pricing strategy which calls for vehicle stickers for air quality, "smog taxes" imposed by regional agencies, tolls on freeways, transportation stamps based on income, and other sophisticated pricing mechanisms of uncertain impact.

(2) In the absence of a clear and compelling need, we cannot support any general increase in the level of taxation. If there are inequities in our current system of transportation taxes, these should be studied very carefully and specific recommendations made.

(3) The Board's policies on deregulation of the transportation industry could have profound economic consequences for the people of California. The Board should cooperate with the Public Utilities Commission, the Legislature, and affected groups in a complete review of this subject prior to making any specific recommendations. The differential economic impact, both short and long term, should be evaluated carefully.

(4) The plan fails to acknowledge regional transportation plans and unique problems associated with rural California. It was intended that the regional plans be an integral part of the State Transportation Plan and specific reference on how this will be done must be included in the policy element. The issues having to do with transportation in rural California deserve special attention--there are distinct differences between urban and rural areas.

(5) The plan fails to clearly separate immediate transportation problems from longer term issues.

(6) If "full social accounting" is to be accepted as a principle, it must be defined precisely and take into consideration the full range of benefits, as well as the full range of costs,

symbolic of the failure to integrate the planning process into the mainstream of departmental activity that the DOTP was located in a suburban Sacramento office building about eight miles from the downtown Caltrans headquarters building.

Bottoms-up Planning

Excluding the districts from the process, however, was consistent with the philosophical concept referred to as "bottoms-up" planning, which dominated all discussion of the process by the Board and the Department from the onset of the endeavor until October 1975. This notion implied that the elements of the statewide plan were to be derived from the regional plans assembled in the four large urban areas--the San Francisco Bay Area, Los Angeles, San Diego and Sacramento--and in the single-county rural planning agencies.

The response to this situation was the development of guidelines to govern the planning efforts of the regional agencies. This posed few problems for the single-county regions, as many contracted with Caltrans to develop their plans. However, problems did develop in the four large planning regions. Foremost was the fact that regions had been doing transportation planning for several years under the aegis of several federal agencies. The plans were being developed to entitle the regions to federal funds for various aspects of transportation development--especially for mass transit capital grants. Since the state has no similar

the regions were in competition for federal capital outlay funds as a state is limited by federal law to only 12.5 percent of the mass transit grants available during a year. Therefore, the guidelines might ultimately serve as a means for either Caltrans or the board to develop statewide priorities among regions--naturally an undesirable prospect in the regions' view. Finally, local officials harbored considerable distrust of the Caltrans bureaucracy as a result of the freeway program carried out by the Division of Highways, Caltrans' predecessor.

Owing to the "bottoms-up" concept, the statewide planning process was thus at the mercy of regional agencies which had an ambivalent constituency among the local governments comprising the region. Caltrans was prevented by the board from drafting a statewide planning concept to integrate regional plans into a state plan and sort out conflicting priorities among regions. Instead, the board insisted that Caltrans spend considerable time examining the political issues of creating the regional agencies by law, as the board was trying to find a means to give them legal sovereignty. Although a report on the statutory creation of regional agencies was required by law, the amount of time devoted to this issue by the board and the senior DOPT management far exceeded what could be reasonably expected, as the issue was fundamentally political and could only be resolved by the Legislature.

Facility vs. Policy Planning

As advance planning is frequently criticized as being irrelevant to the decisions of the moment, both the board and Caltrans attempted to avoid that charge. Because Caltrans had its roots in the highway program, its institutional bias was to lean toward a planning process centered around evaluating the need for additional investments in transportation facilities. DOTP's efforts at conceptualizing a "facilities" element made the board uneasy and threatened the sovereignty of the regions. The board believed it was more appropriate to develop a statement of transportation goals, policies and objectives. Considerable effort on defining goals and policies could be further rationalized on grounds that they had to be delivered to the Legislature for possible adoption. For those who held the hope of placing the regional plans into a state transportation plan, the goals and objectives would provide the framework.

The Department quite loyally responded to the board's interest. However, the board, continuing to be wary of a facilities bias, was quite dissatisfied with DOTP's efforts. In its first progress report in July 1974, the board stated:

> "The Caltrans goal appeared inadequate to satisfy this purpose, thus the Board drafted new language, as well as supportive definitions which should minimize semantic error."[6]

By December 1974, the cover letter to the board's second progress report suggested that Caltrans was performing satisfactorily. The letter said:

"The State Transportation Goal and Policy Statements included in this Second Progress Report are of particular importance. Section 14040.6 of the Government Code requires that the Board shall adopt the California Transportation Plan and transmit it to the Legislature not later than January 1, 1976. However, the Plan shall not be adopted by the Board until the Legislature has approved or modified the statewide transportation goal, policies and objectives. The Board, therefore, recommends legislative approval of the goal and policy statements, permitting the Board--with legislative guidance--to move forward with development and adoption of the Plan within the designated time-frame.

"Although the goal and policy statements are an accurate reflection of California transportation values, it should be noted that the statements will undergo continuing review because of California's unique planning process. Since the major planning thrust originates at regional levels, some modification of goals and policies may be required as regional views become more fully amplified. This is completely in accord with the intent of the law, and in the Board's view is fully consistent with legislative adoption of goals and policies as set forth in the Second Progress Report.

"General progress on the overall Plan appears to be approximately on schedule. A first draft of the State-level plan is now available for review by the Board and regional transportation planning agencies."[7]

The salient point in the letter is that the state planning effort might have to be altered as the regional goals become known. This meant a disparate group of regions was essentially propelling the California transportation planning process.

DOTP felt the failure to agree upon a concept for the planning process was forcing Caltrans into an untenable position. On one hand, Caltrans was to develop an elaborate goal and policy framework for state transportation planning while, on the other hand, the actual planning was being done in regional agencies

over which the department had no control since the board was committed to a "benign neglect" policy of bottoms-up planning. The department was faced with a fundamental question: What happens when the regional plans conflict with state goals and policies? In August 1975 the Department found out. When attempting to describe the integration of the regional plans into the state plan, using San Diego as an example, DOTP suggested that San Diego's regional plan was proposing very unrealistic expenditures in guideway transit. The board strongly objected to Caltrans was second-guessing a regional agency's decision.

Caltrans was convinced in July 1974 (and more so as the months proceeded) that the board's failure to consider investments in facilities would limit the importance of the plan. From its highway-building experience, the department had the view that political officials and large segments of the public were interested in a plan providing tangible future investments in the various modes of the transportation system. By August 1975, at the very time the board rejected Caltrans planning efforts, Senate Bill 550 (Mills) was moving onto the floor of the Assembly to remove the requirement for legislative adoption of goals and objectives and requiring the plan to contain a near term five-year investment program. The bill was not moved off the floor in deference to the Brown Administration's efforts to recast the plan by July 1976.

Relevancy of the Planning Process to Caltrans

As noted above, DOTP was physically located away from other central office activities and the districts did not play their

usual lead role in program implementation. Both the symbolic and organizational separation of DOTP's transportation planning program is curious. State law requires that Caltrans, the California Highway Commission, the State Aeronautics Board, the Secretary of Business and Transportation must act in accordance with the plan. More importantly, Article XIX of the Constitution requires the adoption of a state transportation plan before the existing allocation formulas for gas taxes can be modified or abolished.

To those units of the department not involved in the planning effort, DOTP's planning program meant very little. The urban Districts (07, 04, 11) were in an awkward situation. Although they all had loaned staff to the regional planning agencies, the entire planning effort was being guided by a philosophy intended to weaken their ability to represent state government's urban transportation concerns. That one of the department's major divisions, DOTP, was party to this endeavor seemed incongruous. But until the fall of 1975, little concern was exhibited by Caltrans officials to the relationship of state transportation planning to the ongoing responsibilities of Caltrans.

It was only when Caltrans' participation in the plan was questioned that a statement regarding the relationship of the plan to departmental activities was made. Then Director Sid McCausland said in a speech:

> "I am faced with a major problem at the present time. I have a Department whose staff exceeds its level of program, whose staff is approaching the point where we could put all of our money into salaries, and none into new services. We have to reshape our program, we have to reshape our management direction over the next couple of years in order to make this Department the leanest, toughest Department in State government and the one capable of giving the public the most cost-effective service we can. It would be very helpful if we could have a State Transportation Plan that could serve as a management decision-making tool during that time."[8]

Further in the State Transportation Board minutes, McCausland is paraphrased as emphasizing to the board that the Administration generally supported the idea that a relationship exists between the plan and the management of Caltrans:

> Mr. McCausland stated that the statute requires that all actions of the Department be in conformance with an adopted California Transportation Plan. He gave assurance that the Plan will become the basis for subsequent decision-making, once it has been made and he emphasized that his understanding with Secretary Burns and Assistant Secretary Gianturco was very clear on this score.[9]

Nevertheless, McCausland harbored reservations toward the task force effort:

> "I don't personally believe that turning the drafting of this document over to an interdisciplinary task force without specific expertise in California transportation problems or your regional agency problems is going to produce a document relevant to my Department and its management program."[10]

In the Secretary's letter to the board agreeing to a six-month redrafting effort, the notion of integrating the planning effort into departmental activities was subscribed to. The Secretary wrote:

> "This effort, where feasible, will be integrated with short-term program and financial planning by Caltrans, so as to place such short-term planning in a broader context and to provide immediate focus for aspects of the more comprehensive effort."[11]

It is important to note that the work program as written by Ms. Gianturco, then Secretary of Business and Transportation and now director of Caltrans, never addressed the integration of the plan into ongoing activities of Caltrans. It was not until November 1976, when instructions for preparing the 1978-79 budget were developed, that any mention of the California Transportation Plan and its relationship to Caltrans activities appear. Those instructions said:

> (1) <u>Policy Direction from California Transportation Plan</u>
>
> DOTP (Schaefer) prepare draft policy/program direction statement based upon latest draft of State Transportation Plan. Schaefer discuss draft policy direction statement with five Program Managers, C. E. Forbes, R. G. Adams, and representatives from Districts 04 and 07 and obtain their concurrence. Proposed policy/program direction statement submitted to Director for approval.

That, of course, was the ill-fated draft plan of October 1976 referred to in the instructions. It was the October version that attracted so much attention because of its emphasis on user pricing, and that led to the downfall of Senate Bill 550. It has not been adopted by the board, Highway Commission or any other agency of state government.

CONCLUSIONS AND RECOMMENDATIONS

The California Transportation Planning process has been directed by a State Transportation Board isolated from the pressures of adjudicating competing demands for scarce resources. Except for a few months, the Directors of Caltrans, during the planning effort, have avoided taking managerial responsibility for the endeavor. Unfortunately, this avoidance turned into abdication in October 1975 when responsibility for the plan was shifted to the Business and Transportation Agency. The failure of the State Transportation Board and the three directors of Caltrans to commit themselves to the production of the California Transportation Plan in a timely fashion has cost Californians $68.3 million since 1973 in State and regional transportation planning.

It would be easy to blame the Division of Transportation Planning for the inadequacy of the planning process. But DOTP was floundering in the absence of strong, continuous leadership by Caltrans' directors. This Commission feels the California Transportation Plan process would have been on firmer footing if the insights of career DOTP employees had been followed, regarding inclusion of a facilities element in the draft plan, and if the plan had been viewed as a management tool as Mr. McCausland had suggested.

The derailment of the plan occurred when the State Transportation Board and the Brown Administration agreed to let the plan slip until July 1976. The Legislature must bear some responsibility

for permitting this to occur. If it had adopted the goals and objectives or if it had removed the requirement for goals, no excuse could have been found to postpone submittal of the plan. Further, the practical consideration introduced by the constitutional requirement that no change in the existing distribution formulas for the gas tax revenues can be made until the plan is adopted never appeared to be seriously considered. Indeed, the inaction by the Legislature may reflect an uncertainty, born by a lack of confidence in the planning endeavor, over what actions to take. It should be recognized that the Legislature can at any time enact legislation which, if the Governor concurs, provide clear direction to transportation development, regardless of the plan.

In light of the above, the following actions are recommended:

1. As recommended in Chapter 1, the State Transportation Board should be abolished and a California Transportation Commission should be created to take responsibility for transportation planning.

2. Action should be taken to abolish the requirement that the Legislature accept goals and objectives and assign that responsibility to the California Transportation Commission. If the recommendations of Chapter 1 are followed, the Legislature would have representation on the commission and need not become engaged in the mechanics of the plan's preparation.

3. The California Transportation Commission should be required to adopt a plan.

4. That plan should be revised at least every four years, and more frequently if determined appropriate by the Commission. The plan should be scheduled so that it can take advantage of the quadrennial needs study as well as the other periodic studies Caltrans is required to do.

5. The Secretary of Business and Transportation should immediately return the responsibility for transportation planning to Caltrans. In the absence of legislation to the contrary, the department should resume the planning in such a fashion as to complement its activities and meet the requirements of law.

CHAPTER 4 - Footnotes

1. California Transportation Plan: A draft, Vol. 1, Caltrans, July, 1975, page 3.

2. Letter to James R. Mills from William S. Weber, Executive Secretary, State Transportation Board, September 8, 1975, pages 1 and 2.

3. Letter to W. R. Lucius, Chairman, State Transportation Board, from Donald E. Burns, Business and Transportation Secretary, September 15, 1975, page 1.

4. Draft - California Transportation Plan - Policy Element, October, 1976, page I-1.

5. Letter to W. R. Lucius from Adriana Gianturco, Director of Transportation and Donald E. Burns, Business and Transportation Secretary, December 9, 1976, pages 1 and 2.

6. California Transportation Plan, Recommendation Submitted to the Legislature as Required by Section 14042, Chapter 1253, Statutes of 1972, California State Transportation Board, July 1, 1974, page 9.

7. Letter to James R. Mills, President Pro Tempore, California State Senate and Leo T. McCarthy, Speaker of the California Assembly from Thomas H. Hughes, Chairman, State Transportation Board, December 27, 1974, page 1.

8. The Future of Caltrans Plan, Intermodal Planning Group, San Diego, California, September 11, 1975, page 4.

9. State Transportation Board: Summary Minutes, October 2, 1975, page 7.

10. The Future of Caltrans Plan, page 4.

11. Letter to W. R. Lucius from Donald E. Burns, September 15, 1975, page 1.

CHAPTER 5: The Search For "Balanced" Transportation

When the Department of Transportation was created in 1973, it was not made from whole cloth. Instead it was formed by combining the old Division of Highways with new, statutorily required divisions of mass transit, transportation planning, aeronautics and certain housekeeping units. The department's enabling legislation requires that it "encourage and stimulate the development of urban mass transportation and interregional high-speed transportation where found appropriate as a means of carrying out the policy of providing balanced transportation in the state."

This is not an easy policy to pursue. What is "balanced" transportation? In the late Sixties and early Seventies, balanced transportation was a rehetorical statement that referred to an urban transportation program which had a heavier emphasis on mass transit than on highway development. It presents the department with a considerable problem. If balanced transportation is a commitment to the development of a multi-modal transportation system, how does Caltrans, with 95 percent of its budget committed to a highway program, "encourage and stimulate" a balanced transportation system?

No longer having the advantage of a broad consensus supporting its endeavors, Caltrans must reconcile some extraordinary, difficult and conflicting political and technical demands as it seeks to fulfill state policy.

This chapter examines the Department's efforts at managing the guideway transit program, the Senate Bill 283 programs, preferential lanes and corridor studies.

THE GUIDEWAY TRANSIT PROGRAM

The first change in the ground rules which govern many departmental decisions occurred in June 1974, one year after Caltrans' creation. At that time, Article XXVI of the State Constitution (recently renumbered as Article XIX) was amended to permit revenues raised from the gas tax to be used for "research, planning, construction, and improvement of exclusive public mass transit guideways (and their related fixed facilities) ... but excluding the maintenance and operating costs for mass transit power systems and mass transit passenger facilities, vehicles, equipment, and service." The Constitution requires local voter approval of any county's use of gas tax funds for guideway construction. Both the state and local share of the 7 cents gas tax may be used for guideway construction. (It is important to emphasize that the funds cannot be used for bus acquisition or operating expenses. Many concerned with transportation cite this as a major weakness in the Constitution.) Seven counties--Alameda, Los Angeles, Sacramento, San Diego, San Francisco, San Mateo and Santa Clara--are eligible to use gas taxes for guideway transit purposes.

The legislation implementing Article XIX provides an elaborate review procedure before the Prop. 5 funds are made available.

(By custom, funds for guideway transit are referred to by the ballot number of the proposition which amended Article XIX.) An applicant is first required to have the proposed project reviewed by its regional planning agency. A Los Angeles County application must also be reviewed by the Southern California Association of Governments. The comments generated by the reviews are forwarded to the State Transportation Board. The board must find the application in conformance with the California Transportation Plan, or in its absence, the regional transportation plan for the area from which the application is received. If there are two or more applications from the same county, the board must establish a priority among the competing applications. The application is then submitted to the Highway Commission for a decision as to whether it will receive funding. The legislation also restricts the maximum amount of funds transferred in a county from highway construction to guideway transit purposes to 20 percent this year, and 25 percent next year and thereafter.

This process is governed by regulations promulgated by the Highway Commission. Considerable controversy has hovered around the regulations. When they were first drafted, the Commission agreed with Caltrans' proposal that a transit district which is awarded funding must first have local governments identify highway projects for which funds had been budgeted and agree to cancel the projects so that those funds may be transferred to the guideway project.

Transit projects under these guidelines were not to be considered on their merits. Under this policy, a Caltrans district could easily avoid the transfer of highway funds by employing a budget strategy which limited its capital outlay projects to popular new facilities or safety projects in a county from which a request for a transfer might arise. This appears to have occurred in San Francisco County in 1975 when the only projects available for trading were safety projects, resurfacing projects and a tunnel relighting project. That decision was unfortunate since San Francisco has an extensive streetcar system which has been undergoing renovation. Many aspects of the renovation program are eligible for funding. To receive an allocation for that year, San Francisco chose to forego the relighting project.

Politically, the commission's policy did not serve to reconcile the traditional modal conflicts found in transportation; rather, it exacerbated them. At the suggestion of Caltrans, the regulations were modified in October 1976. They establish a process intended to contain and resolve potential conflict by putting anticipated guideway projects into the annual planning and programming of funds in the same manner as used for highway projects. A transit district seeking Prop. 5 funds must claim them by April of the fiscal year for which the funds are programmed. If the funds remain unclaimed after April, they are used to fund highway projects that have been prepared for construction in the succeeding fiscal year. Projects which

would be substituted for unwanted guideway funds are not necessarily in the same county as the guideway project, but for all practical purposes the projects will undoubtedly be in the same Caltrans district.

The Highway Commission was reluctant to adopt the proposed policy since it further weakened the commission's belief that funding guideway transit projects with a users tax--the gas tax--is inappropriate. Moreover, several commissioners believe that they, as highway commissioners, had an obligation to advocate the interest of the highway user. The commission's attitude is best exemplified by the following dialogue between two commissioners regarding Prop. 5 funds at an August 1976 meeting of the commission in Eureka:

> Commissioner Vetter: My comment would be, we know we can build highways, we know projects are there, so in my opinion, we should say we can and we will build these, period.
>
> Commissioner Sinnott: After all we are a Highway Commission and I think we should look at it (Proposition 5) as a Highway Commission from that standpoint.

To date, $5.9 million has been allocated for guideway transit. The specific breakdown is included in the following chart:

GUIDEWAY FUNDING

Applicant	1975-76 Amount Allocated	1976-77 Amount Transferred to Applicant	Amount Reserved for Potential Guideway Use in 1977-78 Budget	Amount Allocated in 1977-78 Budget
San Francisco County:				
San Francisco Municipal Railway	526,975	-0-	1,005,000	
Los Angeles County:				
Southern California Rapid Transit Dist.	552,000	357,113	4,093,000	
Community Redevelopment Agency	318,800	-0-	3,992,000	
Los Angeles International Airport	460,000	-0-	124,000	
San Diego County:				
San Diego Metropolitan Transit Development Board*	4,059,000	-0-		4,772,000
TOTAL	$5,923,800			

*The San Diego MTDB is required by statute to receive Prop. 5 funds.
Source: Caltrans

Although Caltrans successfully sought liberalization on the Prop. 5 process, it has been less than enthusiastic about committing itself to a guideway transit program.

For example, in October 1976, Caltrans proposed a $1.9 billion transportation improvement program for Los Angeles. The program has four elements: transportation systems management (TSM), bus-on-freeway, a Wilshire Corridor rapid transit guideway, and a downtown people mover. The total cost of the first two elements--

TSM and bus-on-freeway--is $978 million. To obtain the federal government's contribution of $825.5 for these two elements, it is necessary for a non-federal contribution of $152.4 million. In determining who pays how much of the non-federal contribution, Caltrans is asking local government to contribute 29.4 percent ($44 million) while Caltrans will provide 70.6 percent ($107.6 million).

The funding for the third element, the Wilshire Corridor proposal, was treated quite differently. It has an estimated total capital cost of $739 million, with the federal government contributing $591.2 million and non-federal sources contributing $147.8 million. Instead of applying the same ratio (70-30) for sharing the non-federal contribution between the state and local government, Caltrans is proposing that the state and local governments split the non-federal share 50-50.

The only apparent rationale for requiring local governments to contribute 50 percent on the guideway proposal and 30 percent on the highway elements is a weak commitment in Caltrans to guideway transit.

The fourth element, the downtown people mover, is estimated to cost $160 million, with the federal government contributing $128 million, the City of Los Angeles $32 million and Caltrans providing none.

Caltrans' ambivalence toward funding guideway transit can easily evolve--perhaps unintentionally--into an institutional bias. This is evident in the instructions for the work plan currently being developed. In planning for guideway transfers between the years of 1977-78 and 1982-83 the instruction reads:

> "Necessary staffing is to be scheduled and project development is to proceed on all projects identified for the alternative use of Proposition 5 funds, except in those instances in which local requests for Prop. 5 funds have received CHC approval. Prop. 5 projects are to be clearly identified on the Project Detail form by the addition of the words "PROP. 5 PROJECT" on the bottom line of the project description immediately following the program identification."[1]

This instruction underscores the belief that guideway projects should not be considered on their transportation merits, but as a lost highway project.

SENATE BILL 283

Senate Bill 283 (Chapter 1130, 1975) is perhaps the most explicit legislative direction for Caltrans to carry out its broad transportation mandate. The Legislature appropriated $18.9 million for several transportation programs. The more important purposes include $3 million to the department to contract with Amtrak to provide intercity passenger service; $2 million to fund demonstration programs that will improve transit district management and bus services; $4 million for the construction of two urban bikeways, one each in Northern and Southern California; and $750,000 for the construction of a platform crossing between the Richmond Amtrak Station and the adjacent BART station. The

Amtrak program was administered centrally by the Division of Mass Transit while the remaining programs were assigned to the Caltrans districts.

The management of these appropriations give insight into Caltrans' uncertain commitment to a multimodal transportation program. The first difficulty was to secure adequate manpower to carry out the program. Since SB283 became law in January 1976, six months into the fiscal year, the Division of Mass Transit sought six positions and four man-years to expedite implementation of the law. After procrastination and indecisiveness, first on the part of Financial Management and later the Department of Finance, the positions were approved in concept, but it was too late in the fiscal year to implement them. Although an adjustment was made to fiscal 1976-77 to meet the demands imposed by the law, that did not resolve the question of which level of priority the program should have. Since the district offices are organized functionally and not by mode, the Division of Mass Transit is frequently uncertain on where district responsibility rests for carrying out projects. This made it very difficult for DMT to monitor efficiently the work in the Districts. The diffusion of responsibility for mass transit projects in the districts is another manifestation of a lack of organizational commitment to transit projects.

A further example is the development of applications for the demonstration bus program when assigned to the districts.

Rather than agressively identify desirable demonstration projects, the districts waited for transit districts to submit proposals. This resulted in funding requests for conventional transit improvement projects. Of the $916,000 in awarded projects, none addressed such recognized transit management deficiencies as maintenance management and inventory control.

Senate Bill 283 also provided $3 million for subsidizing intercity rail service and $112,500 for two rail studies in Santa Clara County. There was considerable uncertainty as to where the assignment of this responsibility should be. The subsidy program, which involves contracts with Amtrak, was managed through the central office. The studies were assigned to the district offices but both were sufficiently inadequate that they are being redone in Sacramento. The reason for this is a lack of district staff with knowledge about the operational and institutional aspect of rail development. Another piece of legislation enacted in 1976, Senate Bill 1879, sets aside $3.3 million for added intercity rail passenger service in the Los Angeles-San Diego Corridor and in the Sacramento-San Francisco Corridor. The bill also provides for some minor capital outlay (i.e., fencing and signal recircuiting) intended to reduce travel time, especially in the Southern California Corridor. This will increase the involvement of the Caltrans districts in rail service. It will undoubtedly require more committed management if the program is to overcome the difficulties encountered by SB 283 program.

PREFERENTIAL LANES

Another dimension of urban transportation being pursued by Caltrans is the development of preferential lanes. It is a transportation concept wherein an existing lane of a city street, a highway lane, or an improved shoulder is reserved for the exclusive use of buses and carpools. A preferential lane is intended to increase the people-carrying capacity of a freeway. It is essentially a strategy designed to obtain more efficiency from an existing facility, without incurring the enormous capital cost of adding a new lane. The concept has been used successfully in many areas of California with one notable exception, the Santa Monica Freeway "Diamond Lane." The more prominent and more successful of California's preferential lanes is found in the Golden Gate Corridor on Highway 101 from the Golden Gate Bridge to San Rafael. It consists of a contra-flow lane of 3.9 miles in length. The contra-flow lane was designed to operate during the evening peak commute period for traffic leaving San Francisco. The additional outbound capacity was provided by redesigning two of the inbound lanes for exclusive use of buses during a period when inbound traffic is slack. At the end of the contra-flow lane the buses return to the concurrent flow lane also operates in the inbound direction in the morning. Both concurrent flow lanes are available to carpools. During heaviest part of the period, the bus service operates at 36 second frequencies and provides 4,500 seats per hour. Over 90 percent of the seats are occupied.

Other preferential lanes are associated with the toll plaza operations of three bridges spanning San Francisco Bay. Carpools and buses approaching the Bay Bridge Toll Plaza entering San Francisco have access to three preferential lanes for the final 1,100 feet approaching the Plaza on weekdays between 6:00 a.m. and 6:00 p.m. This preferential lane significantly reduces the travel time across the bridge for eligible vehicles by allowing them to bypass the stop-and-go traffic that jams up behind the toll plaza. Toll-free preferential lanes for buses and carpools with three or more persons are also open during the morning and evening peak periods Monday through Friday on the San Mateo-Hayward and Dumbarton Bridges. During these periods of the day, those eligible to use the preferential lanes avoid the congestion and associated delay experienced in the other traffic lanes on the bridges.

A concurrent flow preferential lane for buses and carpools has been operating on a two mile segment of southbound Route 280 in San Francisco for over a year. One lane, once available to general traffic, is now used exclusively by high-occupancy vehicles 24 hours a day and provides a slight time savings for eligible users. Congestion in the remaining freeway lanes has increased but is generally tolerable.

On portions of four city streets in San Francisco, transit vehicles receive preferential treatment either in concurrent flow preferential lanes or in exclusive rights-of-way.

Preferential treatment projects have also been implemented on streets and freeways in Southern California.

The San Bernardino Freeway Express Busway is an exclusive facility constructed adjacent to Route 10, extending the eleven miles between El Monte and the Los Angeles central business district. The busway is physically separated from general traffic by ten feet of paved shoulder. Initially intended for the use of buses only, the facility has been recently opened to carpools of three or more.

In downtown Los Angeles, a 1.2 mile segment of Spring Street, a one-way street has one lane in the reverse direction reserved for Southern California Rapid Transit District (SCRTD) buses. This contra-flow lane was opened in conjunction with the El Monte Busway and has enhanced the service provided by SCRTD by depositing passengers closer to their destinations while avoiding circuitous routings. The contra-flow lane is heavily used by up to 160 buses an hour during the peak periods.

In San Diego, a one-mile concurrent flow exclusive bus lane operates on Route 163 during the evening commute period to help alleviate the traffic congestion emanating from the Central Business District. This exclusive bus facility operates in the right-hand parking lane of an arterial (Eleventh Avenue) continuing in the right shoulder of the freeway.

Santa Monica Freeway Diamond Lane

The Santa Monica Diamond Lane stands in contrast to the other preferential lanes as it entailed removing from general service the fast lane in each direction on the busiest urban freeway in the state and had considerable impact on the surface streets in the adjacent communities.

Planning for the Santa Monica Diamond Lane (the Diamond is the customary symbol for a preferential lane) began in late 1973. It was put into operation on March 15, 1976 and was terminated by court action 21 weeks later. The origin of the Santa Monica Diamond Lane lies in the demands of the federal Environmental Protection Agency (EPA) that Los Angeles reduce vehicle miles traveled as one step in the area's effort to meet federal air quality standards. In the wake of 1973-74 oil embarge, it was believed that the Diamond Lane should demonstrate how the existing freeway system could be used to move people in both an energy efficient and timely fashion.

The Santa Monica Freeway was selected because it could be implemented quickly as a demonstration of Los Angeles' "good faith" effort to comply with the EPA requirements. Because it required no construction of additional capacity, the project could be implemented at a minimal cost. Caltrans also felt that the excess capacity on the parallel arterial streets could easily handle the anticipated diversion of traffic. In addition, previous experiments had been successful in the corridor. The Santa Monica Freeway had been

operating with experimental ramp meters and electronic overhead signs to help control traffic flow. As an experimental freeway demonstrating the use of traffic management techniques, Caltrans felt that freeway users would be more receptive to changes here than elsewhere.

It is interesting that the Santa Monica Freeway was selected to be the initial project in Caltrans' preferential treatment program. A number of professionals in Caltrans and local transportation agencies had serious reservations about using that freeway for a demonstration program of this magnitude, and there were good reasons for their reluctance. A study identifying potential opportunities for preferential lanes in Los Angeles-Orange Counties commissioned by the Southern California Rapid Transit District at the request of the State Senate selected 18 segments of freeways and arterials where preferential lanes could be implemented. (See table 4, page 112) A preferential treatment on the Santa Monica Freeway which reserved existing lanes for high-occupancy vehicles appeared to be the least desirable candidate for three reasons. First, it was predicted that total travel time in the corridor would actually increase because the time savings accruing to those using the preferential lane was insufficient to offset the additional time required by those using the non-preferential lanes. Secondly, the study estimated that the number of people using the preferential lane would decrease. This is, of course, inconsistent with the

Table 4

PREFERENTIAL TREATMENT EVALUATION SUMMARY

ROADWAY	TREATMENT	PEAK HOUR VEH. MILE REDUCTION (Miles)	PEAK HOUR PERSON MIN. REDUCTION (Minutes)	PEAK-HOUR INCREASE IN PERSON-TRIP UTILIZATION OF THE PREFERENTIAL LANES (Persons/Hour)	ESTIMATED TREATMENT COSTS CAPITAL	ESTIMATED TREATMENT COSTS OPERATING	ACCIDENT POTENTIAL
1. SAN FERNANDO VALLEY							
San Diego Fwy.	Normal Flow	15,710	14,800	800	340,000	68,000	Minor Increase
San Diego Fwy.	Normal Flow in Shoulder Lane	,710	42,690	800	3,010,000	530,000	No Change
Hollywood Fwy.	Normal Flow	26,240	24,820	2,490	460,000	81,000	Minor Increase
Hollywood Fwy.	Contra-Flow	26,240	26,880	N/A	1,880,000	1,040,000	Minor Increase
Ventura Fwy.	Normal Flow	3,990	-4,070	-80	290,000	86,000	Major Increase
La Brea Ave.	Reversible Lanes	N/A	1,800*	590	325,000	57,000	Minor Decrease
2. SAN GABRIEL VALLEY							
San Bernardino	Normal Flow	13,630	24,830	1,570	992,200	113,000	Minor Increase
Pasadena Fwy.	Contra-Flow	4,600	20,790	N/A	590,000	710,000	Minor Increase
North Broadway	Reversible Lanes	N/A	2,500*	850	165,000	25,000	Minor Increase
3. WEST L.A.-SANTA MONICA REGION							
Santa Monica Fwy.	Normal Flow	11,580	- 7,720	-860	330,000	92,000	Major Increase
Santa Monica Fwy.	Normal Flow in Shoulder Lane	11,580	25,590	-860	2,045,000	376,000	Minor Decrease
Wilshire Blvd.	Contra-Flow	N/A	30,000*	1,280	1,192,000	144,000	No Change
Pico Blvd.	Reversible Lanes	N/A	3,200*	1,020	620,000	75,000	Minor Decrease
4. SOUTH BAY REGION							
Long Beach Fwy.	Normal Flow	37,400	25,350	1,900	409,000	100,000	Minor Increase
Long Beach Fwy.	Normal Flow in Shoulder Lane	37,400	80,440	1,900	3,204,000	562,000	Minor Decrease
Harbor Fwy.	Normal Flow	15,360	12,380	340	400,000	99,000	Major Increase
Harbor Fwy.	Contra-Flow	15,360	12,160	N/A	469,000	2,092,000	Major Increase
San Diego Fwy.	Normal Flow	40,800	13,440	340	988,000	172,000	No Change
San Diego Fwy.	Normal Flow in Shoulder Lane	40,800	73,780	1,560	7,721,000	1,285,000	Minor Decrease
Flower Street	Reversible Lanes	N/A	4,600	2,470	390,000	56,000	Minor Decrease
5. ORANGE COUNTY REGION							
Santa Ana Fwy.	Normal Flow	35,440	85,330	340	949,000	157,000	Major Increase
Artesia Fwy.	Normal Flow	20,490	6,120	120	625,000	115,000	Major Increase
Artesia Fwy.	Normal Flow in Shoulder Lane	20,490	11,990	120	1,350,000	310,000	Minor Decrease
San Diego Fwy.	Normal Flow	16,700	17,670	50	546,000	109,000	No Change
San Diego Fwy.	Normal Flow in Shoulder Lane	16,700	52,520	50	4,267,000	818,000	Minor Decrease
Whittier Blvd.	Reversible Lanes	N/A	5,600*	165	435,000	65,000	Minor Increase

* Person Minute Reduction For Transit Passengers Only.

purpose of preferential lanes. Thirdly, the study predicted a "major increase" in accident potential.

Experience with the Santa Monica Diamond Lane certainly bore out the last prediction; accidents did increase to an intolerable level. A valid comparison to the data collected on the Diamond Lane and the first two predictions cannot be made because the parameters were different. For example, the Caltrans study showed reduced travel time because it estimated the time of a trip from origin to destination while Caltrans estimated it from on-ramp to off-ramp. Although the claims for the Diamond Lane's success appear impressive--269 percent increase in carpools, 16.9 percent of travelers using buses and 3 percent more persons in 7 percent fewer cars--the absolute numbers involved are small.

In the final analysis, the Santa Monica Diamond Lane failed because of poor professional judgement and an insensitivity to the limits that the public will allow itself to be party to an experiment.

San Diego Freeway Diamond Lane

The public reaction to the Santa Monica Freeway Diamond Lane Project has endangered the future of other preferential lane projects in Los Angeles. In September 1976 construction of the northbound lane of the San Diego Freeway Diamond Lane was completed, the appropriate environmental clearances had been obtained, and Caltrans barricaded the lane, pending input from the Los Angeles

public. Three advisory committees to Caltrans unanimously recommended that the lane be opened immediately to all traffic--at least until the companion southbound lane had been constructed. To do so, Caltrans would be in violation of environmental quality laws because environmental clearances had been obtained for a bus/carpool only lane, not a lane that would be available to all traffic. The lane remained barricaded and the controversy heightened as Caltrans continued to work toward opening the lane "as soon as possible." On Monday, January 31, 1977, the Governor, by executive order, opened the northbound San Diego Freeway preferential lane to all traffic.

INTRA-REGIONAL CORRIDOR STUDIES

Corridor studies refer to the examination of transportation needs between two areas. Several such studies have been undertaken when consideration was given to deleting highway routes, either because of the cost-revenue squeeze or local opposition to the proposed freeway. The studies are intended to identify alternative highway designs or transportation modes for the corridor.

Currently, Caltrans is involved in 14 intra-regional corridor studies. The studies are addressing the feasibility of alternative transportation development strategies for the corridors.

Seven of the studies involve corridors where the department has purchased $54.4 million of right-of-way. Six of the remaining studies involve corridors where Caltrans has not purchased any land but had once planned to build a facility. One of the studies, the Highway 101 corridor in Marin County, involves examining alternative transportation use for an extensive amount of railroad right of way that Northwestern Pacific Railroad is seeking permission to abandon. Some of the studies are examining transit alternatives. For example, I-80 Bypass in Sacramento could yield a request of the federal government to transfer the interstate funds now planned for constructing the bypass for general funds, in order to construct a busway. In Santa Clara County, considerable interest exists in possible using the West Valley corridor for which an eight-lane freeway had been planned as a corridor for a light rail transit facility. The State has purchased $8.2 million of right-of-way to date and the county is proposing that it use some of its Federal Aid to Urban Systems funds to purchase additional property in the right-of-way. Other corridor studies, such as the study evaluating the Eureka Freeway, are intended to assess alternative highway strategies to meet travel demands.

Although Caltrans is not statutorily required to participate in a corridor study, the department's investment of several million dollars in state funds in a given corridor implies that the corridor must have been of statewide significance. As discussed earlier, the amendments to Article XIX clearly provide that gas

tax funds can be put to multimodal purposes. Moreover, the statute governing the use of Transportation Planning and Research Funds states the following:

> All moneys in the Transportation Planning and Research Account and all moneys hereafter transferred or deposited in such account from any source, shall be available, when appropriated by the Legislature, for allocation ... for transportation planning and research purposes, including but not limited to, the following:
>
> (a) Statewide transportation system planning.
> (b) Matching funds for regional transportation system planning.
> (c) Transportation research projects of statewide interest.
> (d) Matching funds for regional transportation research projects.
> (e) Matching funds to obtain other funds for the above purposes.[2]

Corridor studies are particularly useful in assessing Caltrans' commitment to multimodal transportation development because their purpose--especially in the urban counties--is to assess the feasibility of alternative modes. Clearly this is in keeping with the legislature's intent regarding Caltrans' role. To shed light on this issue, this Commission evaluated a corridor study in northeast Sacramento County. There, a grass-roots movement succeeded in abolishing three proposed highway facilities and erasing planning and designing efforts dating back to the early Fifties. Up to 1975, $11.6 million had been invested in purchasing right-of-way. However, in 1975 a Sacramento legislator carried a measure deleting the routes from the freeway and expressway

system and requiring a corridor study by Sacramento County and the regional planning agency, the Sacramento Regional Area Planning Council. The Legislature required Caltrans to cooperate to the extent of providing data.

In a February 1975 memorandum to the Highway Commission, Caltrans identified two conditions governing its participation in the study:

> That the transportation corridor study costs be borne by the County or others with Caltrans participation limited to furnishing of available data.
>
> That if ... not met, the Highway Commission may proceed with unadoption and disposal of acquired properties.[3]

This message was conveyed to Sacramento County and SRAPC. Beyond the failure to take into account the department's broad statutory role, Caltrans acted contrary to a March 1973 memorandum to the Highway Commission in which the department took a broader position on the scope of corridor studies. At the time, during which the Highway Commission and the department were developing a program for recycling and recinding freeway routes, the department advised the Commission that "because of the State's continuing responsibility to share in meeting the transportation needs in the northeast corridor a third option--that of further cooperative studies--may be desirable to evaluate nonfreeway alternatives to the existing facility or on the adopted line." Furthermore, one of the factors adopted by the Highway Commission, on the recommendation of the department, in assessing what actions to take in the freeway route adoption review was:

> Could an interim or alternative non-freeway improvement to the existing facility or on the adopted line provide a satisfactory level of traffic service for the reasonable future: Would any or all of the rights of way acquired to date be utilized in such a project?[4]

Clearly, in its own discussions with the Highway Commission two years before the Sacramento County deletion legislation, the department had acknowledged that it had a role in corridor studies. This 1973 statement was consistent with transportation efforts which had been underway in California since the early 1970's and in which the department had participated. Finally, it is difficult to understand how a transportation department can argue uninvolvement when it had a Division of Transportation Planning and a Division of Mass Transportation. Yet Caltrans acted contrary to its own policies in the Sacramento case.

On January 22, 1976, Sid McCausland, Director of Transportation, issued a policy and procedure memorandum on transportation corridor studies. The memorandum recognizes that:

> With the passage of AB 69 and the creation of the Department of Transportation, a multimodal role in transportation planning was defined.
>
> The Department now has responsibility for planning and assisting in the planning of mass transportation, highways, aviation, railroad and other transportation facilities and services in support of statewide and regional goals.

The memorandum continues by defining the department's role in intraregional transportation corridor studies:

> The Department's involvement in ... intraregional transportation corridor studies is contingent upon a formal request for the Department's participation ... and upon the following conditions:
>
> 1. The identified transportation corridor is consistent with State, regional and local transportation goals and objectives.
>
> 2. There is a demonstrated need and priority for an intraregional transportation corridor study in the identified corridor at this time.
>
> 3. The potential (financial, environmental and political) exists for implementation of study recommendations within a reasonable period of time.
>
> 4. Funds and manpower are available for the conduct of the study.
>
> 5. The Regional Transportation Planning Agency and the affected local agencies are willing to participate both physically and financially on an equitable basis.[5]

Unfortunately, this memorandum was written approximately one year after the February 3, 1975, memorandum. Now, two years later, senior personnel in Caltrans still maintain the department has no clear mandate to investigate the possible use of mass transit in place of a highway.

CONCLUSIONS AND RECOMMENDATIONS

The extent to which Caltrans has met the statutory policy that it "encourage and stimulate balance" transportation has been mixed at best. Among the factors contributing to this situation are an inadequate institutional framework; rapid turnover in the director's position; a cadre of career employees professionally

ambivalent toward mass transportation and no significant level of state funding for transit.

Several institutional weaknesses serve to limit Caltran's response to its statutory mandate. Foremost among these is a Highway Commission that continues to view itself as an advocate for highway construction. The commission has failed to acknowledge that the Constitution, since 1974, has permitted gas taxes to be used to fund guideway transit development. To the career Caltrans staff, the statements and policies of the commission represent the greatest source of continuity in policy because of the short tenure of recent directors. Consequently, the commission's attitude that funding a guideway construction with gas taxes represents a lost highway project, and not the alleviation of an unmet transportation need, constitutes a directive to Caltrans' rank-and-file.

Another institutional weakness is the statute creating Caltrans. It requires the department to be multimodal, but limits its activities primarily to building, maintaining and operating the state highway system--responsibilities not unlike its predecessor, the Division of Highways. There is no reward to the department for being multimodal. This is especially true with guideway transit. Since Caltrans is not authorized to construct and operate guideway facilities, the diversion of gas tax funds serves to improve the fiscal well-being and stature of another agency at the expense of Caltrans. Several new responsibilities could be

assigned to Caltrans. For example, constructing guideway transit facilities in freeway medians or in corridors where a freeway is viewed as unacceptable; constructing park-and-ride facilities; contracting with railroads to provide commuter rail service; providing access to Prop. 5 funds to pay for eligible guideway expenditures; managing the State's transit subsidy program to local governments; and actively working with local governments to conduct industrial development planning for areas adjacent to freeway interchanges.

Modifying the institutional framework so that Caltrans responsibilities are commensurate with its charge to be multimodal would serve to remove the unenthusiastic reception multimodal transportation development recieves in the department. However, the internal management of the department is so inadequate, as evidenced by its reluctance to aggressively manage the implementation of Prop. 5, SB283 and the Santa Monica Diamond Lane fiasco, that it is unadvisable to enlarge the responsibilities of Caltrans.

CHAPTER 5 - Footnotes

1. Memorandum to District Director and Chiefs of Caltrans Divisions regarding Work Plan from C. E. Forbes, Chief Engineer, R. G. Adams, Assistant Director - Financial Management and G. V. Hood, Chief, Division of Administrative Services, November 16, 1976, page B-2b, revised November 30, 1976.

2. Section 13996 of the Government Code, California Statutes.

3. Howard C. Ulrich, Director of Transportation, Mr. J. Sinnott, Chairman and Members, California Highway Commission, February 3, 1975.

4. Memorandum to Winston R. Fuller, Chairman and Members, California Highway Commission from James A. Moe, Director of Public Works, March 23, 1973.

5. Policy and Procedure Memorandum, No. P 76-3, January 1976, pages 1 - 2.