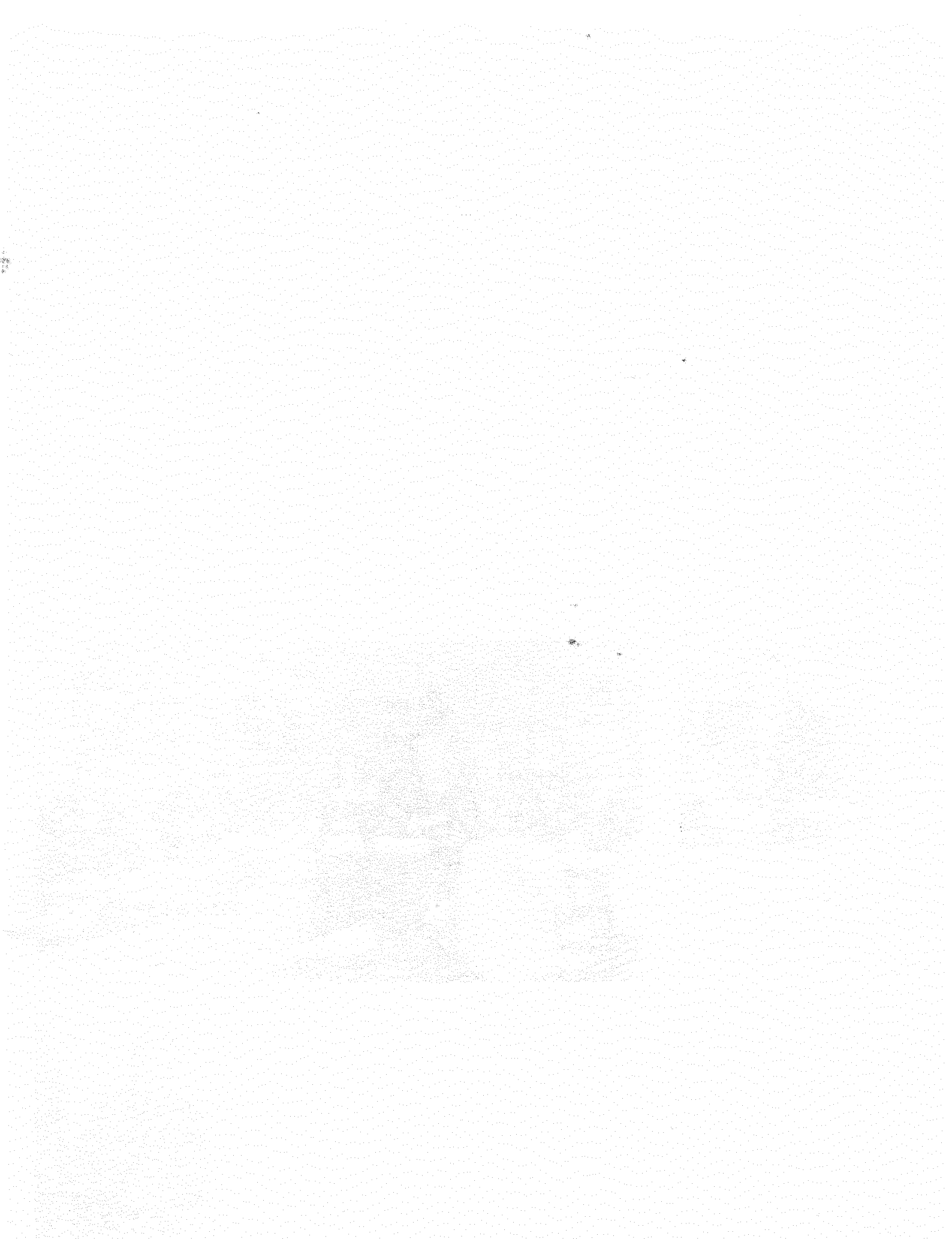
PRESS*

Report of The Governor's Task Force On Transportation



Report of The Governor's Task Force On Transportation

NOVEMBER 1968

STATE OF CALIFORNIA
RONALD REAGAN, Governor

Governor's Task Force on Transportation

1120 N STREET, SUITE 1100, SACRAMENTO, CALIFORNIA 95814

November 19, 1968

My dear Governor:

It is my privilege to submit the GOVERNOR'S TASK FORCE ON TRANSPORTATION REPORT to you.

You charged the Task Force to endeavor to define the State's role in transportation planning, and to recommend an organizational structure which could most effectively correlate and plan the transportation needs of the State in the future.

The twenty-four man Task Force, which you created, included responsible representatives of every transportation mode, as well as representatives from virtually every key organization in the State concerned with transportation. We obtained additional know-how by drawing on the services of some 80 experts in the various transportation fields for advice and criticism as the report progressed through the several drafts. We also had invaluable support from a number of the State of California's highly qualified technical people borrowed from the appropriate departments. These individuals acted as Project Directors for the ten committees of the Task Force. Without their help, we could not have made as much effective use of the members of the Task Force as we did.

Our strategy in the first instance, involved an assessment of all the material and ideas that were available to us concerning the past, present and the future of transportation. Then, a series of special committees reviewed the summary of our findings through a number of matrices; for example, planning, engineering, financing, legislative, and legal. Early in the process we discovered what we all had suspected -- that extensive information about transportation was available -- but that very little correlation of this information exists, and there is even less coordinated planning among the modes.

Our findings have resulted in five recommendations to you and the Legislature. They are as follows:

1. Establish a California Transportation Board
2. Establish a State Transportation Planning Office
3. Establish Regional Transportation Districts
4. Fund the State Transportation Organization
5. Develop a State Transportation Policy, which should include:
    a. The Encouragement of the Development of Urban Mass Transportation.
    b. Continuance of the Development of the Statewide System of Highways, Roads, and Streets
    c. Definition and Refinement of the Role of the State in Air Transportation
    d. The Encouragement of the Development of Ports, Harbors, and Waterways
    e. Encouragement of Transportation Research and Development
    f. Reassessment of the State Transportation Regulatory Policies.

The considerations and observations which substantiate these recommendations are the subject of the body of the report. There is, in addition to the report, a summary of basic information developed by the Task Force which, in effect, documents the background material which lead to our findings.

There can be no question that an urgent need exists for the State to assume a position whereby it can coordinate transportation concerns and planning, not only within the State's various organizations and entities at all levels of government, but also in conjunction with the states adjacent to us, which together make up our region. It is also obvious that such an agency should accept a similar responsibility with respect to the Federal agencies now concerned with all phases of transportation.

The Task Force recommends, accordingly, that there be created within the Transportation Agency a group of experts capable of assembling and analyzing information pertinent to California's transportation

system, and that there be a lay board appointed to advise and assist the Secretary of Business and Transportation in the formulation of State transportation policy. The Task Force feels that the need to carry out these and its corollary recommendations is immediate, and only by their implementation can California's future social, economic, environmental and transportation needs be meaningfully satisfied.

The Task Force respectfully suggests that it has carried out the assignment which it was given and extends to you its gratitude for the privilege of having been of service to the State.

Respectfully,

William L. Pereira

William L. Pereira, F.A.I.A.
Chairman
Governor's Task Force on Transportation

The Honorable Ronald Reagan
Governor of California
Sacramento, California 95814

Foreword

California has entered an era which is characterized by a high degree of interdependence among all elements of its social, economic, and political structure. It is no longer possible for individuals, groups of people, businesses, industries, or communities to go their separate ways. The behavior and stability of our State derives, as never before, from the complex interactions of the many elements of which it is composed. The word for today and for the future is interaction.

Underwriting the intricate pattern of societal interaction are the complex systems of communication and transportation which continually evolve to meet our changing needs. In the future our society will be increasingly concerned with the nature of the development of transportation systems and services and their social consequences. We must give increasing attention not only to the interactions of our transportation systems with the environments in which they operate, but also to the interactions among the several segments, or modes, of our overall system of transportation services. This attention to transportation as a system of services cannot be isolated from other elements of our social, economic, and political structure. It must be accomplished within the encompassing framework of statewide developmental planning.

Because transportation systems take time to develop, and because they remain embedded in our pattern of living for long periods of time, decisions made today regarding transportation will have long-lived consequences. Accordingly, whether our transportation complex in the 1980's will be a boon or a burden to the people of California will be largely the result of actions taken in the near future.

Under our present conditions of rapidly increasing population, burgeoning urban regions, rural renaissance, and an expanding economy, there are obvious requirements for the expansion, extension, and improvement of our present transportation facilities and services. The Task Force reviewed these many transportation needs and problems and summarized them in this report, together with an estimate of the magnitude of the public financial commitments expected to be involved. The Task Force concluded that it should be well within the technological and financial capabilities of the people of this State to meet most or all of these needs, if the decisions made are in keeping with sound planning.

The mere provision of a series of separate expanded transportation modes will not result in the overall system of transportation services necessary to provide for future needs. To properly provide for our future needs, particularly in view of the probable complexity of our society in the 1980's and beyond, a mechanism must be developed whereby the changing use of our land and resources and the changing patterns of social and economic activity can be related to the total needs for the movement of people and goods. It is not realistic to expect that our transportation problems will ever be completely solved—what is needed is to develop the most effective means possible of identifying and dealing with these problems so as to minimize their number and magnitude. California presently lacks this ability or an adequate means of defining and coordinating its upcoming transportation requirements.

The State must evolve improved means of taking advantage of new technological developments and capabilities in adapting the composite of transportation service to the changing patterns of our society. A capability is needed to discern where changes in public policy can encourage private development of segments of the overall transportation system and to identify when and where additional transportation facilities and services, and what kinds, will be required. The ability to devise viable public programs and financial support arrangements that will set needed transportation activities in motion is urgently needed. Policies must be adopted that will foster and facilitate coordinated and cooperative approaches to the provision of needed transportation services at the local and regional levels.

A new kind of organizational structure at the State and local levels is needed to meet needs such as these. Basically, such a structure must provide a capability to analyze changing requirements on a continuing basis and to assess the effects of alternative courses of transportation development so that more effective policies and more appropriate decisions can be made by governmental bodies, by business, and by industry. Numerous data bases now exist which could be made available from various agencies and bodies. The primary problem rests with the coordination, interpretation, and implementation of existing data, together with a need for additional data collection to fill the gaps so that appropriate decisions can be made within the overall framework of statewide plans and policies.

In order to realize the full benefits to be derived from this new capability for dealing with the transportation problems of the future, not only must an analytic methodology be created, but the means of managing and administering it must be instituted. The Task Force visualizes a continuing effort at two levels within the State: an explicit organizational entity within the State government with general responsibility for the analyses relating to overall programs and statewide policy recommendations; and a regional mechanism whereby the transportation planning and implementation process can be prosecuted effectively in conjunction with State and local governments and local sectors of business, industry, and the public. Specific recommendations concerning these two vitally needed functions are set forth in this report.

The Task Force views this recommended program as a pioneering effort which has the laying of a better base for the development of a coordinated transportation policy and a system of transportation services as its end objective. Satisfactory techniques for dealing with the total transportation requirements of a rapidly changing future have not yet been developed, in California or elsewhere in the world. Such techniques can only be developed incrementally, but the Task Force is convinced that a beginning can and must be made, and that the State government has the responsibility for taking the leadership in making this initial effort.

Table of Contents

I. INTRODUCTION AND SUMMARY 1
A. Task Force Scope and Objectives 3
B. Summary of Recommendations 3
C. The Role of the State 4
D. State Transportation Goals 5
E. The Financial Situation 5

II. RESOURCE REQUIREMENTS 7
A. Total Cost of Transportation Services 9
B. Public Capital Outlay Requirements 9
1. Roads and Highways 9
2. Airports and Airways 10
3. Urban Mass Transportation 10
4. Ports and Harbors 11
C. Summary 11

III. MAJOR TRANSPORTATION PROBLEMS AND ISSUES 13
A. Introduction 15
B. Road Transportation 16
1. The Automobile 16
2. The Bus 16
3. The Truck 17
4. The Route 17
5. Terminals 18
6. Financing Approaches 19
C. Urban Mass Transportation 19
1. Rapid Transit and Mass Transit 19
2. Use of Existing Rights-of-Way 19
3. Financing Approaches 20
D. Air Transportation 22
1. Master Planning Approach 22
2. Equipment and Technology 22
3. Terminals 23
4. Financing Approaches 23
E. Rail Transportation 24
1. Routes 24
2. Equipment 24
3. Terminals 25
4. Financing Approaches 25
F. Water Transportation 26
1. Port Authority Structure 26
2. Equipment and Technology 26
3. Terminals 27
4. Financing Approaches 27
G. Pipelines 27

IV. TRANSPORTATION IN THE FUTURE 29
A. Research and Development 31
B. Incorporation of Innovations 31
C. Tomorrow's Transportation Systems and Equipment 32

V. RECOMMENDATIONS 33
1—Establish a California Transportation Board 35
2—Establish a State Transportation Planning Office 35
3—Establish Regional Transportation Districts 37
4—Fund the State Transportation Organization 37
5—Develop a State Transportation Policy 37
A. Encourage the Development of Urban Mass Transportation 38
B. Continue Development of the Statewide System of Highways, Roads, and Streets 38
C. Define the Role of the State in Air Transportation 38
D. Encourage the Development of Ports, Harbors, and Waterways 38
E. Encourage Transportation Research and Development 39
F. Reassess State Transportation Regulatory Policies and Restrictive Practices 39

GLOSSARY OF TERMS 40

APPENDIX I Acknowledgments 41

APPENDIX II Members of the Governor's Task Force on Transportation 42

APPENDIX III Task Force Panels 47

APPENDIX IV Technical Committees 49

APPENDIX V Summary of basic information developed by Panels I, II, III, & IV (separate volume)

Introduction and Summary

A. Task Force Scope and Objectives

The Governor's Task Force on Transportation was assigned two principal objectives:

1) Define existing problems, with emphasis on the need for correlation of, and comprehensive planning for, the various forms of transportation
2) Recommend to the Governor the organizational structure which can effectively correlate and plan for the future transportation needs of the State.

This report presents a summary of the Task Force findings, conclusions, and recommendations to the Governor in response to these objectives.

The findings and conclusions resulting from the Task Force deliberations have brought forth recommendations which are considered to be the first steps in the development of the comprehensive program of action which is required to produce a sound transportation system for California. The specific recommendations presented in this report are intended to establish the foundation of policy and organization for such a program of action.

It should be noted that, while the effective implementation of the recommendations contained in this report will require detailed and specific engineering studies, economic analyses, legislative programs, and financial plans, such detailed studies and analyses were not considered to be within the areas of responsibility of the Task Force. Additionally, unless the organizational structure recommended in this report is established, the State will not be able to assess adequately certain proposals and reports relative to the conduct of State transportation system studies which are now on hand.

B. Summary of Recommendations

In the course of examining the present and future requirements and problems associated with providing transportation services for California, the Task Force has found that the most serious deficiency at the present time has to do with our inability to identify, define, and evaluate adequately our current and future transportation requirements and problems. The State must develop the capability, in terms of an organizational structure, to obtain and evaluate data, to assess its transportation complex in terms of a statewide system, and to arrive at policy decisions on the basis of adequately evaluated data. Although many elements of our system of transportation services are provided and maintained in varying degrees on an incremental basis by the private sector, or through public agencies at the local or regional level, the State is presently unable to provide the cohesive, coordinative function which is required and which is properly its responsibility. The State must put itself in the organizational posture whereby it can effectively facilitate the coordination of intra-state, inter-state, and international transportation planning and program implementation. The State should enable itself to provide support and assistance as required by the public and private sectors, through the collection and analysis of data through objective evaluation of proposed improvement programs and through the establishment of a comprehensive, long-range transportation policy. Accordingly, the Task Force makes the following specific recommendations, which are aimed at placing the State in a position whereby it can assume its responsibilities and fulfill its role from both an organizational and a policy standpoint:

RECOMMENDATION 1 — ESTABLISH A CALIFORNIA TRANSPORTATION BOARD

Legislation should be enacted which creates a California Transportation Board to advise and assist the Secretary of Business and Transportation in the formulation of State transportation policy, to evaluate data and information and recommend State participation in the development of various modes of transportation, and to advise as to the effects of alternative transportation plans on the socio-economic development of the State. This Board should consist of not more than seven members appointed by the Governor, with the advice and consent of the State Legislature, and should have as ex-officio members the Chairman of the Senate Transportation Committee and the Assembly Transportation and Commerce Committee. At an appropriate future time, the Task Force believes that this Board should be vested with additional powers, duties, and responsibilities in the area of budgeting, allocation, and administering of State transportation funds and resources.

RECOMMENDATION 2 — ESTABLISH A STATE TRANSPORTATION PLANNING OFFICE

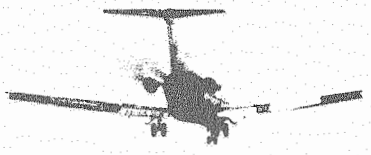
The same legislation which creates the California Transportation Board should create a technical staff organization to support the Secretary of Business and Transportation and the Board in the collection, analysis, and evaluation of transportation data and information as well as in the coordination of transportation plans and programs.

RECOMMENDATION 3 — ESTABLISH REGIONAL TRANSPORTATION DISTRICTS

A series of regional transportation districts should be authorized by the Legislature so that every part of the State will be included in a regional transportation district. These districts, within the encompassing framework of overall State transportation policies, should be responsible for coordinating the detailed transportation program planning and implementation activities in the region.

RECOMMENDATION 4 — FUND THE STATE TRANSPORTATION ORGANIZATION

The State Legislature should annually appropriate the funds necessary to support the activities of the California Transportation Board and the State Transportation Planning Office from the State Aeronautics Fund, the State Highway Fund, and the State General Fund. These funds should be budgeted by the State Transportation Agency.



RECOMMENDATION 5 — DEVELOP A STATE TRANSPORTATION POLICY

The State should develop and maintain a comprehensive long-range policy regarding transportation, and should establish a comprehensive State Transportation Master Plan. The State's transportation policy should include the following key points:

* Encourage the development of urban mass transportation
* Continue development of the statewide system of highways, roads, and streets
* Define the role of the State in air transportation
* Encourage the development of ports, harbors, and waterways
* Encourage transportation research and development
* Reassess State transportation regulatory policies and restrictive practices.

The considerations and observations which substantiate these recommendations are summarized on the following pages of this chapter. Further elaboration of the findings and conclusions of the Task Force and of the specific recommendations are presented in Chapters II through V of this report.

C. The Role of the State

The Task Force has given much thought to the proper role of the State government in the planning, development, and realization of the integrated system of transportation which will meet the future needs of the people of California. The Task Force believes that the State's primary responsibility should be the coordination and integration of overall transportation planning. The State should be responsive to the needs of the people through the definition of requirements, evaluation of alternative approaches, establishment of long-range plans and policies, and the setting of appropriate performance criteria and standards.

The State must also accept a responsibility to encourage and facilitate basic transportation research and development, not only to permit the effective utilization of advanced technological capabilities, but also to reduce the undesirable effects of transportation systems and equipment on the levels of air pollution, noise, personal safety, etc. Such research and development effort should be conducted wherever possible by private enterprise, qualified research organizations, and through the existing capabilities of the State's universities and colleges.

In general, the implementation of plans for the individual parts of the total statewide transportation system—the development of funding plans, preparation of detailed designs and specifications, detailed engineering studies, actual construction, and the operation and maintenance of individual transportation facilities and equipment—should be the responsibility of private enterprise and local or regional authorities, utilizing the services of private agencies and consultants where appropriate. In certain instances—state freeways and highways, for example—the State should accept the primary responsibility for actual construction, operation, and maintenance of facilities, with appropriate use of consultants in planning and designing these facilities. In many modes of transportation, the State's role should be primarily that of data gathering, coordination, and the integration of transportation planning efforts. The State should encourage the utilization of the professional and labor resources of the private sector to implement the transportation plans and policies, rather than developing an organic State capability in competition with the private sector.

The State has a definite responsibility for direct involvement in future Federally sponsored transportation planning and construction programs. Where such programs are on a statewide basis, or interface with statewide systems, the State must take the lead in coordinating the participation and involvement of the various local and regional groups affected.

Where such projects are regional or local in scope, the State should take whatever actions are appropriate to assist the particular area concerned. Again, the extent of the State's role should primarily be that of coordinating and integrating transportation activities to ensure that there is consideration of the transportation goals and objectives of the entire State, as well as to ensure that the system of transportation services is compatible with overall statewide goals and objectives.

The State must develop an organizational capability to maintain active contact and liaison with the various federally sponsored research, development, and demonstration projects being undertaken in the transportation area. This should include the preparation of plans and proposals for participation in Federal projects where such activity is in the best interests of California. The State must also establish a better capability to maintain cognizance over the various Federal programs in the transportation area which are implemented at the local or regional level in California, both to coordinate their prosecution and to assist in the integration of such local projects with overall statewide transportation system goals and objectives.

The State should also take an active part in the coordination of transportation planning that transcends State boundaries into neighboring states or nations. In this role, the State should act as the focal point for inter-state planning and the management of the transportation matters relating to regional areas of the nation. The State should represent the varied interests of the people and industries of California in all coordinating councils and federations with other States that address themselves to transportation problems.

In the course of its investigations, the Task Force has considered various reports and proposals which have been submitted to the State relative to conducting studies of the State's transportation system. It was concluded that the applicability or suitability of such proposals can only be determined following the establishment of the organizational structure, at the State and regional levels, which is recommended in this report, and no assessment of such reports and proposals is included herein.

D. State Transportation Goals

The basic objective of a continuing program of transportation, research, development, and construction in the State of California must be to evolve a system of transportation services which is balanced to meet the future needs of all segments of California's industry and society. The economic well-being of the State and the people of California demands that an effective system of transportation services be provided and maintained. All modes of transportation—roads and highways, railways, air and water transportation pipelines, urban mass transit, etc.—should be developed and utilized in such a way as to permit the most efficient employment of their individual capabilities as component parts of an overall system. The planning and realization of this system of transportation services must simultaneously be accomplished in the larger framework of our overall social, economic, environmental, and fiscal goals and objectives as defined in the Phase II Report on the California State Development Plan Program issued recently by the State Office of Planning. To achieve this, the following are submitted as the major goals for California's system of transportation services:

Develop all modes of transportation so that they may function as integral parts of the coordinated total system which will most effectively serve industry, commerce, and the people of the State.

Provide that connections between the various modes of transportation interface so as to facilitate efficient and economical transfer of people and goods.

Recognize the advisability of providing alternative services by the use of more than one mode of transportation and of utilizing "transportation corridors" where possible to improve efficiency and economy in land use.

Coordinate community planning with transportation planning to provide aesthetic as well as utilitarian approaches to satisfy transportation and community requirements.

Provide transportation facilities for those persons not now serviced by automobiles or by other modes of transportation.

Provide transportation facilities not only for speed and efficiency of travel but also for convenience and enjoyment in shopping, school, cultural, and business pursuits, leisure time travel, and pedestrian travel.

Provide transportation facilities and equipment which are in all possible ways compatible with our environmental goals.

E. The Financial Situation

The Task Force has developed a projection of the gross order of magnitude of the public outlay which appears to be required through 1985 to provide and maintain a total system of efficient transportation services in California. These estimates have been arrived at by examining the probable capital expenditures and operating and maintenance costs in the

following primary areas of transportation:

*Roads and highways

*Airports and airways

*Urban mass transportation

*Ports and harbors.

The figures developed for these various modes of transportation indicate that a total outlay of public funds through 1985 will probably be in the neighborhood of $50 billion. This figure could be considerably greater or less, depending on the particular kinds and quality of transportation which the people of California choose to obtain. Further, since this figure was derived from estimates of the requirements for individual modes, it does not reflect the potential advantages of optimization through alternative approaches or tradeoffs among the various modes. Neither should it be inferred that the Task Force intends to imply that such expenditures actually will or should be made for any particular mode.

The mode by mode estimates do not appear to present insurmountable problems from the standpoint of developing needed revenue sources for the different modes, except that in the case of urban transit there may be a significant gap between projected capital outlay and the expected revenues that will be available through user charge financing and the present concepts of generating public funds.

The Task Force recognizes that transportation is only one of many areas which place demands on the taxpayers' dollars. The State of California is also involved in many different programs involving substantial expenditure of public funds: education, welfare, air and water pollution, and law enforcement, to name a few. A comprehensive discussion of these requirements is presented in the California State Development Plan Program Phase II Report referred to previously. However, the purpose of the Task Force has been to define and identify the problems in the area of transportation. The assignment of priorities to the various programs must be accomplished by the Governor and the State Legislature.

Resource Requirements

A. Total Cost of Transportation Services

In order to develop an appreciation for the magnitude of the total financial resources required to provide, maintain, and operate transportation services in the State in coming years, the Task Force has examined some gross statistical relationships. Although necessarily very crude estimates, it is felt that these estimated expenditures serve to place some degree of quantitative dimension on the total requirements for resources.

The relationship of total expenditures for all forms and kinds of transportation goods and services in the State was examined as a function of the Gross National Product (GNP). It was estimated that between 15 and 20 percent of the GNP is annually spent for transportation in the United States, and that California has traditionally accounted for about 10 percent of this total outlay of public and private funds.

The GNP in 1967 was determined to be $763 billion, which would indicate that approximately $150 billion was spent in the United States for transportation goods and services. Assuming that California accounted for about 10 percent of this expenditure, around $15 billion was spent in California for transportation last year. This figure includes *all* expenditures related to transportation such as construction of highways, freeways, roads, and streets; port and harbor construction; payments of freight and shipping charges; purchases of airline, railroad, and bus tickets; and purchases of fuel, parts, and maintenance services.

If a projection of probable GNP to the year 1985 is made, it is conservatively estimated, assuming an average growth in GNP of only 4 percent per year, that a GNP in the neighborhood of $1600 billion will be achieved. If it is further assumed that roughly the same portion of the GNP is spent for transportation in 1985, the total annual national outlay for all forms of transportation goods and services in 1985 may be around $300 billion. Assuming that California continues to account for about 10 percent of this total (again a conservative assumption), the State will be spending approximately $30 billion per year for all forms of transportation goods and services — about twice the present annual rate — in less than twenty years. Thus, even conservatively speaking, it is evident that $400 billion of public and private funds may be expended in California for transportation goods and services between now and 1985.

B. Public Capital Outlay Requirements

Although a very large part of the total annual expenditure for transportation will represent the investment and expenditure of private money, the magnitude of the public expenditure to be made by the people of the State to 1985 is significant. Since the public expenditure figures developed by the Task Force relate to transportation systems which may be extended considerably or be replaced by new systems, they should be considered as only quantitative estimates of public expenditures for transportation. Similarly, and for comparable reasons, it is not possible to identify the specific source — whether local, State, or Federal — of these public funds.

Four basic categories of transportation service were considered and estimates (in terms of 1968 dollars) were developed of the total public funds believed to be needed from 1968 through 1985 in each of these categories:

*Roads and highways
*Airports and airways
*Urban mass transportation
*Ports and harbors

The estimates presented below are based on various data available to the Task Force as well as, to a considerable extent, discussions with transportation experts on the Staff of the Institute of Transportation and Traffic Engineering of the University of California.

1. ROADS AND HIGHWAYS

Total public outlays for the construction, operation, and maintenance of State highways and freeways, county roads, and city streets through 1985 are estimated to be around $28 billion. This figure represents funds administered by local, State, and Federal agencies.

The figure of $28 billion is based on a continuation of our present program of freeway and highway construction in the State and includes a significant upgrading and improvement in our system of local roads and streets as "collector/distributor" systems. It also assumes an increased public investment, though relatively small, in provisions and facilities for the accommodation of vehicles at rest (e.g., parking facilities integrated with the freeway/highway/road/street system).

In addition to the above outlay of public funds, approximately $2 billion is estimated to be required through 1985 for the development and installation of advanced systems and equipment for the surveillance and control of traffic on the road and highway system.

Thus it is estimated that a total public investment of about $30 billion will be required through 1985

for streets, roads, and highways within the State. Much of this public capital investment will be provided through existing programs of highway financing which are basically user charge programs. The extent of Federal participation in the future cannot be accurately estimated, but it is assumed that the allocation of Federal funds to the State for highway purposes will continue in some form.

It appears to the Task Force that in the future our present concepts of highway financing can be extended to support a program of the general order of magnitude indicated. There will be a deficit or gap if current rates of revenue collection are merely projected, but it would appear that increased pay-as-you-go user charge financing (e.g., increased fuel tax, motor fuel sales tax, toll charges, etc.) could be adopted to meet this deficit.

2. AIRPORTS AND AIRWAYS

Rapid technological changes have characterized the air transportation industry in the past, and further, dramatic changes are anticipated in coming years. The introduction of the very large jet aircraft now on the drawing boards and of supersonic transport aircraft in the near future will require some significant changes in our ground facilities and in the air traffic control facilities currently available.

Improvement of the airways system will be primarily through the upgrading of the Federal facilities currently in operation. This upgrading may involve the expenditure of perhaps $500 million in California between now and 1985.

The modification, expansion, and reconfiguring of airport terminal facilities to accommodate the vastly increased numbers of passengers and quantities of air cargo which can be carried by the next generation of jet aircraft are estimated to require the expenditure of approximately $2.5 billion in public funds through 1985. This figure does not include the great expenditures which will be made by the airline industry and commercial air cargo companies for new aircraft, maintenance facilities, and air cargo facilities. However, the figure does include the amount of public funds to be expended to improve conditions at the interface between airport terminal facilities and connecting ground transportation systems. The need for efficient ingress and egress of passengers and cargo to and from airport facilities will be satisfied in part by expenditures at the airport and in part by expenditures for the street, road, and highway system and for urban mass transit systems serving the airport.

In total, a public capital investment of around $3 billion is estimated to be required for airport and airways systems through 1985. It appears to the Task Force that this outlay can largely be provided through the continuation and extension of the present user charge approach and that there should be no significant gap between estimated capital investment requirements and potential revenues. Although nonaviation revenues at airports tend to increase less than proportionately to increases in air traffic, it is considered probable that the potential revenue available for nonaviation improvements will tend to increase at roughly the required rate.

3. URBAN MASS TRANSPORTATION

The Task Force has found it somewhat more difficult to arrive at an estimate of the probable requirement for the expenditure of public funds for urban mass transportation in the State through 1985 than in the case of some of our other modes of transportation. This is because the ultimate extent and nature of such systems are not presently well defined. The Task Force therefore based its estimate of public outlays predominantly on the assumed development of rapid transit systems in the larger areas of Los Angeles and Southern California, the San Francisco Bay area, and the San Diego area between now and 1985, and on outlays for bus systems required in our smaller cities.

Additional investment of public funds will be required to replace equipment and expand the capabilities of various bus transit systems throughout the State. It is also assumed that the development of rail rapid transit systems in our larger metropolitan areas will tend to increase the requirements on our bus systems since the bus systems must be developed as a collector/distributor for the fixed route rail systems.

Based on all available estimates and tentative plans, it was concluded that a public capital investment of from $8 to $12 billion may be required through 1985 to procure the facilities and equipment needed to provide the necessary urban mass transportation service in the State. In addition to this capital outlay, it is estimated that public underwriting of operating deficits, interest charges, etc., in our mass transit systems may require public funds on the order of $3 billion through 1985. Therefore, a total public outlay of perhaps $15 billion seems to be a reasonable estimate at this time.

Present public funding programs do not provide for a requirement of this magnitude; therefore, an acceptable statewide approach to the underwriting, support, or subsidy of urban mass transit systems should be developed. A more detailed discussion of some of the various financial approaches to the urban mass transportation problem is presented elsewhere in this report. The Task Force believes that the total costs of capital investment and operations of modern urban mass transit systems cannot be realized from fare box revenues alone, and that public support in one form or another is necessary for both social and economic reasons.

It is evident to the Task Force that the people of California have a valid obligation to assume some responsibility for the development and support of efficient urban mass transportation systems. Although some initial public expenditures in the form of capital

investments in transit equipment and facilities will be required, a portion of this initial outlay and operating costs may be recoverable from operating revenues. In terms of the tangible and intangible returns through providing an improved degree of mobility to that segment of the public residing in our urban areas, the expenditure of public funds on the order of $15 billion through 1985 appears to be both desirable and well within the financial capabilities of the people of this State. The problem is in reaching agreement relative to the applicability of different systems to various areas, the demand for such services, the desired extent of service, and deciding how to pay for the system.

4. PORTS AND HARBORS

The State's ports operate under a variety of different organizational arrangements, but in general they are all constituted as profit-seeking public corporations. Although certain ports are indirectly subsidized to a degree through the receipt of certain municipal services at taxpayer expense, normal capital improvements usually can be underwritten by their operating revenues. In coming years, it may be that certain expansion needs such as the extensive dredging and reclamation of land cannot be met from normal operating income. The extent of this deficit cannot be predicted accurately at this time, but it is estimated that total public funds approximating $1 to $1.5 billion may be required for our ports through 1985. Much of this sum should be recoverable from operating revenues of the ports.

In addition to this expenditure of public funds, the costs of harbor and channel maintenance, a service traditionally provided by the U. S. Army Corps of Engineers, should be considered, although not a direct outlay by the people of California, a part of the total public outlay of funds for our ports and harbors. A recent estimate by the Corps of Engineers indicates that approximately $500 million will be required for harbor and navigable waterway improvements and maintenance through 1985.

C. Summary

The estimates presented above are only rough indications of the order of magnitude of *public* expenditures believed to be required to support the construction, improvement, expansion, operation, and maintenance of public transportation facilities and services throughout the State through 1985. These total public outlays (in terms of 1968 dollars) are summarized as follows:

	($ billion)
Roads and highways	30
Airports and airways	3
Urban mass transit	15
Ports and harbors	2
Total	$50

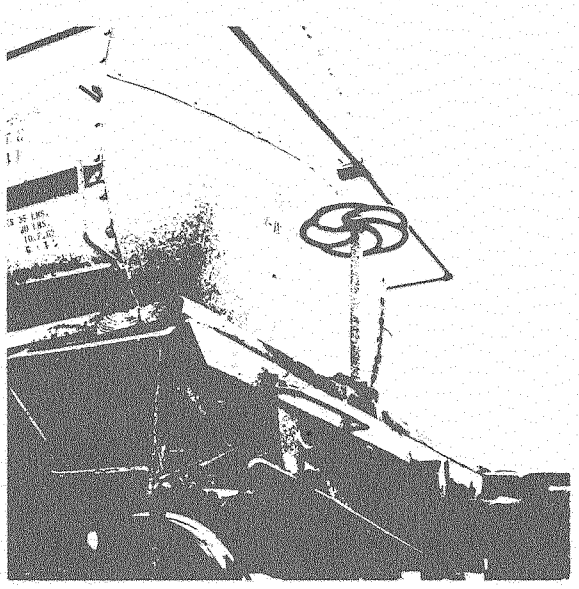
It should be re-emphasized that the above figures should not be construed as constituting the Task Force's recommendation of expenditures. Before actual levels of appropriate expenditures can be determined there must be extensive studies of alternatives among the various modes of transportation involved.

As observed above, it appears to the Task Force that a significant portion of this total public outlay will be available through the continuation or extension of present financing and revenue generating programs. It has been estimated that perhaps $30 to $35 billion of the total amount of public funds required over the next seventeen years or so can be provided through our existing concepts of user charges and pay-as-you-go financing such as fuel taxes, fare box revenues, service charges, user fees, in-lieu taxes, etc. The continuation of a number of programs of Federal aid and Federal fund allocation to the State is also assumed. Thus, the expected "deficit" or funding gap would appear to be essentially related to providing urban mass transportation. As discussed above and in the next chapter, this is the area where inventive and innovative thinking is urgently needed. Some combination of user charges, debt financing, and public subsidy will be required to provide effective urban mass transportation services in the years to come.

In the future the relative demands for public investment in various individual modes of transportation must be evaluated within the broader context of a total statewide system of transportation services. The present policy of earmarking certain public funds for the support of the specific mode of transportation from whose users they were collected will similarly need to be re-examined. There seems to be increasing awarness that what is needed is a system of effectively interfacing transportation services rather than a number of casually interconnected modes of transporta-

tion. Ultimately, income derived from any of the public-created transportation systems could be viewed as a public resource which in turn should be spent in a manner which will produce the greatest possible return to the people in terms of our overall transportation and social and economic needs. The valid requirements of the particular mode from which the income was originally derived should possibly be given preferential consideration under any such concept.

To reiterate: Since the total estimate of $50 billion was arrived at on the basis of rough mode-by-mode projections, the Task Force has included it only to indicate the general order of magnitude of the task involved. This particular figure may be substantially increased or decreased, depending on the type and quality of transportation services which are provided, and also on benefits to be derived from the balance among the several modes, as well as from the introduction of new transportation concepts in the future.



Major Transportation Problems and Issues

A. Introduction

The Task Force has determined that the most critical need of the State of California in the field of transportation is a recognition of the urgency of establishing a dynamic policy which will foster and facilitate the provision of a system of transportation services to meet the needs of all the people and industries of the State. No layer upon layer of committees, agencies, commissions, or power structures can succeed in obtaining a viable solution to the transportation problems unless and until planning, financing, administration, and regulation are conceived and executed realistically and constructively on a cooperative statewide basis. A forward-looking policy towards both private and public transportation systems must be developed and adopted by the State and an organizational/financial structure at the State level must be created and provided with suitable authority to permit this policy to be realized effectively. The personnel resources and capabilities of all segments must be mobilized and utilized — State governmental agencies, private industry, vested interests, local, regional, State, and Federal bodies — to permit the statewide system of transportation services to be developed and evolved not only to meet the current needs of today but also to provide the planning necessary for the future.

In recognition of the thoughts expressed in the preceding paragraph, the Task Force acknowledges the existence of a number of reports and proposals pertaining to studies of the State's transportation system. In analyzing these proposals, however, it was concluded that their applicability can only be determined after the State has instituted the forward-looking policy outlined above. As now constituted, the State lacks the capability to evaluate and assess such reports and proposals in an adequate manner.

A very important element of planning and developing a system of transportation services is the continuing recognition of the vital relationship between transportation planning and statewide general development planning. The development of information relating to land use planning must be accomplished in conjunction with the development of information and research data on traffic flow patterns, storage characteristics, and overall requirements for the movement of people and goods. It is essential that our general plans for the future development of the State of California include considerations relative to providing maximum transportation capacity and safety while simultaneously considering access to land uses and the preservation of land use amenities. Such general planning is defined in the Phase II Report on the California State Development Plan Program recently issued by the State Office of Planning.

It is also important to stress the need for careful engineering-economic analyses of alternative solutions to transportation problems. The simple endorsement of the desirability for a system of balanced transportation is not the answer. What is needed is a careful analysis of the alternatives available and an effective, broadly based, cost-benefit evaluation of such alternatives. The people of this State should not be expected to commit themselves to massive expenditures for specific modes of transportation without having access to information which permits them to evaluate the relative benefits which might be obtainable if similar sums of money were invested in other modes of transportation or even in nontransportation items which will attack the problems of urban congestion in another way. This is not to imply that the Task Force takes a stand against any specific mode. On the contrary, it is felt that the provision of a truly balanced system of transportation services is crucial to the social and economic well-being of the people of California. What is necessary, however, is the careful and objective evaluation of all aspects of the alternatives available before arriving at final solutions. The capability to undertake such objective evaluations is not now available at the State level and is generally "built out" of the public and private agencies existing in the State.

The State must accept a responsibility to take positive and effectual steps which will encourage the comprehensive analysis of all sides of such socio-economic problems as urban mass transportation, the provision of adequate transportation services and facilities to our recreation areas many miles removed from our population centers, and the assurance of adequate means of transportation in the rural areas of the State.

In the case of our urban areas, a particularly urgent problem relates to the matter of transportation services in our economically depressed areas. Certain recent experimental programs, such as the Transportation-Employment Project conducted by the State Transportation Agency in South and East Los Angeles, have given strong indications that the mere provision of adequate mass transit service alone will not solve the more basic problems of the availability of jobs and obtaining of employment; however, transportation is a factor in such cases, although perhaps not the controlling one. Certainly transportation planning and decisions to extend and improve urban mass transit services should be based on other current programs of job development, training, and placement; but the development of adequate mass transportation services should not be downgraded, for its availability is a definite factor in the ultimate solution of our poverty area problems.

Similarly, the people of this State have a responsibility to assist in the provision of adequate public transportation services for the young, the elderly, the physically incapacitated, and citizens who are other-

wise unable to provide their own means of mobility, regardless of their economic status.

Many of the forseeable improvements in transportation in coming years will result from technological improvements including mechanization and automation. These trends may reduce overall requirements for the labor force in the transportation industry, and in some instances will change skill requirements. Such evolutionary changes are essential if our system of transportation services is to meet the changing requirements of California in the future. It is also essential that the labor force affected by these technological changes be provided with adequate guarantees of secure income through all available methods, but with particular emphasis on the upgrading of individual skills through job training and retraining.

Without attempting to define or delineate a real or conceptual system of statewide transportation services, the following discussions present the salient features of the Task Force's findings with respect to the major modes of transportation of interest to the people of California. In some cases, areas are noted where further study and development will potentially result in the evolution of a more effective and better integrated system of transportation services in the future. Among these, in almost all cases, are the potential advantages to be derived from the intermingling or joint use of both public and private facilities for the movement of both people and goods.

B. Road Transportation

1. THE AUTOMOBILE

Every age has evolved its own form of transportation. These forms of transportation have become the matrix of change, without which the character of our urban patterns would remain substantially the same from one era to the next. Of all the various means of individual transportation which have existed, the automobile has probably been the most widely used. While it is relatively easy to list the problems it causes us today, it is almost impossible to list all the benefits it has given to the individual man and his family.

Despite the vast numbers of automobiles and the frequency of their use, this mode of transportation is barely sixty years old — a nearly unmeasurable period in relation to the cycle of human transportation modes developed since prehistoric times. But it has only been during the past twenty-five years or so that we have begun to marshal our resources to capitalize on the benefits of this remarkable mode of transportation. In California we have constructed an extensive network of improved streets, roads, highways, and freeways, but this has not been accomplished without some degree of traumatic change to our traditions and patterns of urban and rural life.

Although our present traffic problems are serious, and many deficiencies urgently need correction, the State of California does have a positive program underway and steady progress is being made. Advanced engineering and construction methods have contributed significantly to the efficiency and safety of our streets, roads, and highways. The addition each year of hundreds of miles of new and improved freeways and highways throughout the State provides ever-increasing opportunities for Californians to travel safely, rapidly, and easily in many directions for a multitude of purposes.

In our development and utilization of the automobile, we have failed to recognize that the automobile is a part of a total system of transportation. This includes not only the vehicle itself, but also the people who drive it and ride in it, the roadways over which it travels, the devices which guide and control it as an element of the traffic flow, the services and facilities required to maintain and supply it, and the terminal facilities necessary to house and store it when it is not in active use. Additionally, the relationships between the automobile system, other modes of transportation, and the environment with which they interface have not been properly identified, understood, provided for, and improved in a manner appropriate to achieving a truly integrated transportation system; nor, in fact, have our land use plans and route selection processes been significantly modified to take full advantage of the potential benefits of the automobile.

Driving for pleasure is a significant recreational pursuit in California, and greater emphasis on scenic highways, parkways, and rest stops would appear to be indicated. Similarly, new thinking appears desirable in planning and providing transportation in our recreation and wilderness areas. Many such areas could be well served by bicycle and bridle paths, footpaths, or tramways rather than by conventional automobile roadways.

All of these considerations must be included in evaluating and planning our statewide transportation system.

2. THE BUS

The public passenger vehicle, or bus, is one of the most flexible mass transit vehicles ever devised. It can originate and terminate whenever and wherever the need arises and alter its route as necessary to accommodate changes in desire lines and traffic flow. Its disadvantages are also readily apparent. It must compete for space on the street, road, and freeway network during those periods when private automobiles are also there in great numbers. It is also considered by most to be a poor substitute for the freedom of movement available through the use of

the automobile; and it is generally claimed to lack the comfort and service characteristics which it could potentially have.

One suggested approach to minimize these disadvantages lies in continuing studies of feasible means of reserving part of, or providing some priority use of, the road network for buses. It may be practicable in certain locations to provide priorities for access of buses through metered entrances to highways and freeways and by reversed lanes on urban streets at certain times of the day. Such possibilities should continue to be explored to increase the efficiency and decrease the congestion associated with the use of the bus as a mass transit vehicle. Similarly, the upgrading of the vehicle itself and the quality and frequency of its service could conceivably enhance its appeal significantly.

The inherent flexibility of urban and inter-urban bus systems in terms of their capacity to respond to varying demands and to modify routes, speeds, and frequency of operation without requiring the addition or loss of capital investment suggests that there are many possibilities which might make more extensive and efficient use of this mode of transportation. Design improvements to increase the efficiency and compatibility of the bus with the environment in which it must operate can also increase its potential.

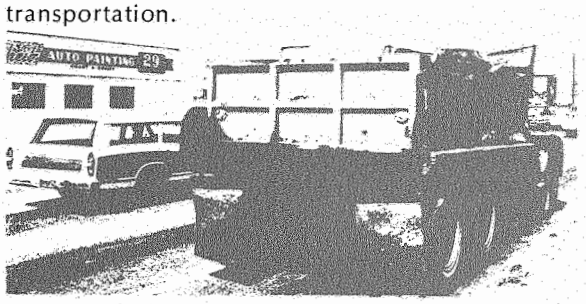
The encouragement of inventive technology in the method of fare collection, a significant factor in the economical operation of a bus system, would increase the productivity of this effective mode of mass transit. Approaches to automation should be continually studied and evaluated to minimize the increase in labor costs which represent one of the major costs of bus system operations today.

3. THE TRUCK

While the State system of streets, roads, and highways is essential to the movement of people to their multiple destinations, it serves perhaps an even more important function in the movement of goods, supplies, products, and commodities by cargo vehicles, or trucks.

In any consideration of the California trucking industry, it is essential to recognize the importance of both "for-hire" and "proprietary" operations. In addition to the for-hire carriers, which are available for the common carriage of goods and commodities regardless of their ownership, the proprietary trucks, which are owned and operated by individual private businesses, also play an important part in the movement of cargo in the State through the transportation of the products and raw materials of their private owners. Such operations share the same responsibilities and problems as those of the for-hire carriers. The proprietary as well as the for-hire segment of the trucking industry should be recognized as a contributor to the important role which trucks play in the economic well-being and progress of California.

The number of trucks and their related tonnage capacity are increasing so rapidly in California that the current problems of traffic planning and roadway use must be given immediate consideration if we are to continue to speed the movement of our goods by this mode. Study of such possibilities as designation or restriction of certain streets, highways, bridges, and parking areas for commercial vehicles only would appear to be potentially consistent with the socio-economic importance of this mode of transportation.



Although the automobile, the bus, and the truck all differ in their specific nature and functional usage, they all represent important parts of an integrated road transportation system which can, with thoughtful planning, be highly flexible and efficient in the movement of people and goods. Continuing assessment should be made of our complex set of government regulations and private practices to assure they do not place undue restrictions on individual elements of this system, and to ensure that the greatest possible return from this total system is obtained for the benefit of our economy.

4. THE ROUTE

Within the framework of current engineering and scientific technology, the means for analyzing and solving many of the problems and shortcomings of our roadway system are now at hand. Typical of these problems are:

☐ *Traffic on our freeways is often needlessly complicated and slowed both by the saturation effect evident during peak traffic hours and by the characteristics of many on- and off-ramps. Feasible engineering solutions to such problems should continue to be sought and implemented as rapidly as possible.*

☐ *The concentration of effort on our freeways and super-highways, particularly since World War II, has gradually degraded the quality of our other street and road systems. These should be given greater attention if our total roadway system is to function at maximum effectiveness. Our street systems could be greatly improved in efficiency and safety by the judicious provision of underpasses, widened thoroughfares, one-way designations, automated controls, and similar traffic engineering approaches. While considerable progress in this area is evident, increased emphasis is warranted.*

☐ *Route planning for highways, railways, waterways, and airways has been greatly influenced by topography and the lack or prevalence of population. In the future, increased emphasis must be placed on consideration of how each route influences and interacts with other routes; on the demands which modern concepts of intermodal transfer and complete origin-to-destination transportation place on correlating routes for one mode with routes of another mode; on terminals for intermodal and intramodal transfer; and on the complex social and economic factors and the traffic generation characteristics associated with our recreational, social, and commercial centers.*

☐ *The financing concepts for both highways and parking facilities should be re-examined, with careful consideration being given to the relative merits of both free and charge methods. In view of the critical nature of our highway financing program now and in the foreseeable future, continuing attention should be given to the possible merits of developing a system of single purpose toll roads in the State at some time in the future.*

☐ *A multitude of rights-of-way exist in our cities and in unincorporated areas of the State. Continuing consideration should be given to using these public channels to provide maximum efficiency, such as techniques which result in vertical and horizontal separation of functions.*

☐ *Except in the case of freeway interchanges, vehicles are almost totally restricted to single-level movement. The possibility and feasibility of providing multilevel roadways, with expeditious accommodation of one-way traffic lanes, should continue to be studied and evaluated.*

☐ *An increasingly wide gap exists between the speed and efficiency of freeway travel and the ability to travel quickly and conveniently to a particular location off the freeway. Continuing traffic engineering studies should be made of the interconnections between our freeways and other street and roadway systems, as well as of ways to increase the efficiency of the latter.*

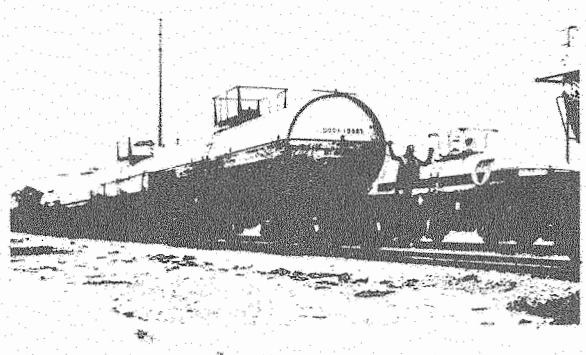
☐ *Preservation of the quality of the environment and of natural resources has become a matter of great public concern. Increasing demands for use of resources, particularly non-appropriative use such as viewing and photography, require a diligent effort at all levels of government to protect these values and ensure their perpetuity. Therefore highway planners should include a thorough evaluation of the effects upon the environment and related natural resource values as a part of all highway route studies.*

5. TERMINALS

Contrasted with the activities of loading and unloading of passengers and goods at the terminal facilities of public carriers, the parked car is not in use, but the automobile parking space is no less a terminal or extension of the systems of routes which polarize around home, work, shopping, entertainment, and transit transfer points.

Efforts to minimize the land usage requirements created by vehicle "dead storage" have included on-street, underground, and multistory parking facilities. Air rights over public rights-of-way and ground rights under elevated freeway structures have also been considered and used to some extent. However, the development of efficient methods for handling the automobile at rest remains one of the more pressing problems to be solved.

The provision of parking facilities in the wrong locations, for instance by failing to consider the ability of the distribution system to accommodate the demand, could aggravate rather than improve the total traffic situation.



While the construction and operation of parking structures and facilities should remain essentially within the province of private enterprise, as at present, it seems desirable for appropriate agencies of State government, such as the State Division of Highways, to work with local agencies in efforts to coordinate the designs and plans for such facilities with the design and construction of the roadways which such facilities must serve, as well as the communities which they must serve.

Regardless of the agencies involved — private enterprise, city, county, or State — the plans for the construction of future roads, streets, highways, and parking facilities must include intelligent solutions to the problems presented by the automobile at rest, both at its origin and at destination. Many of the problems of our central business districts today are related in one way or another to the automobile at rest and its intrusion into travelways from its point at rest.

The State has a responsibility, in addition to the coordination of its highway system with parking facilities, to assist in establishing broad standards to govern the provision of adequate parking facilities, particularly in business and industrial areas.

6. FINANCING APPROACHES

Needs for improvement and extension of the State's street, road, and highway system will continue to grow in the future, as will the needs for other modes of transportation. The financing and administrative arrangements under which our highway transportation system has been developed have been relatively successful in the past, and include well-defined roles for private enterprise, local, State, and Federal government agencies. A master plan for State freeways exists along with a select system for local roads. Current issues regarding road and highway financing can in general await resolution until the regular reports on State highway, county road, and city street needs (under Sections 188.8, 256, and 2156 of the Streets and Highways Code) are rendered in 1969. Still broader issues should be dealt with in the process of preparing a comprehensive master plan of transportation for the State as recommended by the Task Force in Chapter V, Recommendation 5.

In order to realize a balanced system of transportation in the State, the methods of financing and means of distributing available revenues for roads and highways should be coordinated with the plans and programs for other modes of transportation. The financing and allocation of highway funds to functional and geographical areas of the State involve many factors and considerations, not the least of which should be the interrelationships of the highway system with other modes of transportation. A comprehensive transportation plan for the entire State would not only facilitate such intermodal coordination but would, in fact, establish the criteria upon which the capital budget and capital outlay requirements for the highway system, as an integral part of the total transportation system, should be based.

C. Urban Mass Transportation

1. RAPID TRANSIT AND MASS TRANSIT

One reason for the controversy and confusion presently surrounding the various current and proposed programs for conveying large numbers of people in urban areas by means of a public transportation system may be the loose usage of terms used to describe the process. In its true sense, mass transit (or more exactly, urban mass transportation) is that form of passenger transportation which is intended to carry large numbers of public passengers on a regular and continuing basis. Rapid transit is a special form of mass transit with normally higher relative speeds and with physical separation from other modes of transportation through the utilization of an exclusive (usually grade-separated) right of way.

Thus while mass transit and rapid transit often seem to be regarded as two different things, they should more properly be considered as two complementary systems of urban mass transportation, typically made up of a local collector/distributor system in conjunction with a rapid or mainline system such as a subway, surface, or elevated system on a special right of way.

Some cities and urban areas can be served quite adequately by a local system alone, while other areas may have a need for a combination of both local and rapid modes of urban mass transportation.

The success of any urban mass transportation system depends on its capability to respond to the problems it is trying to solve. All related factors and influences, not just the movement of a given or estimated number of people at some selected frequency from one point to another, must be considered — street plans, parking facilities, regional development plans, tributary transportation modes, etc. — at both ends as well as at intermediate points in the system. Another essential aspect of an urban mass transit system, in particular a rapid transit system, is a feasible financing plan. While it is generally agreed that urban mass transportation systems cannot be adequately supported from fare box revenues alone, the overall realities of the situation and the specific circumstances of each individual system must be weighed to develop the true cost and the socio-economic benefits to be derived in order to determine the most equitable form of public underwriting of transit system.

While individually operated buses can and should be upgraded, bus transit alone cannot take the place of a system made up of both buses and fixed-route rapid transit in those urban areas where both modes are warranted. Due to the extremely great capital investments required for a modern rapid transit system, the sensitivity of such systems to inadequate planning and design or incomplete integration with the needs and characteristics of the regional area they must serve should be fully recognized and carefully considered. For instance the effect of a fixed-rail rapid transit system on the growth patterns of the areas it serves, or does not immediately serve, must be carefully evaluated and analyzed within the larger framework of total community planning. Similarly, the effect of a rapid transit system on established or contemplated modes of transportation such as bus systems, feeeways, and airports, which will interface with the rapid transit service, must also be carefully evaluated in the planning of such a system.

2. USE OF EXISTING RIGHTS OF WAY

The suggestion is frequently heard that urban mass transportation or freeways could effectively utilize abandoned railroad rights of way leading into the central business districts of many California cities. The old rights of way of the Pacific Electric Railway Company in Southern California are often referred

to in this context. It was determined that the operating rights of way of the Pacific Electric system were merged into its parent company, the Southern Pacific Company, in 1965, and that neither Pacific Electric nor Southern Pacific currently has any unused or abandoned rights of way in its possession. Where rail service was discontinued on the Pacific Electric system in the past, the rights of way were all offered to governmental agencies and in most cases were acquired by some branch of local government. Many of these have now been converted primarily for road and highway purposes. A similar disposition appears to have been made of other railroad rights of way in other parts of the State when they were no longer required as a part of the route structure of the railroad company which owned them.

The use of both existing railroad and highway rights of way for new rail rapid transit systems has been given intensive study by such rapid transit agencies as the Southern California Rapid Transit District (SCRTD). The laws governing this district at least require obtaining the approval of the Public Utilities Commission before any railroad property can be acquired, and the PUC must determine that the use is in the public interest and necessity and that the railroad's ability to provide safe, adequate, efficient, and economical service is not impaired by such action. This statutory provision applies to both operating and nonoperating rail properties, and would thus apply to the use of any rights of way which were to be abandoned by the railroad owning them, as well as to operating rights of way. Thus there appears to be a comprehensive procedure by which, in the event that surplus railroad rights of way came into existence, they could be used for other modes of transportation including proposed rail rapid transit systems. At the present time, however, it does not appear that there are any abandoned or unused railroad rights of way in California.

3. FINANCING APPROACHES

The problems related to the financing of urban mass transportation systems — both bus transit and rail rapid transit — are some of the most pressing in the entire State transportation picture. Increasing costs of operation, together with declining fare box revenues, have resulted in nearly every urban area in the State, with the present exception of the San Jose area, being served by either publicly owned or publicly supported mass transit systems. Most of the larger bus systems in the State are operating at a substantial deficit. Recent estimates indicate that annual public support for transit operations (over and above fare box revenues) will amount to about $13 million in San Francisco, $5 million in the Alameda-Contra Costa Transit District, and $250,000 in the City of Long Beach. A notable exception has been the Southern California Rapid Transit District, which has been able to meet its operating expenses as well as interest and principal payments on revenue bonds from fare box proceeds. The management of SCRTD, however, has expressed grave doubts, due largely to rapidly rising labor costs, as to its ability to continue without some public funds support in the future.

The combination of increasing operating costs and relatively declining fare-box revenues with heavy demands for service in morning and evening rush periods places a heavy financial and operational burden on the bus system operators. The effects of rush-hour traffic jams further complicate the problem since they result in unsatisfactory and qualitatively noncompetitive service at the precise times when the greatest fare-producing potential occurs.

Although urban mass transportation needs are characteristically intraregional, urban transportation systems include substantial collector/distributor functions related to intercity transportation. Neither the intraregional nor the collector/distributor needs appear to be a suitably attractive market for private enterprise. Additionally, the continuing trend of the people of California to concentrate in a few regional areas suggests that there is a definite responsibility at the State level to facilitate, expedite, and encourage, if not to directly underwrite, urban mass transit service in California. This role of the State would logically include the involvement of the State, cooperating with local and regional bodies, in the development of sources of revenue other than the local property tax for the financial underwriting of needed urban mass transit services in the State's metropolitan regions. It is not clear just what form this financial support should take, however.

Various mixes of financing may be desirable in different regional areas and will be dependent on the general framework of enabling legislation and the urban mass transportation standards and service criteria established. This would be in accord with the home rule principle and should also be compatible with the different mixes of mass transit modes appropriate to different metropolitan and regional areas of the State. In any case, it appears that the solutions to mass transit financing must be based on the following general assumptions:

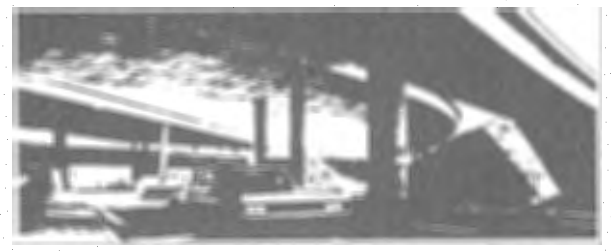
- ☐ *That fare-box revenues alone will not be capable of meeting capital expenses and operating expenses.*
- ☐ *That the mass transit problem is primarily local or regional in scope and that solutions should meet pertinent local needs.*
- ☐ *That property taxes alone will probably not provide the required level of tax support and that the State must assist local and regional governments to develop additional financial tools.*

Given these assumptions, it is still difficult to determine the State's proper role in mass transit financing, largely because the State is not now in an organizational posture wherein it can evaluate the total mag-

nitude of the transit problem, not only as to the financing of capital facilities, but also as to the ongoing costs of operations and maintenance of these facilities in their various locations throughout the State. Thus it may be valid to conclude that the State has an initial responsibility to determine the magnitude of the need or demand for mass transit services and the probable costs of providing them on a basis consistent with the development of similar information for other modes of transportation.

The most controversial issue with respect to the financing of urban mass transportation services pertains to the question of diverting highway-user taxes for support of mass transit. This diversion is specifically precluded by constitutional amendment at the present time, so any consideration of the possibility would be subject to some future action to amend the State Constitution.

In addition to the constitutionally allocated motor fuel taxes, there are two possible types of motor vehicle taxes which are generally agreed not to be highway user taxes in the same sense. These are taxes levied on motor vehicles in lieu of personal property taxes and a suggested retail sales tax on gasoline. Most authorities agree that these represent general taxes to which highway users have no preeminent claim. On the other hand, there appears to be no reason to assume that urban mass transit users have any preeminent claim to such revenues either. In theory, such funds should be used for whatever purpose their counterparts (the general retail sales tax and general property taxes) are used. Thus, while these taxes can be considered potential sources of revenue for the support of mass transit services, such use would appear to be no more than a matter of expediency and administrative feasibility.



The imposition of a retail sales tax on gasoline could be regarded as being as legitimate as the present sales tax on automobiles, tires, oil, parts, etc. The issue of gasoline has apparently been clouded because it is argued that gasoline taxes should go to road and freeway construction if imposed and at any rate should not be levied for other forms of transportation.

Although automobiles were exempted from personal property taxes when the in lieu tax was imposed, the courts have generally held that the tax is actually for the privilege of operating the motor vehicle on the public highways. Nevertheless, since the original rate was related to Statewide average property tax rates, the in lieu tax is generally viewed — in principle, if not in law — as a burden which should continue to be related to property tax burdens. The current in lieu tax rate of two percent of market value is roughly equivalent to current average property tax rates and assessment ratios. Therefore, any increase in the current in lieu rate *could* be construed as the imposition of a highway user tax subject to protection under the anti-diversion amendment; and such an increase, if proposed for the purpose of supporting mass transit service, might very well result in not making any additional revenues available for mass transit purposes.

It has also been argued for many decades that highway users are in fact being subsidized by public funds because the full actual costs of our highways are not supported by user taxes alone, and therefore similar subsidization of mass transit is not only warranted but justified by precedent. The consensus seems to be that regardless of the merits of the debate as to subsidy of highway users, the local benefits of our street, road, and highway system in terms of its socio-economic value to all segments of the population render the debate essentially academic. A similar argument is also made for the benefits to our society of an effective system of urban mass transportation, particularly since the subsidization of highway users comes from the added costs he causes in the maintenance of city streets, traffic control, etc., and these monies are derived from local citizens who may not use the highways. It is also argued that rapid transit, in its collector/distributor system, would directly benefit the nonhighway user as well as reduce the number of highway users and the inherent off-highway costs they create.

Similar arguments can be made for and against the proposition of establishing special assessment districts whereby the benefiting property owners adjacent to the rapid transit stations and rights of way would be subject to a levy that would equitably take into account the benefits accruing to them through increased real property values.

The foregoing discussion has attempted to highlight some of the major issues and to show that there are no clear or easy solutions to the problems of providing adequate public financial support to urban mass transportation systems. For every suggested approach, there are many arguments which question its feasibility, and for every argument there are counterarguments which appear to have some merit. However, it may be that the practical considerations relating to urban mass transportation may ultimately be more compelling than the theoretical ones. That is, there is considerable evidence that the provision of adequate mass transit service in our heavily populated urban regions is a compelling social obligation, and a means of providing the necessary financial support must be found. This problem is urgently in need of reasonable and practicable solution, and it is

clearly a legitimate subject for immediate and intensive study by qualified State, regional, and local agencies. The structure of organization and policy which is recommended by the Task Force in Chaper V of this report will provide the basis for proceeding with such studies on a coordinated and orderly basis in the immediate future.

D. Air Transportation

New improvements in our transportation systems have a pronounced effect on our urban patterns. New forms of transportation also have a tendency to search for more markets as the prospect of greater use develops. As the greater use develops, the vehicle itself tends to get ahead of the slower moving processes involved in its adaptation to the existing environment. This is dramatically true of aviation and air transportation today.

Within the past fifteen years the airplane has become a true common carrier, and the demands on its use have created enormous problems in the air space itself and perhaps greater ones on the ground. While tremendous efforts are being put forth to solve these ground barrier problems, greater effort should be made to coordinate the solutions to the problems related to ground facilities in the State. Efforts have largely been concentrated on the quantitative aspects of air passengers. Additional attention must be given to the traffic and volume problems that will result from the full realization of the industry's involvement in air cargo — mail, express, and freight, inclusively.

1. MASTER PLANNING APPROACH

Without some form of master plan for aviation, the State cannot be in a position to make reasonable estimates of the requirements for adequate aviation facilities in the future nor to define its appropriate role. It is essential for the State to budget sufficient funds and staff to the Division of Aeronautics to enable it to develop and maintain an air transportation master plan. The Federal government is making numerous studies in this field for the purpose of assisting local and regional bodies in long-range planning. The State has an important part to play in this planning and should expand its efforts to secure the participation of Federal funds for planning as well as for construction of aviation facilities.

The State's airport needs are becoming increasingly critical as our population, the popularity of air transportation, and the technological capabilities of the aircraft and aviation industry all increase at a very rapid rate. Airport and aviation planning in the State should be aimed at implementation on a regional basis. Some groups in the State such as the Southern California Association of Governments and the Association of Bay Area Governments have done preliminary work in this direction, but greater leadership at the State level is needed to coordinate these planning efforts. Every effort should be made to complete a State plan of airway and airport requirements using all existing resources and plans of local, regional, State, and Federal agencies, together with all available inputs from private enterprise. The plan should include a definition of the State interest in air transportation and recommendations relating to State and local financing, construction, operation, and maintenance of appropriate air transportation facilities.

The State should also explore the civil use of military air facilities wherever feasible to relieve congestion problems both in the air and on the ground. Joint use arrangements are available under U.S. Air Force and Department of Defense regulations. There are many fine pieces of aviation real estate in California which are owned and operated for the nation's taxpayers by the military services which might be shared for the benefit of the air-traveling public.

Any new airport development should be designed with the effects of aircraft noise on the urban community being given full consideration. In areas where airports involve more than one local jurisdiction, State legislation regulating land use and limiting obstructions to provide air safety will probably be required.

In all future master planning of airports within the State, coordination with highway, urban mass transit, and other such interfacing modes of transportation to provide proper access to these airports is imperative.

2. EQUIPMENT AND TECHNOLOGY

While the airframe and airline industries have advanced enormously and have shown a remarkable capacity to handle tremendous increases in utilization and productivity, the adaptation of our cities to these advances has lagged. Competition for space on the ground to accommodate airports, methods of connecting the airports to the life of the city, and the annoyances brought about principally by the noise of modern high-thrust engines have brought the airport to full maturity as a political and economic problem.

While this situation must and inevitably will be resolved, it is compounded by the introduction of more demanding and critical types of air traffic which involve a variety of types of airports. While we are struggling to expand existing airport facilities to handle the increased number of flights and the increasing size of aircraft, there is emerging a broadening of the aircraft spectrum itself. At one end is the supersonic transport which seems likely to come to fruition within the next decade or so. The SST will require airports so carefully engineered (and so expensive) that they will undoubtedly involve political support and financial underwriting that is at least regional in scope. Of course an airport designed to SST stand-

ards would be capable of safely handling the subsonic jumbo jets scheduled for delivery in the early 1970's.

At the other end of the spectrum is a need and demand to reduce the total time of a trip in the door-to-door sense. Much of the time involved in traveling from origin to destination at present is spent in going from origin to airport and from airport to destination. A most promising solution to this problem appears to involve a greater utilization of the rotary-wing type of aircraft and the currently emerging vertical and short takeoff and landing (V/STOL) fixed wing aircraft. Wider use of these types of aircraft will in turn place new demands on the urban landscape for the provision of suitable new heliports, metroports, and V/STOL airports.

New types of aircraft will require new air traffic control procedures and equipment. While the Federal government has preempted control of aircraft in interstate commerce, it may be necessary for the State to enter the field of local air traffic control. For instance, new approach and departure corridors to busy metropolitan airports should be provided for V/STOL aircraft so that they would be able to operate without causing any attenuation in the flow of the larger scheduled air carriers. The State should explore and support any workable new system of navigation which would correlate with the Federal air traffic control system to improve air safety and relieve air congestion. The great bank of electronic expertise existing in California should be drawn on for assistance in this area.

3. TERMINALS

Enormous improvements in aviation terminal facilities in the near future will be necessary to accommodate the expected increase of air passengers and air cargo volume. In the next seventeen years there will be some $2.5 billion expended in California for airport construction, terminal facilities, automobile parking facilities, intra-airport transportation systems, cargo facilities, and acquisition of new land for existing and new airports, in addition to substantial investments of private funds by airlines and other aviation-related industries.

Smaller airport facilities are faced with a continuing threat of extinction in heavily populated areas because of incompatible land use patterns adjacent to them. At the same time, the demand for general (nonairline) aviation facilities is growing at an extremely rapid rate. Special attention should be given by the State Division of Aeronautics to the needs of general aviation for additional air space and ground facilities. The decline in the number of general aviation airports in California makes this problem extremely difficult. In 1941, there were 63 airports in Los Angeles County; today there are only ten. On the San Francisco Peninsula there were 17 small airports in 1941; today there are three.

By providing sufficient planning for separate and adequate general aviation facilities, the State could make a larger contribution to air safety by separating smaller aircraft operations from the large scheduled air carriers. The large airlines will have more than enough problems of their own with the requirements to maintain adequate terminal facilities without contesting for valuable air and ground space with aircraft and pilots that are incompatible with the strict airline standards.

The challenge to existing air terminal facilities posed by future increases in aircraft capacities will require totally new concepts of handling passengers, baggage, and cargo. The commercial airlines serving California should be encouraged to continue to develop improved systems of baggage handling, ticketing, and passenger check-in which will reduce the passenger's time in the terminal and permit the design of more efficient and adequate terminal areas. The State could act as a clearing house for up-to-date information on the design of new terminals for the commercial airline airports. Overcoming both the ground barrier (airport congestion) and the sound barrier (aircraft noise) are the major problems relating to the future development of large airline terminals.

4. FINANCING APPROACHES

It may be necessary at some future time for the State to become involved in the financing of terminal buildings and facilities at major metropolitan and regional airports. A seemingly logical means for State-provided assistance would be through legislative authorization for extended forms of user charges such as airport user head taxes. Authorization of such charges may necessarily come through Federal rather than State legislation since it appears that the Federal government has preempted the State's legislative authority for such forms of user charges.

Additional general aviation fuel tax funds could be State-generated for allocation by the State Aeronautics Board as local assistance grants for aviation and airport capital outlay purposes, to be matched by local sources. This could involve the abolishment of some additional portion of the current five-cent fuel tax refund. Abolishment of two cents of this refund in 1965 resulted in approximately $1.9 million being made available annually for local grants. This amount will increase with stepped-up general aviation activity in the State.

At present, the allocation of general aviation-generated gasoline tax funds sometimes results in their availability to airports which substantially restrict general aviation activities. In keeping with the principle that the transportation mode which generates the revenue should perhaps receive first consideration for its use, it appears that these limited funds should be allocated with greater care to the needs of general aviation in the State.

An additional financing method would be to collect a tax on the fuel used by commercial airlines. These additional funds could be used to supplement the Airport Assistance Revolving Fund from which local grants are made by the California State Aeronautics Board. In this way the scheduled airlines would be contributing directly to the support of airport development in California.

If long-range revenue could be predicted by airport-owning jurisdictions from these sources, and if permitted by law, these funds could be used to service general obligation or revenue bonds. Thus small amounts of annual funds could be put to greater immediate use by such a source of "seed" money.

Another source of revenue could come from the adoption of user fees in the aviation field which are similar to those now in effect for the registration and identification of motor vehicles in the State. Still another possible source of financing for airport needs is the use of county-levied aircraft in lieu taxes which currently go to county general funds. If such fees and taxes were used for a special aviation fund, there would be less demand for general funds for support of aviation. This would be a more realistic application of the user benefit concept of taxation.

If regional districts are legislatively authorized by the State, new financing approaches must be explored and developed for these districts. Airport development has become a regional problem and the State should give support to airport development in regional terms rather than through support to individual communities or specific airports.

One fact seems certain: The cost of airports is increasing more rapidly than the increase in traffic and operating revenues. Therefore the method of determining where airports should be located, what functions they should perform, and how they should relate to one another must be found. It also seems clear that the taking of land for aviation purposes can no longer be approached as a purely local matter any more than the development of methods for dealing with the sonic boom problem can be solved effectively as a local matter. Greatly increased attention and cooperation among various planning groups and agencies is required with respect to the zoning of land in the vicinity of airports, designation of sterilized areas in landing and takeoff corridors, and establishment of industrial and residential facilities in such locations.

E. Rail Transportation

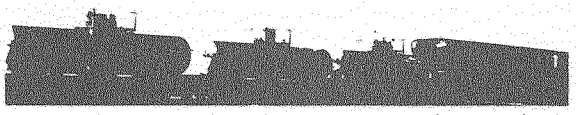
1. ROUTES

Urban settlements are constantly changing, and the requirement to move goods, people, and services strongly influences whether these changes will bring improvement or deterioration. Nature's network of rivers, oceans, bays, and harbors which for centuries permitted man and his commerce to move effectively established many of our urban patterns. The railroad extended lines of commerce and transportation across the Continent, creating a vast new network which opened up new resources, new commerce, and new settlements. Although the automobile and the airplane have virtually replaced the railroad as modes of passenger travel, the railroad rights of way continue to play a vital role in sustaining those industries that have long depended on the availability of railroad freight services. It is important that proper land use planning be done to preserve sufficient land for future industrial use along the existing rail system. Also, in some cases residential subdivisions along railroad rights of way can be converted from their present state of deterioration into modern, rail-served industrial parks with resultant multiple benefits to the community.

In many California cities the railroad rights of way formed the skeleton upon which the total transportation system, both passenger and freight, originally developed. However, as a result of the development of greatly expanded systems of surface streets and entirely new networks of freeways both for local travel and as links in long-distance travel patterns, the use of the rail rights of way for passenger travel today is minimal and in a fast-declining trend. However, the railroad right of way itself has not devaluated. There is talk of using abandoned or unused railroad rights of way for other modes of transportation service, but there are very few rail rights of way in the State's metropolitan areas which fit either description. In general, California rail rights of way are in daily use for the movement of goods. They should be maintained for this purpose since projections indicate that the volume of freight to be moved in California will double by 1990, and the continued use of such routes to help move this freight will be even more important than it is today.

2. EQUIPMENT

There is today an array of available or planned railroad passenger equipment which is faster than that for which the original rail rights of way were designed. These include high-speed trains such as have been introduced in Japan and France as well as possible improvements currently being studied and tested under the sponsorship of the U.S. Department



of Transportation, largely as a part of the Northeast Corridor Demonstration Project. Some serious problems would arise if such equipment were to be applied to existing railroad rights of way in California. The topography of the State required the construc-

tion of railroad grades and curves of a severity which will not allow passenger trains to operate over them at speeds in the range of 150 mph and above, the speed range now under consideration for advanced equipment concepts. Any new high-speed passenger trains will require new rights of way entirely free of grade crossings and without curves or adverse grades. Japan's New Tokaido Line was built in this way because existing rail right of ways were not suitable for this advanced high-speed train.

The capacity of California's railroad main lines and terminals for freight service has been greatly increased through introduction of centralized traffic control systems; by installation of electronically controlled classification terminals; by improved communications utilizing radio and microwave equipment; by extensive computer installations which permit faster and more accurate knowledge of the location and status of shipments; by heavy investments in larger, more varied, and easier-to-load freight cars compatible with existing rights of way; and by more powerful, versatile, and economical motive power. Recently, entirely new stretches of freight rights of way have been constructed in the State, and since the 1950's extensive additional use of railroad rights of way has been made by the construction of pipelines for the economical transportation of bulk petroleum products.

3. TERMINALS

Existing outmoded railroad passenger stations — many of which cover considerable acreage in valuable downtown locations — offer a potential for use as interconnecting terminals for rail, truck, taxi, private automobile, bus, helicopter, and V/STOL modes of transportation. The metroport passenger, luggage, mail, and small-package transportation concept integrates various modes of transportation into a single terminal facility design. Of the series of such metroports suggested for Southern California, one location receiving serious consideration at present is the railroads' Union Passenger Terminal in downtown Los Angeles.

Although many downtown rail freight terminals are very valuable to the community in their present locations, due to their capacity for coordinated truck, piggyback, container, and freight forwarder service, continuing evaluation should be given to the relative merits of relocating certain such terminals and yards out of the central city in order to permit use of the valuable downtown land for other purposes more consistent with the high value of such locations.

4. FINANCING APPROACHES

Although the railroad industry obviously is confronted with the same problems of rising costs of operation that many other segments of the transportation industry face today, it must also carry a heavy burden of property taxation not borne by most other modes. Despite such problems, it is apparent that the railroads are embarked on aggressive programs of equipment modernization, cost reduction, and introduction of advanced management and operating techniques aimed at increasing their efficiency as freight carriers. Operated strictly as private business enterprises, although stringently regulated by government agencies, the railroads nonetheless appear to be generally capable of handling their own financing needs and problems in accordance with established policies and procedures within the industry.

One area of financing which involves the expenditure of public funds is that of protecting the intersections at grade of railroad rights of way and the street and highway system. As once-adequate grade crossings became safety hazards to both motor vehicles and trains due to higher speeds and greatly increased traffic on streets and highways, it became obvious that many hundreds of existing grade crossings in the State should either be fitted with warning signals and gates or converted to grade separations in the public interest. There has, however, been difficulty in establishing an equitable formula for the allocation of the costs of these necessary improvements to the various transportation modes or users of these modes. Although the railroads have demonstrated a willingness to finance a share of improvements as fast or faster than State, county, and municipal authorities have been ready to proceed, California still lags far behind the need for a truly effective program of grade crossing separation and other protection.

Sections 189 and 190 of the Streets and Highways Code instruct the California Highway Commission to budget $5 million annually for grade separation projects on county roads and city streets. It also requires fifty percent matching of funds covering the cost of each such project by the city or county having jurisdiction over the street or road, after deduction of any railroad contribution, which usually is a minimum of ten percent of the total project cost. In addition, the Legislature has allocated $1,100,000 in fiscal year 1968-1969 for improving automatic protection at railroad crossings. These funds cover only about one-fourth of the cost, the balance being provided by the railroads for each installation.

There has never been an adequate showing of economic or other justification for the seemingly inadequate size of these programs relative to other alternative programs of the State Division of Highways. Neither has there been an adequate demonstration of the prescribed justification for the relative allocation of costs among the railroads and the local and State authorities. Similarly, the requirement that a crossing at grade be established and in use before consideration will be given to protecting or separating the crossing should be reexamined. There is in fact immediate need for a comprehensive study,

including a careful analysis of cost-effectiveness, to determine the magnitude of an economically justified railway-highway grade separation program. Similarly, the need to provide gates and warning devices at lower priority crossings and to provide equitably for their maintenance should be thoroughly studied. Financial assistance to the railroads for the maintenance of crossing protection equipment was first provided by Section 1202.2 of the Public Utilities Code through legislation enacted in 1965.

F. Water Transportation

Historically, human settlement has centered along the traffic routes provided by water, and a large proportion of our cities are still located on harbors, rivers, and other large bodies of water which are a part of the world's traffic system. In recent years, the essential value and strength of water as a transport medium has tended to be discounted in favor of other means of transportation which offer greater speed and mobility. Competing transportation modes can be measured and compared by determining the time consumed and the cost of comparable trips. Although water transportation is clearly not the fastest, there are many types of commodities which can be economically transported by water at considerably lower ton-mile costs than by competing forms of transportation. Where the time in transit is not of prime importance, many types of bulk cargo can be shipped by water at very favorable rates, and recent developments in large tank ships, container ships, and other types of bulk cargo carriers have further increased the economic advantages of this mode of transportation.

As population centers spread along the seaboard and inland from the sea frontiers, it becomes expedient to explore new ways of moving goods and people by water. Although in a few places the use of such traditional local routes as rivers and canals is being revived, for example the Mississippi and Ohio Rivers and the Inland Waterway System through the southern United States, the potential of such waterways as a part of an overall transportation system has been largely ignored. By using new types of water transport vehicles now becoming available, people could be moved along the seaboard from one population center to another, thus taking some of the load off the airways, highways, and railways. Some designers of mass transportation systems feel that if this is not yet economically feasible, it soon will be. Many cities and towns in the interior of California could be reached by today's waterborne craft which can navigate on rivers, canals, and flood control channels as well as in harbors and on the ocean. An in-depth study of this subject might produce some startling new possibilities for the efficient movement of people and goods in California.

1. PORT AUTHORITY STRUCTURE

A great many California ports are publicly owned facilities which provide the necessary transfer point for commerce carried by privately owned common carrier vessels, railroads, and trucks. They are operated as public corporations by individual port authorities.

California's ports have grown and prospered on competition. They are in strong competition among themselves to capture trade and shipping destined for discharge in California. In a more united way they are in competition with Eastern and Gulf Coast ports for traffic to and from the Orient and the Midwestern United States. Competition has resulted in the prospering of a number of well-managed ports in California which possess modern facilities and can offer competitively low rates. Notwithstanding such advantages of a competitive environment, it should be noted that competition among public corporations, some of which may be directly or indirectly subsidized through receipt of certain municipal services, for example, is generally viewed as not being in the best interests of the public in terms of the direct and indirect cost to the taxpayer, adverse effects on private enterprise, and the like. Such competitive practices by the ports of California should be carefully monitored by responsible public agencies to ensure that they do not become detrimental to the economic well-being of individual communities or to the people of California as a whole.

2. EQUIPMENT AND TECHNOLOGY

The traditional types of waterborne carriers such as freighters, barges, and ferries are being supplemented by new types of ocean vehicles, including super-tankers, container ships, specialized bulk cargo carriers, etc. In addition, we are on the threshold of the practical application of recent developments in hydrodynamics, aerodynamics, and a variety of advanced power sources ranging from new types of engine design to new types of energy. Some of the most recent developments, such as the hydrofoil, the winged hull, and air cushion vehicles, merge the dynamics of vehicles in flight and on the water.

Ocean commerce is undergoing a dramatic change in cargo handling and distribution methods. The traditional "break bulk" system of loading and unloading ships, railroad cars, and trucks and of storing goods awaiting shipment or distribution is being replaced by systems based on the continuous handling of bulk cargoes and on the packaging of other types of goods into unit loads.

California ports are now preparing to handle container ships as well as side port ships which are loaded with palletized cargo forklifts. The ports are also incorporating modifications required to accommodate very large ships such as super-tankers, large bulk cargo carriers, and other ships whose very size presents problems in terms of facilities and logistics.

Bulk cargo will continue to be a mainstay of the waterborne freight industry because of the relationship between speed of transit and financing costs. Where high cost-to-weight goods are involved, the financing costs, including insurance, may make it advantageous to reduce the time in transit through the use of air shipment. Conversely, for bulk cargoes of relatively low cost, the advantages of rapid delivery are often more than compensated for by the large carrying capacity and low ton-mile rates of large ocean-going vessels.

3. TERMINALS

For the present and near future, California's ports will be constructing new terminals to accommodate very large bulk cargo and tank ships and the new types of container ships. The costs of cargo handling in these new terminals are estimated to be approximately one-third as much per ton of cargo handled as the costs of a conventional berth.

The future results of the general changeover to containerization are generally clear, although the specific effects may not be seen for the next two or three years. In general, containerization and the advent of large bulk cargo carriers are expected to divide the California ports more radically into major and minor ports, with those capable of accommodating the new types of vessels naturally dominating as major ports. The managements of the ports bypassed by these new developments must find new vistas in which to operate or they can be expected to wither and die.

Containerization and bulk cargo shipments in the new large ships will create additional problems of congestion and traffic saturation around our port terminals. When large numbers of containers are placed on trucks which then proceed on local freeways, they create further traffic congestion. Continued close liaison with the ports by the State Division of Highways will be even more necessary than in the past. Some of this problem can be alleviated by the greater use of railroad facilities and by the judicious distribution and dispersal of container terminals located in our metropolitan areas.

4. FINANCING APPROACHES

Most often, aid from higher levels of government is thought of in terms of financial aid. Ports can and should be operated as efficient businesses, and if properly run they should not require outside financial assistance. The American Association of Port Authorities was on record for years against any Federal financial assistance to port (terminal) facilities. Despite this consistent record, as soon as Federal assistance was offered in the form of loans and grants by the Economic Development Agency, the temptations and pressures became too great. In recent years, numerous ports have applied for and received such aid. This has led to competitive problems among the ports due to the fact that those which do not enjoy a depressed economy are not eligible for such aid.

A major problem for many of the California ports is a coming shortage of waterside land on which to build terminals. Several major ports have already begun programs for building new land by dredging and filling. An underlying problem pertains to financing the construction costs for making this new land. The one California port which does not face this problem is Long Beach, which receives tideland oil revenues and is therefore in a stronger position to finance harbor improvements from its own total resources.

The normal business operations of the other California ports have for the most part been sufficient to support the construction of new terminal facilities with funds that can be borrowed on their own security. However, the great cost of creating new harbor lands for port expansion may not be able to be financed in this way, and may necessitate the institution of a formal program of construction grants on the State or Federal level.

The maintenance and deepening of channels and harbors has traditionally been accomplished by the U.S. Army Corps of Engineers, which is responsible for the construction and maintenance of the navigable waterways in the United States. Normally the local port entity is required to participate by the furnishing of rights of way, etc. The recent action of the State Lands Commission in asserting the State's rights to the bed of the navigable streams in California has increased the difficulty of seeing to it that the waterways are adequately maintained by the Corps of Engineers. If the State desires to continue its dynamic water transportation industry, it should study the implications of exacting a charge for materials removed to maintain our navigable channels and harbors.

G. Pipelines

All modes of transportation in California, with one important exception, are obvious since they operate on or above the surface of the ground or water. The one exception is the State's system of pipelines which transport significant volumes of liquids and gases essential to the welfare of the people and industry of California as well as other parts of the country.

California now has over 8500 miles of private petroleum pipelines, of which 1350 miles are classified as common carriers subject to the regulations of the California Public Utilities Commission. California pipelines annually transport 427 million barrels of crude oil valued at over $1 billion plus $1.5 billion worth of finished petroleum products. Similarly large quantities of gas and water are distributed by other pipeline systems in the State.

The cost of petroleum pipeline construction is borne entirely by private firms which own them as an alternative to overland bulk shipment of their products. Many operators express the opinion that local authorities are becoming overly restrictive in permitting new routes. Some of the regulations which control the time that fuel oil can be used as an energy source are also viewed with apprehension.

The gas transmission systems, which supply approximately 85 percent of the State's population with fuel for domestic, commercial, and industrial purposes, are largely owned by utility companies operating under the jurisdiction of the State Public Utilities Commission.

Concern has been expressed by pipeline owners with respect to the possibility of electrolysis adversely affecting underground piping systems in the vicinity of high-voltage, direct-current electrical transmission lines (employing a neutral ground feature), should they be constructed in California as presently planned.

To minimize the potential danger to persons and property which may result from accidental damage to pipelines, above-ground location markers are used extensively. This practice should be encouraged, and better coordination between the pipeline operators and the local agencies which deal with public and private construction would further this effort. In this regard, liaison has been established with various government agencies respecting routings and location records.

Transportation in the Future

A. Research and Development

There is extensive research and development work in progress throughout the world directed toward the evolution and derivation of advanced concepts and techniques for transportation systems and vehicles. Many of these advanced systems have received much publicity and popular discussion: automatic highways, electric cars, automated trains, passenger rockets, etc.; and many of the concepts inherent in these advanced ideas will undoubtedly be included as evolutionary improvements in our present modes of transportation as well as in new modes and systems which will be introduced at some time in the future.

The important word in considering future transportation systems is perhaps "evolutionary," since the introduction of most of these advanced concepts will probably be on an incremental and gradual basis rather than as a sudden or rapid occurrence. There have been progressive changes in many of our present modes of transportation during the past several years. The railroads have introduced computers to assist in their operational and management activities; automatic ticketing has become an integral feature of many transit systems; computers are being widely used to evaluate the alternatives in route selection and the design of freeways and highways; new and increasingly sophisticated electronic equipment is being introduced continually in our aircraft and airways systems; new types of cars and completely automated operations are included in the design of our latest rapid transit systems; containerization of cargoes and introduction of highly mechanized cargo handling equipment is common in many of our ports. But these changes have evolved gradually over periods of several years, not overnight.

The principal reason that these changes have taken place slowly is basically one of economics, but it is also a fact that even if limitless funds were available, facilities and equipment cannot be constructed or modified, or operating personnel trained instantaneously. No public or private entity has limitless funds, and for this reason expenditures for changes in transportation systems, and the changes themselves, must necessarily be made incrementally, usually over a period of years. Even before there are any direct expenditures for capital improvements, much time and money must be devoted to evaluating and justifying the investment of the capital required. Investment is an appropriate term whether public or private funds are being spent, since both public agencies and private business enterprises must be able to demonstrate that a return on the investment, in either dollars or social benefits or both, can be anticipated from the expenditures made for facilities or equipment.

B. Incorporation of Innovations

While there have been many evolutionary changes in our present modes of transportation in recent years, the rate of change of these improvements has often been so slow as to be almost imperceptible to those not directly involved. In fact, it is the contention of some that the rate of population increase and physical growth in our urban areas, and the corollary increase in demand for transportation facilities and services, have far outstripped the benefits available to the public at the present rate of change of our transportation systems. It is also contended that, even considering the significant improvements which have been made, present efforts to satisfy our growing transportation needs with more of the same facilities have only resulted in an acceleration of the rate at which we desecrate the landscape, destroy valuable community assets, and create noise and air pollution. The response of the transportation industry to these contentions is generally that financial constraints and the lack of technological breakthroughs restrict the industry's ability to be responsive to these aesthetic and environmental demands and problems.

Perhaps an even greater cause of many of the direct and indirect problems associated with the introduction of innovations into our transportation systems can be found in the fact that the legislation which has created our public transportation agencies, and government regulations and the profit-making motivations of our private transportation companies, effectively restrict the latitude of the activities of these agencies. The successful implementation of innovations into the transportation system is hampered by existing restrictions, both statutory and contractual, and by new restrictions which are developed by governmental agencies or private interests. Individual agencies or firms are generally created for the purpose of designing, constructing, operating, and resolving the problems associated with a single mode of transportation — frequently only a portion of a single mode. Thus, though the majority of the effort related to a single mode may be performed in a highly professional and competent manner, the focus is always on a specific mode of transportation, and not on the transportation system as an integrated entity.

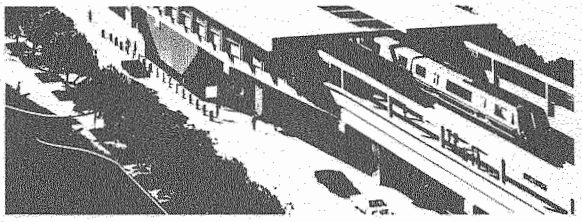
The incongruous fact in this situation is that there is an abundance of systems-oriented technical capability, especially in California, which can analyze our transportation system as a whole and incorporate in such analyses social, aesthetic, and environmental considerations as well as economic, engineering, and technical aspects of both present and future transportation systems. As indicated elsewhere in this report, however, the State of California does not presently possess an organization with the responsibility or

authority to mobilize our technical and industrial resources to undertake such a comprehensive study and analysis.

C. Tomorrow's Transportation Systems and Equipment

Much has been written about tomorrow's transportation equipment: vertical and short takeoff and landing (V/STOL) aircraft; air cushion vehicles; electric cars; automatic trains, buses, and personal vehicles; supersonic aircraft; horizontal "elevators"; tube trains; skybuses; etc. Much additional material has been written on advanced equipment concepts: suspension systems, propulsion systems, guideways, power sources, control systems, etc. The specific details of any of these advanced vehicle and equipment concepts will not be dealt with here since so much information has already been published and is readily available. In addition, it was not the objective of the Task Force to carry out detailed analyses of the technical feasibility or applicability of specific concepts or techniques to future transportation systems.

A fundamental prerequisite of any of the concepts or equipments proposed for our future system of transportation services, however, is its applicability to an integrated, statewide system of transportation. Many of the vehicles and much of the equipment proposed for tomorrow's transportation have been proven feasible on paper, and prototypes of some of the vehicles have been built, tested, and are now in actual production. There are fundamental economic reasons why these different vehicles and concepts are in different stages of development — unless there is an established requirement and a ready market for the product, industry is not likely to commit itself to production of the vehicle or equipment. We are technically capable of building transportation vehicles, equipment, and systems which appear, at least at first glance, to be far superior to those of the present. The difficulty lies in demonstrating that such advanced systems would really be superior, in terms of cost-effectiveness and economic advantage, as an integral



part of a total system of transportation services.

Each new vehicle concept which is advanced is invariably proclaimed to be the vehicle best able to solve one specific problem — the individual commuter problem, the problems of mass movement of people, the intercity travel of the intercity traveler, etc. Even though it seems technologically certain that efficient electric cars can be developed and produced in the relatively near future, we are unable to measure the applicability and compatibility of this type of vehicle in the coordinated system of transportation planned for the future. Thus we do not immediately proceed to electrify our freeways, and probably rightly so, pending further study and analysis of the overall problem.

This reiterates the point made earlier in this report and reflected in the specific recommendations presented in the next chapter: The State of California urgently needs to develop the data and the organization at the State government level to mobilize our existent technical capabilities in such a way that we can analytically evaluate the applicability of new transportation concepts, or extensions of our present modes of transportation, to tomorrow's transportation requirements.

It is generally accepted that revolutionary advanced concepts of transportation will probably not be of major concern to California in the near future. Our immediate transportation needs must be satisfied with the basic modes of transportation service which we know today, with numerous modifications and improvements to render them more efficient, safer, more convenient, and less conducive to noise, air pollution, urban congestion, and other such adverse factors.

Recommendations

The following specific recommendations are submitted by the Task Force on Transportation for consideration and the initiation of appropriate implementive actions by the Governor and the Legislature. The objective of the Task Force in proposing these actions is that their implementation will establish a solid foundation of organizational structure and policy analysis capability upon which a viable and effective program for the continuing solution of the transportation problems of California can be founded.

The organizational proposals are encompassed by Recommendations 1 through 4, while specific items of transportation policy which the Task Force recommends for immediate consideration are outlined in Recommendation 5.

The recommended organizational relationships among the State Transportation Agency, the California Transportation Board proposed in Recommendation 1, the State Transportation Planning Office defined in Recommendation 2, the Regional Transportation Districts described in Recommendation 3, and other elements of the State government are delineated in Figure 1.

RECOMMENDATION 1 — ESTABLISH A CALIFORNIA TRANSPORTATION BOARD

The Task Force recommends that the Governor propose that legislation be enacted to create a California Transportation Board. This legislation should prescribe the duties and responsibilities of the Board and should provide the means by which it will be funded (see Recommendation 4).

The initial functions and duties of this Board should be to advise and assist the Secretary of Business and Transportation in formulating State policy and plans for transportation programs within the State; to develop and evaluate data and information on the inter-relationships among the various present and future modes of transportation of interest; to recommend the nature and extent of State participation in the development of various transportation modes; and to advise as to the effects and implications of various alternative transportation plans on California's social and economic development.

In addition to these initial responsibilities, the California Transportation Board should conduct a continuing study and analysis of the needs and requirements of the State of California in the transportation field, particularly in terms of its organizational and financial requirements.

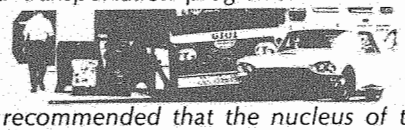
As soon as such studies indicate it to be practicable, the Task Force recommends that further legislation be enacted to assign additional powers, duties, and responsibilities to the California Transportation Board which will vest it with considerable autonomy and direct responsibility for the budgeting, allocation, and administering of State transportation funds and resources, including funds to be provided to local and regional agencies on a matching basis for specific projects.

The Task Force recommends that the California Transportation Board consist of not more than seven members appointed by the Governor, with the advice and consent of the State Legislature, plus, as ex-officio members, the Chairman of the Senate Transportation Committee and the Chairman of the Assembly Transportation and Commerce Committee. The members of the Board should be Californians who possess broadly based knowledge and competence. They should be selected from the business, professional, environmental, and transportation fields, and should be appointed on a staggered-term basis.

RECOMMENDATION 2 — ESTABLISH A STATE TRANSPORTATION PLANNING OFFICE

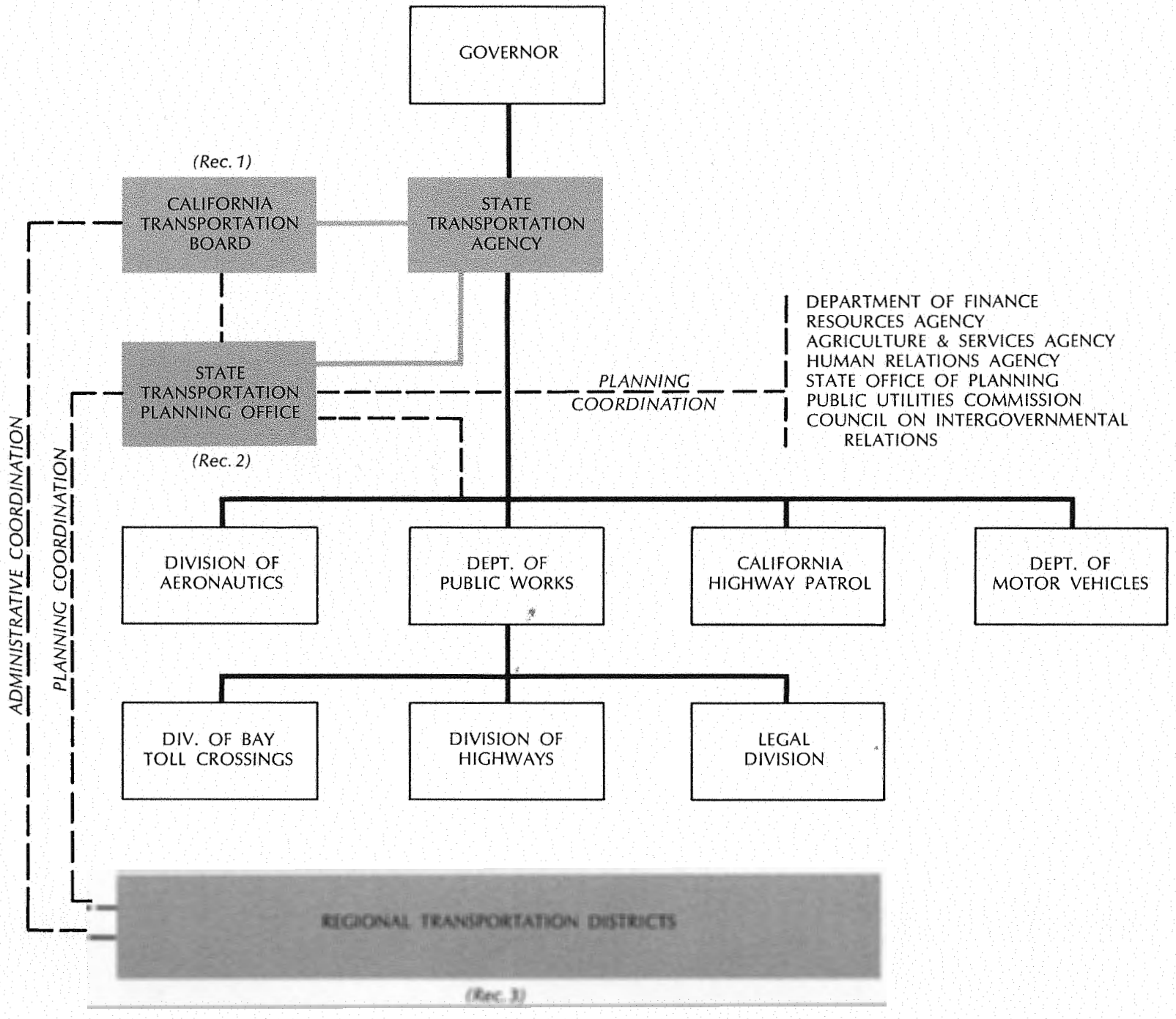
The Task Force recommends that an office be established, by the same legislation which establishes the California Transportation Board, to coordinate the planning, research, and analysis of statewide transportation programs. This office should function within the State Transportation Agency as a technical staff to the Secretary of Business and Transportation, and should also provide technical staff support to the California Transportation Board. It should be responsible for the collection, analysis, and evaluation of data and information necessary to define the requirements for transportation in the State and for the development of State policies, plans, and standards for transportation.

The State Transportation Planning Office should coordinate its transportation planning activities with the State Office of Planning and other State offices and agencies whose functions involve statewide planning in areas relating to or affected by transportation, such as finance, resources, economic development, agriculture, and the natural environment of the State. It should compile and analyze transportation data, evaluate alternative transportation plans and programs, maintain liaison with local governmental agencies and with the private business sector, and coordinate applications for Federal aid to local and regional transportation programs.



It is recommended that the nucleus of the State Transportation Planning Office be created by the reassignment of selected members of the Urban Transportation Section of the Urban Planning Department, State Division of Highways, to this new office. Additional specialists with capabilities in other modes of transportation and related social sciences should be added to this core staff as soon as possible to provide an appropriate mix of research and analysis capability in all modes of transportation of interest to the State of California now and in the future.

FIGURE 1. RECOMMENDED STATE TRANSPORTATION ORGANIZATIONAL STRUCTURE



RECOMMENDATION 3 — ESTABLISH REGIONAL TRANSPORTATION DISTRICTS

The Task Force recommends that regional transportation districts be authorized by the State Legislature so that every part of the State will be included in a regional transportation district. The actual establishment of geographic boundaries for these regional districts should not be fixed in the initial authorizing legislation.

The Task Force recognizes the current existence of groups of city and county representatives in the State which have voluntarily undertaken programs of continuous and cooperative planning. The experience and capabilities of such regional planning agencies (Association of Bay Area Governments, Southern California Association of Governments, San Diego County Comprehensive Planning Organization, Sacramento Regional Area Planning Commission, etc.) should be utilized wherever possible to facilitate the establishment of logical groupings of cities and counties into a series of regional transportation planning bodies. Such regional agencies should also continue to be utilized wherever possible to assure coordination of regional transportation plans and programs with comprehensive regional planning activities. Where regional transportation planning organizations (e.g., Bay Area Transportation Study Commission, Transportation Association of Southern California) currently are in existence, these organizations should, wherever feasible, be appropriately continued or modified to satisfy the function proposed for the recommended transportation districts. The State Transportation Planning Office and the California Transportation Board should assist in the determination of the geographic boundaries of the regional districts utilizing wherever possible the logical groupings of cities and counties as established by existing regional planning agencies, and should provide appropriate recommendations to the Secretary of Business and Transportation and to the Legislature for their formal establishment.

The major portions of detailed transportation program planning and implementation planning for the districts should be accomplished by the Regional Transportation Districts, operating within the encompassing framework of overall State transportation plans and policies. Coordination and administrative guidance should be provided to the district organizations by the State Transportation Planning Office and the California Transportation Board as appropriate. All applications for Federal aid in transportation projects should be channeled and processed through the Regional Transportation Districts and coordinated with the regional planning agency, if one exists, as required under Title II of the Demonstration Cities and Metropolitan Development Act of 1966. Such applications should also be coordinated with the State Transportation Planning Office in order to assure maximum effective utilization of such Federal resources, and also to assure compatibility of the programs within individual regions with the overall State transportation policies and plans. Transportation planning is an on-going and necessary function which must play a major role in the development of comprehensive plans, and which must proceed even during the development of such comprehensive plans.

While the activities of the Regional Transportation Districts should be coordinated and technically supported by the State Transportation Planning Office and the California Transportation Board, the Task Force believes that each regional district should be essentially autonomous with respect to the detailed implementation of transportation projects within its region. That is, each district should be a truly regional administrative entity in terms of the internal management and governing of its own regional affairs, and should not be a subordinate element of the State Transportation Planning Office and the California Transportation Board.

RECOMMENDATION 4 — FUND THE STATE TRANSPORTATION ORGANIZATION

As proposed in Recommendations 1 and 2, the Task Force recommends that the State Legislature appropriate certain sums annually to support the activities of the California Transportation Board and the State Transportation Planning Office.

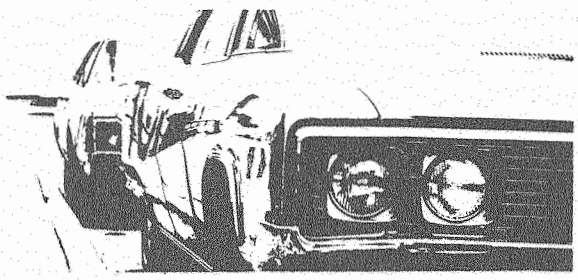
As a corollary recommendation, the Task Force recommends that these funds be appropriated from the State Aeronautics Fund, the State Highway Fund, and the State General Fund.

RECOMMENDATION 5 — DEVELOP A STATE TRANSPORTATION POLICY

The Task Force recommends that the State transportation organization as outlined in Recommendations 1 through 4 develop a comprehensive State transportation policy. Such a policy should provide the necessary framework of authority and direction within which the State can exercise its proper role in the integrated planning and coordination of a multi-modal system of transportation services to meet the needs and requirements of industry, commerce, and the people of the State of California.

It is recognized that there are a number of critical transportation issues immediately facing the public, and therefore the Governor and the State Legislature. Each of the several modes of transportation, publicly and privately owned, must be developed, maintained, operated, and financed as effectively as possible if the social and economic growth of the State are to be maintained. There are proper areas for the participation and involvement of private enterprise, privately owned transportation systems,

public-owned transportation systems, local government, regional bodies, the State government, and the Federal government in developing, organizing, financing, operating, and maintaining this total system of transportation. To meet the changing needs and requirements of the people of the State for transportation services in the years to come, the State should develop and maintain a basic transportation policy.



It is recommended that the State Transportation Planning Office be directed by the Secretary of Business and Transportation to develop and maintain a comprehensive State Transportation Master Plan. This master plan should be based on local and regional needs and requirements, and should coordinate and integrate such requirements to provide the basic policy and overall plan for the continuing evolution of a statewide system of transportation services.

The Task Force further recommends that the following specific points be considered in the development of a State transportation policy.

A. ENCOURAGE THE DEVELOPMENT OF URBAN MASS TRANSPORTATION

The State of California should encourage educational and informational programs which will lead to a better public understanding of urban mass transit needs. Although largely intraregional, urban mass transportation systems do include substantial collector/distributor needs of intercity transportation functions. For this reason, and because urban mass transportation is such a critical element in the total transportation requirements of California, the State has a legitimate responsibility, and must accept a key role, in assuring that the urban mass transportation needs of the several metropolitan urban regions in California are satisfied.

The Task Force believes that the primary responsibility for financing, constructing, and operating urban mass transportation systems must be assumed by an appropriate level of government. This level of government may very likely be regional in scope if the urban area involved extends beyond a single city, which is typically the case in both the Bay area and in Southern California. The State government, however, must be prepared to encourage and assist local and regional groups as needed in the planning, financing, construction, and operation of urban mass transportation systems on an equitable basis. The actual extent of such State involvement must be determined in each individual case, and the primary means of accomplishing that involvement should be through the Regional Transportation Districts, with coordination and advisory support from the California Transportation Board and the State Transportation Planning Office.

B. CONTINUE DEVELOPMENT OF THE STATEWIDE SYSTEM OF HIGHWAYS, ROADS, AND STREETS

The Task Force believes that the need for highway, road, street, and parking facilities throughout the State will continue to grow in the future. Therefore, California must be prepared to continue its program of facility construction, maintenance, and operation at all levels of government. With the completion of the Federal Interstate Highway System, the State should seek a reduction in or elimination of Federal highway user taxes. The State should, however, instigate increases in local and State revenues as necessary to keep up with rising and critical demands for construction and maintenance. These more broadly based revenues should be based on the true need for funds to provide and maintain our system of streets, roads, highways, and freeways.

C. DEFINE THE ROLE OF THE STATE IN AIR TRANSPORTATION

Every effort should be made to facilitate and complete the comprehensive inventory of airway and aviation facility requirements which the State Division of Aeronautics is about to undertake. This inventory, and the resulting air transportation plan, should be prepared utilizing to the maximum extent the existing resources and studies of local, regional, State, and Federal agencies and of private enterprise. The plan should serve as the basis for an on-going airport planning effort. Further, it should define the State interest in air transportation and in State and local financing, construction, operation, and maintenance of appropriate parts of the air transportation facilities in the State. This should include State participation, correlated with the Federal Aviation Administration, in the development of special local air navigation facilities to alleviate air congestion problems. A regional (both intra-State and multi-state) approach to airport development should be adopted by the State of California.

D. ENCOURAGE THE DEVELOPMENT OF PORTS, HARBORS, AND WATERWAYS

It is clearly in the interests of the State of California, its industries, commerce, and its people, to encourage and assist the ports and harbors of California to remain dynamic, progressive, and efficient in their operations. The State should involve itself to an ap-

propriate degree in the development of suitable financial arrangements to underwrite the necessary expansion, modernization, and improvement of the facilities and services of the several ports, harbors, and navigable waterways which serve to link the commerce of California and the nation to the rest of the world. The several California port authorities should be encouraged to continue in their present mode of operation as self-supporting, profit-seeking organizations. As public corporations, however, care must be exercised to ensure that the competetive activities of individual ports do not infringe on the activities of privately owned enterprises, result in wasteful duplication or unprofitable operations, or otherwise work to the detriment of the public interest and welfare.

E. ENCOURAGE TRANSPORTATION RESEARCH AND DEVELOPMENT

The Task Force recommends that the State of California adopt a policy, enact appropriate legislation, and take such other steps as may be necessary to encourage beneficial research in all aspects of transportation including its technological, economic, and sociological implications. Research and development relating to vehicles, travel ways, energy sources, and transportation techniques which will substantially raise the environmental standards (e.g., reduced air pollution and noise) and the safety factors which can be met by transportation equipment and facilities should be encouraged. The extensive resources of California's private industry, colleges, universities, and research institutions should be utilized fully in this regard. Consideration should be given to the establishment of suitable incentives to encourage private funding and sponsorship of transportation research and development.

F. REASSESS STATE TRANSPORTATION REGULATORY POLICIES AND RESTRICTIVE PRACTICES

Our California transportation legislation is the product of an era in which carriers, both passenger and freight, collectively enjoyed a virtual monopoly on all intercity movements. This monopoly situation has largely disappeared under the present day multimodal competition among for-hire and private carriers, thereby making a review of the transportation regulations a necessity if a strong and healthy transportation system is to continue to develop. The Task Force recommends that a continuing assessment be undertaken of State and local regulatory policies, statutes, and practices, as well as of various restrictive private practices, so that appropriate legislation may be indicated which will eliminate superfluous and costly regulatory effort and practices, and which will bring regulation and practice into line with the technological and economic realities of modern transportation.

Glossary of Terms

COORDINATION:
The act or process by which individual activities are unified or brought into a state of harmonious and compatible functioning.

INTEGRATION:
The act or process by which various subassemblies or component elements are brought into a united, complete, or perfect whole.

MASS TRANSPORTATION:
A form of passenger transportation intended to carry large numbers of public passengers on a regular and continuing basis.

MODE:
A manner, method, fashion, or particular form of performing a function. A transportation mode is a particular form, type, or system of transportation, such as a bus system, an airline, passenger automobile, etc.

PUBLIC TRANSPORTATION:
A form or mode of transportation which is available on a for-hire basis to the public; usually applied to modes of transportation which carry passengers as opposed to freight. Buses, taxis, streetcars, rapid transit systems, etc. are various modes of public transportation.

RAPID TRANSIT:
A mode of mass transportation characterized by higher relative speeds and with physical separation from other transportation modes through the utilization of an exclusive, usually grade-separated, right-of-way.

SYSTEM:
A group of facilities, equipment, data, and personnel especially integrated to perform a specific function or functions.

TRANSPORTATION:
The movement of people, goods, commodities, and/or freight from one place to another.

URBAN MASS TRANSPORTATION:
A system of mass transportation especially designed for a specific urban or metropolitan area or region.

APPENDIX I

Acknowledgments

The Members of the Governor's Task Force on Transportation are to be commended for the extent of their voluntary efforts in coming to grips with the charge placed upon them by the Governor. They have pursued this task with interest and dedication, evidenced by the fact that more than 85 percent of the Members participated in each of the six principal Task Force meetings. In addition, Task Force Members, each of whom served on one of four Panels and one of six Technical Committees, met some twenty times in developing and evaluating the vast quantities of information which constitute the background material from which this report and its recommendations evolved. In addition, the Executive Committee Members deliberated for many hours in two separate meetings prior to submitting the draft report to the Task Force. Throughout all of these meetings there was a lively exchange of ideas, concepts, philosophies, and opinions — evidence that considerable study and preparation had gone into each Member's contributions at the meeting.

Although many individual Task Force, Advisory, and Resource Members and Project Directors should be noted for their particular efforts, specific recognition of all of these individual contributions must necessarily be limited. Special note should be made, however, that the Project Directors, who are all government employees, pursued their Task Force responsibilities with enthusiasm while continuing their sizable normal work assignments. Among those who have particularly contributed their time and energy are Mr. Robert R. Irwin, Assistant to the General Manager of TRW Systems Group, TRW Inc., who composed from a myriad of inputs the major portions of the Volume I Report; Professor Harmer E. Davis, Director of the Institute of Transportation and Traffic Engineering of the University of California, who, among his many other contributions, drafted the Foreword to the Volume I Report; and Mr. Charles G. Beer, Chief, Urban Planning Department, State Division of Highways, who was the principal compiler of Volume II of the Task Force Report. Special acknowledgment should also be made to the Vice Chairman of the Task Force, Dr. Richard D. DeLauer, General Manager of TRW Systems Group, who made available the personnel and resources of TRW Systems for the design layout, photography, artwork, final editing, and typographical composition of Volume I of the Report.

Invaluable contributions were also provided to the Task Force by the Resource Members. The 200 members of this group furnished the Task Force with expert advice, counsel, and suggestions on numerous aspects of transportation and its related socio-economic considerations. Many individual Resource Members provided extensive contributions of data and material, much of which has been incorporated in the two volumes of the Task Force Report.

—W. L. Pereira, Chairman

APPENDIX II

Members of the Governor's Task Force On Transportation

CHAIRMAN
William L. Pereira

VICE CHAIRMAN
Dr. Richard D. DeLauer

EXECUTIVE DIRECTOR
Hugh E. Mulholland

EXECUTIVE COMMITTEE
William L. Pereira
Dr. Richard D. DeLauer
Hon. Gordon C. Luce
J. Floyd Andrews
Dr. Arnold O. Beckman
Hon. Ernani Bernardi
Nils O. Eklund
Francis T. Fox
Herbert Hoover, Jr.
Neil Petree
Shermer L. Sibley
James M. Udall
John V. Vaughn

TASK FORCE MEMBERS

J. Floyd Andrews, President
Pacific Southwest Airlines

Albert W. Bayer, President
A. W. Bayer and Associates

Dr. Arnold O. Beckman, President
California State Chamber of Commerce

Hon. Ernani Bernardi, Councilman
City of Los Angeles

B. F. Biaggini, President
Southern Pacific Company

Richard R. Brown, Mayor
City of El Cajon

Asa V. Call, Honorary Chairman
Pacific Mutual Life Insurance Company

Prof. Harmer E. Davis, Director
Institute of Transportation and Traffic Engineering,
University of California

Dr. Richard D. DeLauer
Vice President and General Manager
TRW Systems Group, TRW Inc.

Nils O. Eklund, Jr., Vice President
Kaiser Industries

Albert J. Eyraud, President
Southern California Rapid Transit District

Adrien J. Falk, President
S. F. Bay Area Rapid Transit District

Francis T. Fox, General Manager
Los Angeles Department of Airports

John P. Fraim, Jr., President
Mutual Broadcasting Corporation

Herbert Hoover, Jr.
Consulting Engineer

John McDonnell
President, Board of Directors
Alameda-Contra Costa Transit District

Edwin S. Moore, Executive Vice President
California State Automobile Association

William L. Pereira, F.A.I.A.
William L. Pereira & Associates

Neil Petree
Chairman, Executive Committee
Barker Bros.

Henry Roloff, Executive Vice President
Pacific Coast Association of Port Authorities

Wade Sherrard, Managing Director
California Trucking Association

Shermer L. Sibley, President
Pacific Gas and Electric Company

James M. Udall, President
James M. Udall, Inc.

John V. Vaughn, President
Dartell Laboratories Inc.

ADVISORY MEMBERS

Hon. Gordon C. Luce
Secretary of Business and Transportation
State of California

C. G. Beer, Chief, Urban Planning Department
Department of Public Works
State of California

Richard Carpenter
Executive Director and General Counsel
League of California Cities

Hon. Randolph Collier
Chairman, Senate Transportation Committee
State Senator

Hon. John F. Foran
Chairman, Assembly Committee on Transportation and Commerce
State Assemblyman

Arthur C. Gooch, Consultant
Program and Policy Office
Department of Finance
State of California

Hon. Norman B. Livermore, Jr.
Secretary of Resources and Development
State of California

William R. MacDougall
General Counsel and Manager
County Supervisors Association of California

Hon. Peter E. Mitchell, President
Public Utilities Commission
State of California

Hugh E. Mulholland
Deputy Director
Department of Public Works
State of California

Rus Walton, Special Assistant
Secretary of Business and Transportation
State of California

PROJECT DIRECTORS

Samuel J. Cullers
Chief, Urban Planning Section
State Office of Planning
State of California

Col. R. W. deLancy
Deputy Division Engineer
U.S. Army Engineer Division, South Pacific

Brig. Gen. John A. B. Dillard
Division Engineer
U.S. Army Engineer Division, South Pacific

Paul Dygert
Assistant Research Economist
Institute of Transportation and Traffic Engineering,
University of California

James K. Gibson
Assistant Director
Transportation Division
Public Utilities Commission
State of California

Jack E. Peddy
Asst. State Highway Engineer —
Program Management Function
Department of Public Works
State of California

Dana G. Pengilly
Planning Engineer
Planning Department
Department of Public Works
State of California

Albert C. Porter, Principal
Special Studies Branch
Public Utilities Commission
State of California

G. L. Russell
Traffic Engineer
Traffic Department
Department of Public Works
State of California

William F. Scheuermann, Senior Planner
Transportation Studies
Department of Public Works
State of California

Arthur Watson
Senior Structural Engineer
Civil & Professional Engineers Board
Department of Professional and Vocational Standards
State of California

Richard M. Zettel, Director
Bay Area Transportation Study Commission

RESOURCE MEMBERS

Mr. Otar M. Aamodt
Prudential Insurance Company

Mr. John F. Adair
Kaweah Delta Gins Inc.

Mr. Mihran Agbabian
Agbabian-Jacobsen Associates

Mr. Hervey E. Aldridge
Federal Aviation Administration

Mr. Robert E. Alexander, F.A.I.A.
Robert E. Alexander & Associates

Mr. Grant S. Anderson
Los Angeles Department of Airports

Mr. Vernon W. Anderson
San Francisco Municipal Railway

Mr. Virgil Anderson
Calif. State Automobile Association

Mr. Henry A. Babcock
Babcock & Hillendahl

Mr. M. F. Bagan
SFO Helicopter Airlines, Inc.

Mr. Richard M. Bartle
Bartle-Wells Associates

Mr. John Bate
San Diego Yacht Club

Mr. Roy Bayliss
California Airport Executives Assoc.

Mr. Welton Becket
Welton Becket & Associates

Mr. Bryce Bennett
International Engineering Co., Inc:

Mr. Don Benninghoven
League of California Cities

Mr. William H. Best, III
The Service Bureau Corporation

Mr. Charles Blair
Daniel, Mann, Johnson & Mendenhall

Mr. A. R. Bone, Jr.
American Airlines

Mr. Martin J. Bouman
Planning Research Corporation

Mr. William D. Bourne
Sacramento Transit Authority

Mr. Clive Bradford
General Motors Corporation

Mr. Ely Brandes
Stanford Research Institute

Mr. C. F. Breidenstein
Canners League of California

Mr. Robert J. Bresnahan
Los Angeles Department of Airports

Mr. John O. Bronson
California State Chamber of Commerce

Mr. R. W. Brooks
Pacific Gas Transmission Co.

Mr. Alan K. Browne
Bank of America

Mr. William A. Bugge
Parsons, Brinckerhoff-Tudor-Bechtel

Mr. Richard Canham
Standard Oil Company of California

Mr. Eugene T. Canty
General Motors Technical Center

Mr. Ike Caraco
Bechtel Corporation

Professor John Carter
Graduate School of Business Admin.
University of California

Mr. Harry V. Cheshire, Jr.
Automobile Club of Southern Calif.

Mr. Robert Clement
California Almond Growers Exchange

Mr. Victor E. Cole
Kaiser Engineers

Professor Michael Conant
University of California

Mr. Edgardo Contini
Victor Gruen & Associates

Mr. Vincent T. Cooper
County Supervisors Association of Calif.

Mr. Ray Costello
Pacific Airlines

Mr. George Cote
Aircraft Dealers' Association

Mr. L. M. Cox
Western Growers Association

Mr. Robert W. Crommelin
Robert Crommelin and Associates

Mr. Austin B. Croshere
McDonnell Douglas Corporation

Mr. Herbert G. Crowle
County of Alameda

Mr. Thomas Crowley
Crowley Launch and Tugboat Company

Mr. W. R. Currie
Department of Finance, State of Calif.

Mr. John Curtis
Southern California Rapid Transit Dist.

Mr. Milford Dahl
Rutan, Tucker & Associates

Mr. J. Thomas Dale
Air-O-Bee Corporation

Mr. Albin P. Davis
Carnation Company

Mr. E. Sam Davis
Alameda-Contra Costa Transit District

Mr. James R. Davis
Converse Foundation Engineers

Mr. Douglas Day
Sunsweet Growers

Mr. Victor Dekath
Forest Service, U.S. Dept. of Agriculture

Mr. Kenneth Delaney
Los Angeles Chamber of Commerce

Mr. Robert N. Dick
Western Greyhound Lines

Mr. Forest S. Dickason
County of Orange

Mr. Harry T. Dotson
Western Greyhound Lines

Mr. Anthony Downs
Real Estate Research Corporation

Mr. Henry Dreyfuss
Henry Dreyfuss & Associates

Mr. Eric Duckstad
Stanford Research Institute

Mr. Richard C. East
California Toll Bridge Authority

Mr. Henry K. Evans
Wilbur Smith and Associates

Mr. Joseph H. Famme
Rohr Corporation

Dr. D. Jackson Faustman
Consulting Traffic Engineer

Mr. Alex Gaeta
Peerless Stages

Mr. Richard Gallagher
Southern California Rapid Transit Dist.

Mr. Wilmer J. Garrett
Fresno Municipal Airports

Mr. John F. Gensley, Jr.
Bank of America

Dr. Gayton E. Germane
Graduate School of Business
Stanford University

Mr. Walter E. Gillfillan
Institute of Transportation and Traffic
Engineering, University of California

Mr. Stanley Goldhaber
Ralph M. Parsons Company

Dr. William Goldner
Bay Area Transportation Study Com.

Mr. Sidney Goldstein
The Port of New York Authority

Mr. E. H. Graham, Jr.
Koebig and Koebig, Inc.

Mr. Eric P. Grant
Motor Vehicle Pollution Control Board

Dr. Homer H. Grant
Department of Industrial Engineering
University of Southern California

Mr. H. Vance Greenslit
National Association of Motor
Bus Owners

Mr. Donald B. Gutoff
Wilsey & Ham

Mr. Walter Hahn
City of San Diego

Mr. Earl Hansen
Times Aero Club

Mr. James Haugh
California Motor Express Ltd.

Mr. Charles Hedges
Sacramento State College

Mr. Leslie Helgesson
Tudor Engineering (Retired)

Mr. Clark Henderson
Stanford Research Institute

Mr. James H. Hickey
Association of Bay Area Governments

Professor George Hilton
University of California

Mr. John H. Hilton
Federal Aviation Administration

Mr. Kingsley T. Hoegstedt
California Toll Bridge Authority

Mr. Wolfgang Homburger
Institute of Transportation and Traffic Engineering, University of California

Mr. George Hook
San Jose City Lines, Inc.

Professor Robert Horonjeff
Institute of Transportation and Traffic Engineering, University of California

Mr. R. O. Hubbard
California Farm Bureau Federation

Mr. Kenneth J. Hull
Air California

Mr. Fred Imhof
Southern Calif. Rock Products Assn.

Mr. W. T. Immenschuh
Ryan Aeronautical Company

Mr. Robert M. Ivie
Guild Wine Company

Mr. C. E. J. Jamart
DeLeuw, Cather & Company

Mr. Conrad C. Jamison
Security First National Bank

Mr. Jack Jones
North American Aviation

Mr. Warren Jones
Duncan-Jones Planning Consultants

Mr. Joseph Kaspar
California Trucking Association

Mr. James Kell
Peat, Marwick, Livingston

Mr. Philip V. King
Bureau of Engineering
City of Los Angeles

Mr. Keith Kirstein
California Grain and Feed Association

Mr. F. S. Kohles
Valley Motor Lines

Mr. Ray Kusche
Quinton Engineers Limited

Mr. William Lane, Jr.
SUNSET Magazine

Mr. Edgar J. Langhofer
ICC Practitioner

Mr. Stanley Lanham
Consulting Engineer

Mr. Herbert LaVigne
Tudor Engineering Company

Mr. D. R. Lewis
Southern Pacific Company

Mr. John Lilly
West Bay Rapid Transit Authority

Dr. Fred C. Lindvall
Division of Engineering and Applied Science
California Institute of Technology

Mr. D. S. Loveless
California Canners and Growers

Mr. Leroy Lyon
California Railroad Association

Mr. John A. Maga
Bureau of Air Sanitation
State Department of Public Health

Professor Julius Margolis
Stanford University

Mr. C. L. Mayfield
Diamond Walnut Growers

Mr. John McCallum
Bay Area Transportation Study Commission

Mr. John McDonald
Automobile Club of Southern Calif.

Mr. Milton McKay
Southern California Rapid Transit District

Mr. Irvan F. Mendenhall
Daniel, Mann, Johnson & Mendenhall

Mr. William Mentzer
United Air Lines

Mr. Charles C. Miller
San Francisco Chamber of Commerce

Mr. David R. Miller
Daniel, Mann, Johnson and Mendenhall

Mr. E. Allen Mills
California Grape and Tree Fruit League

Mr. George J. Mitchell, Jr.
SARC Incorporated

Mr. John Moffatt
Moffatt and Nichol Engineers

Mr. Einar O. Mohn
Western Conference of Teamsters

Mr. Clifton A. Moore
Los Angeles Department of Airports

Mr. J. Jamison Moore
Modern Management

Mr. S. A. Moore
Kaiser Cement & Gypsum Corporation

Mr. Harry Morrison
Western Oil and Gas Association

Mr. W. R. Murdoch
Interstate Commerce Commission

Mr. David L. Narver, Jr.
Holmes and Narver, Inc.

Mr. John Neville
Sylvania Electric Products, Inc.

Mr. Jack Newville
Engineering Service Corporation

Mr. George Nicholaw
KNX, CBS Radio

Mr. Robert E. Nisbet
Alameda-Contra Costa Transit District

Mr. Ben E. Nutter
Port of Oakland

Mr. S. R. Oliver
Bechtel Corporation

Mr. Stan Ossman
Greyhound Lines, Inc.

Professor Dudley Pegrum
University of California

Mr. W. E. Pereira
American Airlines

Mr. Herbert G. Petersen
Councilman, Redwood City

Mr. R. Max Petersen
U.S. Forest Service

Mr. Frederick Pfrommer
The Atchison, Topeka and Santa Fe Railway Company

Mr. Robert B. Pitts
Department of Housing and Urban Development

Mr. Arlo Poe
California Trucking Association

Mr. Ernest Poole
Consultant

Mr. Harrison A. Price
Economics Research Associates

Mr. Norman A. Proffitt, Jr.
William H. Best Co.

Mr. F. P. Pusateri
Potato Growers Association of Calif.

Mr. Henry D Quinby
Parsons-Brinckerhoff-Quade-Douglas

Mr. Gerald Raff
Department of Finance
State of California

Mr. John T. Reed
California Manufacturers Association

Mr. Bertram Rhine
California Council of Aviation Associations

Mr. Lachland Richards
Lachland Richards & Associates

Mr. Lewis W. Riggs
Tudor Engineering Company

Mr. J. J. Rimel
Rimel, Harvey & Helsing

Mr. Jess Rosenberg
Western Highway Institute

Mr. Ken Ross
Association of General Contractors

Mr. William N. Rowley
United Aircraft Corporation

Dr. Karl M. Ruppenthal
Graduate School of Business
Stanford University

Mr. A. M. Russo
The Ralph M. Parsons Company

Mr. T. Claude Ryan
Ryan Aeronautical Company

Mr. William Ryan
Sunkist Growers

Mr. James S. Saffran
Stone and Youngberg
Financing Consultants

Mr. Victor W. Sauer
Contra Costa County

Mr. E. W. Scammon
State Department of General Services

Mr. Warren Schmid
Association of Bay Area Governments

Mr. Harvey Scott
California Bus Association

Mr. Thurman Sherard
Western Highway Institute

Mr. Melvin Shore
Sacramento Port Authority

Mr. Gerard Shuirman
Shuirman and Rogoway & Associates

Mr. Philip G. Simpson
Intergovernmental Council on
Urban Growth

Mr. Thor Sjostrand
Southern Pacific Company

Mr. Bernard J. Smith
Consulting Engineer

Mr. Donald B. Smith
Sacramento Municipal Airport

Mr. J. G. Smith
Pacific Gas and Electric

Mr. Wilber E. Smith
Southern California Association of
Governments

Mr. David K. Speer
County Engineer, San Diego County

Mr. D. J. Steele
U.S. Bureau of Public Roads

Mr. Jim Stevens
Cline, Fast, and Senning

Mr. B. R. Stokes
San Francisco Bay Area Rapid
Transit District

Mr. Ralph Stone
Ralph Stone and Company, Inc.

Mr. Eugene Swanz
Pacific Southwest Airlines

Mr. Perry Taft
Association of California
Insurance Companies

Mr. Fred Taplin
Los Angeles County Airport Director

Mr. George M. Taylor
Alameda-Contra Costa Transit District

Mr. Calvin Thomas
Mobil Oil Company

Mrs. Grace Thomas
City of Santa Monica Redevelopment
Agency

Mr. Donald C. Tillman
Chief Deputy City Engineer,
Los Angeles

Mr. Bert Trask
California Trucking Association

Mr. R. M. Van Cleave
Interstate Commerce Commission

Mr. George Vawter
Sun-Maid Raisin Growers

Mr. Dick Volpert
O'Melveny & Myers

Mr. Milton A. Walker
Fibreboard Paper Products Corp.

Mr. Murray Ward
E. F. Hutton & Company, Inc.

Mr. Robert E. Welk
Santa Fe Railroad

Mr. E. F. Westberg
California Retailers Association

Mr. Richard Whitehead
County of Santa Barbara

Mrs. Rene Margaret Wilson
League of Women Voters of
Los Angeles

Mr. Harry Wolfe
Arthur D. Little Company

Mr. O. F. Yando
Ford Division of Ford Motor Company

Mr. Robert J. Zimmerman
TRW Systems Group, TRW Inc.

APPENDIX III

Task Force Panels

EXECUTIVE COMMITTEE

Chairman
WILLIAM PEREIRA
DR. RICHARD DeLAUER
HON. GORDON LUCE
FLOYD ANDREWS
DR. ARNOLD BECKMAN
HON. ERNANI BERNARDI
NILS EKLUND
FRANCIS FOX
HERBERT HOOVER
NEIL PETREE
SHERMER SIBLEY
JAMES UDALL
JOHN VAUGHN
HUGH MULHOLLAND
Executive Director

TASK FORCE PANEL I

HERBERT HOOVER, Chairman
FLOYD ANDREWS
B. F. BIAGGINI
DR. RICHARD DeLAUER
A. J. EYRAUD
JOHN McDONNELL
*DANA G. PENGILLY - DPW

Existing Conditions; i.e. information relative to currently operatinng systems and the successes and problems involved in the operations of these systems — all modes of transportation are to be included.

TASK FORCE PANEL II

FRANCIS FOX, Chairman
RICHARD R. BROWN
ADRIEN J. FALK
HENRY ROLOFF
SHERMER SIBLEY
JAMES UDALL
*JAMES K. GIBSON - PUC

Plans and Programs in Progress; i.e. such as BART, where construction is underway but actual system operations have not begun; or, the Division of Highways, where, though there are completed segments, the planning, design and construction leading to the development of a complete freeway system is still in progress.

**Project Director*

TASK FORCE PANEL III

NEIL PETREE, Chairman
HON. ERNANI BERNARDI
JOHN P. FRAIM, JR.
EDWIN S. MOORE
WADE SHERRARD
JOHN VAUGHN
*JACK E. PEDDY, DPW

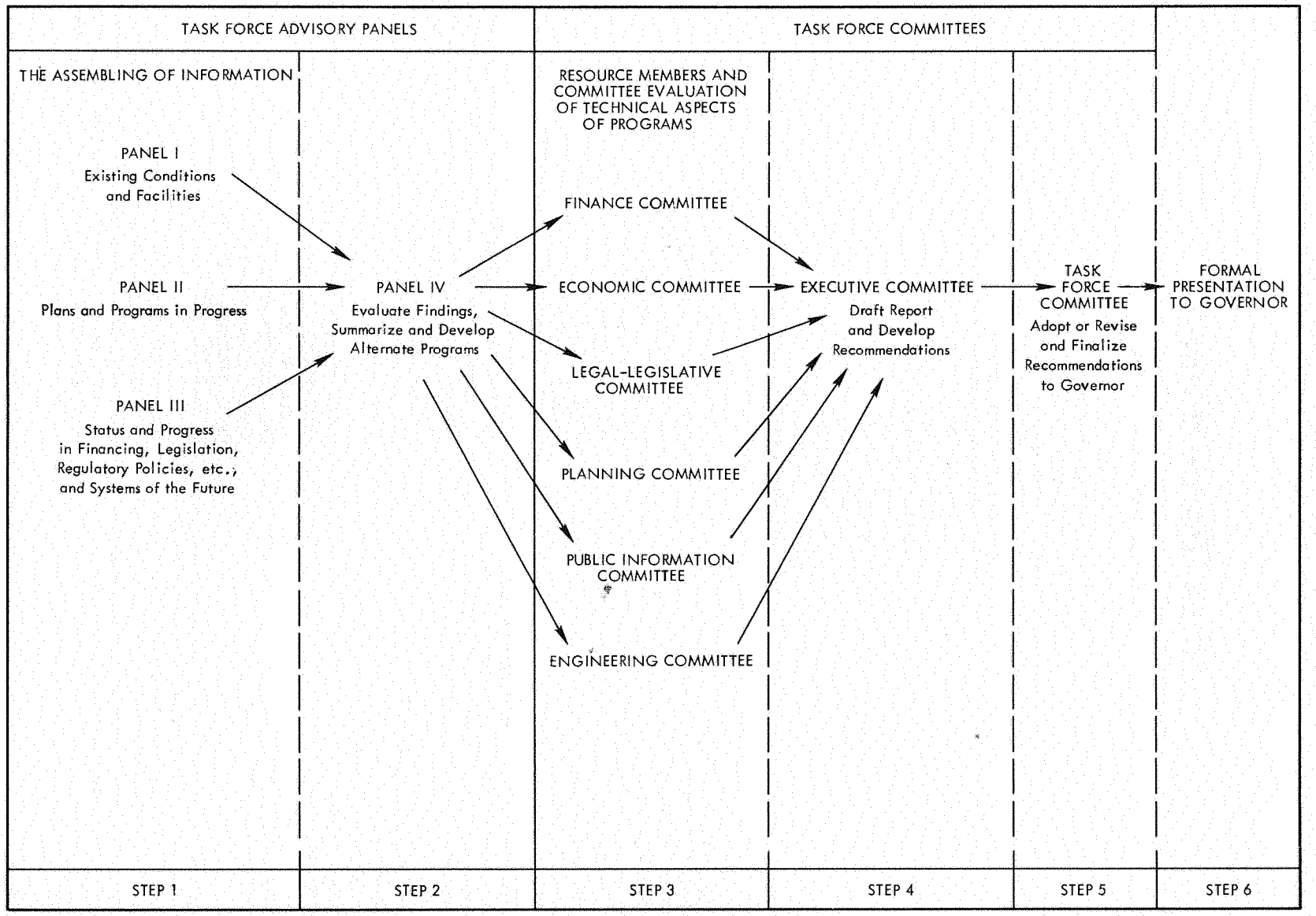
Financing, Legislation, Execution i.e., information relative to the evolutionary status of (1) financing the various transportation systems, (2) current legislative considerations and programs which would or will affect transportation systems and modes, and (3) the changes, ranging from the evolutionary to the near-revolutionary, which are occurring or are proposed in transportation equipment, systems, etc

TASK FORCE PANEL IV

NILS EKLUND, Chairman
ALBERT W. BAYER
DR. ARNOLD BECKMAN
ASA V. CALL
PROF. HARMER E. DAVIS
*C. G. BEER - DPW

Evaluate and collectively summarize the findings of the three Advisory Panels. Develop suggested alternate programs which the State might undertake in attempting to resolve overall transportation problems, or some of them, and submit these suggested alternate programs to the Vice Chairman's Technical Committee.

ORGANIZATION AND WORK FLOW CHART



APPENDIX IV

Technical Committees

Chairman
DR. RICHARD D. DeLAUER
Vice Chairman of the Governor's Task Force on Transportation

Process alternate programs suggested by Task Force Panel IV. These committees will evaluate the technical aspects of the various programs and will submit comments, including conclusions and recommendations when applicable, relative to the technical feasibility, workability, compatibility, etc., of the different parts of the programs. Comments, along with the originally suggested programs, will then be submitted to the Executive Committee.

ECONOMIC COMMITTEE
Dr. Arnold O. Beckman, Chairman
B. F. Biaggini
John McDonnell
*Paul K. Dygert

Evaluate alternate programs from the standpoint of their effect on economic communities and the State economic health; define economic communities for the benefit of the other committees and the Task Force.

ENGINEERING COMMITTEE
Shermer Sibley, Chairman
Prof. Harmer E. Davis
Nils Eklund
Herbert Hoover
*Arthur Watson

Evaluate alternate programs from the standpoint of current, near-current, and in-the-future equipment and systems.

FINANCE COMMITTEE
Floyd Andrews, Chairman
Edwin S. Moore
Wade Sherrard
*Richard M. Zettel

Evaluate alternate programs from the standpoint of the financial structure required to implement the programs.

*Project Director

LEGAL / LEGISLATIVE COMMITTEE
Hon. Ernani Bernardi, Chairman
Richard R. Brown
Adrien J. Falk
Neil Petree
*William Scheuermann

Analyze alternate programs from the standpoint of current statutes, describe legislation which would be required to effect changes in statutes if a particular alternate program was to be put into effect.

PLANNING COMMITTEE
John Vaughn, Chairman
Albert W. Bayer
A. J. Eyraud
Henry Roloff
*Samuel J. Cullers

Evaluate alternate programs from the standpoint of their effect on comprehensive planning programs at the local, regional, and State level.

PUBLIC INFORMATION COMMITTEE
James M. Udall, Chairman
Asa V. Call
Francis T. Fox
John P. Fraim, Jr.
*Rus Walton

Evaluate alternate programs from the public relations standpoint: i.e., what type of public information programs would be desirable to acquaint the public with the transportation problem and the solution to it as envisioned in each of the alternate programs.

This report may be purchased from:
Documents Section
P. O. Box 20191
Sacramento, California
95820

Price: $3.00