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Executive Officer

## A REVIEW OF CALIFORNIA'S VEHICLE EMISSION CONTROL PROGRAM



A REVIEW OF  
CALIFORNIA'S VEHICLE EMISSION  
CONTROL PROGRAM

By The  
COMMISSION ON CALIFORNIA STATE GOVERNMENT ORGANIZATION AND ECONOMY

January 1975

## COMMISSION ON CALIFORNIA STATE GOVERNMENT ORGANIZATION AND ECONOMY

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

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

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

Gentlemen:

The Commission on California State Government Organization and Economy has completed its review of California's vehicle emission control program. The goal of this study is to enhance the State Government's ability to contribute to the achievement of clean air in California. The scope of the report is restricted to the light-duty vehicular element of the mobile source control program. The objective, therefore, is to reduce or eliminate inefficiencies and ineffectiveness of the current light-duty vehicular emission control effort which result from:

- Poor state government organization and administration.
- Deficiencies in the law or codes which govern the program. Deficiencies would include logical gaps and inconsistencies, as well as the absence or duplication of duties and responsibilities among the agencies involved.

The Commission suggests that these same faults may well apply to the State's efforts to contain water and solid waste disposal pollution within acceptable limits. The evaluative criteria set forth here for vehicular emission control are equally appropriate to a needed analysis of the State's water pollution and solid waste disposal programs.

January 1975

Basic findings of the study, directed by the full Commission, lead to the conclusion that the overall effectiveness of the State's Vehicle Emission Control Program would be enhanced by:

- Creating a Department of Air Resources, within the appropriate State Agency, to be administered by a Director appointed by the Governor, and advised by a nonsalaried Air Resources Advisory Board on matters of broad public policy; and Ad Hoc Medical and Technical Advisory Committees on health-related and technical matters.

As an alternative to leaving the proposed department within an existing State Agency, it has been suggested--and is worthy of further study--that a new Environmental Agency be established with responsibility for the major areas of air pollution, water pollution, and solid waste disposal and other related activities affecting our environment.

The advent of a new State administration makes this a propitious time for active consideration of the issues confronting California residents in the battle for clean air. This report is offered in the hope that these issues have been further illuminated, and that it provides a basis for action.

Respectfully submitted,



Manning J. Post, Chairman  
Walter H. Lohman, Vice-Chairman  
Senator Alfred E. Alquist  
Howard A. Busby  
Assemblyman Jack R. Fenton  
Harold Furst  
Harold C. Henry  
H. Herbert Jackson  
James E. Kenney  
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Senator Milton Marks  
Assemblyman Ernest N. Mobley  
Nathan Shapell

# A REVIEW OF CALIFORNIA'S VEHICLE EMISSION CONTROL PROGRAM

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A REVIEW OF THE  
CALIFORNIA VEHICLE EMISSION CONTROL PROGRAM

INTRODUCTION

Public concern over the air pollution problem in the major metropolitan regions of California began in the early post-World War II period with the discovery of the adverse effects of oxidant (photochemical smog) on man and his environment. That concern has intensified over the intervening decades as manifested by the burgeoning number of public and private agencies which have been created to deal with air pollution. At the State Government level alone, there are seventeen organizational entities that deal in one way or another with air resources and attendant problems. Of these seventeen governmental units, there are three Agencies and four Departments that deal directly with the problem of pollutants emitted from mobile sources--Air Resources Board (Resources Agency), Bureau of Automotive Repair (Agriculture and Services Agency), California Highway Patrol and Department of Motor Vehicles (Business and Transportation Agency). As indicated in Table I, in the 1974-75 fiscal year these four agencies combined will spend approximately \$9,345,363 and employ 383 personnel man-years for the control of pollutants emitted by mobile sources. Expenditures for this purpose since 1967 total \$26.6 million while expenditures for the entire air pollution control program (stationary and vehicular) at the State level for this period equal more than \$61.8 million.

TABLE I

Vehicle Emission Control Program  
Expenditures and Personnel  
By Department  
Fiscal Year 1974-1975 (Estimated)

<u>Department</u>	<u>Authorized Positions</u>	<u>Expenditures</u>
Air Resources Board		
Division of Vehicle Emission Control	101	\$ 2,352,000
Bureau of Automotive Repair		
Smog Station License and Inspection	59	1,347,740
Annual Mandatory Vehicle Emission Inspection	40	2,600,000
Highway Patrol		
Passenger Vehicle Inspection	52	1,239,623
Motor Vehicles		
Division of Field Office Operation	115.9	1,626,986
Division of Registration	<u>14.7</u>	<u>179,014</u>
Totals	<u>382.6</u>	<u>\$ 9,345,363</u>

Source: Budget Offices of the respective departments.

A major conclusion of this study is that California's vehicular emission control program will undergo radical changes in scope and emphasis over the remainder of the 1970's. This raises the central question whether or not the state is organized to maximize its contribution to the goal of clean air within the confines of the changes which will occur. An examination of this issue raises the related questions:

- what is the state's vehicular emission control program?
- what should be the state's vehicular emission control program?
- how should the program be organized and enforced?

It will be useful to weigh the findings of this report in attempting to answer these questions. While significant accomplishments have been made in dealing with the problem of air pollution to date, an examination of the current program reveals that improvements can be made along the following lines:

Vesting Responsibility for Results.

- Responsibility for accomplishment is diffused among the Air Resources Board, the Bureau of Automotive Repair, the California Highway Patrol, the Department of Motor Vehicles, and the Attorney General's Office.

- Responsibility for accomplishment is split at the Cabinet level among the Secretaries of Agriculture and Services, Business and Transportation, and Resources.
- There is the appearance but not the substance of financial control by the Air Resources Board over the administration and operation of the programs undertaken by the Bureau of Automotive Repair and the California Highway Patrol for the Board by Interagency Agreement.

We conclude that the potential for lack of accountability, lack of coherence, and lack of financial control over the vehicular emission control program is unacceptably high.

#### Intergovernmental Relations.

- There exists a feeling of mistrust if not open hostility among the local, state, and federal government agencies involved in vehicular emission control.
- There is uncertainty over the state's role in vehicular emission control as the federal Environmental Protection Agency becomes more dominant in the field.
- There exists a lack of coordination, cooperation, and communication among the responsible agencies at the three levels of government.

In order to diminish the public uncertainty and skepticism, and to increase the efficiency of government actions we conclude that mechanisms of coordination need to be identified and implemented.

#### Intra-governmental Relations at the State Level.

- The Governor, his Cabinet, and the Air Resources Board have been in conflict over key programs involving the expenditure of millions of dollars by either the private or public sectors, or both.
- The Air Resources Board has been relatively ineffective in its dealings with the Legislature in general, and with individual legislators on policy committees in particular.

We observe that these factors taken together have combined to result in excessive preoccupation by the Legislature with the administrative, operational, and technical/scientific details of the state's approach to vehicular emission control. In principle, we conclude that the Legislature can make its greatest contribution to solving California's air pollution problem by setting policy guidelines, by providing the resources required, and by monitoring the overall effectiveness of the program developed by the Executive Branch.

#### Enforcement.

- Each of the four primary departments exercises delegated enforcement powers over different elements of the vehicular emission control program. Each department has discretion unilaterally to formulate

its own enforcement policy over that element of the total program under its authority.

- It is the position of the ARB and the Attorney General that the legal remedies for violations of the California statutes are, in some cases, excessively severe. This has resulted in a reluctance to take enforcement action on the part of the responsible authorities.

We conclude that a need exists for clear and coordinated enforcement policy guidelines emanating from the top decision levels. Unenforceable provisions in the law should be called to the attention of the Legislature for corrective action.

#### Public Information.

- There exists among the citizenry widespread ignorance and confusion over the state's vehicular emission control program with regard to its costs, benefits, effectiveness, and the range of alternatives from which the program was chosen.
- The vehicle emission control program in California relies heavily for its success on the voluntary cooperation of the owners, dealers, and manufacturers.

We believe that the likelihood of success in curbing vehicle emissions can be materially enhanced through a stronger state government effort adequately and reliably to inform the citizenry of the nature of the problem, the range of alternative solutions available, and the part to be played by the individual motorist, dealers, and manufacturers.

## EVALUATIVE CRITERIA

In developing recommendations which address these problems, this Commission has adopted the following general guidelines:

- Responsibility for achieving clean air should devolve upon as few jurisdictions as possible. These jurisdictions should be given adequate resources and the authority to allocate and control those resources.
- Responsible authority should be made visible and identifiable.
- The program should be administered by as few departments in as few agencies as possible.
- The program should be structured to enhance the potential for effective communication and coordination among government levels and within the State Government.
- The program should be designed not only to accommodate, but to capitalize upon, the emerging trends and changes perceptible now.
- And finally, any modifications to the current program should entail a minimum of disruption in current legal and organizational provisions consistent with accomplishing the necessary improvements.

ORGANIZATION AND ACTIVITIES  
OF THE  
STATE AIR RESOURCES BOARD

The first state agency for the control of vehicular air pollution was established in 1960. The Legislature created a 14-member Motor Vehicle Pollution Control Board to reduce vehicle emissions through programs of setting emission standards, of developing vehicle and control device testing procedures, and of certifying control devices and manufacturers. After seven years of pioneering work on these three facets of vehicle control, the Motor Vehicle Pollution Control Board was replaced by a 14-member Air Resources Board. That 14-member body continued as the state's primary agency with the adoption of the Mulford-Carrell Act until replaced in 1972 by a 5-member part-time Board.

Currently, the Air Resources Board consists of five members appointed by the Governor, with the consent of the Senate, and serve at his pleasure. Nominally a part of the Resources Agency, the Board actually operates independently of Agency control. The law requires that two members be trained and experienced in automotive engineering or a closely related field; that two members be trained and experienced in the disciplines of chemistry, meteorology or related scientific fields including agriculture or law; and that one member shall qualify by training and experience in the fields mentioned above, or will have administrative experience in the field of

air pollution control without special technical training.

The Board membership as of December, 1974 is comprised of Messrs. Charles Conrad, Chairman, Augustus Batchelder, David Kline, Roger Mosher, and Harold Sullivan. Of the five members, only Mr. Sullivan, whose tenure on the present Board dates back to 1972, serves with Senate confirmation. The other four members took office in January, 1974, and serve without confirmation. During this 12-month period a number of important decisions have been made--including the decision to suspend the NO<sub>x</sub> retrofit program for 1966-1970 model year light-duty vehicles--which affect the purse as well as the health of millions of Californians. This Board action was subsequently reversed by the State Supreme Court. While the decisions may have been justified and reasonable, the process of decision is as important as the decision itself under our democratic form of government. The Legislature clearly holds the power of review over these gubernatorial appointments to provide a check on executive power. The Governor has made appointments whose qualifications have been questioned resulting in the failure to confirm four-fifths of the Board. Accepting compliance of some of the members' qualifications with the statutory prerequisites require a most liberal and imaginative consideration.

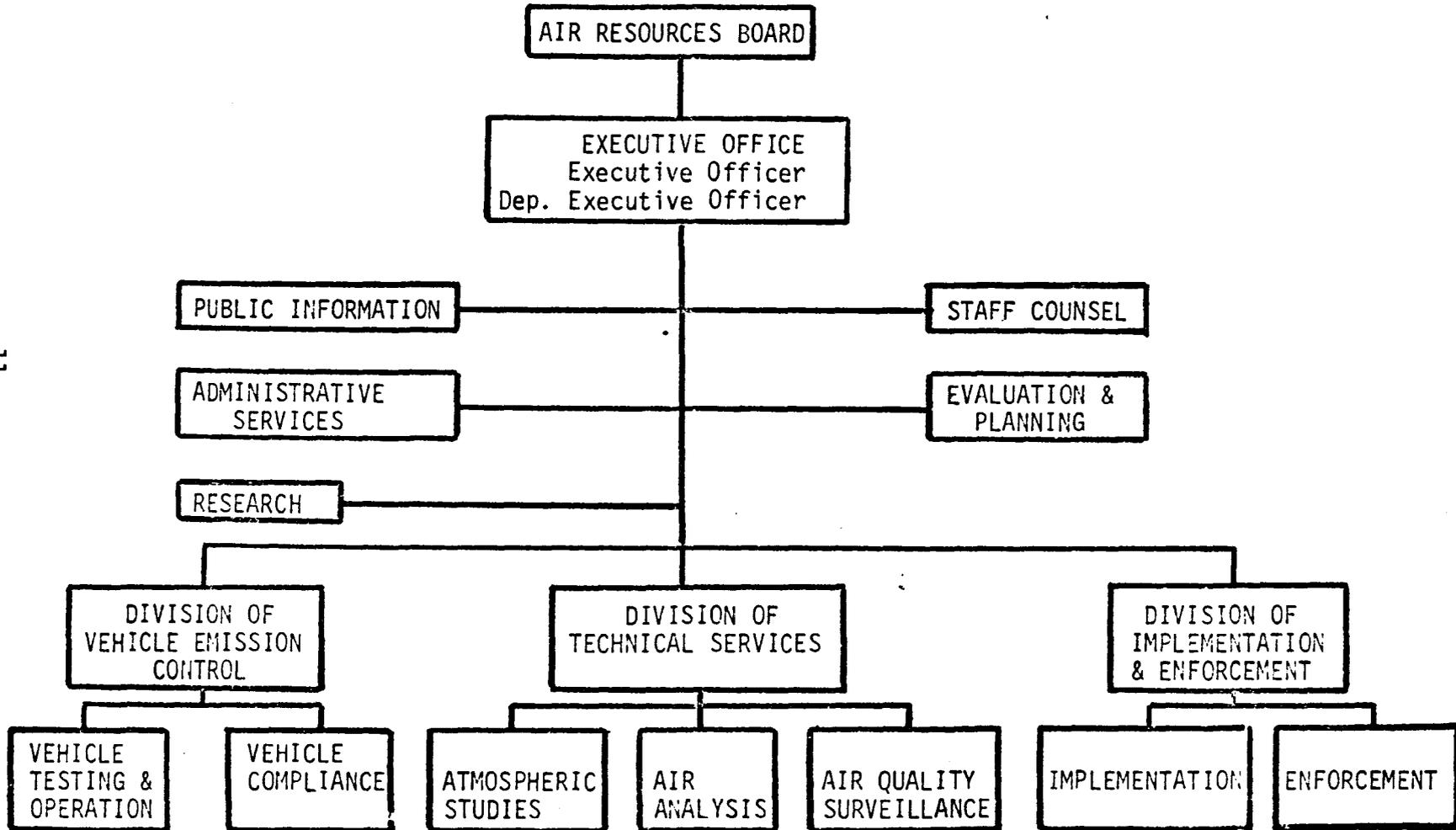
Each Board member receives \$12,500 annually plus travel expenses and

per diem allowance provided that he spends a minimum of 60 hours per month on Board work. A review of the time sheets submitted by Board members shows that, although there were some irregularities, each member reported at least 60 hours worked for each of the months from January through July, 1974. The sheets did not indicate how much of this time was devoted to non-meeting activities.

The law also provides that Board meetings be held at least twice per month. The Legislative Analyst's Office indicates that the apparent intent of the law was that meetings be held in different parts of the State twice a month so as to gain wide public exposure and to afford an opportunity for testimony by a broad cross-section of the public. The current practice of the Board is to hold public hearings on vehicle emission-related matters on one day each month, and on stationary emission-related matters the next, in the same location. This procedure may meet the letter of the law but this Commission questions if it complies with the intent of the Legislature.

The Board is empowered by statute to appoint an Executive Officer who is responsible for the discharge of duties not specifically reserved by the Board. (A graphic overview of the Board's organization is provided in Table II.) It is difficult to place responsibility for the program among the Resources Agency Secretary, the Board, and the Executive Officer. The Agency Secretary has no clear responsibility or control. The individual Board member can claim that he is only one of five members and

TABLE II  
 Organization of Air Resources Board  
 October, 1974



thus not individually accountable. The Executive Officer can point to the full Board and escape accountability by claiming that he is merely exercising authority delegated by the Board.

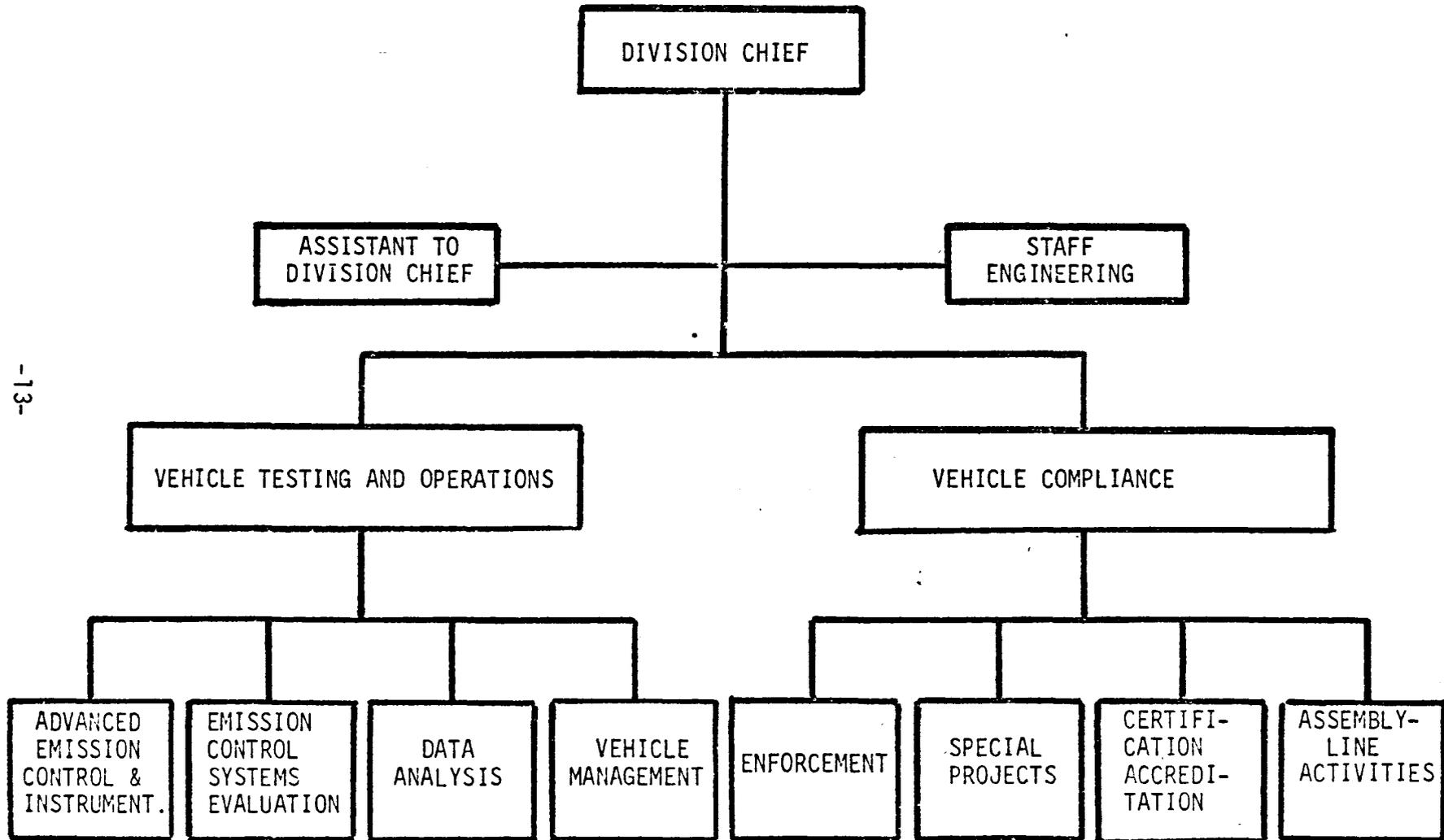
#### THE DIVISION OF VEHICLE EMISSION CONTROL

The Division of Vehicle Emission Control of ARB is the principal unit of interest for this study. The division is headed by a chief with two assistants responsible for Vehicle Compliance and for Vehicle Testing and Operations. Table III details the organization of the division as of October, 1974.

The Vehicle Testing and Operations Section has approximately 57 authorized positions and spends about 28 percent of the Division's \$2,352,000, estimated for the fiscal year 1974-75. The essential functions of the section are testing and evaluation of emission control systems such as Oxides of Nitrogen ( $\text{NO}_x$ ) control devices and catalytic exhaust converters and related items for the establishment of, and conformity with, legal standards. This section was not examined in detail as a part of this study.

The Vehicle Compliance Section has 25 authorized positions and spends about \$1,410,000 annually. The objective of the Section is to insure that Californian's are offered for sale, and do in fact register and operate, new vehicles which comply with state legal requirements regarding

TABLE III  
ORGANIZATION CHART  
DIVISION OF VEHICLE EMISSION CONTROL  
AIR RESOURCES BOARD  
October, 1974



emissions of pollutants. The section is organized into four operating units as shown in Table IV : Certification; Enforcement; Special Projects; and Assembly-line Activities.

#### NEW CAR TESTING PROGRAM

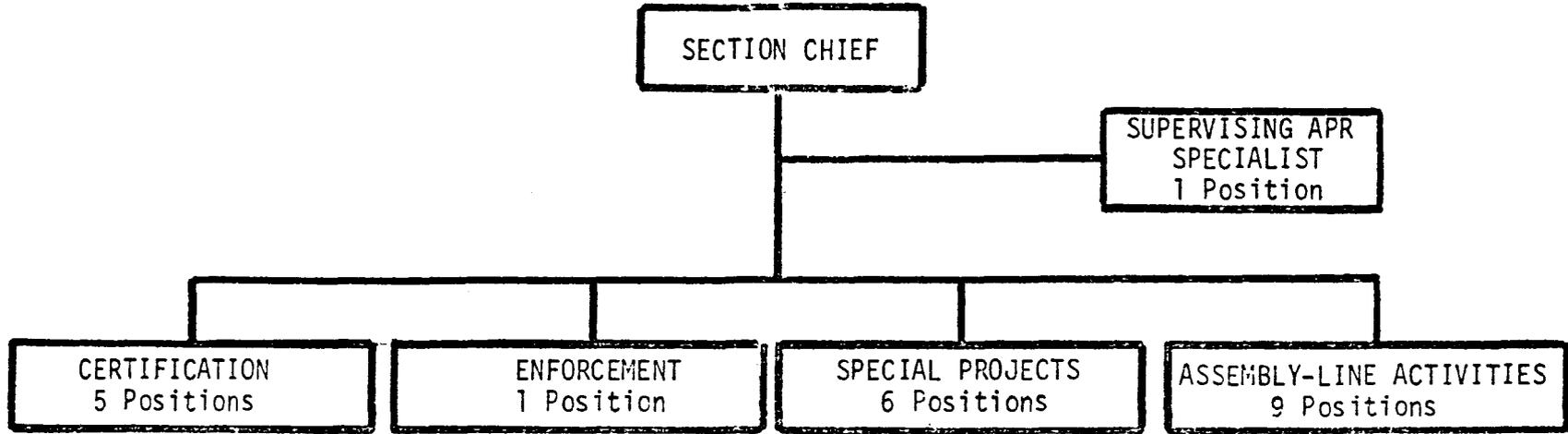
Beginning with the 1972 model year California law required that manufacturers adopt assembly-line tests and procedures to be approved by the ARB. The purpose of the law was to insure that new vehicles offered for sale in California met state emission standards when they left the assembly-line.

Certification-of-Prototype-Fleet. In order to implement the law, the Board has subdivided the new car testing program into four parts, the first of which is the certification-of-prototype-fleet. The application for certification is filed by the manufacturers in two parts. The first part, usually filed one year in advance of the model year, contains a listing of the models and options to be produced and an estimate of the sales of each engine family as a percentage of total sales.

The second part of the application for certification is filed by the manufacturers with the Board just prior to the model year changeover. This part includes the results of emission testing performed by the Environmental Protection Agency at its testing facility on the prototype test fleet supplied by the manufacturers. The emission data is accumulated over 5,000 test miles logged by each vehicle. This group of vehicles is called the "emission data fleet." The second element of the Part Two application includes the results of a 50,000 mile test given each car in the "durability fleet." The manufacturers conduct this test under procedures approved by the Board in order to establish the extent to which the emission levels determined in the "emission data.fleet" test deteriorate over a 50,000 mile operating period.

TABLE IV

ORGANIZATION AND FUNCTIONS OF  
VEHICLE COMPLIANCE SECTION  
DIVISION OF VEHICLE EMISSION CONTROL  
AIR RESOURCES BOARD  
October, 1974



- 15 -

1. Certifies prototype test fleet for new cars sold in California.
2. Sets standards and test procedures for new vehicles.
3. Evaluates application for changes in approved production processes.

1. Provides liaison with other state agencies on enforcement.
2. Coordinates with state agencies involved in the implementation of the Mandatory Passenger Vehicle Emission Inspection Program

1. Investigates matters pertaining to used-car emission control.

1. Establishes assembly-line test procedures to be followed by the manufacturer.
2. Sets emission standards.
3. Reviews quarterly reports of emission data on new cars tested by the manufacturers.
4. Visits dealerships and manufacturer's plants to inspect for compliance with standards and procedures.

After review and approval of test data and procedure by the Environmental Protection Agency, the Agency issues a Certificate of Conformity which is included in the second part of the Application for Certification submitted by the manufacturers to the Board. This information is reviewed by the Certification Unit--which can test these vehicles on request at the El Monte Laboratory--and a recommendation to issue or withhold an Executive Order is filed with the Executive Officer of the Board.

Approval of the application for certification is signified by the issuance of an Executive Order, copies of which are filed with the Bureau of Automotive Repair, the California Highway Patrol, and the Department of Motor Vehicles. Until August, 1974, approvals were granted by manufacturer and engine family. Due to the complicated definitions of "engine family" which made the approvals of new cars difficult to determine for the untrained inquirer, the Board at this Commission's suggestion, has initiated a trial program effective October, 1974. Under this program the series of Executive Orders will still be filed by manufacturer and engine family, but also by make and model for easier reference. The Executive Officer of the Board has instructed the departments which file these approvals to keep a count of the number of inquiries or other uses for such information. He has indicated that if no use is made of the list of approved vehicles it will be discontinued. This suggestion was made after this Commission uncovered the fact that over 4,000 vehicles although sold in California as a product of one manufacturer, were not on the approved list published by ARB for that manufacturer. When confronted with this fact no enforcement action was forthcoming by any of the enforcement authorities.

Assembly-line Testing. After approval of the test fleet the manufacturers proceed to assemble the vehicles on the production line. This introduces the second part of California's new car testing program, assembly-line

testing, which consists of three parts all performed by manufacturers with very limited State supervision. The first, and simplest, part is called "functional testing", the inspection is intended to insure that all devices and controls which affect emissions are in place and operating properly. This includes for example, valves, hoses, clamps, and other hardware. In addition, checks are made for appropriate timing of the ignition system as well as for the RPM of the engine at idle and for proper air-fuel mixture settings on the carburetor.

The next part of the test procedure is the "steady state" or idle test for hydrocarbon (HC) and carbon monoxide (CO), two of the three primary pollutants emitted by the internal combustion engine. (The third is oxides of nitrogen which does not yield a meaningful number when measured at engine idle speed.) This test is given to each vehicle by the manufacturer as it leaves the assembly-line. The purpose of the test is to identify the "gross emitter" for corrective action before it leaves the assembly plant. The idle test is not a reliable predictor of emission levels as measured by the tests for which California emission standards have been promulgated.

Only the third and final element of assembly-line testing ascertains by direct measurement the extent to which production line vehicles meet California's emission standards. This is called "2 percent quality audit" testing performed by the manufacturers on their premises using their personnel and equipment. Under the test procedures approved by the Board, the manufacturer chooses a random and representative sample of 2 percent of the vehicle production intended for sale in California and administers to each chosen

vehicle the Constant Volume Sample (CVS) test with which California emission standards are identified for the appropriate model year. A variant of the CVS test which more accurately simulates actual driving habits and road conditions will be used to test the 1975 model cars. The sampling plan chosen by the manufacturer, as well as the test results, are submitted quarterly for review and approval to the Board's Assembly-line Testing Activities Unit in El Monte. As an additional check on the test data submitted by the manufacturers, the Unit selects three vehicles of each engine family from each manufacturer every quarter to be delivered to the El Monte laboratory for independent testing by the Vehicle Testing and Operations Section. These are confirmatory tests authorized under Title 13 of the California Administrative Code.

The data obtained from the manufacturer's 2 percent quality audit testing forms the basis for the emissions information which appears on the window decal of every new light-duty vehicle offered for sale in California. After the first quarter of production, the emissions figures for hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NO<sub>x</sub>) on the decal are the average of the 2 percent quality audit data accumulated for engine families tested during the previous quarter of production. (The figures for first quarter production are the highest values obtained from the "emission data fleet" described in the Certification section under the Part Two application for certification.)

The procedures for testing 1975 model year production vehicles described

above were observed first-hand at Ford Motor Company's Pico Rivera, California assembly plant. The plant produces all Fords and Thunderbirds scheduled for delivery to California dealers. The other manufacturers' facilities were not inspected. Chrysler Corporation does not have a 2 percent quality audit test center in California. General Motors Corporation's assembly plants were closed for the model year changeover.

Running Changes. The third element of the new car testing program involves the evaluation of manufacturer's applications to the Board to change the production process originally approved by the Board when it issued the Executive Order. These applications are called "running changes." Such changes are requested throughout the year for any alteration of the production process which represents a difference from the basis upon which the engine family was approved during the certification-of-prototype-fleet. The requests for running changes are evaluated and approved by the Certification Unit of the Board's Vehicle Compliance Section located in El Monte.

New Car Dealer Surveillance. The final element of the new car testing program provides a check of new vehicles on the premises of the dealer for emissions of HC and CO as well as for functional compliance. This operation began in January, 1974, with one field representative from the Bureau of Automotive Repair accompanying one field representative from the Air Resources Board to dealers' showrooms in the Los Angeles area. The purpose is to determine whether or not new cars are in compliance with California's emission standards at the time of delivery to the first customer.

The test procedure duplicates that applied to all cars by the manufacturer on the assembly-line. The functional test insures that all emission-related adjustments and hardware are properly set and functioning. The steady-state test measures the emission HC and CO at engine idle speed.

A check of 711 vehicles described as "ready for sale" revealed that 28 percent failed the statutorily mandated 100 percent assembly-line test. These results suggest the need for systematic scrutiny of the new cars offered for sale statewide in California. The tests should be made, however, on new cars at the time of delivery.

The new car testing program is expensive. The customer pays. The costs incurred by the manufacturers for the conduct of all emission-related activities and for the research, development, and production of emission control devices are included as a customer charge on the Monroney Label affixed to a side window of every new vehicle showing the manufacturer's suggested retail price.

Each manufacturer shows these charges differently. A sample survey revealed that these charges varied from nothing to \$85 per vehicle. Some show "California Emission Test", "Emission Equipment"; others "Emission Test/ Equipment." Some charge for the "California Emission Test"; others do not. A charge that is not shown is that levied by ARB on the manufacturers for the conduct of the assembly-line testing portion of the new car testing program. The budgeted amount is approximately \$400,000 annually to be expended by the staff in making on-site inspections of manufacturers' production facilities.

## OXIDES OF NITROGEN (NO<sub>x</sub>) RETROFIT PROGRAM

The term "retrofit" in this context means the installation of an emission control device on a used vehicle. An example of this is the retrofitting of the Positive Crankcase Ventilation (PCV) valve mandated in 1964 for the control of hydrocarbons.

The most recent retrofit program, and the one to which this discussion is limited, was undertaken to control the emission of oxides of nitrogen (NO<sub>x</sub>) from 1966-1970 model year light-duty vehicles. Retrofitting was considered necessary to control the increases in NO<sub>x</sub> emissions which accompanied the first stringent controls of HC and CO beginning in the 1966 model year. It was discovered that the technology employed to control these latter two pollutants resulted in vastly increased NO<sub>x</sub> emissions over pre-control days.

The program has been embroiled in controversy since the first legislation was introduced in 1971. The conflict centered on the technological approaches to control, where control should be localized, and when or on what basis it should occur. For instance, the Vacuum Spark Advance Disconnect (VSAD) was initially opposed by the ARB staff and then approved by the Board; the program was delayed by the board because of the energy crisis; the State Supreme Court ruled against the ARB which then reinstated the program effective August, 1974; the Commissioner of the Highway Patrol declared an enforcement policy of his department suggesting that the law would not be initially vigorously enforced; and finally, the Legislature passed a bill modifying the program to take effect only in the South Coast Air Basin.

The position of the staff of the ARB has been consistent from the beginning.

They have long held that:

- NO<sub>x</sub> emissions should be controlled on 1966-1970 model year vehicles by means of retrofitting control devices.
- Retrofitting should be localized in the air basins experiencing the most severe smog problems, not spread to every basin in the state.
- Retrofitting should occur upon transfer of ownership and initial registration of the vehicle in California and not mandatorily upon annual renewal of registration.

In general they have sought a broader discretionary control over the program for the Board as distinct from the detailed mandates imposed by the Legislature.

The Current No<sub>x</sub> Retrofit Program. The Governor signed SB 2471 (Holmdahl) on September 5, 1974. The bill requires retrofitting of NO<sub>x</sub> control devices on all 1966-1970 model year light-duty motor vehicles registered in the six counties which form the South Coast Air Basin (SCAB)--Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, and Ventura. All light-duty vehicles within these counties are to be equipped with the devices on a schedule based upon the last digit of the vehicle's license number. All light-duty vehicles registered in counties outside the SCAB are to be equipped with NO<sub>x</sub> control devices upon initial registration in the state, and upon transfer of ownership. The charge for the devices legally cannot exceed \$35 plus tax, installed.

The Board's role in implementation of the program was two-fold. First, the staff at the laboratory administered the accreditation procedure by which the two types of NO<sub>x</sub> control devices--Vacuum Spark Advance Disconnect (VSAD) and Exhaust Gas Recirculation (EGR)--were approved. This procedure included road testing of the devices on state-owned 1966-1970 model vehicles covering millions of test miles to determine the effect of the device on the vehicle. The tests were conducted by the State Departments of General Services and of Transportation under the general direction of the ARB recognizing that such a test group is not comparable to a similar test group of privately owned vehicles. Second, the Board set the standards of emission performance to which the devices were required to conform.

NO<sub>x</sub> Retrofit Program Impact. An estimated 2 million vehicles in the SCAB will be affected by this program in fiscal year 1974-75 at a cost of approximately \$70 million to the owners. The Board predicts an approximate 5 to 7 percent reduction in the tonnage of NO<sub>x</sub> emitted for the first year the program is in force. This percentage reduction will decline as the 1966-1970 model-year vehicles affected decline as a proportion of the total vehicle population. Had the program been adopted when first submitted to the Legislature in 1971, ARB predictions were for an approximate 7 percent reduction in NO<sub>x</sub> emissions.

## FINDINGS AND RECOMMENDATIONS

The Commission proposes:

- Abolishment of the current Air Resources Board.
- Creation of a Department of Air Resources within the appropriate Agency with a director appointed by the Governor.
- Alternatively, the Commission suggests a consideration of the integration of all the State's environmental protection activities into a single agency.
- Creation of a nonsalaried part-time Air Resources Advisory Board.
- Creation of nonsalaried ad hoc Medical and Technical Advisory Committees.

A department structure as contrasted with the present administrative board structure was supported, and in some cases vigorously advocated, by all those confronted with the idea during the course of the study.

The Air Resources Advisory Board would be a 9- to 14-member part-time policy advisory board composed of non-technical people preferably including elected representatives from both the Senate and the Assembly, to replace the current 5-member, half-time, salaried Board with specialized qualifications. The members would serve part-time by gubernatorial appointment subject to Senate confirmation as is the case now. As envisioned here, the Board would function exclusively in a policy-making and advisory capacity. The Director would be responsible for all matters pertaining to the administration and operation of the

Department of Air Resources. Functioning in this capacity, the advantage of obtaining a broad range of opinion and judgment could be realized. This is an important advantage considering the pervasive impact and dollar costs of emission control strategies. A Board comprised of generalists can provide counsel as input to the process by which decisions to employ such strategies are made. This appears to place the Director on firmer ground than if he were to make such decisions without the availability of this source of judgment, experience, and public participation.

The Governor can select the best talent in the Nation to serve on both the Medical and the Technical Advisory Committees. The State in no way could compensate these people for their true value. The prestige of a gubernatorial appointment would provide the only compensation for such persons serving the State in this capacity. Scores of board commissioners and committee members now contribute to the State on these terms.

But, in departure from current practice, the Director would also serve by gubernatorial appointment and be subject to Senate confirmation. (The Executive Officer now serves at the pleasure of the Board.) Under the proposed arrangement, the policy guidance of the Board would not be binding upon the Director. Thus he would shoulder final responsibility for all departmental actions making him clearly identifiable, conspicuous, and accountable.

Other desirable features of this recommendation are that it:

- Creates accountability at the Agency level. The present structure nominally identifies the ARB with the

Resources Agency. In fact, the Board is virtually autonomous, operating independently of Agency review.

- Devolves upon a department director administrative duties now involving the Board. Thus departmental accountability is enhanced by focusing responsibility on the Governor and his appointed director. This proposal would create a short chain of command from the Governor to an Agency Secretary to the Director of the Department of Air Resources.
- Retains an important advantage of Board participation but eliminates a major disadvantage. In The Use of Boards and Commissions in the Resources Agency, a report issued by this Commission in 1965, it was recommended that "plural bodies normally not be used to administer, manage, direct, or operate a program." This is occurring under the present structure. This recommendation provides for citizen participation, a vital feature of state government administration. The report went on to say that boards "should be authorized to:
  - Initiate policy proposals or recommendations.
  - Review policy proposals initiated by executive authorities, on referral, and make recommendations thereon.
  - Invite suggestions and comments from the public on policies under consideration.
  - Establish policies governing their own operations and activities, consistent with legislative requirements."
- Postures the ARB for the inevitable changes which are likely to occur in the State's emission control program. If, for example, the EPA

assumes complete authority for setting new vehicle emission standards, then the ARB would be left with the new car dealership surveillance element. The need for technically qualified Board members would be reduced. But even if this does not occur, the present new car testing program could continue unaffected by the choice of this proposal. In any case, a director is in a better position to reshape his department as necessity dictates than is the current Executive Officer who, for all practical purposes, operates outside the agency (and Cabinet) structure.

New Car Testing Program. As stated, the New Car Testing program was inaugurated to insure that new light-duty vehicles meeting California's emission standards are available from the manufacturers. The purpose of this program, in turn, is to insure that an increasing proportion of the state's vehicle population meets state emission standards. In considering the Commission's recommendations in this area the following should be borne in mind:

- The EPA has undisputed legal authority and the technical facilities to set vehicle emission standards and to certify and test on the manufacturers' assembly lines the new vehicles produced for sale in California. The Air Resources Board's authority is not clear and is only granted by waiver from EPA.
- The program has resulted in partial accomplishment of its stated purpose, but the most recent tests of dealers' stock indicated that about 28 percent of vehicles tested in the Los Angeles area did not meet state standards.

- In attempting to fix responsibility for violations of state emission standards, the Board is caught up in technical and legal disputes between the manufacturers and their respective franchised dealers. This has resulted in confusion and uncertainty regarding the future of state enforcement actions.
- Health and Safety Code Section 39068.1(c) exacts a \$5,000 penalty from "any manufacturer who sells, attempts to sell, or causes to be offered for sale a new motor vehicle that fails to meet the applicable emission standards. . . ." This provision is not only burdened by the difficulties of identifying the responsible parties mentioned above, but also according to state authorities by the reluctance of a court to convict when the penalty is so large. This fact has caused a reluctance to enforce the law vigorously by those charged with the responsibility.

With regard to the purpose of cleaning up the emissions of the state's total vehicle population, the Legislature should also bear in mind that:

- The state has the unquestioned authority to inspect for conformity to applicable emission standards any vehicle registered in the state.
- Licensees of the State now issue Certificates of Compliance of vehicles with state emission standards.

The Legislature should therefore consider the following recommended modifications to the current new car testing program.

- At the appropriate time remove ARB from activities which are being conducted adequately by the federal government. At that time leave to the EPA exclusive authority to set new vehicle emission standards, to certify new vehicles, and to test on the assembly-line all new vehicles.
- Mandate that each new car dealer in California issue to the first purchaser, with a copy to the Department of Motor Vehicles, a Certificate of Compliance which warrants that (1) all emission-related adjustments and hardware are correct and operating properly; and that (2) the emission levels at engine idle speed for HC and CO are correct and within the limits established for that vehicle. The cost of such compliance should be included within the California Emission Test charges referred to on Page 20.
- Mandate that the State (preferably ARB staff) audit the information contained on the Certificate of Compliance warranted as true by the new car dealer on a basis to be prescribed by the Air Resources Board or other organization competent in the design of audit procedures.
- Permit the ARB to establish the limits of the rate of failure of new cars tested under this program.
- Adopt legislation enjoining from further sale in California any engine family which exceeds the established failure rate.

Emission Test/Equipment Charges. The present wording on the Monroney Label scheduling the charges contributing to the total suggested manufacturer's retail price of a new vehicle has been interpreted to mean that the State receives the monies collected for "California Emission Test and/or Equipment." The ARB should review this situation and implement appropriate changes which would standardize the wording on the labels among the manufacturers and which would remove any ambiguity regarding the recipient of the emission-related charges.

Source of Funds for Vehicle Emission Control. At present, the ARB program is funded from four sources--the General Fund, the State Transportation Fund (Motor Vehicle Account), California Environmental Protection Program Fund, and the Automobile Repair Fund. The Legislature should develop and enunciate a clear policy with regard to the sources of Vehicle Emission Control program funds. In developing this policy the Legislature should consider the following:

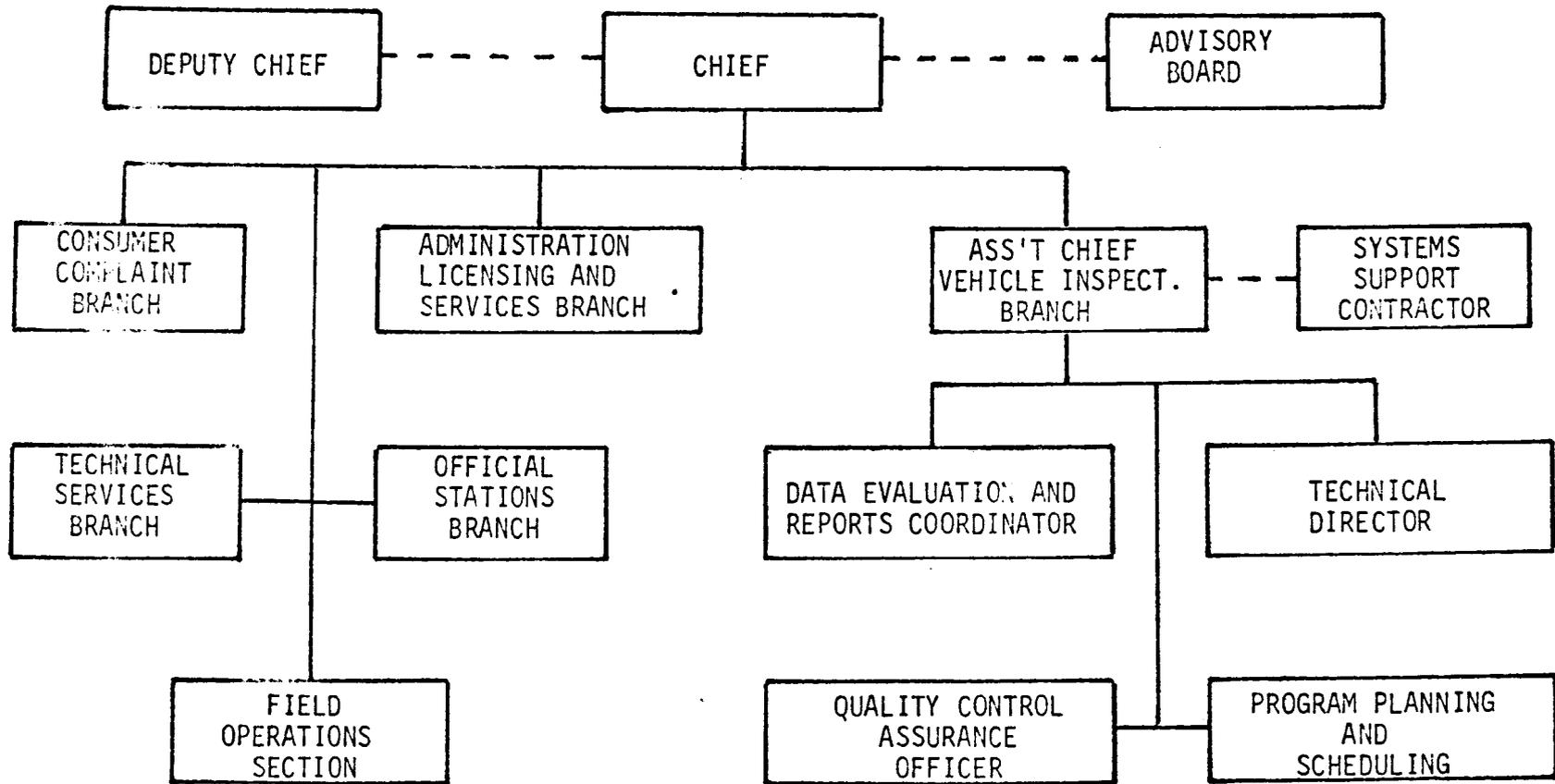
- Vestiture of responsibility for program results with the agent in control of the funds.
- Adoption of the general rule that the costs of the state vehicle emission control program be funded from the Motor Vehicle Account of the State Transportation Fund. This rule should eliminate the present practice of funding the program on a "funds available" basis from the various sources, and would also eliminate a source of controversy within the Executive Branch.

Public Information. The budgeted amount for public information for fiscal year 1974-75 was approximately \$85,000. At present, only those intimately familiar with the state's vehicular emission control program understand it. This select group rarely includes individuals outside of state government. The vast majority of citizens, who bear the costs of the program, are uninformed of its benefits. As the central state agency identified with pollution control, the ARB has a role to play in providing to the Legislature and to the public regular and reliable information concerning:

- the scope and nature of the vehicular pollution problem;
- the current technical approaches employed to deal with the problem;
- the costs and anticipated effectiveness levels as well as the expected benefits of current programs; and
- the directions of research into alternative technological approaches to the control of pollution from vehicular sources.

This constitutes a major public information undertaking. The state government in general, and the Air Resources Board in particular, is not accustomed, trained, or equipped to handle this task. We recommend therefore that in designing a public information program of this type that expert advice be obtained from all available sources examples of which include private advertizing firms, public and private agencies skilled in the conduct of cost/benefit studies, and the academic community, specifically, the communications disciplines.

TABLE V  
 ORGANIZATION OF BUREAU OF AUTOMOTIVE REPAIR  
 OCTOBER, 1974



their licenses. As of October 1974, Bureau representatives estimated that 65 to 70 percent of station operators had the equipment on the premises, 28 to 33 percent had the equipment on order, and the remaining 2 percent in violation are requested voluntarily to forward their licenses. Such licenses should not be renewed until the aforementioned equipment is on the premises.

The portable infrared analyzer was developed in 1972 for use in California's Passenger Vehicle Inspection (PVI) lanes managed by the California Highway Patrol (CHP). The specifications were drawn up by the staff in the El Monte laboratory of the Air Resources Board who also conducted the original testing of the instruments. The testing process culminated in the purchase of eight portable units by the ARB--four manufactured by Autoscan and four by Olson-Horibu. The contract called for the units to be delivered installed in a trailer complete with an independent power supply for a total contract amount of \$25,000--\$12,500 to each manufacturer. The completed units were turned over to the CHP for testing in the PVI lanes.

These eight early models, which suffered from a number of problems, have been superseded by two generations of superior design and manufacture since 1972. Current models are considered to be sufficiently reliable and accurate to support enforcement action in court. The Bureau is now working with the Federal Bureau of Weights and Measures on the development of a "gold standard" gas which will form the basis for testing and calibrating

all infrared analyzers used throughout the state. According to BAR spokesmen, all Bureau smog station inspectors will be equipped with the calibration gas canister and will check service instruments as part of their normal inspections beginning July 1, 1975. This equipment should be checked, calibrated, and certified on a periodic basis. In addition, as part of the approval of equipment manufacturers by BAR, manufacturers are required to train all station operators using their equipment in its use. Failure to do so can result in rescission of the approval. To date there have been no complaints against manufacturers failing to live up to this part of the agreement.

#### MANDATORY VEHICLE EMISSION INSPECTION AND TESTING (MVEIT) PROGRAM

The Bureau of Automotive Repair has statutory responsibility for the design and administration of a mandatory vehicle emission inspection and testing program. In accordance with the provisions of SB 479 (Biddle) signed by the Governor on October 2, 1973, the Bureau is responsible for the following:

- The design and adoption no later than December 31, 1974 of a mandatory periodic exhaust emission inspection of all motor vehicles registered in the Counties of Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, and Ventura as a demonstration program. These Counties form the South Coast Air Basin (SCAB). For this purpose, the Bureau was allotted \$400,000, of which \$250,000 has been subsequently let to Olson Laboratories, Anaheim, California for the actual design work.

- The preparation of a handbook for consumers subject to the act informing them of the program and related matters.
- The conduct of orientation seminars for mechanics and vehicle owners affected by the Act.
- The acquisition of sites and the necessary facilities to house and equip inspection stations, wherever possible using state installations, surplus state property, and leased property.
- Certifying that enough qualified persons are available to perform the required repairs and maintenance which result from inspections.
- Authorizing owners of fleets of 100 or more vehicles to conduct their own inspection program under the surveillance of the BAR.
- Completing a series of trial inspections by December 31, 1975 in any portion of Orange, Riverside, or San Bernardino Counties of vehicles subject to the act, including those owned by governmental entities.
- Inspecting all vehicles subject to the Act after December 31, 1975 upon transfer of registration.
- Inspecting all vehicles subject to the Act after December 31, 1976 upon initial registration and upon each renewal of registration.
- Issuing a Certificate of Compliance to all vehicle owners whose vehicles pass inspection.
- Reinspecting, at the owners request, but prior to the next registration, all vehicles which fail required inspections.

- . Issuing a Certificate of Waiver to all owners whose vehicles have received a low-emission tuneup performed according to the specifications of the Bureau and which would require further repairs costing more than \$150, or 20 percent of the low current market value, whichever is lower, to meet the standards established for that vehicle.
- . Guaranteeing the work of any mechanic registered by the Bureau who accomplishes the repairs recommended by the inspection staff, should the vehicle fail upon reinspection.
- . Compiling and maintaining records which show (1) the number of repair operations performed on vehicles which fail inspection; (2) the correlation between repairs recommended by the inspection staff and those performed; (3) the percentage of failed vehicles which pass upon reinspection; (4) the charges assessed for repairs; and (5) any other information considered essential by the Bureau.
- . Conducting cost-benefit analyses and other evaluations of the program, written reports of which are to be submitted to the Legislature at least annually beginning no later than December 31, 1974.
- . Recommending to the Legislature no later than December 31, 1974, whether or not, how, when, and where the inspection program should be extended.
- . Establishing specifications and procedures for vehicle maintenance and repair and for low-emission tuneups whenever performed by mechanics licensed by the Bureau.

- . Applying to the Federal Government for matching funds to support the program. (This application was rejected--as were those of all other states--on the ground that repair of failed vehicles was not made mandatory during the trial phase of the program. Repair and reinspection in California is only mandatory when the program is extended to the entire South Coast Air Basin.)
- . Levying an inspection fee on the vehicle owners sufficient to match any Federal funds and fully to reimburse the Motor Vehicle Account for all appropriations made for the design, adoption, implementation, and operation of this program. The Bureau is currently considering a \$3.00 fee per inspection.

In addition to the requirements imposed on the Bureau, SB 479 required of the ARB the setting of emission standards for the inspection stations and for low-emission tuneups performed by registered mechanics. The Act also required certain duties to be performed by the Department of Motor Vehicles.

As of October 1974, a number of the dates for work accomplishment outlined in the act are in jeopardy. The Chief of the BAR's Vehicle Inspection Branch, indicates that the trial inspection program to be carried out in Riverside, California will not begin until March 1975 at the earliest. This will delay implementation of the basin-wide program and will delay until April 15, 1975 the report to the Legislature.

## FINDINGS AND RECOMMENDATIONS

The Commission recommends that those responsible for the smog station and mandatory vehicle emission inspection programs and related registration activity be transferred to the Division of Field Operations of the Department of Motor Vehicles. That Department, which now licenses drivers, vehicles, dealers and others in the automotive industry is the logical state department to perform these related regulatory and inspection functions. The processing of consumer complaints concerning the automotive industry should properly be assigned to the Department of Consumer Affairs. This movement would remove one agency, one department, and one bureau from the vehicle emission control program--coordination and control of line program responsibility as well as for the promulgation and execution of enforcement policy would reside in one agency--Business and Transportation.

The Commission recommends that the Legislature spell out in detail the criteria by which the mandatory vehicle emission inspection and testing program will be evaluated before the decision is made whether or not to expand the program throughout the state. In making such evaluations the Legislature should consider the following:

- To what quantifiable extent does the untuned vehicle contribute to the total emissions of pollutants?
- How does this estimated tonnage of pollutants affect ambient air quality?

- How does the attendant degradation of air quality affect human and environmental health?
  
- How much will the program cost in total--not just the state costs, but the costs to the consumer in time lost from work, repair and hardware costs, inconvenience, foregone property taxes on private land acquired for state use, among other costs--to achieve reductions in health and environmental damages. The Legislature should mandate that the criteria for evaluating program "success" or "failure" be prespecified and not set after the fact by the BAR which has a vested interest in the outcome of the pilot program and whose responsibility it is to report back to the Legislature.

This prespecification of "success" should, at a minimum, take the following into consideration:

- An estimate of the current emissions and their contribution to air quality degradation, which derive from only that portion of the current vehicle population which is untuned and/or does not meet manufacturers specifications.
  
- An estimate of the expected reduction in emissions from this source and the attendant improvement in air quality to be accomplished by the inspection program.

The Commission recommends that the data gathering and analysis efforts undertaken as a part of the demonstration program be carefully monitored

or conducted by an independent agency such as the University of California's Statewide Air Pollution Research Center on the Riverside campus or by the Air Resources Board. The designated agency should report its findings directly to the Legislature.

These results, provided by an independent agency, can be compared with the "success" level of reductions stated by the Legislature. The Legislature can then make a reasoned determination, on the basis of objective measures of program effectiveness and the attendant costs, as to the future of the program. It should also be borne in mind that new vehicles are being engineered and manufactured to meet very stringent emission standards. As these vehicles become an increasingly significant proportion of the total vehicle population, the mandatory inspection program may be expected to yield successively smaller reductions in pollutant emissions.

In addition to smog stations, the Bureau also licenses and inspects official lamp and brake stations throughout the state. These stations can be administered effectively by the Division of Field Operations of the Department of Motor Vehicles.

## THE DEPARTMENT OF THE CALIFORNIA HIGHWAY PATROL

The California Highway Patrol (CHP) has, since 1967 operated only one element of the state's vehicle emission control program--Passenger Vehicle Inspection (PVI). Of the total inspection program which includes safety and noise elements, an estimated 52 personnel are directly connected with the smog element alone. The \$1,239,623 which supports the smog portion comes from the Motor Vehicle Account, State Transportation Fund.

The PVI lanes are manned by five, four, and three-man teams. A four-member PVI team consists of a uniformed traffic officer who waves selected vehicles into the inspection lane; a uniformed traffic officer who explains the purposes and procedures of the inspection to the motorist; a qualified underhood smog specialist who examines for appropriate smog device installation and operation; and a smog specialist who checks for emissions of HC and CO using the infrared exhaust gas analyzer at the rear of the vehicle.

All motorists whose vehicles are inspected receive a PVI Checklist-Violation Notice. Those who pass the inspection receive a copy and go on their way. Those who fail are required to show evidence of correction of the deficiency checked on the form at a local office of the Highway Patrol within 14 days. Clearance of these violations requires 68 uniformed officers in local CHP offices throughout the state.

Roadside inspections serve as a check on the in-use compliance of vehicles and devices approved by the ARB. The teams inspect 11 to 13 percent of the total number of vehicles annually registered in the state. In 1973-74 just under 1.7 million vehicles were inspected, about 25 percent of which failed to comply with ARB standards. The objective of these inspections is ultimately to reduce the level of pollutant emissions from vehicles which are not in compliance with standards.

A fundamental assumption underlying the smog aspect of the PVI program is that there is a significant number of untuned vehicles on the highway whose contribution to the tonnages of pollutants emitted by all mobile sources is significant enough to justify intervention. The additional assumption is that state-conducted emission inspections are necessary to remedy the deficiencies. Are these assumptions well-founded?

By how much are the actual amounts of HC, CO, and NO<sub>x</sub> reduced (or increased which is likely in the case of NO<sub>x</sub>) by the inspection of 11-13 percent of California's light-duty vehicle population? Is this reduction significant enough to have a demonstrable effect on air quality or on human health? Is the only means of achieving these reductions a state-conducted program? Are the costs of the program "worth" the benefits? Could the same level of benefits be achieved at less cost by employing other alternatives?

Answers to these questions are fundamental to proper program planning and evaluation. The answers may exist. The point at issue is what would the State give up by eliminating the smog element of the PVI program? What can be gained? Program managers should be asked to answer the first question. Their answers should be weighed against the gains. What are they?

The most obvious is that elimination of the smog element would save about \$1.1 million and release approximately 50 employees for other duties, according to CHP spokesmen. Additionally, CHP would be eliminated

from the vehicle emission control program resulting in one less department with which those remaining would have to communicate and coordinate. Finally, this source of inconvenience to the motorist would be eliminated.

Related to a consideration of the elimination of the smog-related portion of PVI is the question of the safety-related part of the inspection procedure. What is the basis for this \$6.4 million expenditure? The underlying assumption is that mechanical defects cause traffic accidents. An additional assumption is that a state-conducted program of vehicle inspection is the best means of removing such defects. Answers to these considerations may well be contained in a report of a year-long study of this program being conducted by the CHP which was not released at the time of publication of this report.

## FINDINGS AND RECOMMENDATIONS

The CHP should review the need for more than one uniformed officer per team and reduce the number of team members wherever possible consistent with the following considerations:

- Providing a thorough check of all safety and smog-related items for which they are responsible.
- Minimizing the delay to which the motorist is subjected.

There is confusion on the inspection lanes as to CHP policy and procedures regarding those vehicles whose emissions of HC and CO are to be tested, as well as the tolerable limits within which such emissions must fall. It is recommended that PVI teams be thoroughly trained by the CHP and monitored periodically for adherence to CHP policy so that regulations are evenly and consistently enforced throughout the state.

The PVI Program costs over \$7.8 million and employs 430 staff, 210 of which are uniformed officers. The Commission recommends that the ARB review the smog-related portion of this program to determine the benefits it yields in terms of lower pollution emissions.

The Commission recommends that PVI lanes be excluded from those areas within the South Coast Air Basin in which mandatory vehicle inspection lanes are installed, in order to avoid unnecessary duplication and inconvenience.

## DEPARTMENT OF MOTOR VEHICLES

The DMV's contribution to the state's vehicle emission control program is confined to processing vehicle registration documents for compliance with emission-related rules and regulations. According to department spokesmen, this part of the vehicle registration process is performed by the Divisions of Field Office Operations and of Registration and requires the services of approximately 131 employees at an annual cost of \$1.8 million.

The operations were not reviewed in detail in view of the marginal relationship of the Department's program to the overall emission control effort. Window clerks in the field offices are required to obtain a Certificate of Compliance on all 1955 and later model used vehicles upon transfer of ownership and to see that it has been properly filled out. Upon initial registration in California of all new vehicles, clerks are trained to check the documents for (1) a waiver signed by the new car dealer stating that the vehicle's emission adjustments and devices have not been altered from the condition in which they were received from the manufacturer; or (2) a Certificate of Compliance in the event such adjustments or devices have been altered. This constitutes the entire direct line contribution to vehicle emissions control by the DMV. However, the Department plays an indirect enforcement role with the other three departments which is discussed in the next portion of this section dealing with interorganizational relationships.

In addition, SB 479 mandates DMV's cooperation with ARB, BAR, and CHP in the preparation of a consumer handbook to be mailed by DMV to registrants in the South Coast Air Basin instructing them in the basics of the inspection program, their responsibilities, and "the most common adjustments and repairs likely to be required" in order to pass inspection.

And finally, vehicle and auxiliary equipment manufacturers sited in California are registered with DMV, Division of Compliance.

As discussed previously, the Commission recommends that the Bureau of Automotive Repair be transferred to the Department of Motor Vehicles, Division of Field Operations. The function of processing consumer complaints against the automotive repair industry would remain with the Department of Consumer Affairs.

#### INTERDEPARTMENTAL RELATIONSHIPS

The duties and responsibilities of ARB, BAR, CHP and DMV require cooperation and communication among them for implementation of the programs mandated by the Legislature. To accomplish this purpose there is considerable informal communication among the staffs of the respective agencies. This takes the form of telephone calls and visits as well as joint attendance at hearings, seminars, etc. At the formal level, two committees have been formed for the resolution of enforcement issues but which also provide a forum for discussion of other matters of common interest. These committees are:

- Executive Interagency Enforcement Committee. The Committee is comprised of representatives from the four Departments involved. Meetings are held bi-monthly, minutes of which are recorded.

- Staff Interagency Enforcement Committee. This committee is comprised of lower echelon staff members from each department, and meets monthly. Minutes are kept of all meetings.

The executive committee functions as a policy-setting and decision-making body. The staff committee is an investigatory and advisory group which provides information to the higher body.

A review of interdepartmental relationships revealed a potential for considerable improvement. The decision to consolidate in the ARB's budget those elements of the vehicle emission control program carried out by other departments is commendable. An overview of the program elements and funding levels can be obtained readily with this change. But more than consolidation of the budgetary information is needed to effect the coordination necessary for the achievement of program objectives. Under the current arrangement, ARB contracts by Interagency Agreement with BAR and CHP for the licensing and regulation of smog stations, and for passenger vehicle inspection, respectively. Administrative control over these elements resides with BAR and CHP not with ARB. In the event of ARB's dissatisfaction with performance under the agreement, there is no recourse but exhortation and persuasion. There are no other state agencies which afford an acceptable alternative. The result is that there is no central control over the agencies which receive the funds other than the Cabinet. But even here the departments are aligned under three different Agency Secretaries--ARB with Resources; BAR with Agriculture and Services; and CHP with Business and Transportation. As a general principle, this Commission, as well as the Cabinet, supports any movement toward coupling responsibility for program results with financial control.

A related issue is that of enforcement. There are three fundamental problems with current enforcement policy and practice. First, no one in a responsible administrative position is aware fully of all the enforcement provisions contained in existing law. At best, an administrator may know thoroughly those provisions directly affecting his department, and a little about those affecting the other three departments. Second, there is no clear, uniform, understandable enforcement policy to guide the actions of those responsible for executing the program. And finally, the severity of penalties under existing law often is so excessive as to discourage active prosecution. It appears that enforcement and prosecution staffs may be influenced by the possibility of a negative predisposition on the part of the judge and fail to take offenders to court as diligent enforcement of the law would require.

## FINDINGS AND RECOMMENDATIONS

To remedy this situation the Commission suggests that the Legislature:

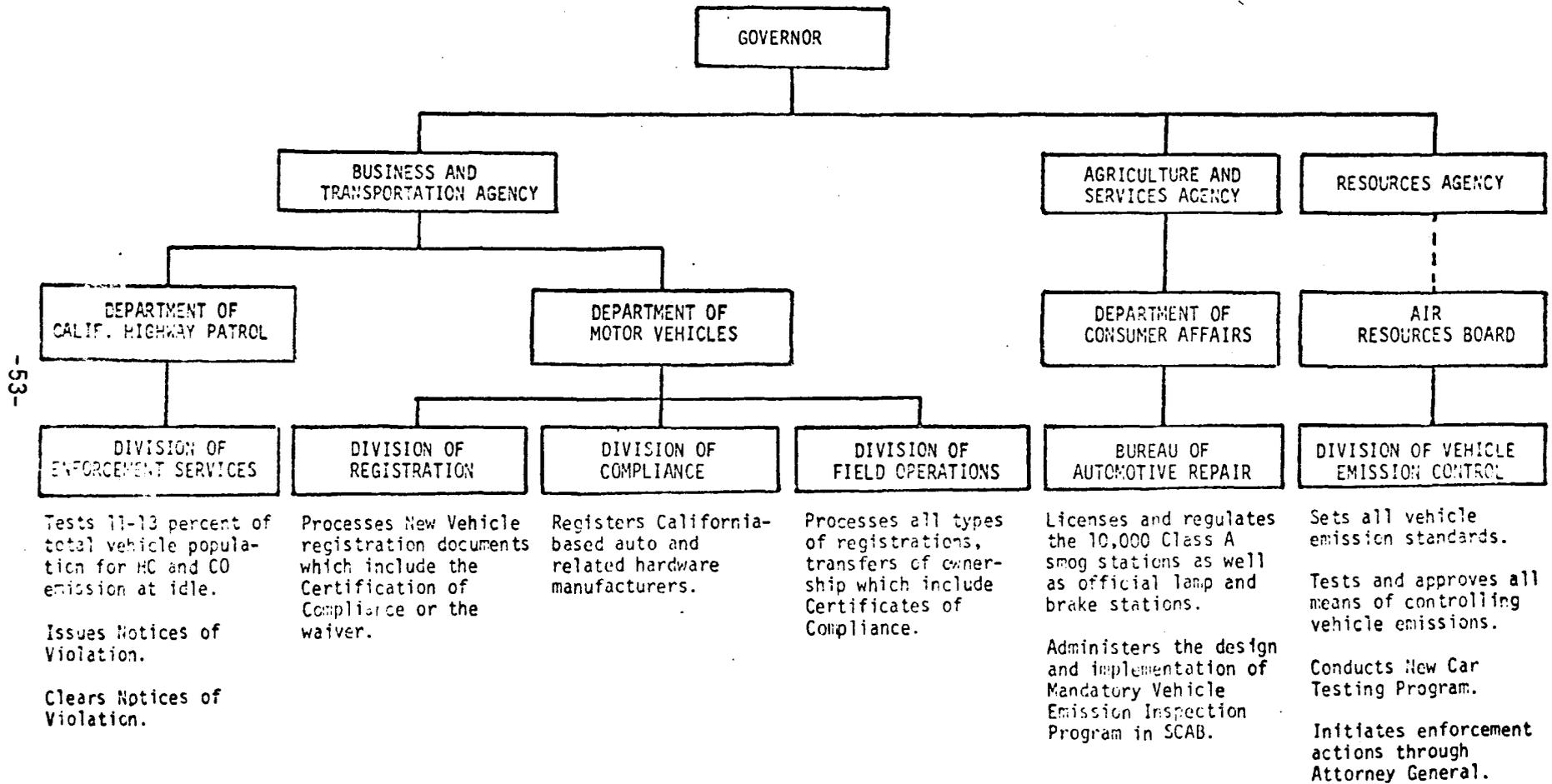
- Assure itself that a thorough review of current legal provisions is conducted.
  
- Declare its policy of enforcement regarding manufacturers of vehicles and related emission control devices, their franchised dealers or authorized agents or representatives including new car dealers, and regarding the individual motorists operating registered vehicles within the boundaries of the state.
  
- Amend current law to reflect the declaration of enforcement policy.

The current and proposed vehicle emission control programs are exhibited in Tables VI and VII, respectively.

TABLE VI

ORGANIZATION AND FUNCTION OF CURRENT CALIFORNIA VEHICLE EMISSION CONTROL PROGRAM

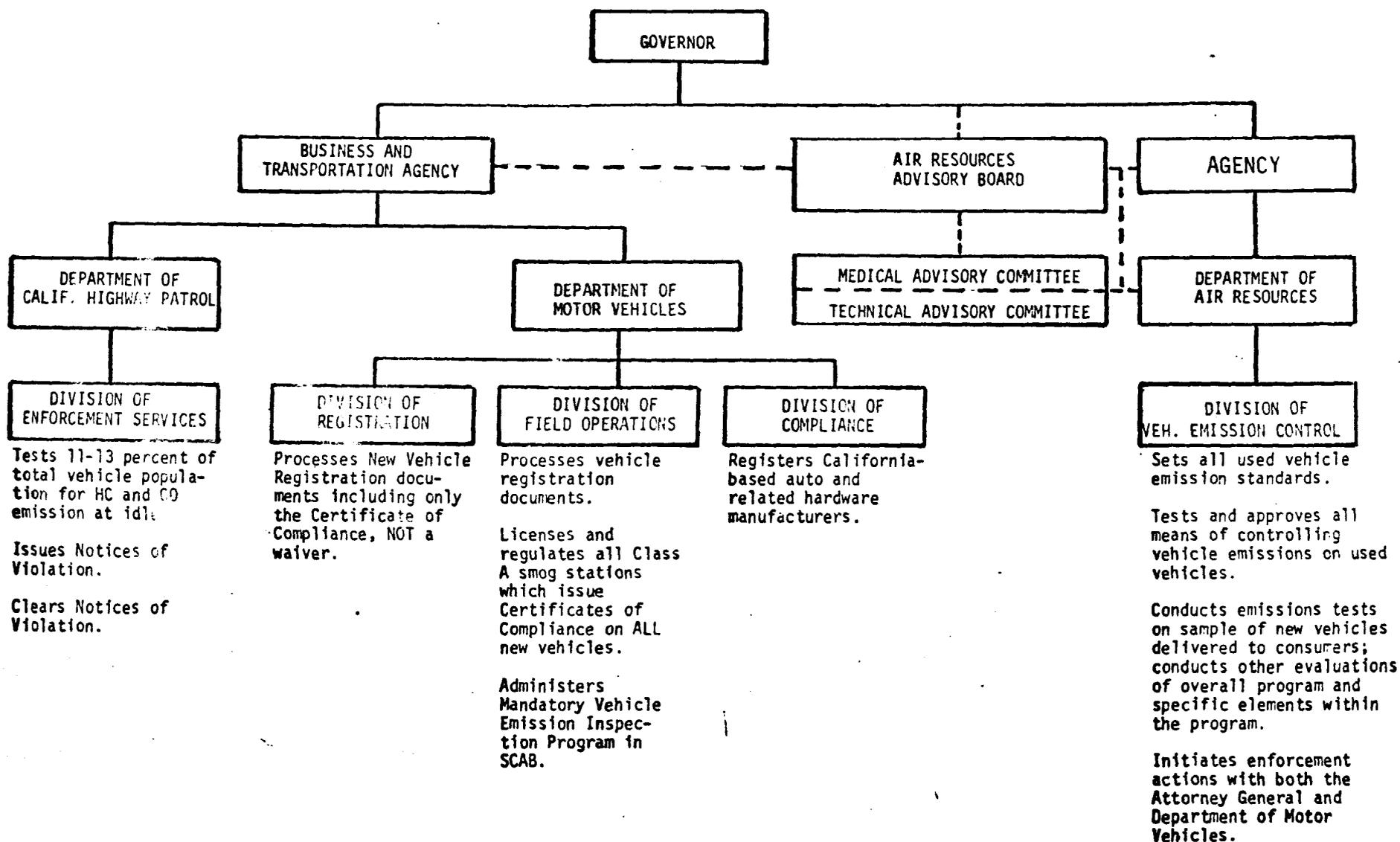
NOVEMBER, 1974



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TABLE VII

ORGANIZATION AND FUNCTION OF RECOMMENDED CALIFORNIA VEHICLE EMISSION CONTROL PROGRAM



-54-

## CONCLUDING REMARKS

In addition to the advantages accruing to the implementation of any single recommendation, there are two further considerations. First, there are no important interdependencies among the recommendations. That is, adoption of a single recommendation is not burdened by the necessity to adopt any other recommendation. Second, there are advantages over and above those already outlined attendant upon the adoption of all recommendations. Their collective adoption would:

1. Eliminate one department--Consumer Affairs--and the five-member part time Air Resources Board.
2. Remove the Agriculture and Services Agency Secretary from the program.
3. Fix responsibility for results on easily identifiable individuals whose relationship to the Governor and the other executive branch agencies and departments is readily traceable and less complex than under the current organization.
4. Enhance the ability of the responsible agency and department heads to communicate, to develop coherent enforcement policy, and to deal more effectively with their respective public constituencies by reducing the number of people responsible for enforcement policy execution.
5. Provide an efficient and reliable monitoring of the effectiveness of the new car manufacturers' assembly-line emission control activities and of the Mandatory Vehicle Emissions Inspection and Testing program.
6. Provide a properly organized vehicular emissions control program if it is determined that all of the State pollution control activities--air,

water, solid waste--should be integrated into a single organizational unit. In that event, this Commission is ready to assist in its implementation by participating in the preparation of a plan through the executive initiated reorganization process.

In conclusion, the purpose of this study was to identify, and make recommendations for removal of, organizational obstacles to the achievement of clean air posed by the current state vehicle emission control program. To accomplish this purpose, the most important features of that program have been described, and problems and issues raised as a result of reviewing the program have been identified. Recommendations for change have been made.

Having done this the task would remain incomplete without an acknowledgment of that which has been accomplished by previous efforts which led to the current program. Since the importance of the motor vehicle in relation to the smog problem was emphasized a brief 14 years ago, much has been done to bring this source under control. For example, the physics and chemistry of internal combustion of petroleum fuels is much better understood now than it was in the past. Control devices and strategies have been discovered, tested, and perfected. Emission standards, a very elusive concept, have been developed, better understood, and implemented. Such standards, promulgated on what is known about the health effects of air pollution, form the basis of all current and anticipated control programs. And finally, much is being learned about the practical as well as legal parameters within which enforcement policies and actions develop and take effect.

As we move into a new era of administrative control, of requirements for more and better cooperation among levels of government, and of increasing demands from the citizenry for an effective program as well as for accountable and responsible administrators, the challenge to creativity and ingenuity becomes obvious. The State has the ability and the resources to control smog. But the program needs political, technical and administrative leadership. As Dr. Haagen-Smit, former chairman of the Air Resources Board has said,

"We should have learned by now that we cannot hope to change the laws of nature, but we can change human institutions. The road is not an easy one, but the reward of breathing clean air is worth the effort."