

REPORT TO
THE LEGISLATURE OF THE STATE OF HAWAII

STATE-CITY RELATIONSHIPS IN
HIGHWAY MAINTENANCE AND TRAFFIC CONTROL FUNCTIONS

SUBMITTED BY
THE OFFICE OF THE LEGISLATIVE AUDITOR

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Highlights of the Report

1. While some progress has been made to overcome the problems of dual responsibility for traffic control facilities on Oahu's streets and highways, it represents only a very small step in relation to the scope of the total problem.

2. The progress which has been made in traffic control is the improved synchronization of traffic signal lights among intersections in central Honolulu with the transfer of operational control of twelve of them from the state to the city. The remaining are scheduled for gradual transfer to be completed by October 1968.

3. An agreement entered into by the state and the city which set the stage for the development of the transfer plan implies that further steps will be taken to improve inter-jurisdictional traffic control on Oahu's streets and highways; however, the agreement fails to clearly define the overall problem, the fundamental goal which it seeks, the specific objectives which will lead to the achievement of the goal, and the programs or activities which must be undertaken to assure success.

4. There are no formal plans to achieve any improvement in any area of activity other than traffic signal lights and those few markings and signs included within the signalized intersections.

5. Highway maintenance activities on Oahu are characterized by a duplication of services, personnel, and equipment as between the state and the city and county jurisdictions.

6. Duality of responsibility for highway maintenance causes inconvenience and confusion in the public sector.

7. There is need for some fundamental thinking and policy making with respect to the needs of the public, the governmental role in meeting those needs and the development of the most effective division of responsibilities for the accomplishment of the highway maintenance function on Oahu.

A REPORT ON
STATE-CITY RELATIONSHIPS IN
HIGHWAY MAINTENANCE AND TRAFFIC CONTROL FUNCTIONS

INTRODUCTION

The third state legislature during its regular session of 1966 indicated in a number of ways its concern over problems arising in the administration of highway maintenance and traffic control activities on the island of Oahu. These problems appeared to stem at least in part from the existing pattern of inter-jurisdictional relationships as between the state of Hawaii and the city and county of Honolulu. In particular, attention had focused on:

- 1) the inconvenience to the public caused by the circumstance of dual responsibility for installation, operation and maintenance of traffic signal light systems on Oahu's streets and highways; and
- 2) the apparent duplication of resources and effort in the maintenance of these streets and highways.

The legislature expressed itself on these matters in the following ways. First, it inserted a proviso to the department of transportation's appropriation in house bill number 199, which became Act 8, which states,

"provided further, that the governor may expend the sum appropriated herein for highway maintenance purposes by entering into contracts with the several counties."

It also enacted Act 12, which empowers the governor to

"turn over to any county, state land, in fee simple, for use as a county highway, and the county involved shall thereafter be responsible for its repair and maintenance as a county highway."

and finally, the senate standing committee on government relations

and efficiency conducted hearings on the relationship between the state and city on traffic controls and safety, with emphases on traffic signal lights and on highway construction, maintenance, and repair functions.

These expressions indicated the intent of the legislature that the state and the city and county of Honolulu should take positive steps to overcome the problems of non-uniformity, lack of synchronization, duplication of services, and uncoordinated activities caused by their joint responsibility for highway traffic control devices and highway maintenance.

The purpose of this report is to advise the legislature of our findings with respect to:

- 1) the progress which has been made by the two governmental jurisdictions during the period between legislative sessions to overcome the problems specifically indentified by the legislature; and
- 2) the current status of relationships in the total functional area of highway maintenance and highway traffic control facilities.

It will first review the function and operation of highway traffic control facilities and the status of the plan developed to transfer responsibility for selected aspects of these facilities to one jurisdiction - the city and county of Honolulu. Next, the report will describe the conditions under which the highway maintenance functions for the island of Oahu are being carried out. And, finally, it will present our conclusions and recommendations with respect to the existing administrative arrangement in order to focus attention on those matters which could reasonably be expected to continue to cause concern in the state legislature.

THE HIGHWAY TRAFFIC CONTROL FUNCTION

The maintenance of streets and highways has two distinct aims. First is the aim of maintaining and improving the highway itself and its appurtenances as nearly as possible in conformance with the highest standards of highway design. Secondly, maintenance programs are aimed toward the promotion of the safe and efficient utilization of highways by the public.

One common area of highway maintenance activity related to the second of these aims is that of the design, installation, operation and maintenance of devices which inform, warn and guide highway users. The most typical form which these traffic control devices take are 1) traffic signal lights; 2) street and curb markings; and 3) traffic signs.

TRAFFIC CONTROL DEVICES

Traffic Signal Lights. Intersections are the focal point of urban traffic difficulties. Congestion, delay, and accidents are largely concentrated at intersections where both vehicles and pedestrians compete for the restricted time and space.

For an intersection with a very low volume of traffic, no traffic control devices are really needed. As the volume increases, however, the most rudimentary of control devices, the stop sign, may be installed. Heavier traffic volumes necessitate a device more efficient than the stop sign, i.e., the traffic signal light. This relatively inexpensive piece of equipment is called upon to produce the most efficient traffic movement as traffic engineers are capable of designing into it, even though the intersectional problem is such as would tax the intelligence of human controllers.

The state operates traffic signal lights at 75 intersections on Oahu. A group of 13 civil servants with electrical skills maintain and repair this system. The group is supervised by a traffic signal and highway lighting foreman, and includes two electrician working foremen, six electricians, and four electrician helpers. These men

are organizationally set up in two crews, although they may be deployed in any number of combinations.

The city has 166 intersections signalized and present work program calls for adding 11 intersections per year. A civil engineer is the operational head of the traffic signal light operations and maintenance group within the department of traffic. Field work is supervised by an electrician foreman and performed by two electrician working foremen, three electricians, and three electrician helpers.

The primary difference between the two jurisdictions involves the type of hardware used, i.e., the controllers which are the brains of each signal light group. The city generally uses the fixed time controllers. This type of equipment means that the time allotted for any one traffic movement is predetermined and set into the controller. Depending upon the sophistication of the equipment, several different phasings may be programmed into the controller to allow different time patterns to accommodate the varying traffic patterns during different times of the day. The state generally uses traffic-actuated controllers. This type assesses the volume of traffic approaching an intersection and automatically alters the duration of its red and green lights to provide as efficient a traffic movement as is possible in the intersection.

Street Markings. Street markings consist essentially of lines which are painted onto the surface of the road or curbsings. In order to be effective, street markings must command attention and convey a clear, unmistakable meaning in adequate time to allow the proper response. The specific purposes for having street markings are (1) to give vehicles and pedestrians guides for safety, (2) to channel traffic into safe and efficient movements, and (3) to provide visual aids. The most common street marking material is paint, either white or yellow, reflectorized or not. Pavement markings most commonly delineate lanes, convey regulatory or warning information, or guide motorists or pedestrians in the performance of certain actions on the highway, such as turning, crossing or parking.

On Oahu, the state has more than 238 linear miles of pavement markings. The outlook is for an increase in the volume of its work due to new highways constructed under the interstate highway program and also because of a large street resurfacing program. This pavement marking activity is performed by the traffic marking crew. The crew is supervised by a traffic marking foreman. There are two traffic striping machine operators. Other support personnel consist of a truck driver-laborer and three general laborers.

The city keeps no statistics on the extent of pavement markings on city streets. Operating statistics of its paint crews, however, give an indication of the extensive work activity in this function. In fiscal 1966, for example, they painted 460 linear miles of road markings.

This city function is performed by the signs and markings section of the traffic department. There are four three-man traffic marking crews to cover the urban area from Kalihi to Hawaii-kai. The single rural crew covers the remainder of the island. Each crew consists of a traffic marker who serves as crew chief, a truck driver, and a laborer.

Traffic Signs. Traffic signs are an integral part of the traffic control program. They include speed limit signs, stop signs, no parking, left turn only and hundreds of other signs guiding the actions of motorists and pedestrians. The state had an inventory of nearly 8,000 signs as of December 1965, and the city estimates it has 100,000 such signs.

The organizational entity in the state responsible for signs within the maintenance section is the traffic signs and markings unit which is supervised by a traffic signs and markings foreman. For sign fabrication, the state has one man, a sign painter, who manufactures signs, refurbishes them, salvages bent signs, paints them either through silk screening or hand printing, and then bakes the signs. For sign posting, the state has a two-man crew. Its duties are to straighten out signs, remove and replace signs, and install new

signs. For installing big signs, it receives help from the painting or marking crews. The rural labor crews assist to a degree by straightening out signs in rural areas.

The nature of the work of the city's sign posting crews is virtually identical to that of the state's sign posting crew. The city has a far more extensive network of signs plus it is solely responsible for the street name signs activity.

Signs are fabricated by two men--a graphic artist and a traffic sign painter. Urban sign posting is performed by two two-man crews, each of which is composed of a traffic sign driver-leader and a laborer. Rural sign posting is performed by a similar two-man crew.

The city uses a great variety of signs. Generally they differ markedly from the state signs in design and appearance. Whereas, the state accepts the federal standards which strive for uniformity along the major highways and arterials of all fifty states, the city has as its goal the elimination, or at least the minimization, of words on signs. This approach by the city has led to experimentation in the use of symbols, colors and shapes instead of words. What has resulted, of course, are two distinctively different systems of traffic signs on the streets of Oahu.

STATE-CITY AGREEMENT ON OPERATIONAL CONTROL OF HIGHWAY FACILITIES

The state and city have recently entered into an agreement whose purpose is "to work cooperatively to improve traffic conditions on the Island of Oahu." It was drawn up by the state, accepted without modification by the city, and executed on July 28, 1966. It bears no termination date. It was signed for the state by the director of transportation and for the city by the mayor. A facsimile of the agreement is attached as Appendix A to this report.

Purpose and Legal Reference. The stated objective of the agreement is "to work cooperatively to improve traffic conditions on the island of Oahu."

The agreement notes that the revised laws authorize "the director of transportation . . . to delegate operational control of the state's highway facilities on the Island of Oahu to the city." It cites as authority section 111-48 of the Revised Laws of Hawaii 1955, as amended, which reads as follows:

"Authority to enter into agreements. The director of transportation is authorized to enter into agreements with the board of supervisors or councilmen of any county, or with the federal government, respecting the financing, planning, establishment, improvement, maintenance, use, regulation, or vacation of controlled-access facilities or other public highways, to facilitate the purpose of this part."

Scope. The agreement is limited to traffic control devices within intersections. Traffic control devices are defined as traffic signals, signs, and curb and pavement markers.

It specifically excludes road maintenance, street lighting, and the major portions of the state's signs and markings activities. Section 3 of the agreement concludes with the statement that "the state shall remain responsible for maintenance activities of other portions of its highway facilities, such as street lights, striping, landscaping, etc., not herein delegated, until such time as such activities are transferred to the city by specific agreement."

Timetable. The agreement does not automatically transfer any state traffic signal lights to the city. Rather, it calls for the city to "prepare a proposed program for the transfer of traffic control for the state's review and approval within 3 months of the date and execution of this agreement." The agreement was executed on July 28, 1966.

The agreement further states that the transfer will be made "in an expeditious manner and in an orderly fashion to minimize problems related to personnel, equipment, material, and other related matters. It is anticipated that complete transfer will be accomplished within two (2) years."

The city has accordingly prepared a list of the state's signalized intersections, ranked by proposed date of transfer. The transfer is scheduled over a two-year period although the city's traffic engineer indicates that he may accelerate acquisition of signal lights. The city submitted the list to the state by letter dated September 16, 1966, more than a month in advance of the deadline. It proposes an eight-phased transfer timetable extending from November 1966 to October 1968. (See Appendix B for details.)

Responsibilities. The division of responsibilities between state and city is set forth in several sections of the agreement. Basically, the city is charged with operating, maintaining, and improving signal lights, while the state retains responsibility for initial installations. Both must mutually exchange design information and data for the designing of new traffic control devices and for the improvement of existing devices.

The agreement contains a number of provisions which specify the duties and privileges of the city. These are:

- a. "the CITY shall have full responsibility for . . . operating and maintaining the traffic control devices involved in the transfer of operational control" (section 4);
- b. "modification of traffic control devices, including location or relocation of traffic control signs, and other activities devoted solely to control of traffic shall be under the control of the CITY" (section 5);
- c. "the CITY shall be given the opportunity to comment on the traffic control devices designed by the STATE" (section 2);

- d. "where special traffic studies are requested by the STATE over and above the normal studies conducted by the CITY, the CITY shall provide such information on a cost reimbursable basis" (section 2).

The agreement reserves to the state these rights and privileges in traffic control:

- a. "the STATE has full responsibility of designing and constructing the state and federal-aid highways including traffic control facilities and devices on the state system" (section 2);
- b. "the STATE will be given the opportunity to comment on the methods, equipment, and techniques used by the CITY in operating and maintaining the traffic control devices" (section 4);
- c. "any physical modification of the STATE's highway facilities (island, shoulders, etc.), excluding traffic control devices shall have the STATE's prior written approval The modifications shall be undertaken by the STATE or upon mutually acceptable terms may be delegated to the CITY" (section 5).

Costs. The agreement contains these provisions with respect to financing:

- a. "the STATE shall bear the initial cost of all facilities and devices" (section 2);
- b. "where special traffic studies are requested by the STATE over and above the normal studies conducted by the CITY, the CITY shall provide such information on a cost reimbursable basis" (section 2);
- c. "the CITY shall have full responsibility for and bear all costs for operating and maintaining the traffic control devices involved in the transfer of operational control" (section 4);

- d. "the cost of (physical) modification of facilities in the state highway system shall be the responsibility of the STATE" (section 5);
- e. "the CITY shall bear all costs related to . . . changes to traffic control devices" (section 5).

Except for special studies, there is no provision for payments between state and city. Rather, both have agreed to a division of financial responsibilities. In effect, the city will absorb what previously were state costs for operating, maintaining, and modifying traffic control devices.

Standards. Section 7 of the agreement requires that "the city shall, at all times, comply with and observe all applicable governmental laws, ordinances, orders, rules and regulations, state design standards, and criteria pertaining to traffic signal controls and such national standards as may be designated by the state. In the event of conflict, the stricter requirements shall govern." These laws and criteria would constitute the minimum maintenance requirements expected of the city.

The federal legal reference or standards is Title 23, U.S. Code, Section 109 (d). Specific standards for highway traffic signals are contained in part III of the manual on uniform traffic control devices for streets and highways. Local standards take the form of the recently developed highway division maintenance standards.

Personnel. The agreement recognized the possibility of personnel transfer from the state to the city. It notes that "state personnel affected by the transfer of the state traffic control facilities to the city may be transferred to the city in accordance with a schedule approved by the city and the state." The letter of September 16, 1966 provides for six persons to transfer to the city during the two-year period.

There is specific provision protecting the status, rights, benefits, and privileges of transferred personnel. Section 6 of the agreement

notes that "no employee so transferred shall suffer any loss of salary, seniority, prior service credit, vacation, sick leave or other employee benefit or privileges as a consequence of this agreement."

STATE-CITY TRANSFER PLAN: CONTENT AND STATUS

The plan for the transfer of operational control of the state's seventy-five traffic signal light intersections was contained in a letter dated September 16, 1966, prepared by Mr. Henry Tuck Au, traffic engineer, city and county of Honolulu, to Dr. Fujio Matsuda, director, department of transportation, state of Hawaii. The plan is divided into eight phases stretching from November 1966 to October 1968. It delineates the specific intersectional lights which shall be transferred to the city in each phase as well as the related personnel and equipment movements. A facsimile of the transfer plan is attached to this report as Appendix B.

Phase I of the transfer agreement has been accomplished. Responsibility for the eight traffic signal light intersections listed below has been assumed by the city

Vineyard Boulevard at:

- Liliha Street
- Nuuanu Avenue
- Pali Highway
- Queen Emma Street
- Punchbowl Street
- Lusitana-Alapai
- Miller Street

In addition, responsibility for four other intersection signals has been transferred which had not initially been scheduled. These are:

- Lusitana at Punchbowl
- School at Queen Emma
- School at Liliha
- Freeway offramp at Liliha

Phase II scheduled for implementation on March 1, 1967, will proceed as planned with the exception that the traffic signal light at Ala Moana and Richards Street will not be transferred because its operation is controlled by a specialized system synchronizing the lights along Ala Moana. Neither personnel nor equipment has yet been transferred, nor were any scheduled to be by this time.

CONCLUSIONS

Some progress has been made over the past year. The extent of this progress can best be measured by weighing it in relation to the scope of the total problem. The agreement itself sets the framework. It specifically excludes from its terms all functions save traffic control devices. Moreover, street markings and traffic signs outside of the signalized intersections are not included.

Twelve traffic signal lights have been transferred to city control in the past ten and one-half months. Complete unification will not be realized for another year and a half or October 1968,

The agreement itself appears to be deficient to the extent that the statement of purpose is so broad as to be meaningless and no further clarification of it follows. While it implies that unification of functions is the means to accomplish this purpose, it fails to adequately explain how and in what ways it would do so.

Further, no provision has been made with reference to the hundreds of traffic signs installed and maintained by the state outside of the signalized intersections.

Unless additional action is taken in the interim, the conditions which gave rise to legislative concern in early 1966 will continue to exist at the end of 1968. Both the state and the city will continue to share responsibility for traffic control functions on Oahu's streets and highways. While greater synchronization of controls can be expected, problems of non-uniformity, duplication of services, and public confusion over responsibility, will remain.

RECOMMENDATIONS

Legislative intent in this area might better be served if a revised agreement were entered into between the state and the city and county of Honolulu with respect to traffic control devices:

- 1) defining the problems and the public needs in the area of safe and efficient highway utilization;
- 2) clarifying the long range goal being sought and the specific objectives which will lead to its achievement;
- 3) delineating the total scope of functions and activities which must be considered if these objectives are to be met;
- 4) describing the broad division of responsibilities, rights and obligations of each jurisdiction and its personnel;
- 5) establishing a target date for achievement of the overall goals and objectives.

This document would serve as the basic framework within which subsequent and detailed plans for accomplishing its overall purpose could be developed. Whether these detailed plans took the form of requiring the actual transfer of facilities which the first plan has done or some other arrangement should be determined as a result of a thorough analysis of the several alternative means available for accomplishing the desired purpose. Criteria of greatest efficiency and effectiveness might conceivably lead to different techniques as between specific functional areas.

In essence, then, it is suggested that the problems identified by the legislature and the development of a solution to them by the jurisdictions involved might best be approached first on an overall basis; i.e., by determining and setting down the desired pattern of inter-governmental relationships with respect to traffic control devices on Oahu's streets and highways based on a systematic appraisal of the problems and alternatives involved. Following this, detailed plans for implementing this basic concept in particular instances could be prepared. A systematic approach of this type can only lead to a more complete, orderly, and efficient resolution of the problems involved.

THE HIGHWAY MAINTENANCE FUNCTION

The state of Hawaii and the city and county of Honolulu are each responsible for extensive road networks on the island of Oahu. Both jurisdictions support island-wide services to maintain these streets and highways in order to protect their original investment, furnish maximum service to users and promote an attractive environment. This function requires large expenditures of public funds for personnel, equipment, materials and baseyards.

Road maintenance involves a variety of functional activities related to the upkeep of the roadway surface itself, narrow strips of land both adjoining and dividing roads, and the structures such as bridges, guardrails and lights which improve their utility and durability.

FUNCTIONAL ORGANIZATION

This portion of the report will review briefly the organization and operation of the road maintenance functions in the state and city jurisdictions. Available comparative statistical data pertinent to this topic can be found in the chart on page 17.

Street Lights. Street lights are an integral part of a transportation system. Their purpose is to maximize the utility of the roadway during the hours of darkness. They facilitate the safe and efficient movement of vehicles and pedestrians through improved visibility and for the same reason provide a deterrent to criminal activity.

The state maintains its system of approximately 3,000 lights with the same work force which is responsible for its traffic signal light function. Once a month a complete circuit of the system is made to repair and replace lamps, and in between such regular inspections, repairs are made based upon police or public reports. Installation of lights is normally done on a contractual basis.

The city, on the other hand, plans, designs, installs and maintains its system which presently consists of approximately 31,000

street lights. While it does not have a program of preventive maintenance, it relies on reports from the police and the public for repair information.

Roadway Maintenance. This function consists of activities concerned with the repair and maintenance of the pavement surfaces and road shoulders, including relatively small paving jobs, the cleaning of drainage canals, clearing of sand and rock slides, repairing sea walls, and constructing acceleration and deceleration lanes. The state performs these functions with two organizational units operating from a central headquarters but covering the entire island network. On the other hand the city decentralizes this responsibility to the geographical district maintenance unit. In both jurisdictions the size of the jobs undertaken by the staff is limited. Extensive repair work is normally contracted out.

Structures Maintenance. Most of the structure maintenance and repair work is performed by government crews. The structures most commonly involved are bridges, overpasses, drains, catch basins, retaining walls and fences. Damage to structures may be caused by rot, accidents or erosion. As with roadway maintenance, the state utilizes a special island-wide crew, whereas the city accomplishes its work through the district maintenance units. The state also has a specialized painting crew which spends a major portion of its time on painting structures.

Street Sweeping. Mechanical street sweepers are used to remove loose gravel and litter from intersections and gutters. The state performs this task on its highway system with a special crew assigned to the central maintenance program. In the city this function is a responsibility of an overall refuse collection and disposal program.

Landscaping and Cantoneering. The day-to-day maintenance of roadsides and the care of decorative plantings are carried on by larger groups of primarily manual workers. Picking up rubbish, pulling weeds, mowing grass, watering decorative plants, and chemically treating roadside growth make up this activity. It is in the conduct

of this activity with the exception of the herbicide and watering tasks that the state decentralizes its operations to district units. Area crews for landscaping and cantoneering are geographically assigned to seven districts operating from six baseyard locations. As with all other highway maintenance functions, the city carries out this responsibility through its district crews.

Baseyards. The state maintains six baseyards with the main one at Kewalo from which all island-wide crews and the two Honolulu area landscaping and cantoneering crews operate. A short distance away, the city operates its main baseyard.

In the rural areas the state and city both have yards located in Kaneohe, Wahiawa and Waianae. In addition, the state maintains yards at Hauula and Aiea; the city, at Kailua, Laie, Waialua, and Ewa. (See map on page 18.)

Baseyards serve as district headquarters for personnel, equipment, materials and operations.

A COMPARISON OF STATE AND CITY-COUNTY HIGHWAY
MAINTENANCE ACTIVITIES

FUNCTION	WORKLOAD INDICATORS		STAFF		EQUIPMENT ^{1/}	
	STATE	CITY	STATE	CITY	STATE	CITY
Street Marking	238 lin. mi. (total)	328 lin. mi. (1965) 460 lin. mi. (1966) Total unknown	7		Not significant	
Traffic Signs	8,000	100,000	3	11	Not significant	
Street Lights	3,000	31,000	13 ^{2/}	49	Not significant	
Road Maintenance	180 mi. 516 lane mi. 1.5 million sq. yd. of shoulders	789 mi.			1 crane 3 rollers 5 loaders 7 trucks 3 pickups 1 grader 1 distri- butor 3 trailers	
Structures Maintenance	Island-wide				2 trucks 1 pickup	7 cranes 13 rollers 9 loaders 4 backhoe 4 sweepers 5 graders 6 bull- dozers 1 paving machine - trucks - pickups
Street Sweeping	Metro Hono. Hono. to Wahiawa & Waipahu Hono. to Mokapu 180 mi.	789 mi.	Total 113	375 ^{3/}	4 street sweepers	
Landscaping Cantoneering	100 sq. acres of medial strip 1.5 million sq. yd. of shoulders	789 mi.			4 tankers 17 trucks 14 tractor mowers 37 power mowers 13 edgers 4 chain saws 7 pickups 4 jeeps	

1/ Other miscellaneous equipment not listed.

2/ Not full time; also do traffic signal light work.

3/ Approximate: does not include administrative and support personnel.

LOCATION OF STATE BASEYARDS AND
CITY AND COUNTY CORPORATION YARDS
ON OAHU



- State Baseyard
- ▽ City & County Corporation Yard

CONCLUSIONS

Both the state and the city and county of Honolulu provide island-wide highway maintenance services to keep their roadways and related grounds and facilities in optimum condition for existing and anticipated user requirements.

The nature of functions performed by these two jurisdictions is identical. They include roadway and shoulder maintenance, structures maintenance, sweeping, landscaping and cantoneering. The personnel skills required by both governments range from the most heavy manual laboring skill to journeyman level carpentry, masonry, and other trade orientations. They maintain similar equipment inventories including heavy equipment such as cranes, bulldozers, graders and rollers, as well as the lighter equipment types--mowers, pickup trucks, chain saws and compressors. Both occupy and operate baseyard locations for district operations.

Obviously there is a functional duplication of services, and a physical duplication of workforce, equipment and baseyards in highway maintenance on Oahu. There have been, as a result, instances of public confusion over responsibility and accountability. And inconveniences to the public occur because of different standards and approaches to the highway management function.

RECOMMENDATIONS

This set of circumstances dictates the need for a comprehensive review and analysis of the situation by the respective jurisdictions. Such a review would go a long way toward complying with the expressed intent of the legislature for a plan of relief from the problems it identified. It would seem that what the state and the city and county of Honolulu need to consider are:

- 1) What is the public's basic need on Oahu for maintenance of and improvement to its present highway system, irrespective of how the jurisdictional responsibility for it is presently divided?

- 2) On the basis of this defined need, overall highway maintenance goals and objectives ought to be agreed upon, once again irrespective of jurisdictional questions.
- 3) Next, decisions could be reached as to what specific programs ought to be undertaken to achieve those aims.
- 4) Then, extensive economic analysis should be conducted with respect to the several ways in which these programs could be carried out, what the various organizational, functional and methodological combinations might be and their respective costs and benefits.

On the basis of such an analysis, executive and legislative decisions could intelligently be reached with real assurance that all factors--public convenience, operational costs and ultimate benefits--had been considered. Until such an analysis is completed, no one can, with any degree of accuracy, conclude whether the present pattern of inter-jurisdictional relationships is the optimal one, or whether any other pattern would be more or less so.

A G R E E M E N T

THIS AGREEMENT, made this 28th day of July, 1966, by and between the CITY AND COUNTY OF HONOLULU, a chartered political subdivision of the State of Hawaii, hereinafter called the "CITY," and the STATE OF HAWAII, by its Director of Transportation, hereinafter called the "STATE,"

WITNESSETH THAT:

WHEREAS, it is the intent of the CITY and the STATE to work cooperatively to improve traffic conditions on the Island of Oahu; and

WHEREAS, the STATE, pursuant to the authority vested in the Director of Transportation under Section 111-48, RLH 1955, as amended, is willing to delegate operational control of the State's highway facilities on the Island of Oahu to the CITY; and

WHEREAS, the CITY is willing to accept the delegation of said operational control,

NOW, THEREFORE, in consideration of the covenants hereinafter contained and on the part of the CITY and the STATE to be observed and performed, the parties hereto agree as follows:

1. Definition.

The term "traffic control devices" shall include, but not be limited to, traffic signals, signs, and curb and pavement markers.

2. Design and Construction.

The STATE has the full responsibility of designing and constructing the State and Federal-Aid Highways including traffic

control facilities and devices on the State system. The STATE shall bear the initial cost of all facilities and devices, including traffic control devices to be transferred to the CITY for operational control.

The CITY and STATE will mutually exchange design information and data for the designing of new traffic control devices and for the improvement of existing devices. The CITY will be given the opportunity to comment on the traffic control devices designed by the STATE; however, the final decision on design is vested in the STATE.

Where special traffic studies are requested by the STATE over and above the normal studies conducted by the CITY, the CITY shall provide such information on a cost reimbursable basis. Arrangements for reimbursement will be worked out in detail prior to the prosecution of work.

3. Transfer.

The CITY will prepare a proposed program for the transfer of traffic control for the STATE's review and approval within 3 months of the date and execution of this Agreement.

The STATE will transfer operational control of its traffic control devices to the CITY in an expeditious manner and in an orderly fashion to minimize problems related to personnel, equipment, material and other related matters. It is anticipated that complete transfer will be accomplished within two (2) years.

The STATE shall remain responsible for maintenance activities of other portions of its highway facilities, such as street lights, striping, landscaping, etc., not herein delegated, until such time as such activities are transferred to the CITY by specific agreement.

4. Operation and Maintenance.

The CITY shall have the full responsibility for and bear all costs for operating and maintaining the traffic control devices involved in the transfer of operational control.

The STATE will be given the opportunity to comment on the methods, equipment, and techniques used by the CITY in operating and maintaining the traffic control devices; however, the CITY shall have the final authority on the selection of the methods, equipment and techniques to be used, subject to the provisions of Article 7, below.

5. Modification.

Any physical modification of the STATE's highway facilities (islands, shoulders, etc.), excluding traffic control devices shall have the STATE's prior written approval. The cost of said modification on facilities in the State Highway System shall be the responsibility of the STATE. The modifications shall be undertaken by the STATE or upon mutually acceptable terms may be delegated to the CITY.

Modification of traffic control devices, including location or relocation of traffic control signs, and other activities devoted solely to control of traffic shall be under the control of the CITY, subject to the provisions of Article 7. The CITY shall bear all costs related to these changes to traffic control devices.

6. Transfer of Personnel.

Within limits of civil service requirements, STATE personnel affected by the transfer of the STATE traffic control facilities to the CITY may be transferred to the CITY in accordance with a schedule approved by the CITY and the STATE. Subject to the provisions of Chapters 3 and 4, RLH 1955, as amended, no employee so transferred shall suffer any loss of salary, seniority, prior service credit, vacation, sick leave or other employee benefit or privileges as a consequence of this Agreement.

7. Compliance with Laws and Standards.

The CITY shall, at all times, comply with and observe all applicable governmental laws, ordinances, orders, rules and regulations, State design standards and criteria pertaining to

traffic signal controls and such National standards as may be designated by the STATE. In the event of conflict, the stricter requirements will govern.

8. Termination.

This agreement may be terminated by either party giving the other six (6) months' written notice; except that this Agreement may be terminated immediately when the State is notified in writing by the Bureau of Public Roads that Federal aid funds are jeopardized as a result of this Agreement.

In the event of termination, the parties agree to develop mutually satisfactory arrangements to reassign personnel and restore operational control of the traffic control devices to the STATE.

IN WITNESS WHEREOF, the Parties hereto have hereunto set their hands on the day and year first above written.

CITY AND COUNTY OF HONOLULU

By Neal S. Blaisdell
Its

STATE OF HAWAII

By Fujio Matusda
Its Director of Transportation

APPROVED AS TO FORM:

Herbert K. Tom
Deputy Corporation Counsel

Johnson H. Wong
Deputy Attorney General

September 16, 1966

Dr. Fujio Matsuda
 Director
 Department of Transportation
 State of Hawaii
 869 Punchbowl Street
 Honolulu, Hawaii 96813

Dear Dr. Matsuda:

Subject: Transfer of State controlled Traffic Signals

In accordance with the agreement entered into between the City and County of Honolulu and the State of Hawaii, dated July 28, 1966 regarding the transfer of State controlled traffic signal installations to the City and County of Honolulu, we proposed for your consideration the following program, including the transfer of material, equipment and personnel.

The proposed program covers a period of approximately 2 years, scheduled as follows:

PHASE I (November, 1966)

	<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCKS</u>
Vineyard Boulevard at:			
a. Palama Street			
b. Liliha Street			
c. Nuuanu Avenue			
d. Pali Highway		NONE	NONE
e. Queen Emma Street			
f. Punchbowl Street			
g. Lusitana & Alapai			
h. Miller Street			

School Street & Pali Highway
Pali Highway (Ramp "D") & Lunalilo Freeway

PHASE II (March, 1967)

<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
School & Likelike Highway		
Middle & King Street		
Ala Moana & Hobron Lane		
Ala Moana & Richards Street	NONE	NONE
Bingham & Punahou Street		
Ala Moana & Kalakaua Avenue		
Ala Moana & Kalia Road		

PHASE III (June, 1967)

<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
Moanalua & Puuloa Road		
Moanalua & Jarret White Road	1 Man	NONE
Moanalua & Hale Street		
Moanalua & Halawa Hgts		

PHASE IV (September, 1967)

<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
Kamehameha Hwy at:		
a. Pearl Harbor Spur		
b. Center Drive		
c. Halawa Gate		
d. Hale Street	1 Man	NONE
e. Lehua Street		
f. Moanalua Road		
g. Honomanu Street		

PHASE V (December, 1967)

<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
Nimitz Highway at:		
a. Airport Access Road		
b. Main Street	1 Man	1
c. Hickam Gate		
Kamehameha Highway at:		
a. Puuloa Road		
b. Sub Base Gate		
c. Fort Kam Access Road		

PHASE VI (March, 1968)

<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
Farrington Highway at:		
a. Depot Road		
b. Barbers Point Road	1 Man	NONE
c. Waipahu High School		
Ft. Weaver & Papipi Road Kamehameha Highway at:		
a. Wilikina Road		
b. Olive Street		
c. California Street		
d. Kilani Street		
Kunia & Wilikina		

PHASE VII (June, 1968)

<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
Waiialae & Kilauea Avenue		
Kalaniana'ole Hwy & Ainakoa Avenue		
Kalaniana'ole Hwy & West Hind Drive		
Mokapu Drive & Kalaheo Avenue	NONE	NONE
Kailua Road & Kalaniana'ole Hwy		
Kam Hwy & Pali Hwy		
21st Avenue & Waiialae Avenue		

PHASE VIII (October, 1968)

	<u>INTERSECTIONS</u>	<u>PERSONNEL</u>	<u>TRUCK</u>
ALL OTHERS		2 Men	1

For the most efficient use of materials, equipment, bench facilities and manpower we also propose that all repair work on actuated traffic signal controllers be performed by State technicians until sufficient number of personnel, test equipment and spare parts are turned over to the City and County of Honolulu.

Very truly yours,

/s/ Henry Tuck Au

HENRY TUCK AU
Traffic Engineer

GM:ct