Management Audit of the Highways Division of the Department of Transportation

A Report to the Governor and the Legislature of the State of Hawai‘i

Report No. 00-09
March 2000

THE AUDITOR
STATE OF HAWAI‘I

Office of the Auditor

The missions of the Office of the Auditor are assigned by the Hawai'i State Constitution (Article VII, Section 10). The primary mission is to conduct post audits of the transactions, accounts, programs, and performance of public agencies. A supplemental mission is to conduct such other investigations and prepare such additional reports as may be directed by the Legislature.

Under its assigned missions, the office conducts the following types of examinations:

1. Financial audits attest to the fairness of the financial statements of agencies. They examine the adequacy of the financial records and accounting and internal controls, and they determine the legality and propriety of expenditures.

2. Management audits, which are also referred to as performance audits, examine the effectiveness of programs or the efficiency of agencies or both. These audits are also called program audits, when they focus on whether programs are attaining the objectives and results expected of them, and operations audits, when they examine how well agencies are organized and managed and how efficiently they acquire and utilize resources.

3. Sunset evaluations evaluate new professional and occupational licensing programs to determine whether the programs should be terminated, continued, or modified. These evaluations are conducted in accordance with criteria established by statute.

4. Sunrise analyses are similar to sunset evaluations, but they apply to proposed rather than existing regulatory programs. Before a new professional and occupational licensing program can be enacted, the statutes require that the measure be analyzed by the Office of the Auditor as to its probable effects.

5. Health insurance analyses examine bills that propose to mandate certain health insurance benefits. Such bills cannot be enacted unless they are referred to the Office of the Auditor for an assessment of the social and financial impact of the proposed measure.

6. Analyses of proposed special funds and existing trust and revolving funds determine if proposals to establish these funds are existing funds meet legislative criteria.

7. Procurement compliance audits and other procurement-related monitoring assist the Legislature in overseeing government procurement practices.

8. Fiscal accountability reports analyze expenditures by the state Department of Education in various areas.

9. Special studies respond to requests from both houses of the Legislature. The studies usually address specific problems for which the Legislature is seeking solutions.

Hawai'i's laws provide the Auditor with broad powers to examine all books, records, files, papers, and documents and all financial affairs of every agency. The Auditor also has the authority to summon persons to produce records and to question persons under oath. However, the Office of the Auditor exercises no control function, and its authority is limited to reviewing, evaluating, and reporting on its findings and recommendations to the Legislature and the Governor.

THE AUDITOR
STATE OF HAWAI'I
Kekuanao'a Building
465 S. King Street, Room 500
Honolulu, Hawai'i 96813

OVERVIEW

Management Audit of the Highways Division of the Department of Transportation

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Summary

The Highways Division of the Department of Transportation is responsible for facilitating the rapid, safe, and economic movement of people and goods within the state. In FY1997-98, it received approximately $269 million in state and federal funds. Approximately $130 million of this funding was generated from fees and taxes collected on motor vehicles and fuel. This audit assesses the Highways Division's management of the State Highway System.

We found the division failed to plan adequately for the construction and maintenance of state highways, increasing costs unnecessarily. For example, the division wasted over $1 million on unnecessary contract changes that could have been avoided had the division adequately inspected project sites prior to project design and construction.

Inadequate planning also hindered the division's budgeting for highway construction. Contracts were based on inaccurate design and construction cost estimates and consequently, debt service was incurred unnecessarily for excess revenue bond funds. Approximately $3.4 million of state funds that lapsed during FY1997-98 were funded by revenue bonds in excess of what was needed. The division paid approximately $172,000 in interest on these excess revenue bond funds.

The Highways Division has not followed the basic standards of highway maintenance, planning, and management of the American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA). Furthermore, neglect of the highway system was fostered by the absence of preventive maintenance, an incomplete highway infrastructure inventory, under-utilization of management information systems, and untimely inspections and repairs.

We also found that the division's lax financial management practices resulted in unnecessary costs to taxpayers. Although procurement code violations have been a serious recurring problem for the department, the division continues to award contracts without ensuring adequate competition. Furthermore, the division ignored procurement record retention requirements, which resulted in its inability to justify the selection of many of the design consultants in our sample. Division staff also failed to adequately review the work of design consultants and construction contractors. In fact, division staff avoided the contract change order review and authorization process by inappropriately charging additional contract costs to temporary force accounts.

The division also failed to adequately monitor utility work and utility agreements which identify both the State's and utility companies' responsibilities for financing

the costs for the removal, relocation, replacement, or reconstruction of utility facilities as a result of highway work. The division failed to pay utility companies and to collect funds owed by these companies.

The division's disregard of procedures to manage staff overtime allowed for gross abuse and unnecessary personnel costs. During FY1997-98 the division expended over $2.4 million for overtime. Although the department's staff manual requires that requests for planned overtime work be submitted in advance, requests were not documented for about 66 percent of these overtime occurrences in our sample. We also found that branch chiefs and district engineers approved overtime requests for staff that exceeded limits established by the department and permitted 19 percent of the staff in our sample to take either sick or vacation leave on the same day they earned overtime. Moreover, we observed employees playing computer games, taking naps, and reading novels during work hours.

Finally, we also found the division's organizational structure to be fragmented and inefficient. The director has ignored administrative directives for effecting organizational change and the governor's order to increase the division's span of supervisory control. Instead, the division has placed staff on *administrative assignments,* a term contrived by the division, to circumvent established rules and executive orders. Consequently, functions of newly created positions parallel existing organizational units rather than displace them. Supervisors continue to occupy their positions with no one to supervise.

Recommendations and Response

Our report recommends that the Highways Division improve its planning of highway projects to avoid unnecessary contract change orders and additional debt from bond interest payments. We also recommended that the division develop statewide maintenance standards, and be accountable for timely inspections and repairs. We recommended the director improve the division's financial management and that the State Procurement Office review the department's procurement and training procedures. Finally, we recommended the governor ensure that the director follow administrative procedures and directives for organizational changes.

The department responded that it accepts responsibility for some of our findings but disagreed with others. However, the department failed to specifically address many of our findings, only to say that it is in compliance and has not violated any laws, rules, and directives. The department also indicated that it believes our sampling methodologies were biased. We disagree. Our audit sampling methodologies comply with acceptable auditing standards.

Marion M. Higa
State Auditor
State of Hawaii

Office of the Auditor
465 South King Street, Room 500
Honolulu, Hawaii 96813
(808) 587-0800
FAX (808) 587-0830

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A Report to the Governor and the Legislature of the State of Hawaii

Submitted by

THE AUDITOR
STATE OF HAWAII

Report No. 00-09
March 2000

Foreword

This management audit of the Highways Division of the Department of Transportation was conducted pursuant to Section 23-4, Hawaii Revised Statutes, which requires the Auditor to conduct postaudits of the transactions, accounts, programs, and performance of all departments, offices, and agencies of the State and its political subdivisions.

We wish to express our appreciation for the cooperation and assistance extended to us by the officials of the Department of Transportation.

Marion M. Higa
State Auditor

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Chapter 1

Introduction

The Highways Division is one of three divisions within the Department of Transportation. With over 1,000 positions and an annual budget in excess of $250 million, the division is responsible for facilitating the rapid, safe, and economical movement of people and goods within the state. The division carries out this mission by planning, constructing, and maintaining land transportation facilities. Funding to support its operations comes directly from fuel and vehicle taxes and fees, and from federal reimbursements for the construction and maintenance of state highways.

The State Auditor initiated this audit to assess whether the Highways Division sufficiently and efficiently manages public funds designated for state highways. This audit was performed pursuant to Section 23-4, Hawaii Revised Statutes (HRS), which requires the Auditor to conduct postaudits of the transactions, accounts, programs, and performance of all departments, offices, and agencies of the State and its political subdivisions.

Background on the Highways Division

Chapter 26, HRS, empowers the Department of Transportation to establish, maintain, and operate the state's transportation facilities, including highways, airports, and harbors. The Highways Division is responsible for the construction, management, and maintenance of the State Highway System, which includes all federal-aid highways and other public highways that the director of transportation designates for inclusion. Public highways in the State Highway System currently include 2,450 highway lane miles and about 734 bridges. The division is also responsible for supporting system infrastructure such as tunnels, guardrails, streetlights, and traffic signs.

The division's maintenance duties are comprised of routine activities such as vegetation trimming and special maintenance projects such as major resurfacing work. The division's maintenance crews help to ensure public safety by responding to and remediating highway hazards including landslides, flooding, and dead animals on state roadways. The division is also responsible for vehicle traffic contraflow operations and traffic safety programs.

The Highways Division receives significant amounts of special and federal funds

The Highways Division received approximately $269 million in state and federal funds during FY1997-98. About $130 million in state funds was generated from fees and taxes collected on motor vehicles and fuel. The revenues were deposited into the State Highway Fund to support the administration, debt service, operation, maintenance, and construction of the State Highway System.

Federal funds are authorized and received through Title 23 of the U.S. Code. The Federal Highway Administration (FHWA) commits federal funds for specific highway projects after approving the plans, specifications, and estimated costs submitted by the State Department of Transportation. However, the department must provide the initial project funding and is then reimbursed by the FHWA. The State may begin to receive federal reimbursements after the project begins; however, final reimbursement is contingent upon project completion. Since projects may not be completed within the year in which the funding is authorized, federal reimbursements received during a fiscal year may not correlate with authorized federal funding levels. During FY1997-98, the Federal Highway Administration authorized about $90 million in funding to the State and reimbursed the division $126 million.

Motor vehicle fuel taxes and other vehicle fees

The public contributes to the State Highway Fund through fuel taxes, motor vehicle weight taxes, rental motor vehicle and tour vehicle surcharge taxes, and vehicle registration fees. An owner of a mid-sized passenger car can expect to pay about $45.00 in state fees and taxes annually as well as approximately $2.74 in state fuel taxes for each tank of gasoline purchased. Exhibit 1.1 lists the state tax rates and corresponding FY1997-98 revenues for each of the different taxes and fees.

Exhibit 1.2 illustrates the percentage of state revenues generated by category and deposited into the State Highway Fund during FY1997-98. As displayed in the exhibit, nearly half of the revenues generated were from the state fuel tax.

The state fuel tax was last increased by Act 263, Session Laws of Hawaii 1991, which raised the tax about 45 percent from $0.11 per gallon of gasoline to the current rate of $0.16. The act also raised the vehicle registration fee and vehicle weight tax, and established the rental motor vehicle and tour vehicle surcharge taxes.

During FY1997-98, the department transferred over $23 million from the State Highway Fund to the State's General Fund. This transfer was authorized by Act 270, SLH 1997, after it was determined that these funds exceeded the requirements of the State Highway Fund. Between

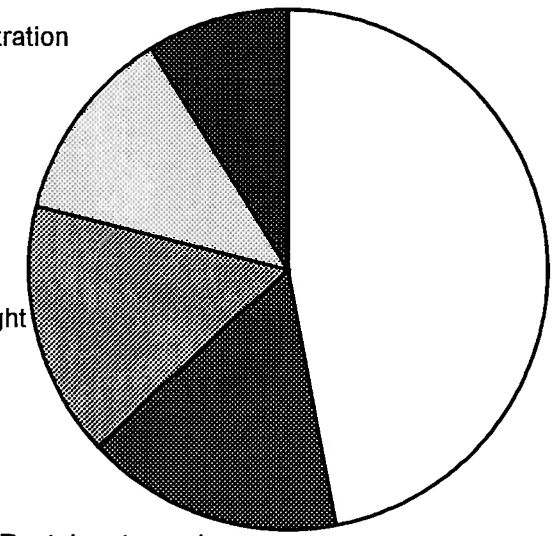
FY1995-96 and FY1998-99, the Legislature authorized the transfer of approximately $99 million from the State Highway Fund to the General Fund.

Exhibit 1.1
State Highway Fund Revenues by Tax/Fee Source for FY1997-98

Category of Tax or Fee	Assessment Rate	FY1997-98 Revenues
Fuel Tax	• Gasoline $0.16/gal • Diesel Gas $0.15/gal • Petroleum Gas $0.11/gal	$67,866,294
Vehicle Weight Tax	• Net weight up to 4,000 lbs. $0.0075/lb/yr • Over 4,000 up to 7,000 lbs. $0.01/lb/yr • Over 7,000 up to 10,000 lbs. $0.0125/lb/yr • Over 10,000 lbs. $150.00/yr	$22,753,201
Vehicle Registration Fee	$20.00/yr	$16,417,522
Rental Motor and Tour Vehicle Surcharge Tax	• Rental Motor Vehicle $2.00/day • Tour Vehicle with 8 to 25 passenger capacity $15.00/mo • Tour Vehicle with over 25 passenger capacity $65.00/mo	$22,838,105
Total Revenues		$129,875,122

Source: PricewaterhouseCoopers LLP, *Department of Transportation, Highways Division, State of Hawaii: Combined Financial Statements*, June 30, 1998.

Exhibit 1.2
State Highway Fund Sources of Revenues FY1997-98



Note: Other revenues include interest and rental income.

Source: PricewaterhouseCoopers LLP, *Department of Transportation, Highways Division, State of Hawaii: Combined Financial Statements*, June 30, 1998.

Transportation Equity Act for the 21st Century

The 1998 Transportation Equity Act for the 21st Century (TEA-21) guarantees federal funds for the construction, reconstruction, resurfacing, restoration, and rehabilitation of the National Highway System. The National Highway System is an interconnected system of highways that includes the interstate system and other urban and rural principal arterials and highways. Federal funds are also received for congestion mitigation, air quality improvement, surface transportation, highway bridge rehabilitation and replacement, and interstate system/maintenance programs. The interstate system is comprised of highways that connect principal metropolitan areas, cities, and industrial centers and those that serve the country's national defense. Oahu's H-1, H-2, and H-3 highways, and Moanalua Freeway are Hawaii's only interstate routes.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) was the last major legislation authorizing surface transportation prior to the TEA-21. Hawaii received reimbursements for projects authorized under ISTEA during our review period, FY1997-98.

Expenditures

During FY1997-98, the division spent over $279 million. Expenditures of approximately $151 million, or 54 percent, were for capital improvement projects, representing over 40 percent of all capital improvement projects undertaken by the State during that same fiscal year (see Exhibit 1.3). Operations and maintenance costs also accounted for a large portion, 31 percent, of the division's expenditures. About half of the division's operations and maintenance expenditures were for special maintenance projects such as resurfacing roadways, repairing bridges, and replacing guardrails. Over $24 million (9 percent) was spent for administration and about $10 million (4 percent) on debt service.

Organizational structure

The division administrator is responsible for the overall management of the division and reports to the director of transportation. Staff from four offices, six branches, and four districts (Oahu, Hawaii, Kauai, and Maui) report directly to the highways administrator. Exhibit 1.4 displays the division's organizational structure.

At the end of FY1997-98, the division had 661 special funded positions and 421 project funded positions, totaling 1,082 authorized permanent positions. The division's vacancy rate for authorized positions has been approximately 20 percent between fiscal years 1995-96 and 1997-98. During each of these three fiscal years, the greatest number of vacancies occurred in maintenance and construction positions. The Oahu District, the largest within the division, has 394 positions, or about 36 percent of the division's total authorized positions.

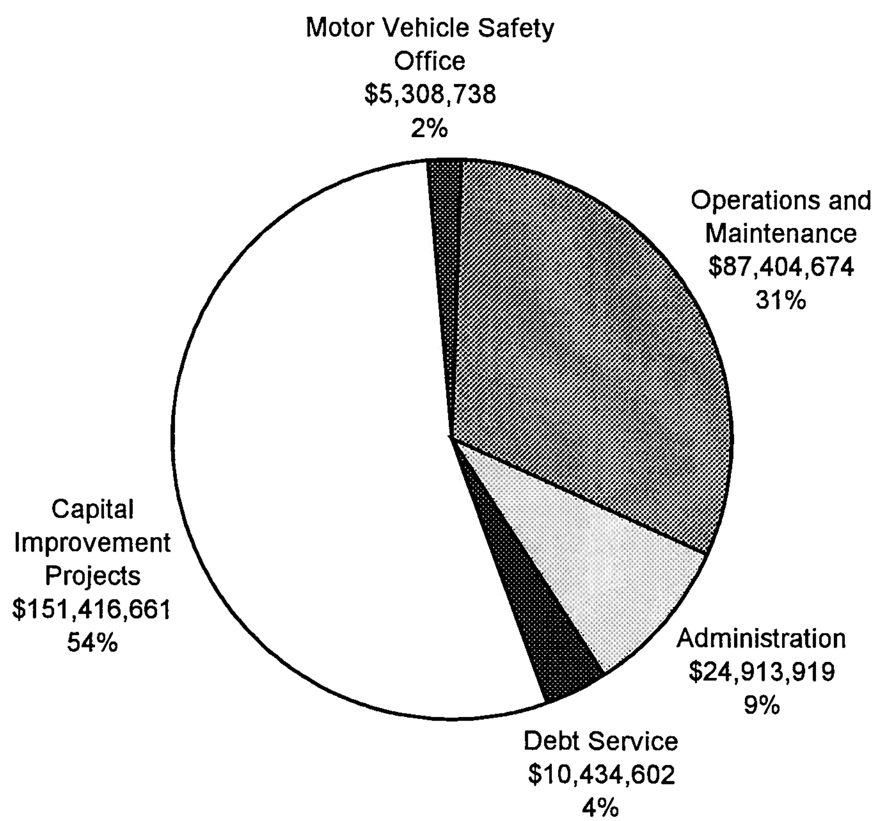
Objectives of the Audit

1. Assess whether the Department of Transportation's Highways Division has established sufficient management controls to ensure the adequate planning, construction, and maintenance of the State Highway System.

2. Determine whether the Highways Division utilizes its personnel resources effectively and efficiently.

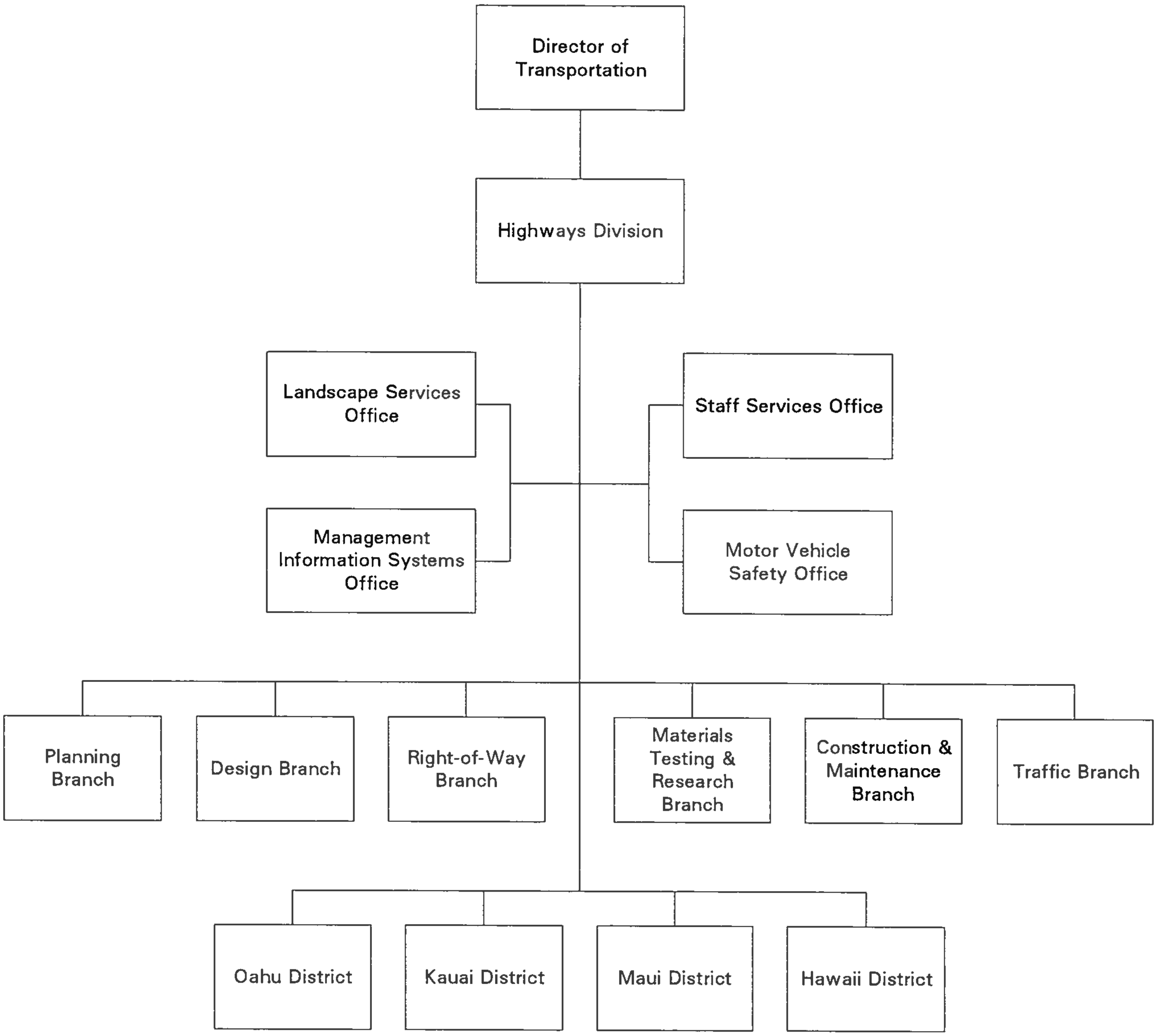
3. Make recommendations as appropriate.

Exhibit 1.3
Highways Division Expenditures FY1997-98



Source: PricewaterhouseCoopers LLP, *Department of Transportation, Highways Division, State of Hawaii: Combined Financial Statements*, June 30, 1998.

Exhibit 1.4
Organizational Structure of the Highways Division



Note: The Maui District includes the islands of Molokai and Lanai.

Source: State of Hawaii, Department of Transportation's and Highways Division's organization charts.

Scope and Methodology

Our work focused on the Highways Division's management practices during FY1997-98. We reviewed state and federal laws and rules, administrative directives, the Department of Transportation's *Departmental Staff Manual*, and the Highways Division's *Procedures Manual*. We also reviewed highway maintenance standards promulgated by the American Association of State Highway Transportation Officials and the Federal Highway Administration. Contract files, maintenance records, and overtime records were examined at the department, division, and district offices. We also interviewed federal, state, and county transportation administrators and staff as well as officials from the Departments of the Attorney General, Budget and Finance, and Human Resources Development.

Our work was performed from February 1999 through January 2000 in accordance with generally accepted government auditing standards.

Chapter 2

The Poorly Managed Highways Division Wastes Taxpayers' Resources

The Highways Division is responsible for the development and preservation of an efficient and safe highway system. To assist the division in this endeavor, the Legislature has earmarked extensive public funds for the construction and maintenance of the State Highway System. However, the division has failed to ensure that user fees and vehicle taxes are well spent. Instead, the division has disregarded sound construction and maintenance planning, as well as state procurement and organizational laws and rules, resulting in the waste of millions of taxpayer dollars. It is imperative that both the director and division staff recognize the need to ensure public accountability despite the continuous source of tax revenues generated solely for the construction and maintenance of state highways.

Summary of Findings

1. The Highways Division's failure to adequately plan for the construction and maintenance of the State Highway System has led to unnecessary costs to the State.

2. The division's poor financial management practices raise serious concerns over the efficient use of highway funds. Specifically, additional costs have resulted from overtime abuse and poor contract administration. In addition, utility debts and collections remain outstanding, and procurement laws and rules continue to be violated.

3. The division's disregard of state laws and administrative rules for effecting organizational change results in an inefficient organizational structure.

Poor Planning Has Increased Costs and Fostered Neglect

The Highways Division's failure to adequately plan for the highways system's construction and maintenance increases costs unnecessarily and prevents the department from addressing other pressing highway needs. The division wasted public funds on unnecessary construction change orders that increased costs and delayed projects. Moreover, inflated construction estimates caused the department to issue more bonds than necessary, resulting in additional interest to be paid on excess borrowed funds. The dissipation of state funds for unnecessary interest payments is particularly disturbing because the division could have used these funds for needed highway maintenance. Instead the division's reactive maintenance program fails to give proper attention to the preservation and safety of state highways.

Construction projects are inadequately planned

Planning is one of the key functions of the construction management process. It involves the identification of a project's scope as an integral step in ensuring that construction projects are completed on time and within budget. Adequate project scoping requires proper identification of site conditions and project requirements, review of design alternatives, and identification of the most cost efficient manner in which the project requirements can be delivered. However, the division's failure to properly scope its construction projects resulted in costly contract change orders that were not subject to the competitive bid process. Consequently, the division was forced to pay contractors for additional work without any assurance that the contractors' services were obtained at the best available price.

Although the division administrator recognizes that sound planning increases the efficiency and quality of projects, the division has yet to establish policies and procedures to ensure that projects are adequately planned. The director informed the 1999 Legislature that the Highways Division formed a project scoping team to ensure timely project delivery from inception to construction. The director reported that the team is required to visit the project site, define the scope of work, and prepare cost estimates for the proposed construction project. While no formal written responsibilities have been developed for the team, the members' work currently duplicates functions and responsibilities of the division's existing units.

We were unable to assess the impact of this team approach on reducing waste because none of the projects scoped by the team had been completed at the time of our fieldwork. However, we were informed that the administrator did not approve at least 13 project assessment reports prepared by the scoping team because the division believed these projects were behind schedule and it could not afford to allow additional time for administrative review. Moreover, some of these project assessment reports were flawed with unrealistic and conflicting project requirements. While this team concept affords opportunities for efficiencies in the planning of construction projects, the division needs to first develop formal policies and procedures to help guide the planning process and the efforts of the team.

Over one million dollars have been wasted on unnecessary contract changes

Our review of 14 judgmentally selected construction contracts (totaling $11.8 million) revealed that in 8 contracts (constituting $7.4 million), over

$1 million was wasted for contract changes because of inadequate project planning. Many of the contract changes could have been avoided if the division had adequately inspected project sites prior to project design and construction. For example, the division was forced to increase a contract for a highway lighting project by approximately $96,000 because the division failed to identify obvious deficiencies in street light poles prior to developing the project specifications. In another example, the division's unfamiliarity with site conditions resulted in an additional $154,000 payment to a second contractor to increase the amount of excavation work, backfill, and materials needed for a drainage project.

The division agreed that all of the unnecessary increases we identified in our review could have been avoided if the division had paid better attention to the contract plans and bid proposals, and compared the as-built blueprint drawings to actual work site conditions. In fact, the division staff were responsible for designing seven of the eight construction projects in our sample with unnecessary cost increases.

In contrast, a department construction project manager saved the State about $180,000 by deferring the contract's guardrail and road resurfacing work because an upcoming project already had plans to replace them. This project, which was designed by the division, would have resulted in wasted time and money had the project manager not compared these two projects and identified the division's original poor planning.

Project delays are another indication of the division's poor construction planning. Seven construction contracts in our sample had delays that more than doubled the contract's original timeframe. In fact, one contract was extended by two years primarily due to 13 change orders totaling approximately $352,000. Another contract, originally scheduled for 120 working days (approximately six months); was delayed for two years because of six change orders with contract increases amounting to approximately $186,000. Change orders caused approximately 75 percent of the contract delays we identified in our sample.

Lapsed appropriations are unavailable to meet other highway needs and debt service costs continue

The division's inadequate planning hinders its ability to effectively budget for highway construction projects because contract amounts are based on inaccurate design and construction cost estimates. We compared the initial contract amounts to final project costs for 15 contracts. We found 73 percent of the contracts had actual project costs that were less than the original contract amount while 13 percent were greater than the contract amount. This is of concern because the inflated cost estimates resulted in the unnecessary commitment of funds for these projects. During FY1997-98, legislative authorization to spend $17 million in state funds for highway construction lapsed because of inflated design and construction cost estimates. These funds could be spent only on projects authorized by the Legislature and not for other pressing highway needs.

Furthermore, the division issued revenue bonds based on the inflated project cost estimates. Thus, bond interest debt service was incurred unnecessarily for the excess funds raised from the sale of bonds for specific design and construction projects. During FY1997-98, approximately $3.4 million of the state funds that lapsed were funded by revenue bond funds in excess of what was needed. We estimated that the division paid about $172,000 in interest on these excess funds during FY1997-98.

Maintenance planning does not meet professional standards

Failure to maintain federal-aid highways can result in the loss of federal funds. Title 23, U.S. Code, requires the U.S. Department of Transportation to withhold funding from states that do not satisfactorily maintain their highways. The American Association of State Highway and Transportation Officials (AASHTO) and the Federal Highway Administration (FHWA) provide states with guidelines for highway maintenance. While recognizing that geographic, climatic, ecological, and other factors influence a state's maintenance program, AASHTO believes that all healthy highway maintenance systems must have the basic elements of planning, scheduling, and evaluation. Moreover, effective management should utilize pavement and structure management systems to identify needs and to establish maintenance priorities. In fact, AASHTO recommends that states develop pavement management systems.

AASHTO and FHWA also advocate for the adoption of preventive maintenance systems that protect the public's investment in the highway system. FHWA recommends preventive maintenance as a cost-effective approach to reducing routine maintenance costs.

We found that the Highways Division has not implemented the basic standards of highway maintenance planning and management established by AASHTO and FHWA. Furthermore, the division neglected to seek federal certification for its statewide maintenance program, thereby jeopardizing the receipt of federal highway funds. Moreover, neglect of the highways is fostered by the absence of a preventive maintenance program, an incomplete highway inventory, under-utilized management information systems, and untimely maintenance inspections and repairs. Consequently, the division is at risk of losing federal funds and is exposing the State to potential liability and costly tort claims.

Maintenance guidelines are lacking

Title 23 of the U.S. Code requires that states develop guidelines for the maintenance of their highways. Furthermore, until it was repealed in June 1998, Title 23 required that FHWA annually review and certify the division's maintenance guidelines. Federal law still requires that funding be withheld from states that fail to maintain federal-aid highways.

Despite the significant impact that the loss of federal funding would have on the State, the division has failed to establish and seek certification for a state maintenance program since 1994. Insufficient guidance has resulted in a maintenance program that focuses on a reactive approach to dealing with problems rather than a preventive maintenance program that attempts to reduce cost by minimizing problems. Consequently, the division has failed to ensure the preservation of the highway system through an effective highway maintenance program.

Highway infrastructure inventory is incomplete

Planning and scheduling highway maintenance should be based on projected and actual needs based on a physical inventory of all highways. At a minimum, this inventory should include a qualitative appraisal of the condition of roads and related components of the highway system. In addition, the inventory should be periodically updated to incorporate additions, deletions, and changes in physical condition.

However, we found the division's roadway and supporting infrastructure inventories are incomplete and fail to provide management with useful information needed to budget, schedule, and prioritize needs. For instance, only the Hawaii and Kauai districts have inventories that prioritize guardrail replacements. However, these inventories were completed during 1992 and 1995 respectively, and have not been updated to reflect any additions, deletions, or changes in conditions. Without a complete and accurate inventory, it is possible that very old, rusty guardrails could be left unattended while guardrails in better condition are replaced. Furthermore, without an inventory the department is unable to develop a comprehensive guardrail replacement schedule or budget. Meanwhile special funds intended for highway maintenance have gone unspent and have been transferred to the State's general fund for use elsewhere.

The division has also failed to maintain a complete inventory of all streetlights. An inventory that documents the age and condition of each light pole would provide management with the information needed to prioritize maintenance and replacement of light poles. However, the division's failure to maintain such an inventory hinders sound maintenance and has been financially costly to the State. For example, during FY1997-98 the State paid $2 million to settle a liability case when a corroded light pole fell on a commuter. On July 11, 1999, another light pole fell at the intersection of Nimitz Highway and Richards Street because of undetected rust. Fortunately, no one was injured in that incident.

The division's bridge inventory is also deficient since it only identifies structures that are at least 20 feet wide. Although federal rules require the division to identify only these bridges in the National Bridge Inventory, the division should ensure that its inventory of bridges includes *all* bridge structures. The Hawaii district informed us that it maintains an inventory of the smaller structures; however, we found that the inventory was outdated. The division has no estimate of the number of bridges not accounted for in the state inventory and told us "only God knows" how many there are. Without a complete inventory, the department cannot develop a budget for the comprehensive repair and maintenance of all bridges and replacement costs can therefore go unbudgeted. Moreover, the division's road inventory is incomplete because it fails to include the roadways connecting to the highways.

Costly management information systems are under-utilized

The district offices have failed to utilize the division's $607,000 computerized Pavement Management System to prioritize their resurfacing projects. As a result, districts resurfaced roads with lower priority ratings rather than those with higher priority ratings. We found districts had resurfaced road segments with low severity cracking and no sign of distress before resurfacing roads with high severity cracking. Failure to resurface severely damaged roads before less damaged roads will result in more costly repairs the longer such roads are left in disrepair.

The division has also under-utilized its bridge management information system, called PONTIS. This information system, which has cost the division around $168,000 to date, was designed to prioritize maintenance work based on computer simulations of bridge deterioration rates. Although the division reports that district staff have collected PONTIS bridge inspection data for several years, the division has not used the system to prioritize bridge maintenance. The division has not yet determined how to obtain the cost information required to run the deterioration rate simulations. Our review of bridge inspection reports also revealed that maintenance work descriptions and costs were usually missing from the reports even though bridge inspectors are supposed to provide this information in their reports.

Bridge and roadway inspections and repairs are not timely

Congress developed a Highway Bridge Replacement and Rehabilitation Program to enable states to replace and rehabilitate bridges that are important but are unsafe because of structural deficiencies, physical deterioration, or functional obsolescence. Approximately 18 percent of Hawaii's bridges are eligible for replacement and an additional 54 percent are eligible for rehabilitation under this federal program.

Federal regulations require states to inspect all bridges every two years in order to locate, evaluate, and act on known bridge deficiencies. However, we reviewed the inspection files for one-fourth of the State's bridges and found about 12 percent of the bridges in our sample had not been inspected within two years. We also identified the two most recent inspection dates for each bridge in the 12 percent and found that 50 percent of the inspections had occurred more than two years after the previous inspection. Moreover, several inspections were outstanding for over five years. In some cases, we could find no records to indicate that the division had ever inspected the bridges.

Although bridge inspections are intended to detect and correct deficiencies, we found incidents where deficiencies were reported but not corrected. In one case an inspection report for the Kipapa Stream Bridge described erosion under the abutment wings at both ends of the bridge. Abutments and their attached wings are essential to a bridge's integrity because they help retain soil beneath the roadway approach to the bridge. Failure to address this erosion has led to cracking of the abutment substructure, settling of the bridge end posts, and if left unattended, could eventually cause the roadway approaching the bridge to sink. Despite this, the problem has not been corrected and a second report issued several months later gave the bridge a critical condition rating.

In a similar situation, a Maui district bridge inspector reported in 1996 that the Anakaluahine Bridge's upstream substructure wings were almost completely collapsed, but the problem was not corrected. A report issued three years later noted the same deficiency still existed. In another case, the Kauai district failed to maintain the historic Hanalei Bridge and allowed progressive corrosion of the superstructure to occur. As a result, rust has fallen onto passing vehicles and a crossbar of the bridge fell during a recent inspection. The division's inattention to these deficiencies can result in public harm and raises serious concerns about the safety of these bridges.

The division has also been untimely in repairing potholes. Division policy requires that potholes be repaired within 48 hours of being reported. This is consistent with AASHTO's guidelines which recommend prompt attention to potholes. Timely repair of potholes helps to minimize vehicle damage claims. However, the division has been remiss in meeting these standards. We reviewed a total of 60 pothole complaints and found that 60 percent of the potholes reported were not repaired within 48 hours. More than one month elapsed before a repair was made in one case. We were unable to find any records of repair for several complaints that dated as far back as 1997.

Poor Financial Management Raises Serious Concerns Over the Efficient Use of Highway Funds

The Highways Division's lax financial management practices have resulted in unnecessary costs to taxpayers. The division has made little effort to address procurement violations and follow procedures to eliminate the public perception of favorable treatment for selected vendors. Furthermore, the division has not contained its high overtime costs. The division's poor accountability and lax attitude towards the spending of public funds for overtime is troubling and requires the director's immediate attention. In addition, the division's oversight of contracted services, utility costs, and staff overtime needs improvement to ensure sound financial management by all division staff.

The division continues to violate procurement provisions

Non-compliance with Hawaii's procurement code has been a recurring problem for the department. Our *Financial Audit of the Highways Division of the Department of Transportation,* Report No. 98-9, and our *Audit of the Department of Transportation's Procurement of Information Systems,* Report No. 97-2, both reported that the department failed to ensure competition and violated sole source provisions of the law. Although we recommended that the director of transportation comply with the procurement code, the division continues to violate procurement laws and rules intended to ensure that taxpayers receive the most advantageous cost through a competitive procurement process. Furthermore, the division's failure to review contract changes and contractors' performance allows for the inefficient use of state funds.

Competition is not ensured

The division failed to ensure adequate competition when it requested proposals to assist the division in the implementation of the delayed Highways Performance Accounting System (PAS) developed by KPMG Peat Marwick. During 1990, four years prior to the major changes made in the procurement laws and rules, the division awarded a sole source contract to KPMG Peat Marwick for the development and installation of an accounting system that would integrate the State Financial Accounting and Management Information System (FAMIS) with the Highway Accounting system (HYWAC). The comptroller approved the division's request for exemption from bidding on the basis that KPMG had developed both FAMIS and HYWAC and was therefore uniquely qualified.

Although the division informed the comptroller that awarding the contract to KPMG would facilitate the division's needs, the implementation of PAS remains grossly behind its initial 1992 scheduled completion date. In March 1999, the division contracted with Complete Business Solutions, Inc. (CBSI) to serve as an overseer of KPMG. CBSI was also responsible for ensuring that the development and implementation of PAS was acceptable and that the project be completed by December 1999. However, CBSI was selected without adequate competition.

In its legal advertisement requesting proposals, the department failed to allow prospective bidders a reasonable response time. Procurement rules require a minimum of 30 calendar days between the last legal advertisement and the bid proposal receipt date. A shorter response time is allowed only when the procurement officer deems in writing that a period of less than 30 calendar days allows for adequate competition. Although the director of transportation approved the division's request to reduce the response time from 30 to 11 calendar days, the division allowed prospective bidders only five days to respond to its request for proposal in the legal advertisement.

The division's contract officer informed us that the division complied with the procurement rules because it initially advertised for competitive sealed bids (an entirely different procurement source selection methodology) on January 28, 1999. The administrative rules clearly state that the response period is counted from the last, not the initial, legal advertisement date. The legal advertisement for the request for proposals was published on February 2, 1999 with a due date for proposals of February 8, 1999 (allowing interested bidders only 5 working days to respond).

Moreover, the division did not adequately justify its need for a shortened response time. The director approved the division's request to shorten the response period in order to ensure that PAS would be operational by the end of FY1998-99. Poor planning is not a sufficient reason to significantly reduce the response time, especially since the division knew at the start of the fiscal year that KPMG was already behind schedule.

Of further concern, the division awarded the contract to CBSI without comparing its cost to a competing consultant's proposal. Thus, the division violated the procurement rules that require price and other evaluation factors to be considered in determining the most advantageous proposal for award. The division's request for proposals clearly indicated that an evaluation committee would seriously consider competitiveness and *cost*. However, the committee was unable to compare costs of the two proposals it received since CBSI failed to identify its total cost. Nevertheless, the division hastily and arbitrarily executed a $500,000 consulting contract with the firm.

Only three months later, the division amended the contract with CBSI for an additional $500,000. The division informed the governor that $300,000 of this amendment was needed to remediate HYWAC in order to ensure it would be Y2K compliant. This was a major change in the scope of the original contract that should have been included in the original specifications for the request for proposals. Using the contract amendment process to significantly alter the scope and amount of the original contract is highly questionable and raises serious concerns about the procurement practices of the department.

On November 5, 1999 the division notified KPMG that it was in breach of its contract and that the division would terminate the contract if corrective action to address PAS' deficiencies and inadequacies were not made within 21 calendar days. The division together with the attorney general has since begun settlement discussions with KPMG. The division has also reimbursed the Federal Highway Administration (FHWA) $339,688 previously paid to the State for PAS and has paid both KPMG and CBSI a combined total of approximately $3 million.

The division also failed to ensure competition when it inappropriately used the sole source method of procurement to select a consultant for the implementation of a Maintenance Management Information System (MMIS) on Kauai. The Kauai district staff informed us that other consultants could have provided the district with an information system; however, the division believed that these consultants could not meet the district's requirements. Since other consultants could have submitted a bid for the job, the division had no justification for using the sole source method of source selection and should have used a competitive method, such as sealed bids or proposals. Even more questionable to us was that the consultant selected by the division had no prior experience implementing a management maintenance information system for highway use.

Requirements for record retention are ignored

Procurement record retention policies ensure accountability in the procurement process. Although Section 3-122-65 of the Hawaii Administrative Rules requires that the division's screening committee establish and have available for public inspection the criteria used to select design consultants, these procurement records were not available for many of the design consultants in our sample at the time of our fieldwork. When procurement records are not available as required, the State becomes vulnerable to charges of favoritism.

Contract administration needs rigorous oversight

Effective contract administration requires that the division monitor and review the work of its design consultants and construction contractors. This ensures that services paid for are received and that consultants and contractors are accountable to the division for their performance. Furthermore, project managers must first review proposed contract changes and ensure that they are both justified and necessary before being approved. However, we found that division staff do not adequately monitor or review the work of their design and construction contractors. The division also failed to adequately scrutinize all contract changes to validate their necessity.

Contracts are insufficiently monitored

Division staff have failed to follow contract management policies and procedures. For example, staff did not hold monthly review meetings, document consultants' monthly progress reports, or evaluate three-fourths of the design consultant contracts we reviewed as required by division policy. Similarly, construction project managers did not complete final reports, which evaluate contractors' performance.

Division policy requires that resident engineers prepare final reports for all federal-aid construction projects, except minor projects as determined by the district engineer. Flexibility in exempting projects from a final report often results in arbitrary and inconsistently applied criteria. Such was the case when we found evidence that the criteria used to exempt projects varied widely. Several engineers defined minor projects as those under $1 million while another engineer used under $5 million as a criterion. None of the seven federal-aid construction projects we reviewed had been evaluated. In fact, one project engineer informed us that he has not evaluated any construction projects for at least nine years. Without a completed final report, the division has no way to assess a contractor's performance. Past contractors' performances should be a criteria in determining the award of future contracts.

Contract changes are not always scrutinized

The division has avoided the contract change order review and authorization process by inappropriately charging construction costs to contract force accounts. Force accounts are established for temporary, unit cost items such as police officers, traffic control devices, field house maintenance, and water pollution control. In 3 of 14 contracts we reviewed, force accounts were improperly charged with additional construction contract work; change orders should have been used. One contract had 20 improper charges amounting to more than $22,000. These additional costs were inappropriately charged to the force account and included costs for roadway paving work and permanent traffic control devices.

Collections and debts remain outstanding for utility contracts

Section 264-33, HRS, requires that utility companies pay the first $10,000 of the cost for the removal, relocation, replacement, or reconstruction of a utility facility that is required as a result of the construction, reconstruction, or maintenance of any state or county highway. The division enters into utility agreements with affected utility companies to identify both the State's and companies' responsibilities for financing and accomplishing utility relocation work. However, responsibility for monitoring utility work and utility agreements is fragmented and has resulted in outstanding utility debts and collections.

Division policy requires that the Right-Of-Way Branch maintain a utility agreement log and retain original copies of all utility agreements; however, the branch was unable to provide us with copies of specific agreements. District engineers are responsible for verifying the final statement of cost and for contacting the utility company in cases of disagreement with the division's records. The district engineers must forward a verified and corrected statement of costs to the fiscal staff with a letter stating that the cost has been found acceptable for payment. Fiscal staff reported this is not routinely done.

The districts' failure to submit payment notices should be identified by the fiscal staff who are required to maintain utility agreement control logs and suspense files that must be reviewed monthly. However, the fiscal staff do not maintain these required records, causing unpaid and uncollected utility amounts to remain outstanding.

Poor communication and coordination between staff members significantly impact the division's ability to identify outstanding debts and collections. We reviewed 27 utility agreements in the Oahu district and found the division paid only $229,492 of the $838,746 it estimated it owed utility companies. Failure to pay utility costs in a timely manner results in additional costs as interest accrues until the outstanding debt is paid. For example, the division paid one utility company over $4,000 in interest.

The division has also failed to collect funds from utility companies. The Oahu district estimated it was owed $381,435 for the utility agreements we reviewed; however, the fiscal office has no record of any collection. Utility work for these companies was completed as long ago as 1994.

Management controls to limit overtime are insufficient and disregarded

The division's disregard of procedures to manage the overtime of staff allows for gross abuse and unnecessary personnel costs. Specifically, the staff's failure to properly request, justify, and approve overtime requests has resulted in a substantial increase in overtime expenses. The division's overtime expenditures exceeded $2.4 million during FY1997-98, nearly 20 percent more than the previous fiscal year. Furthermore, the division's failure to ensure the fair and equitable distribution of overtime among staff can lead to employee grievances and additional personnel costs resulting from such grievances. Finally, the division allows staff to accumulate excessive amounts of compensatory time, in lieu of paid overtime, without regard for the increasing liability and added future costs to the State.

Staff abuse of overtime is allowed

Division employees routinely disregard department procedures for requesting, justifying, and approving overtime. These procedures were established to ensure that overtime is limited to what is necessary. Although the department's staff manual requires that requests for overtime work be submitted to the appropriate approving authority at least five days in advance, requests were not documented for about 66 percent of the occurrences of overtime in our sample. Moreover, 17 percent of the requests that were submitted failed to meet the required five day timeframe and 41 percent neglected to justify why the overtime was necessary or why the work could not be completed during regular work hours.

Branch heads and district engineers also approved overtime that allowed staff to exceed overtime limits established by the department. Although overtime is limited to ten hours per week per employee, several employees worked over twice as much overtime as allowed by department policy. Moreover, almost 90 percent of the employees in our sample exceeded the maximum amount of overtime permitted.

We also found no assurance that section heads and supervisors fulfill their responsibility to ensure that overtime work produces expected results and that such work is authorized before being performed. The department requires staff to complete reports at the end of each overtime assignment to indicate the amount of work completed, the number of hours it took to complete the work, and if applicable, the reasons for the job not being completed. However, 36 percent of the planned overtime assignments we reviewed were not documented in job completion reports as required.

Of great concern, the division permitted staff members to take either sick and vacation leave on the same day they earned overtime. Nineteen percent of the employees in our sample took leave on the same day they worked overtime. We found one employee claimed 10 hours of overtime during two days he took sick leave, and 7 hours of overtime on a day he was on vacation leave. While this practice may not violate collective bargaining, it is not cost effective to pay employees overtime for work that could not be accomplished during normal work hours due to vacation or illness.

The division fails to minimize unnecessary personnel costs

The division may be faced with unnecessary personnel costs because it has not established sufficient management controls to 1) ensure the fair and equitable distribution of overtime among staff and 2) limit the accumulation of compensatory time in lieu of paid overtime. Additionally, the division's failure to follow established polices and procedures raises questions as to whether the State is paying for overtime work that was unnecessary or never performed.

In 1991, the Department of Personnel Services—now called the Department of Human Resources Development or DHRD—promulgated proposed guidelines to ensure compliance with union provisions for the fair and equitable distribution of overtime. Although the Department of Transportation's Personnel Office requires the Highways Division to follow DHRD's guidelines, three of the four districts do not have written procedures in place to ensure the fair and equitable assignment of overtime work. Additionally, the districts have failed to consistently document their efforts to assign overtime fairly and equitably. Collective bargaining agreements require the State to make an effort to assign overtime work in a fair and equitable manner. The districts' failure to implement and document their overtime assignment policies and procedures provides little protection should a grievance be filed alleging the unfair distribution of overtime. The division could then be required to pay retroactive wages to employees for overtime that was not offered to them.

Poor management controls over compensatory time in lieu of paid overtime also increases personnel costs. Allowing employees to accumulate large amounts of compensatory time creates an outstanding debt for the State. This debt increases as employees are promoted or receive pay increases since compensatory time is paid at the employee's rate of pay at the time of payment, not when it was earned.

In 1995, a deputy director for the department raised concerns about the department's liability for compensatory time. At that time, the department estimated that the division's liability was about $93,000. However, the department did little to monitor the division's financial liability for accumulated compensatory time. Four years later, the department estimates that its liability for compensatory time owed to division employees has increased to more than $117,000.

In addition, some employees may be accumulating compensatory time in excess of federally prescribed limits. The federal Fair Labor Standards Act (FLSA) permits employees to accumulate compensatory time in lieu of pay up to a maximum of 240 hours for overtime worked after April 15, 1986. Compensatory time earned prior to that date and compensatory time not covered by the FLSA are not subject to the limit. We found nine

Highways Division employees whose accumulated compensatory time exceeded 240 hours as of May 1999. However, the division's poor record keeping system and lack of written procedures for identifying FLSA earned compensatory time prevented us from verifying whether this compensatory time was subject to the federal limit.

The division may also be paying for overtime that is unnecessary and may be paying for overtime work that was not performed. The lack of supervisory approval and review of overtime may force the division to rely on employees' accounts of their overtime and creates opportunities for fraud, abuse, and waste. For example, while conducting fieldwork at the bridge design section on two separate days, we observed two employees spending a significant amount of time on non-work related activities such as reading a novel, sleeping, and playing computer games. Although neither of the employees claimed significant amounts of overtime, other bridge design staff worked an average of at least one extra day per week in overtime during FY1997-98. The Bridge Design Section has one of the highest levels of overtime in the division.

The Director Has Failed to Ensure an Efficient Organization of the Highways Division

Administrative Directive No. 90-01 requires that each executive branch department maintain an effective organization structure. Since organizations are not static, the directive also establishes policies and procedures for effecting organizational change. Furthermore, unnecessary levels of supervision are discouraged. However, the director has ignored administrative directives for effecting organizational change and the governor's order to increase the division's span of supervisory control. Span of control refers to the number of subordinates who report to a supervisor. Instead, the division has placed staff on *administrative assignments*, thus circumventing established rules and executive orders. Furthermore, some of the administrative assignments duplicate existing units in the division. Consequently, the current organizational structure of the division is fragmented and inefficient.

Administrative rules and governor's executive orders are ignored

The governor's Administrative Directives No. 90-01 and 95-06 require that any organizational change at the branch level or higher be reviewed and approved by the director of finance. Organizational changes below the branch level are delegated to departments, provided that the respective department's director approves and submits the organizational change to the Department of Budget and Finance within ten days of the approval. Although the department's *Staff Manual* states that the policy is to actively comply with the spirit and intent of the governor's administrative directives, the Highways Division has reorganized its staff without following proper notification and review procedures. Rather, the department has reorganized the division by placing staff on *administrative assignments*, a nebulous term contrived by the division.

In 1996 the governor directed the current director of transportation to increase the efficiency of the Highways Division by eliminating unnecessary supervisory positions and abolishing all vacant project-funded positions. However, the director has made little effort to address these inefficiencies. Although the director acknowledged the governor's concerns, the director requested that the governor rescind the instructions since the division was nearing the completion of an extensive reorganization. The director submitted the reorganization plan to the Department of Budget and Finance for review a year later; however, the proposed reorganization failed to eliminate unnecessary supervisory positions and was not approved.

During the course of our work we found the director failed to uphold his commitment to increase the division's span of supervisory control ratio from 1:3 to 1:5. Sixty-five percent of the division's organizational units had a span of control below the 1:5 ratio directed by the governor. In fact in 17 units, supervisors had no one to supervise and in 22 other units only one subordinate reported to each unit supervisor. The span of control remains at a ratio of 1:3.

Reorganization procedures were established to implement management principles

The basic principles of management include planning, organizing, directing, and controlling resources. Functional statements and position descriptions ensure these basic principles by directing the personnel resources of an organization toward the achievement of the organization's plans and objectives. Section 14-4-7 of the Hawaii Administrative Rules requires the duties and responsibilities assigned to each position to be accurately reflected in an official position description. Redescription of a position must be timely, and departments are prohibited from using the classification system as a means of effecting personnel changes for which other personnel processes exist.

The Highways Division created *administrative assignments* to circumvent rules and executive orders

The Highways Division has circumvented established reorganization procedures and administrative rules by placing staff on *administrative assignments* without redescribing their job responsibilities. The Department of Human Resources Development informed us there is no executive branch procedure in place that allows for *administrative assignments* and that this term does not exist. However, staff may be temporarily assigned to a position when replacing someone on leave. Staff may also be temporarily reallocated to another position; however, that position must first be redescribed and the assignment limited to a one-year period. Instead of complying with these requirements, the division appears to have willfully bypassed executive review of its reorganization. This is of serious concern and raises questions as to whether employees are working outside their current job classifications.

We reviewed the current responsibilities of staff on *administrative assignment* and found several situations that were highly questionable as to whether the employees were working within their current position classifications. Staff from the Department of Human Resources Development shared our concern. In one case an employee has been on administrative assignment for approximately nine years and no longer is responsible for 80 percent of the work described for his current position.

Newly created positions parallel ineffective organizational units rather than displace them

The failure to follow reorganization procedures has also resulted in the division's inefficient operation. Employees on administrative assignment are assigned duties already delegated to other units within the Highways Division. For example, employees administratively assigned to the division's project management team are expected to monitor and track all division construction projects. However, this responsibility is already assigned to the division's Construction and Maintenance Branch. Similarly, the division's project scoping team members are also responsible for the coordination of the structural, geotechnical, and hydraulic requirements of construction projects even though the Planning Branch is also responsible for this function. Consequently, many of the responsibilities of these teams parallel the functions and responsibilities of units already in existence. While some of these units may not be functioning effectively, this practice of organizing around, rather than displacing dysfunctional organizational units is duplicative, inefficient, and costly.

Conclusion

The Highways Division has done a poor job of planning for the construction and maintenance of our state highways. Its failure to exercise prudent fiscal and organizational management has resulted in excessive waste and misuse of public funds. Although the division's establishment of a project scoping team indicates an awareness of its ineffective construction project planning process, it has yet to demonstrate its willingness to improve the overall management of the Highways Division. The department's repeated disregard for state laws, rules, and administrative directives jeopardizes management's ability to effectively lead the division. The department director should be held accountable for these deficiencies and the governor should require improvements in the division to ensure that taxpayer dollars are well spent.

Recommendations

1. The Highways Division should require that projects be accurately planned and designed to avoid unnecessary change orders and excess appropriations. The division should establish and ensure adherence to project scoping procedures. Furthermore, bond financing should be based on accurate cost estimates to avoid incurring additional debt from interest payments.

2. The Highways Division should develop statewide maintenance standards that include preventive maintenance practices. The division chief should determine which portion of the maintenance budget should be earmarked for preventive maintenance.

3. The division chief should ensure that an accurate inventory of the state highway infrastructure is maintained for budgeting and planning purposes.

4. The Highways Division should ensure public safety by scheduling and prioritizing all maintenance activities. Specifically, the division should:

    a. Use the pavement management system to schedule resurfacing projects; and

    b. Assign responsibility for collecting the data needed to prioritize bridge maintenance work using the bridge management system (PONTIS).

5. The division chief should hold all districts accountable for timely bridge/roadway inspections and corrective action as needed.

6. The director of transportation should ensure the efficient use of highway funds. The director should improve the highways division's financial management by:

    a. Ensuring supervisors review and properly approve all overtime requests. Staff should not be allowed to incur overtime on days they are sick or on vacation leave. Furthermore, the director should ensure supervisors follow established procedures to ensure the fair and equitable distribution of overtime. Line staff and supervisors who fail to comply with established overtime practices should be subject to progressive disciplinary action up to and including dismissal;

    b. Requiring that compensatory time under the Fair Labor Standards Act be restricted to the federal limit and that all staff exceeding this limit are immediately paid. In addition, the director should require that compensatory time earned is tracked and that this information is reported to the payroll office in a timely manner to ensure that staff who exceed the federal limit are paid expediently;

c. Following established procurement laws and rules to prevent favoritism and unnecessary costs to taxpayers;

d. Enforcing policies and procedures related to contract monitoring and evaluation of contractors; and

e. Tracking all project phases from start to completion to ensure that related costs are identified, paid, and collected. The director should identify all outstanding utility agreements and immediately resolve any outstanding debts and collections.

7. The State Procurement Office should consider imposing procurement violation sanctions against the department. Any intentional violation should be subject to criminal and/or civil penalties authorized under Chapter 103D-106, HRS, and Hawaii Administrative Rules. At a minimum, the administrator of the State Procurement Office should review the division's procurement and training procedures and make recommendations for improvement, including progressive disciplinary action as warranted.

8. The governor should ensure that the director follows procedures for organizational change established in existing administrative rules and directives. Specifically, the governor should ensure that:

   a. The director is given a deadline for submitting all organizational changes at the branch level and above to the director of finance for review;

   b. The director reports all changes approved below the branch level immediately to the director of finance; and

   c. The director ceases use of *administrative assignments* and submits all changes in the functions of positions to the Department of Human Resources Development for review and classification.

9. The Highways Division should increase its span of supervisory control to a minimum 1:5 ratio and eliminate all unnecessary supervisory positions.

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Response of the Affected Agency

Comments on Agency Response

We transmitted a draft of this report to the Department of Transportation on March 2, 2000. A copy of the transmittal letter to the department is included as Attachment 1. The department's response is included as Attachment 2.

The department responded that it accepts responsibility for actions resulting in a number of our findings but disagrees with some findings and ignores others. Specifically, the department agrees that its highway infrastructure inventory is incomplete, planning for highway maintenance can be improved, contract monitoring needs improvement, and bridge inspections are untimely. The department reported that it either has or will initiate projects to correct the deficiencies of the Kipapa and Hanalei bridges. Although the department reported that it sent out a crew to evaluate and recommend remediation options for the Anakaluahine Bridge, it did not identify any plans to remediate the deficiencies reported in our audit. Moreover, the department did not specifically address our concern regarding the impact of its reactionary maintenance program on cost and public safety. Instead, the department chose to use the recent Waimea Falls landslide as an example of its ability to "think outside of the box."

The department's disregard of many of our audit findings raises concerns regarding the department's willingness to address serious deficiencies. The department alleges that our findings of poor planning and overtime abuse were based on biased judgmental samples that in its opinion were too small. We disagree. Our judgmental sampling methodologies complied with generally accepted government auditing standards (GAGAS) and the Statement on Auditing Standards No. 39 (SAS 39) which recognize both the statistical and nonstatistical approach to audit sampling. SAS 39 permits auditors to use professional judgment when using statistical sampling. We judgmentally selected a sample of contracts to ensure representation from each island and from various construction and maintenance activities. This approach ensured that our results would be representative of the division's population and that our conclusions would not be limited to any one district or construction activity such as road resurfacing.

The department also claims that our review of 14 construction contracts was insufficient. We disagree. Our sample represented approximately 20 percent of the construction contracts completed during FY1997-98. The department also reports that the "best example" of improper sampling can be found in our finding of overtime abuse; however, the department did not indicate what specifically it found faulty with our sampling. Instead, the department chose to justify its over $2.4 million in annual overtime as a small percentage of its total payroll. In addition, the department states that "overtime is a cost associated with providing safe roadway conditions twenty-four hours a day, seven days a week." However, our overtime sample included many non-emergency personnel who exceeded the maximum amount of overtime permitted by the department. While the department states that "safe roadways requires a flexible workforce," it fails to address our concerns that the department failed to establish sufficient management controls regarding overtime and our observation of employees playing computer games, taking naps, and reading novels during work hours.

The department's response to our audit finding on poor planning is misleading and attempts to divert attention from our findings. The department states that "the lack of business acumen creates a vacuum when viewing and describing Division actions." For example, the department states that an H-3 project extended by two years is not unusual, although the project we refer to in our report had no relation to the H-3 and in fact was a Hawaii District project. In addition, the department defended its increase of a contract for a highway lighting project by $96,000, stating that the "replacement was necessary; cost was necessary; and cost would not have been materially lower if anticipated at the initiation of the project." However, departmental records and division employees confirm that the division failed to properly identify obvious deficiencies in street light poles prior to developing the project specifications. Poor planning by the division resulted in financial waste for taxpayers.

In responding to our findings regarding procurement violations the department states that the "Division is not in violation of procurement practices." It further claims that the division follows procurement policies that obtain the best services for the best prices. We disagree. The department violated the procurement code when it awarded a contract to Complete Business Systems, Inc. without adequate competition. In its legal advertisement requesting proposals, the department allowed interested bidders only five working days to respond to a formal request for proposal. The procurement law generally requires a minimum of 30 calendar days. The department noted that the original solicitation for the requested services was conducted under the competitive sealed bid method. However the department claims that only two bids were received—both "non-responsive." The department claims that its second legal advertisement for bids under the request for proposal method was merely a correction to its initial advertisement and "not a request for a solicitation." This is irrational since the department's determination that the two bids received were non-responsive should have ended the original invitation for bid process. In addition, the department's decision to give prospective bidders only five working days to prepare and respond to the request for proposal significantly limited competition and violated the fair and open competition spirit of the procurement law.

Finally, the department responded that it is in compliance with the governor's directive to increase the division's supervising span of control and with state reorganization policies and procedures. The department failed to directly address our findings, stating instead "the Director of Transportation and the Highways Administrator have effected an efficient organization while leading efforts to bring about economic recovery." We stand by our findings regarding the division's inefficient organizational structure.

STATE OF HAWAII
OFFICE OF THE AUDITOR
465 S. King Street, Room 500
Honolulu, Hawaii 96813-2917

MARION M. HIGA
State Auditor

(808) 587-0800
FAX: (808) 587-0830

March 2, 2000

COPY

The Honorable Kazu Hayashida, Director
Department of Transportation
Aliiaimoku Building
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Enclosed for your information are three copies, numbered 6 to 8 of our draft report, *Management Audit of the Highways Division of the Department of Transportation*. We ask that you telephone us by Monday, March 6, 2000, on whether or not you intend to comment on our recommendations. If you wish your comments to be included in the report, please submit them no later than Monday, March 13, 2000.

The Governor and presiding officers of the two houses of the Legislature have also been provided copies of this draft report.

Since this report is not in final form and changes may be made to it, access to the report should be restricted to those assisting you in preparing your response. Public release of the report will be made solely by our office and only after the report is published in its final form.

Sincerely,

Marion M. Higa

Marion M. Higa
State Auditor

Enclosures

BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

LEADING HAWAII INTO THE NEW MILLENNIUM
1959 2000+

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

IN REPLY REFER TO:

March 13, 2000

HWY-S
2.7691

TO: MARION M. HIGA
STATE AUDITOR

FROM: KAZU HAYASHIDA
DIRECTOR OF TRANSPORTATION

SUBJECT: RESPONSE TO THE FINDINGS OF THE MANAGEMENT AUDIT OF THE HIGHWAYS DIVISION

PREFACE:

The Department of Transportation is conscious of the important mission of the legislative auditor and we agree that it is necessary that the public be made aware of any misuse of public funds that result from government waste or abuse.

The mission of the Highways Division is first and foremost to **ensure the public's safety while using the State highway system.** We balance the value of safety against the cost of providing that safety (including the cost to document our actions) when managing the State's complex highway system to provide the public with the most safety for the fewest overall dollars.

An instant example of how the Highways Division must "think outside the box" came as a result of the Waimea Falls landslide. The Division, assisted by the Governor and his staff, has made numerous unprecedented decisions under pressure and scrutiny to ensure public safety while restoring access to this area. It has been necessary to shortcut administrative steps normally required in order to decisively deal with the crisis.

The Highways Division accomplishes its mission by managing constantly increasing roadway miles with increased traffic congestion with limited resources. Managing our challenges places an emphasis on planning and assigning priorities. **When planning and prioritizing, we are committed and obligated to think safety first**.

Governor Cayetano's thoughtful initiative to reform civil service would do much to assist the management of this and other State agencies. A merit system to reward quality State employees punctuated with the right to terminate employees who refuse to perform would be helpful.

Highways Division accepts responsibility for actions resulting in a number of the findings contained in the subject Management Audit. However, the report is misleading in that it is full of half-truths based on a cursory examination of a small, selected (and we believe biased) portion of the facts available. The report provides a false impression of the Highways Division because it is **based on biased sampling.** Conclusions reached depict **a lack of business acumen.** The report fails to provide the background that conditions Divisions actions and therefore, further misinforms.

Perhaps the best example of improper sampling coupled with a lack of business acumen mixed with a heavy dose of half-truths can be found in the Auditor belittling the Division for its overtime "abuse". The Division overtime in fiscal year 1999 was $2,289,275 as part of a total payroll of $48,667,817 or **4.7%.** Highways Division insists that providing for roadway safety on a twenty-four hour a day, seven days a week basis, while governed by a host of collective bargaining agreements, at less than 5% in overtime, is admirable. The Auditor does not agree. The problem continues with the following excerpt from the report: "Moreover, almost **90 percent** of the employees in our sample exceeded the maximum amount of overtime permitted"—ten hours a week.

Most readers of an "audit report" expect sampling is scientific and random and sufficient to generate results that represent the entire population sampled. **Judgmental samples result in the finder of fact finding whatever fact is being sought**. Facts cited in the report do not appear to be based on adequate objective samples. For example we find the following citations unacceptable:

- The Auditor cites, "Our review of **14** judgmentally selected construction projects"-- judgmental is unacceptable; and 14 construction contracts are not a sufficient sample.
- The Auditor asserts, "**Seven** construction contracts had delays that more than doubled the contract's original timeframe" -- Seven contracts is not sufficient; and how many contracts had no change orders.

The lack of business acumen creates a vacuum when viewing and describing Division actions. If the writer does not understand the total business picture, decisions or policies regarding specific actions—as part of a series of actions—and the ramifications of each action, can be taken out of context such as:

- Auditor—"waste on unnecessary contract changes" resulted from the discovery that light poles had to be replaced. Division—replacement was necessary; cost was necessary; and cost would not have been materially lower if anticipated at the initiation of the project.

- Auditor—"one contract was extended by two years primarily due to 13 change orders totaling approximately $352,000". Division—Change orders are normal in a construction setting, as are costly projects delays; an H-3 project extended by two years is not unusual; and 13 change orders in twenty years is not unusual.

- Auditor—"We found 73 percent of the contracts had actual project costs that were less than the original contract amount" (construed as bad management). Division—
    - cost underruns are the result of sound management;
    - overruns would cost the taxpayer more money;
    - overruns would cause delays (73%) while we found new funding;
    - lapsing of funds is a reasonable casualty when considering the business alternatives.
- The Auditor claims we are in error if we execute change orders.
- The Auditor claims we are in error if we do not execute change orders.
- The Auditor claims we are in error if a project is delayed.
- The Auditor finds us wanting if projects are completed under budget; if projects were completed over budget we anticipate they would also be completed late.
- The Division is also criticized if projects are not completed within the original budget.

THE AUDIT REPORT

Summary of Findings

1. The Highways Division has established priorities and has planned construction and maintenance of the State Highway System to ensure public safety while maintaining control over the cost expended.

2. The Division's financial management practices have been developed to ensure public safety while adhering to public policy and comply with rules and regulations that govern our activity. Our overtime policy is consistent with our mission. We hold that we are compliant with procurement laws and rules.

3. The Division uses administrative assignments to accomplish important tasks that have assisted in the economic recovery being enjoyed by the State.

Division is strengthening planning methodologies to anticipate project requirements Current planning has not resulted in unnecessary waste or unnecessary delays

Highways Division is establishing a comprehensive "Project Scoping Program" consistent with the Director's message to the 1999 Legislature. The vast majority of change orders are effected in the normal course of business and, costs associated with change orders are necessary and are negotiated and performed under contract unit prices, and **public funds have not been wasted** as a result of the current change order system.

Contract **delays are an every day event in the construction industry**. We need only recall the H-3 project. Weather, uncharted underground utilities, unknown burial grounds, acts of God, and other unforeseeable events cause delays. Most delays and the attendant cost cannot be avoided by improved planning. **Delays caused by the contractor are borne by the contractor as a result of assessed liquidated damages.**

Knowledgeable businesspersons agree that construction contracts cannot be planned to the penny and further agree that planning that results in completing projects under budget is preferable to running out of money, and hence, delaying the project.

Highway planners have succeeded in attaining this goal 73% of the time and deserve high praise for this accomplishment. We accept that lapsing occurs as a result but find lapsing preferable to going to the taxpayer for more money while the project is delayed. The funds lapsed are used to fund other important State highway projects.

Planning for highway maintenance can be improved but is presently serving the public need for safety while constrained by limited resources.

Highways Division is not in jeopardy of losing federal funds as a result of unsatisfactory highway maintenance or for any other reason.

The Division currently utilizes its pavement management system in conjunction with other effective management practices to prioritize and budget for future resurfacing projects District by District **to ensure roadways surfaces that need the most attention are taken care of first.** Other management tools utilized include a biennial statewide pavement survey and a three-member panel, established in 1998, that reviews and evaluates the PMS rating system.

In addition, in 1999, a special team went to each District and **traveled all the roadways** with the intent to evaluate roadways, mile by mile. A detailed priority listing of all statewide resurfacing projects was compiled.

We have implemented standards for highway maintenance planning as established by the American Association of State Highway and Transportation Officials (AASHTO) and Federal Highways Administration (FHWA).

Maintenance guidelines established in 1987

Highways Division developed Maintenance Guidelines in 1987 that have been supplemented and revised, as required, since its inception.

Highway infrastructure inventory improvement began in 1998

The Division acknowledges that it is "playing catch-up" when it comes to a comprehensive inventory of all infrastructure. We began to re-address the inventory issues in 1998 by assigning resources, internal and external, to bring the inventory and condition of our infrastructure up to date. Highways Division is reviewing our inventory of bridges under twenty feet wide and will seek to remedy any deficiencies found.

Management information system utilization is effective and on schedule

Present utilization of the pavement management system has been described in some detail above. The Highways Division is utilizing the system effectively. A high level meeting was held in 1997 to establish milestones for the planned implementation of the PONTIS (Latin for "bridge") bridge management system and the Division is presently on, or ahead, of the schedule established. **However, PONTIS was then, and continues to be scheduled for full implementation in 2003.**

Bridge and roadway inspections and repairs are timed in harmony with resources and priorities

The specialized resource required to inspect bridges has been hard for the Division to find and/or retain. **We lost valuable personnel, in this and other critical engineering areas, due to early retirements suffered in 1994.** Bridge inspections did fall behind. With limited resources available, the specialized talent was utilized to address more critical bridge safety issues. The Division has sought to remedy the resource shortfall by awarding consultant contracts, in 1999, to catch up with the inspections. **Our program has been quite successful and we are close to catching up.**

The number of bridges that are either obsolete or deficient is high and the Division is struggling with prioritizing all the deficiencies found in a responsible fashion considering safety, risk and cost issues.

The three bridges are being attended to

Problems associated with the Kipapa Stream Bridge are being attended to. A project has been identified and is currently in the design phase. **We estimate that the entire remediation process will be completed in June 2000.**

A bridge crew was recently sent out to evaluate and recommend remediation options pursuant to the Anakaluahine Bridge. This bridge is lightly used and is in a relatively remote location.

Project number FLH-0560(11) was issued pursuant to the remediation of the Hanalei Bridge. **The federal-aid project is estimated to cost $2,346,400 and will be advertised in April 2000.**

Potholes are being attended to in a responsible fashion

The Highways Division receives literally thousands of pothole complaints/advises each year. We submit that more than three-quarters of the potholes are repaired in a reasonable period. **Consumer complaints are always taken seriously by the Division and it is our policy to repair potholes creating a hazard within 48 hours.**

We have less than ten employees assigned to repair potholes. In addition, **we use these valuable resources to repair potholes—not to complete paperwork.** The Division sends teams to repair potholes in a general area—repair all potholes found all at once—which is far more economical than sending a team to address one pothole issue at a time, spending far more time traveling and completing paperwork than in the remediation activity. We consider roadway congestion factors prior to scheduling repairs.

Financial management practices safeguard highway funds while attending to business

The business practices of the Highways Division are aimed at providing the public with safe roadways at a **cost** that is both **necessary** and in **compliance** with all the rules and regulations that govern our activities.

The Division is not in violation of procurement practices.

Highways Division follows procurement policies that obtain the best services for the best price. We do not play favorites.

"Overtime" is a cost associated with providing safe roadway conditions twenty-four hours a day, seven days a week. The Division will not submit to the Auditor's pressure to be **"penny wise and pound foolish".**

Procurement provisions are adhered to

Competition governs Highways Division contract award policies, when and where competition exists, and, consistent with cost containment practices

Complete Business Systems, Inc. (CBSI) was engaged to assist the Division in dealing with KPMG and the disintegration of the implementation project discussed in the report as well as providing us with system alternatives should the need arise.

Competition for this contract was limited. Highways Division did not limit the competition. Rather, **contractor expertise limited the competition**. The contractor was required to be expert in the statewide accounting system as well as the Highways Division accounting system. The Division followed procurement regulations and advertised for the services as a Competitive Sealed Bid and received two bids. Unfortunately, both bids were non-responsive so we re-bid the project giving ample time for the "corrected" solicitation to ensure adequate competition. **We based our procurement decisions on Hawaii Administrative Rules (HAR).** Section 3-122-46 HAR, paragraph 7 states, "a minimum of thirty calendar days between the date of the last legal advertisement of the solicitation and the time and date set for receipt of proposals…". Section 3-120-2 HAR, defines "solicitation" as, "an invitation for bids, a request for proposals, a request for quotations, or any other document issued by the state for the purpose of soliciting bids or proposals to perform a state contract".

Under the two sections of the HAR cited above, the second advertisement to correct the initial advertisement is clearly not a second request for a solicitation. Since neither the contractors nor the Division could predict tasks that would be required it was not possible to make a selection based on a comparison of priced tasks since none were available.

The CBSI contract was amended to include the provision contemplated by Task 3 of CBSI's Project Plan, made a part of the contract. The change order was not a change in scope but rather a decision to employ remediation as a result of the assessment of the highways accounting system (HWYAC) and the eminent failure of Performance Accounting Series (PAS). **As a result of the above actions, the Division was able to carry out its responsibilities into the year 2000** while complying with the procurement regulations and dealing with the reality of the crisis at hand.

Highways Division clearly followed the procurement code when selecting the consultant to implement a Maintenance Management Information System (MMIS) on Kauai. The Division had previously installed the MMIS at the H-3 tunnel. In an attempt to standardize applications and provide for integration of systems, the Division discerned that all Districts should utilize the same system and only one consultant had the required expertise to implement MMIS—and that consultant was selected. Justification for this procurement falls under section 3-122-81 HAR.

Highways retains all procurement documentation well beyond the legal requirement

The Division is in compliance with Section 3-122-65 of the HAR as it retains all procurement documentation well beyond the legal requirements.

The Division intends to improve contract administration over consultants'/contractors' work

We acknowledge that we must improve our monitoring of contracts on a timelier basis. We do not, however, agree with the suggestion that contract changes are not necessary or justified.

We will improve contract monitoring

Utility agreements are currently being closed as part of project closing procedures

Management of utility agreements is an exceedingly complex process crossing many branches over a significant number of years. We recognized, in mid 1999, that many procedures covering the process were in need of review as we approached the project closing process. An elaborate and exhaustive study of the entire process was initiated and continues.

Utilities play an important role in the initiation, conduct, management and finalization of these agreements and are sometimes the cause (as opposed to the victim) of the delays in finalization of the agreements.

Overtime is managed to effect safe roadways twenty-four hours a day, seven days a week and the Division has no plan to become "penny wise and pound foolish"

Our policy is to approve overtime five days in advance for that overtime that can be planned. However, overtime by its very nature cannot always be predicted. Examples include:

- Operator replacement does not report to work so the operator present is required to work into the next shirt.
- Inspection of contractor work takes additional time due to discrepancies.
- Zip lane cannot be closed without repair at the end of the shift.
- Equipment breakdown at the end of a shift.
- Emergency conditions caused by rain or windstorms require overtime.
- Landslide.

The Division does not encourage overtime, whether planned or not. We do not find it unusual that two thirds of overtime would be unplanned given the nature of our business. The business of safety does not stop due to individual illness or vacation plans. The following examples depict how easy it is to incur overtime while on leave:

- An employee visits a doctor for an hour during a day they work twelve hours.
- An employee on vacation is called in to fill a temporary vacancy that requires thirteen hours.
- An employee is required to works two shifts to cover a missing replacement and falls ill after fourteen hours.

In general, the Division's obligation to provide **safe roadways requires a flexible workforce** to accomplish our mission. To the extent we have such employees **we thank them.**

The Division's personnel costs are necessary

Overtime is offered to all to afford an equitable distribution among staff. Unfortunately, many employees refuse to work overtime which places the burden on those who are willing. Generally, employees have the option of taking overtime in cash or "saving" the compensation for a later time by using the compensatory time option.

Highways Division complies with the Fair Labor Standards Act (FLSA) requirement to cap compensatory time at 240 hours. We record and monitor compensatory time against the federal requirement when the employee has completed a "federal week".

All compensatory time meeting the federal standard that exceeds 240 hours is paid in cash. There is no limit as to the amount of state compensatory time that can be accumulated.

The Director of Transportation and the Highways Administrator have effected an efficient organization while leading efforts to bring about economic recovery

We strive to comply with the Governor's executive orders

The Director of Transportation has addressed the Governor's desire to increase the division's span of supervisory control with each reorganization submitted. The progress has been slow, in part, due to the large number of retirements that took place in 1994. Those employees with over thirty years of service were more capable of operating with a large number of subordinates.

Larger supervisory control is also easier to implement when more positions are involved. We are in compliance with Administrative Directives 90-01 and 95-06 policies and procedures regarding reorganizations.

Highways Division creates administrative assignments to improve productivity and to achieve economic recovery

Administrative assignments are used to resolve situations where important projects are identified but positions have not been approved to provide permanent staff to perform the required work. We locate employees possessing the requisite skills and administratively assign them to the project until positions can be defined and approved through the procedures established for personnel action and reorganizations. As an example, we advertised $70,000,000 in contracts during the first quarter (rather than the last quarter) of our fiscal year after assigning personnel, on a voluntary basis, to coordinate and schedule the bidding process. Our economy recovers as a result of this and similar actions by the Highways Division.

Conclusion

The Highways Division of the Department of Transportation continues to effectively plan for the construction and maintenance of our State highways consistent with its limited resources and the priorities set in keeping with its obligation to the people of the State of Hawaii.

The Department has not and will not permit waste or misuse of public funds and continues to operate within the laws, rules and administrative directives that govern our activities consistent with our obligation to maintain a safe state roadway system for the public.