

ALASKA STATE LEGISLATURE

LEGISLATIVE BUDGET AND AUDIT COMMITTEE

Division of Legislative Audit



P.O. Box 113300
Juneau, AK 99811-3300
(907) 465-3830
FAX (907) 465-2347
legaudit@legis.state.ak.us

SUMMARY OF: A Special Report on the Department of Transportation and Public Facilities, Force Account Projects, March 3, 2005.

PURPOSE OF THE REPORT

In accordance with Title 24 of the Alaska Statutes and a special request by the Legislative Budget and Audit Committee, we have conducted an audit of the Department of Transportation and Public Facilities (DOTPF). The overall objective of the audit was to determine the extent to which DOTPF uses force accounts for construction projects. Additional objectives included review of policies and procedures over force account, comparison of state wages to Davis-Bacon wage rates, review and analysis of public interest finding.

REPORT CONCLUSIONS

The majority of force account work is for preventative maintenance projects. Beginning in 1998, the Federal Highway Administration (FHWA) allows the State to utilize funding for maintenance projects designed to prolong the life of federally-funded highways. In the past, these activities were paid for with state general funds. DOTPF has taken advantage of this change by expanding the preventative maintenance activities conducted by Maintenance and Operation (M&O) personnel. The work on these projects primarily consists of aggregate leveling, asphalt treatments, crack sealing and repairs, guardrail adjustments, drainage improvements, and other miscellaneous maintenance and repair activities. The purpose of these projects is to provide the treatments necessary to preserve road conditions, control deterioration, and reduce long-term maintenance costs.

We found DOTPF's policies and procedures over force accounts projects to be sufficient, that force account wages are generally equivalent to Davis-Bacon wages, materials, and equipment on force account projects were properly obtained, and the public interest findings were adequately supported and approved by DOTPF's Chief Contracts Officer.

FINDINGS AND RECOMMENDATIONS

1. The Department of Transportation and Public Facilities (DOTPF) commissioner should improve procedures governing public interest findings on force account projects.

One of DOTPF's estimating methodologies may tend to overstate, albeit in minor amounts, the contractors estimated costs. In the adjustment factor methodology, estimates are based on percentages that are not well documented. For example, the guidance is unclear as to what portion of mark-ups is for profit versus overhead. In general, support for percentages used is not well defined. The guidance could be better supported to eliminate the appearance of overstatement of savings. In addition, final reports summarizing the results of force account projects are not reviewed and compared to public interest findings to verify if intended goals and cost estimates were met.

The Chief Contracts Officer is responsible for review and approval of public interest findings for force account projects over \$100,000, but does not receive a final report summarizing the outcome of the force account projects upon completion. For this reason, the final result of force account projects are not reviewed to verify if they met the intended goals and established estimates according to the PIF.

DOTPF prepares and submits close-out reports to the federal oversight agency providing the funding for such projects. While these close-out reports meet federal agencies' monitoring requirements, they are not sufficient for state purposes for two primary reasons. First, the Chief Contracts Officer does not receive a copy of the reports; and, secondly, the expenditures of all state funds are not included in the reports. For example, overruns borne by the State are not included in such reports. A separate report, summarizing the outcome of the force account project including all costs, would enhance internal control over the PIF process by providing additional monitoring and documentation to support the estimates contained in the PIF.

Without a final report including all the costs related to the project, it is possible project costs could be significantly higher than estimated in the PIF, which could potentially change the Chief Contract Officers' decision making on the cost effectiveness of using state forces.

We recommend DOTPF strengthen internal control procedures over the PIF process by requiring a final report that summarizes the outcome of the project and it should include all related project costs as well as overruns. Secondly, DOTPF should clarify methodologies for estimates. Specifically, document the methodology supporting the percentages used in estimates. Finally, DOTPF's Standard Specifications for Highway Construction Manual, section 109-1.05, should be updated to specify the portion of mark-up that applies to overhead versus profit. This will help ensure estimates are reasonable and improve the documented support for those estimates.

March 24, 2005

Members of the Legislative Budget
and Audit Committee:

In accordance with the provisions of Title 24 of the Alaska Statutes, the attached report is submitted for your review.

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
FORCE ACCOUNT PROJECTS

March 3, 2005

Audit Control Number

25-30029-05

This report summarizes our review of the Department of Transportation and Public Facilities use of force accounts. Our audit included review of policies and procedures related to use of force accounts, a comparison of state wages to Davis-Bacon wage rates, and an analysis and review of public interest findings.

The audit was conducted in accordance with generally accepted government audit standards. Fieldwork procedures utilized in the course of developing the findings and discussion presented in this report are discussed in the Objectives, Scope, and Methodology.

Pat Davidson, CPA
Legislative Auditor

TABLE OF CONTENTS

	<u>Page</u>
Objectives, Scope, and Methodology	1
Organization and Function	3
Background Information.....	5
Report Conclusions.....	11
Findings and Recommendations.....	17
Appendices:	19
Appendix A – The St. Marys Project.....	21
Appendix B – Summary of Force Account Projects 2000 to 2004 (Sorted by Project Administrator and Region).....	25
Appendix C – Summary of Force Account Projects 2000 to 2004 (Sorted by Region and Year).....	29
Agency Response	
Department of Transportation and Public Facilities.....	33

OBJECTIVES, SCOPE, AND METHODOLOGY

In accordance with Title 24 of the Alaska Statutes and a special request by the Legislative Budget and Audit Committee, we conducted an audit of the Department of Transportation and Public Facilities' (DOTPF) use of "force account" construction. Our review was designed to determine the extent to which DOTPF uses force accounts for construction projects and whether DOTPF force account policies and procedures conform to state and federal law. The Objectives, Scope and Methodology of our review are as follows:

Objectives

Specific objectives of this audit were to:

- Determine the extent to which DOTPF has used force account construction over the last five years and provide a list of all projects in excess of \$100,000.
- Determine if policies and procedures for force account conform to the State's laws and regulations.
- Determine if state wages for employees on force account projects are equivalent to Davis-Bacon wages.
- Determine if the rental or purchase of equipment and materials are subject to competitive bidding procedures.
- Determine if the public interest findings were sufficient and adequately documented.

Scope

Our review included force account projects over \$100,000 approved during the period July 1, 2000 through June 30, 2004. Our universe included 111 projects encompassing all regions and totaling approximately \$56.5 million in expenditures as of June 30, 2004.

Methodology

During the course of the audit we: reviewed various material, interviewed DOTPF staff and members of the construction industry; analyzed public interest findings; examined project files; and, compared DOTPF pay and Davis-Bacon wages.

Specifically, we reviewed state and federal laws, regulations, and policies, including:

- Alaska Statutes (AS) including: AS 19.10.170–270 (State Highway System - Construction by Department), AS 35.05.010–050 (Public Buildings, Works, and Improvements Administration), AS 35.10.010–135 (Public Works Planning and Construction), AS 35.15.010–120 (Public Works Construction Procedures), AS 36.05.010–900 (Public Contracts), AS 36.10.005–990 (Employment Preference), AS 36.30 (State Procurement Code), AS 39.25 (State Personnel Act), AS 44.33.285–310 (Areas Impacted by Economic Disaster), AS 44.42 (DOTPF).
- Alaska Administrative Code (AAC) including: 2 AAC Chapter 12 (Procurement), 8 AAC Chapter 30 (Public Contracts), 17 AAC (DOTPF).
- DOTPF policies and procedures regarding preventative maintenance force account projects, procurement and contracting, force account construction, public interest findings, and concurrent review of construction projects.
- Federal laws, regulations, and authoritative literature including United States Code Title 23 (Highways), Code of Federal Regulations Title 23 (Highways), FAA Advisory Circular 150-5370-10A (General Provisions on Standards for Special Construction Projects), and Airport Improvement Program Handbook FAA Order 5100-38A (Sponsors Force Account).

We interviewed the directors of the Associated General Contractors of Alaska and the Alaska chapter of the Associated Builders and Contractors, various private general contractors, and a representative of Federal Highway Administration. We also interviewed DOTPF staff involved with drafting and reviewing public interest findings, developing project cost effectiveness analyses, force account project management, project control, and internal review.

- We analyzed public interest findings and examined the supporting documentation of both the state forces cost estimate and the contractor's cost estimate.
- We examined project files, procurement files for equipment and materials, and project control files for a variety of force account jobs.
- We analyzed project cost summary reports and compared them to the State's accounting system.
- We obtain wage and benefit schedules for state employees and the prevailing wage rates from the Department of Labor.

We reviewed other pertinent materials including Department of Law opinions and legal memorandums and prior Division of Legislative Audit reports on DOTPF and/or force accounts.

ORGANIZATION AND FUNCTION

The Department of Transportation and Public Facilities (DOTPF) designs, constructs, and maintains all state transportation systems, buildings, and other facilities used by Alaskans across the State. State legislation mandates the department's responsibility for long-range statewide planning for both public facilities and transportation projects. Ongoing services include provision for air, water, and highway transportation; construction, operation, and maintenance of the State's two major international airports at Anchorage and Fairbanks; design, construction, operation, and maintenance of state buildings and related facilities; and design and contracting performed for other departments of state government.

DOTPF is organized into Headquarters, the Alaska Marine Highway System (AMHS) and three main regions. The three regions – Northern, Central and Southeast – concentrate on addressing the transportation-related needs of their respective geographic areas. AMHS limits its focus to ferry-related needs. Headquarters provides administrative and planning support to the other regions.

Each of the three regions manages projects in a similar fashion (although reporting relationships may vary by region). Organizationally, the regions have sections for planning, design, construction, project control and maintenance and operations. To meet the objectives of our report, we primarily worked with the Maintenance and Operations (M&O) section within DOTPF.

M&O responsibilities comprise all the activities to keep the State's highways, bridges, airports, buildings and harbors in good condition and safe for the traveling public. These include pavement refurbishment, surface and guardrail repair, sign and traffic light repair drainage structures, snow plowing and hauling, brush cutting, fence maintenance, airport light repair, airport safety, security, and facility repairs. M&O is staffed with full-time or part-time/seasonal personnel, including managers, foremen, equipment operators, mechanics, building maintenance specialists, and various administrative workers. In their effort to preserve the State's highways, road structures and facilities, DOTPF's M&O maintains over 80 maintenance stations in various locations throughout Alaska. Each maintenance station is staffed to handle the primary highway, airport, building, and equipment maintenance needs within the geographical area of Alaska's transportation infrastructure.

(Intentionally left blank)

BACKGROUND INFORMATION

The Department of Transportation and Public Facilities (DOTPF) is responsible for designing, constructing, and maintaining all state modes of transportation and transportation facilities, docks, floats, breakwaters, buildings, and similar facilities throughout the State. This is accomplished through various means including use of private contractors and/or state forces.

DOTPF accomplishes the construction of public works through the competitive bid process. However, in some instances state employees may be used rather than using private contractors. This is commonly referred to as force account construction or force accounts. To further describe, in the context of DOTPF, force account is a method in which the direct management and execution of a construction project is undertaken by the department, a cooperating state agency, municipality, or tribal entity. Under force account methods, the labor, materials, equipment, and supplies are obtained, furnished, and used under the direct control of DOTPF or a cooperating entity.

Force account construction is employed on three primary types of projects

DOTPF uses force accounts primarily for 1) preventative maintenance¹ projects; 2) projects administered by local governments, and 3) participation on Village Safewater projects administered by Department of Environmental Conservation (DEC). One force account project by DOTPF does not fit into the three types of projects. (See Appendix A for a discussion of the St. Mary's airport road project.) The three primary types of projects are discussed in further detail below.

1. Preventative maintenance projects

The department uses the force account method primarily on preventative maintenance type projects. Beginning in 1998, the Federal Highway Administration (FHWA) allows the State to utilize funding for maintenance projects designed to prolong the life of federally-funded highways. In the past, these activities were paid for with state general funds. DOTPF has taken advantage of this change by expanding the

¹ Preventative maintenance is not defined in either state or federal statutes. Therefore, it is unclear if preventative maintenance is considered a major repair which would fall under the State's definition of construction. The federal statute for federal aid highways, USC 23, subtitle I, 116, Maintenance, includes preventative maintenance under (d) of this section, which states: *A preventative maintenance activity shall be eligible for Federal assistance under this title if the State demonstrates to the satisfaction of the Secretary that the activity is a cost-effective means of extending the useful life of a Federal-aid highway.*

preventative maintenance activities conducted by Maintenance and Operation (M&O) personnel. The work on these projects primarily consists of aggregate leveling, asphalt treatments, crack sealing and repairs, guardrail adjustments, drainage improvements, and other miscellaneous maintenance and repair activities. The purpose of these projects is to provide the treatments necessary to preserve road conditions, control deterioration, and reduce long-term maintenance costs.

Preventative maintenance projects are completed under the general supervision of the M&O manager of the area in which the project is located. A public interest finding (PIF) cost comparison is drafted by the M&O manager and must be approved by the DOTPF Chief Contracts Officer. Foremen are assigned to direct the day-to-day activities of the project crew and to ensure that the work is performed in accordance with the approved project specifications. The foreman and crew are M&O employees, and the equipment used is generally state-owned.

2. Projects administered by local governments

A local government may perform a force account project on behalf of the department, based on Memorandums of Agreement (MOA). Under these agreements the local government provides the labor, materials, and equipment necessary to complete the project. A PIF cost comparison is drafted by municipality personnel and must be approved by the DOTPF Chief Contracts Officer. Some of the projects administered by local governments are for preventative maintenance type activities.

3. Boardwalk construction projects

A DEC-funded Village Safewater project may also include a DOTPF-funded boardwalk construction project that facilitates sanitation improvements in rural communities. Village Safewater projects are cooperative efforts between DEC and local communities. DEC provides funding, technical advice, and has overall responsibility for project administration. Based on agreements between DEC and the local community, the community has the option of contracting through competitive bidding or performing the project with local forces. The community may also elect to use force account for any boardwalk project. If so, they must draft and submit a PIF to the DOTPF Chief Contracts Officer for approval.

Per federal regulation CFR 635.105, DOTPF is not relieved of responsibility by authorizing performance of the work to a local public agency. They remain responsible for projects receiving adequate supervision and inspection and ensuring projects are completed in conformance with approved plans and specifications. The local government must also demonstrate that it is adequately staffed and equipped to undertake and satisfactorily complete the work.

Both state and federal law guide the use of force accounts

Authority governing the State's use of force account on construction projects exists in both state and federal statutes and regulations.

State law requires that construction of highways and all public works² be performed under a competitively bid contract. However, when the cost of a construction project is less than \$100,000, or when it is in the State's "best interest," the bid contract requirement may be waived. When the work is performed by the State, as force accounts, and it exceeds \$5,000, state law also requires the commissioner to provide a written determination including findings of fact. The determination must document that the cost to the State will be less than that incurred as a result of a formally advertised or negotiated contract. Additionally, when the governor has formally proclaimed an area impacted by an economic disaster and the project is to be performed by the State, another governmental agency, or a nonprofit entity, the competitive bid requirement may be waived.³

State statutes define "construction" or any derivation as construction, reconstruction, alteration, improvement, or major repair. The phrase "best interest" is not defined in state statute for application in determining whether or not the use of force account for a particular project benefits the State. However, the State Procurement Code (for single source procurements) defines "best interest" as *a determination that is reasonable under the circumstances and is neither arbitrary, capricious, nor prompted by corruption.*

Authority to use the force account method in federally-funded highway projects is provided by federal laws and regulations. Those federal laws and regulations stipulate that, for highway construction projects, a method other than the competitive bid award may be used if the State transportation department (DOTPF) satisfactorily demonstrates that some other method (force account) is more cost effective or an emergency exists.⁴ The term "construction" is defined as supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a highway; including resurfacing, restoration, and rehabilitation. Preventative maintenance projects are included in this definition, if the State satisfactorily demonstrates that the activity is a cost-effective means of extending the useful life of a federally-funded highway. Cost effective is defined as the efficient use of labor, equipment, materials and supplies to assure the lowest overall cost.

Alaska Statute 02.15.020(b) addresses contracts for the planning, acquisition, construction, improvement, maintenance or operation of an airport that are funded in whole or in part with federal funds. Force account projects related to airports go through the Federal Aviation

² Public works includes public buildings, boat harbors, port facilities, dikes, jetties, and breakwaters.

³ See AS 19.10.170, AS 35.15.010, and AS 44.33.300.

⁴ An emergency exists when a segment of the highway has failed and the situation is such that competitive bidding is not possible or is impractical because immediate action is necessary to minimize the damage and restore essential travel. See USC, Title 23 Section 112.

Administration (FAA) approval process⁵ rather than a DOTPF approval process. The documentation requirements for FAA approval are similar to those used by DOTPF and include such things as:

- justification for doing work by force account rather than contract;
- estimates of cost with details as to wage rates, nonsalary expenses, indirect costs, and comparison of costs between the force account method and the contract method;
- information on the departments' resources (labor, material, equipment, and financing) and workload as they affect capacity to do the work, dates by which the work will be complete, or dates within which the work will take place; and,
- the department must clearly show that the benefits, including benefits to the federal government, of using force account override the federal policy of competitive bidding.

After obtaining approval from FAA, no additional DOTPF approval is required.

DOTPF policies and procedures establish control over use of force accounts

DOTPF has established extensive policies and procedures governing the use of force account construction. Use of force accounts for all federally-funded highway projects, and state-funded projects in excess of \$100,000, must be approved in advance by the DOTPF Chief Contracts Officer. This approval is contingent upon the submission of a written determination (PIF) stating the project will cost less if done by force account, rather than being performed by a private contractor as a result of the competitive bid process.

The PIF contains cost estimates for both the use of state force accounts and for the use of contractors. A general description of the methodologies used by DOTPF for estimating the costs for both state force accounts and contractors is provided below.

- *Methodology for state force estimates –*

There are regional differences in how the state force estimates are developed. In the Central and Southeast Regions, the project manager develops an estimate of the amount of labor, materials, and equipment that will be needed for the project. Labor costs are estimated using state wage and benefit rate based on the average wage and benefit for the Central or Southeast Region M&O. The material costs are based on current vendor prices and the equipment costs are based on equipment usage rates developed by the state equipment fleet. The combination of labor, materials, and equipment are considered “construction” costs. Five percent of “construction” is added to cover the costs of construction engineering. Finally, a percentage is added to cover indirect administrative overhead. The overhead rate is recalculated each year.

⁵ During the review period 2000-2004, only three force account projects of \$100,000 or above were approved by the FAA.

In the Northern Region, DOTPF keeps historical maintenance cost records for each segment of all highways in that region. These costs are maintained on spreadsheets and all costs related to a segment of highway are recorded. The Northern Region develops the state force cost estimate based on the location of the project (highway, milepost), the road dimensions, and the surface treatment being applied. Total state force costs estimates are then broken down into three separate components; labor, materials, and equipment. The ratio of the total cost estimate is typically 30% for labor, 50% for materials, and 20% for equipment. Then, similar to the Southeast Region, another 5% is added for construction engineering.

- *Methodology for contractor estimates –*

Between 2000 and 2004, DOTPF used three primary methods for developing the contractor estimates used in the PIF cost analysis. Each method is described below:

- (1) *Actual costs of previous projects* – This is the preferred method and can be used when a private contractor has recently completed a similar scope project. The costs of a contractor-completed project are calculated into a cost per mile basis. Since similar scoped projects will have some elements that are not relevant to the new project, any dissimilar elements from the historical projects will be excluded from the cost per mile calculation.
- (2) *Bib tab data* – When there is not a similar project to base a comparison, DOTPF uses the price for specific activities or items from various projects to develop a contractor's estimated costs. The prices used by DOTPF in this methodology come from competitively bid contracts. Many of the bid items on DOTPF's force account jobs are similar and include such things as brush cutting, culvert replacements, D-1 aggregate, or CRS-2P asphalt.
- (3) *Adjustment factors* – this method is based on calculating adjustment ratios applied against the state force estimate. The labor adjustment is based on state labor rates marked up 35% for overhead and profit; the equipment adjustment is calculated as Blue Book⁶ rates, and a standard materials adjustment of 1.15% of the state force estimate. The labor and materials mark-ups are based on DOTPF's Standard Specifications for Highway Construction Manual, section 109-1.05. To total construction costs, the State then adds a 10% profit factor, 15% for construction engineering,⁷ and a flat \$5,000 for bid advertising.

⁶Blue Book is a publication containing industry standards including rental rates for construction equipment.

⁷Construction engineering includes all direct overhead costs during the construction phase of the project. Construction engineering costs are higher in contracted projects due to increased oversight by DOTPF. For example, additional DOTPF staff is assigned to oversee the project to prevent contract disputes.

According to DOTPF procedures, the PIF should also include an explanation of the scope of the project and DOTPF's or the local government's resources and abilities. This should demonstrate there will be no significant difference in quality of work by performing the project with state rather than private forces. Also, the explanation should identify any benefits or efficiencies other than cost effectiveness that will be realized through use of force accounts. For federally-funded projects, the PIF documentation is submitted to the FHWA for review as part of the overall project design package. If FHWA concurs with DOTPF they will issue a document called an Authority to Proceed.

REPORT CONCLUSIONS

The main objective of our review was to evaluate the Department of Transportation and Public Facilities (DOTPF) use of force accounts for construction projects. We found DOTPF's policies and procedures over force accounts projects to be sufficient, that force account wages are generally equivalent to Davis-Bacon wages, materials, and equipment on force account projects were properly obtained, and the public interest findings were adequately supported and approved by DOTPF's Chief Contracts Officer.

These conclusions and others are discussed in greater detail below.

Majority of force account work is preventative maintenance

DOTPF had 111 force account projects over \$100,000 approved during the five-year period 2000 – 2004. One hundred and one projects (or 91%) were carried out directly by DOTPF Maintenance and Operations (M&O) forces for preventative maintenance work. Two projects were in cooperation with the Department of Environmental Conservation (Village Safewater), seven projects were administered by local governments under Memorandum of Agreement, and one was administered by DOTPF Design and Construction (D&C) forces.

DOTPF's force accounts projects represent a small percentage of the department's surface transportation activities. Total DOTPF funding for surface transportation projects amounted to approximately \$2.29 billion for the five-year period 2000 – 2004. During this same period, the budgeted expenditures for force account projects totaled approximately \$66 million. (See Exhibit 2 on the next page) Thus, the budgeted force account projects represent just under 3% of the total Surface Transportation budget⁸ for the same five-year period. For summary of individual projects by region and year, see Appendix B and C.

Exhibit 1

Force Account Exception

The St. Marys Airport Road Rehabilitation project was substantially different than the other force account projects. Some of the main differences include:

- Overseen by DOTPF Design and Construction rather than the M&O section.
- Performed by a combination of full-time M&O employees and local residents hired as temporary M&O employees.
- Stated goal in the PIF included providing economic relief to the community.

See Appendix A for more detailed analysis of this project.

⁸ The following programs are included in Surface Transportation for 2000-2001: (1) Community Transportation; (2) National Highway System; and, (3) Trails and Recreational Access for Alaska (TRAAK). Beginning 2002, DOTPF appropriations include a summary level called Surface Transportation. The summary level includes various Alaska Marine Highway projects. Because we did not identify any Marine Highway force account projects, these projects have been excluded from total Surface Transportation in the calculation of this percentage.

Exhibit 2			
Type of Project	Number of Projects	Budget	Expenditures
DOTPF M&O administered	101	\$55,013,069	\$46,700,000
Local government administered	7	4,303,270	3,900,000
DEC administered	2	3,663,380	3,300,000
DOTPF D&C administered*	<u>1</u>	<u>2,564,027</u>	<u>2,600,000</u>
Total	111	\$65,543,746	\$56,500,000

* This is the St. Marys project (see Exhibit 1)

Force account policies and procedures conform to state and federal laws

We found DOTPF procedures are well designed to ensure that the decision to use force account is made in accordance with both state and federal requirements.

DOTPF uses the PIF to support the decision to use force account for highway and state projects. The PIF documents how and why the use of the force account method is in the *best interests* of the State. While the statutory definition of best interest is somewhat broad, without exception DOTPF’s best interest finding was primarily based on cost effectiveness.⁹ Federal law requires highway projects to be accomplished through the most cost-effective means. Therefore, the State must demonstrate cost effectiveness as well as ‘best interest’ for federally-funded force account projects. To a great extent, this drives DOTPF procedures, since nearly all force account projects are federally funded.

DOTPF procedures require the PIF to include detailed information on cost estimates, a description of the efficiencies to be achieved, and assurances regarding the ability to perform the work satisfactorily. PIF’s must be approved by the appropriate department personnel and federal oversight agency for federally-funded projects prior to using a force account.

In reviewing personal services charges to force account projects, we verified that M&O staff performed the labor on these preventative maintenance force account projects. We also determined that M&O staff employed on these projects were long-time M&O employees, the majority of which have been employed with DOTPF’s M&O section for over five years. Hiring of M&O staff is accomplished through centralized procedures and in accordance with state law. Policies and procedures for hiring state employees are well established and applicable to all state agencies.

⁹ According to federal regulations (CFR 635.204), in order to receive FHWA funding, the force account determination must be based on a demonstration of cost effectiveness. The term “cost effective” is defined as the efficient use of labor, equipment, materials and supplies to ensure the lowest overall cost. AS 19.10.170(b) and AS 35.15.010(b) also require a demonstration that costs to the State will be less than that incurred as a result of a formally advertised or negotiated contract.

DOTPF indicated that force account work (budgeted as capital projects) enhances their ability to maintain a full-time permanent work force for their M&O section. Maintaining full-time permanent staff leads to efficiency by providing an experienced and skilled work force.

DOTPF pay on force account projects is equivalent to Davis-Bacon wages.¹⁰

We compared the pay (base wages plus the cost of associated benefits) of DOTPF employees performing work on force account projects to the current prevailing wage¹¹ for the appropriate time period, job class, and region. (See Exhibit 3) The pay for individual job classifications for DOTPF’s M&O staff may be greater or less than Davis-Bacon wages. However, the predominate job classification for preventative maintenance projects are equipment operators whose pay is just under that of Davis-Bacon wages. Therefore, we conclude that the pay to DOTPF employees on force account projects is essentially equivalent to the current prevailing Davis-Bacon wages. This conclusion is contrary to the common perception that cost savings on force account projects are primarily a result of the differential between DOTPF pay and wages required by Davis-Bacon.

Exhibit 3
Comparison of DOTPF Pay and Davis-Bacon Wages

Below is a comparison of DOTPF pay and Davis-Bacon wages for 29 employees in three job classes. On average, considering the number of employees in each job classification, there is little difference between DOTPF pay and Davis-Bacon wages.

Job Classification:	Number of Positions	DOTPF Pay More/(Less) Than Davis-Bacon Wages
Foreman and Lead	5	\$6.82
Equipment Operators	23	(\$2.09)
Electrician Journey	1	\$2.97
Weighted Average	29	(\$0.38)

Material purchases and equipment rentals on force account projects are procured in accordance with state statutes and regulations

Through the review of procurement files, we verified that procurement staff acquire materials and equipment in accordance with specific state procurement procedures applicable to the purchase.

Materials are typically stockpiled in strategic locations throughout the State. DOTPF also enters into agreements with rock pit owners to provide the State with materials on an “as needed” basis.

¹⁰ Note Davis-Bacon wages are also referred to as prevailing wage.

¹¹ As published by the Alaska Department of Labor, which are equivalent to the federal prevailing wage.

DOTPF primarily utilizes state-owned equipment and materials stockpiles on force account projects. It is DOTPF's policy that all materials and equipment needed for a project, not provided by the State, be obtained in accordance with state procurement laws and regulations. This applies to projects performed by state forces as well as local government forces under agreements with municipalities.

The majority of equipment used for force account projects are State Equipment Fleet (SEF) vehicles. This equipment is maintained throughout the State at DOTPF's M&O field stations. The use of state-owned equipment contributes to the cost savings resulting from force account work through decreased mobilization costs.

Some projects require equipment rentals. These rentals are usually made in accordance with preestablished equipment rental contracts. Under these competitively awarded contracts, vendors agree to make available to the State various pieces of equipment (with or without an operator depending on contract terms) on an "as needed" basis at set prices. In other situations, in response to needs that arise during day-to-day project performance, equipment is rented by the project foreman or other regional or district staff under applicable state procurement procedures.

Public interest findings are properly approved, estimates are reasonable, and supporting documentation is adequate

Each of DOTPF's federally-funded highways, or state-funded projects over \$100,000, was reviewed and approved by the Chief Contracts Officer.¹² Each PIF included the required cost-effective analysis and the estimates supporting the analysis were generally reasonable.

To demonstrate cost effectiveness, the PIF includes a cost analysis which compares estimates of project costs using force account versus cost estimates for a competitively bid contract. If the state force estimate is less than the contractor estimate, cost effectiveness has been demonstrated and the project can be approved for performance under the force account method. (See Appendix B)

In two of the last five years, the Northern Region used the adjustment factor methodology for contractor estimates. The adjustment factor methodology uses percentages to arrive at estimated costs. (See Background Information on page 5 of this letter.) The percentages used are not clearly documented. In one of the percentages used, it is unclear if profit is factored in, leading to an appearance of overstated profit mark-ups. (See Recommendation No. 1) However, we reviewed actual costs from contracted projects and force account projects and found the percentages to be reasonable. We also compared inception-to-date expenditures to the State's estimates and found them to be reasonable. In addition, for each instance, we applied reasonable and conservative adjustments to recalculate the contractor estimate and, in

¹² Federally-funded airport projects must go through the Federal Aviation Administration approval process rather than the DOTPF process.

no case, did the adjustment reverse the overall result of the cost analysis and the cost effective determination.

(Intentionally left blank)

FINDINGS AND RECOMMENDATIONS

Recommendation No. 1

The Department of Transportation and Public Facilities (DOTPF) commissioner should improve procedures governing public interest findings on force account projects.

One of DOTPF's estimating methodologies may tend to overstate, albeit in minor amounts, the contractors estimated costs. In the adjustment factor methodology, estimates are based on percentages that are not well documented. For example, the guidance is unclear as to what portion of mark-ups is for profit versus overhead. In general, support for percentages used is not well defined. The guidance could be better supported to eliminate the appearance of overstatement of savings. In addition, final reports summarizing the results of force account projects are not reviewed and compared to public interest findings to verify if intended goals and cost estimates were met.

The Chief Contracts Officer is responsible for review and approval of public interest findings for force account projects over \$100,000, but does not receive a final report summarizing the outcome of the force account projects upon completion. For this reason, the final result of force account projects are not reviewed to verify if they met the intended goals and established estimates according to the PIF.

DOTPF prepares and submits close-out reports to the federal oversight agency providing the funding for such projects. While these close-out reports meet federal agencies' monitoring requirements, they are not sufficient for state purposes for two primary reasons. First, the Chief Contracts Officer does not receive a copy of the reports; and, secondly, the expenditures of all state funds are not included in the reports. For example, overruns borne by the State are not included in such reports. A separate report, summarizing the outcome of the force account project including all costs, would enhance internal control over the PIF process by providing additional monitoring and documentation to support the estimates contained in the PIF.

Without a final report including all the costs related to the project, it is possible project costs could be significantly higher than estimated in the PIF, which could potentially change the Chief Contract Officers' decision making on the cost effectiveness of using state forces.

We recommend DOTPF strengthen internal control procedures over the PIF process by requiring a final report that summarizes the outcome of the project and it should include all related project costs as well as overruns. Secondly, DOTPF should clarify methodologies for estimates. Specifically, document the methodology supporting the percentages used in estimates. Finally, DOTPF's Standard Specifications for Highway Construction Manual, section 109-1.05, should be updated to specify the portion of mark-up that applies to

overhead versus profit. This will help ensure estimates are reasonable and improve the documented support for those estimates.

A**PPENDICE****S**

Appendix A: This appendix provides an overview and analysis of the St. Marys project.

Appendix B: This appendix summarizes force account projects over the five-year period 2000 to 2004. The summary is sorted by Project Administrator and Region.

Appendix C: This appendix summarizes force account projects over the five-year period 2000 to 2004. The summary is sorted by Region and Year.

(Intentionally left blank)

Appendix A

The St. Marys Project

The St. Marys Airport Road Rehabilitation project was, in many ways, unlike any other Department of Transportation and Public Facilities (DOTPF) force account project and created controversy among interested parties. The project was overseen by DOTPF construction personnel rather than Maintenance and Operations (M&O) staff during the first year of the project. Force account projects are not typically done by the construction section and, thus, the procedures established for force account work under M&O were not followed. We found documentation was not readily available. For instance, DOTPF personnel were unable to locate support for concurrent review procedures conducted during the first year of the project. However, the project did appear to meet the intended goal of providing economic relief to St. Marys through local hire and utilization of municipal equipment. A summary of the project is discussed below.

Project originally planned for performance under a competitive bid contract

Design work and the engineers' estimate were completed and prenotice of a planned Invitation-to-Bid was published on the state website. According to DOTPF staff, in early FY 01 the department, in accordance with the wishes of the Office of the Governor, decided to perform this project using state forces rather than through competitive bidding. This change may have added to the controversy among interested parties. According to various DOTPF staff, the primary reason for the change was to provide relief to the St. Marys community which at that time was undergoing significant economic difficulties due to a poor fishing season. However, there is no mention of an economic emergency or disaster in the public interest finding (PIF) submitted to and approved by the Chief Contracts Officer.

Public Interest Finding (PIF) identifies local hire as a goal of the project

According to the approved PIF, the project was to be completed by state forces; a combination of local hires and existing state (M&O) employees acting as foremen. The local residents were hired as nonpermanent state employees. The PIF explicitly states: *There will be maximum utilization of local available personnel and equipment.* Hiring of new employees may have increased speculation in the industry that DOTPF was expanding state forces in lieu of contracting out new construction projects.

The public interest determination was based on the usual cost analysis and finding that use of force account would be more cost effective than using contractor forces under a bid contract. The analysis indicated savings of approximately \$527,000 for the estimated \$3 million project. The benefit to the surrounding communities by using available local hire and equipment is also mentioned in support of using force account. This was the only PIF, for an M&O state forces project, in which local hiring was included as an objective or goal of the project.

Appendix A (continued)

Project completed in cooperation with local government, however, State maintained control

The project included the rehabilitation of approximately seven miles of road extending from the St. Marys Airport to the city of St. Marys and was constructed under the supervision of a DOTPF construction engineer. The project was facilitated under a memorandum of understanding (MOU) between St. Marys and DOTPF. The MOU stipulated the State would purchase materials and rent office space and equipment from St. Marys. The structure of this agreement was different from any other agreement between DOTPF and local governments. Under other agreements, the local government determined if they were going to competitively bid the project, use force accounts, or a combination of both. If force account was used, the local government provided the cost analysis supporting the use of force accounts to the Chief Contracts Officer for approval.

Under the St. Marys project, the State made the determination to use force account and prepared the cost analysis supporting the determination. This is similar to preventative maintenance force account projects conducted by DOTPF. However, an MOU was made to purchase materials and rent equipment directly from St. Marys, in lieu of using state-owned materials and equipment or going through the competitive bid process. This was appropriate, since Alaska statutes allow an exemption from the procurement code for contracts between the State and other governments.¹³ When force accounts are accomplished through an MOU with a local government, their own materials and equipment may be used if they have demonstrated it to be the most cost effective. If the St. Marys project had been structured in this manner, use of their own materials and equipment would likely have not raised concern in the contractor community. Additionally, a major goal in the PIF was to provide economic relief to St. Marys through local hire and use of materials and equipment. This departure may have contributed to the discord and perception of procurement violations among private industry.

Goals outlined in PIF were met, however, scope of project was modified

The project was begun in the summer of 2001 and completed in January of 2003. Work during the first season was conducted by St. Marys residents hired as temporary state employees. Activities performed during the first summer consisted primarily of clearing, excavating, and placing of base and sub-base materials. During the second season, full-time M&O employees were brought in to manage and perform activities requiring greater expertise such as embankment construction, grading, and placing and treating the surface material.

¹³ See AS 36.30.850(c)

Appendix A (continued)

Ultimately, the specifications for the project were modified because materials meeting project standards were not available in St. Marys as originally planned. The project originally called for “high float surfacing.”¹⁴ The DOTPF project engineer estimated that barging in materials that met specifications would cost approximately \$1 million. Since this additional expense was not budgeted for in the original estimate, the scope of the project was modified. This decision supports one of the goals of the project which was to provide relief to St. Marys through utilization of local materials.

The total cost of construction for the project was approximately \$2.6 million.¹⁵ The project appears to have met the goal of providing relief to the community. Over the course of the project a total of 24 local residents were hired. Of these, 13 received training through the Alaska Vocational Technical Center and obtained commercial drivers licenses. According to DOTPF records, a total of \$1.75 million was paid to St. Marys for labor, equipment, and materials:

- wages to residents - \$329,200
- equipment rental, fuel, and maintenance - \$699,200
- materials - \$724,800

In summary, the City of St. Marys believed the project improved the overall condition of the community by creating a regional work force with skills necessary to obtain future jobs with private contractors.

¹⁴ High Float is a surface treatment that consists of one application of an emulsion followed by a single application of crushed aggregate surfacing.

¹⁵ This total does not include \$392,719 in design costs for the project. Design work for St. Marys was done in conjunction with a related project (Pitkas Point).

(Intentionally left blank)

Appendix B
Summary of Force Account Projects 2000 - 2004
(Sorted by Project Administrator and Region)

DOTPF Prepared						
Year	Project Name	Contractor Estimate	State Force Estimate	Estimated Savings	Percent Estimated Savings	Expenditure Total Thru June 30, 2004
DOTPF Maintenance & Operations Administered Projects:						
Central Region -						
National Highway System -						
2000	Crack Seal Program	\$ 1,433,240	\$ 893,752	\$ 539,488	37.64%	\$ 796,942
2002	Crack Seal Program	1,376,497	911,749	464,748	33.76%	404,881
2001	Bridge Maintenance & Repair	678,546	361,137	317,409	46.78%	353,760
2002	Bridge Maintenance & Repair	547,297	318,515	228,782	41.80%	18,706
2003	Interstate Maintenance & Bridge Repair	775,549	445,709	329,840	42.53%	46,514
2003	Interstate Maintenance, Crack Seal	1,467,121	971,403	495,718	33.79%	201,319
Non-National Highway System -						
2000	Federal Crack Seal program	1,215,001	808,447	406,554	33.46%	929,116
2000	Federal Crack Seal Program	362,364	269,709	92,655	25.57%	311,914
2001	Federal Crack Seal Program	645,380	425,906	219,474	34.01%	425,851
2002	Federal Crack Seal Program	1,294,000	856,205	437,795	33.83%	520,234
2000	Bridge Maintenance & Repair	987,790	399,536	588,254	59.55%	335,250
2002	Bridge Maintenance & Repair	775,604	447,593	328,011	42.29%	401,898
2003	Interstate Maintenance & Bridge Repair	1,049,502	604,368	445,134	42.41%	57,694
2003	Interstate Maintenance, Crack Seal	1,420,125	927,404	492,721	34.70%	71,861
2000	Cascade Shop Reconstruction	616,070	312,000	304,070	49.36%	351,494
2000	Interstate Maintenance & Bridge Repair	960,144	399,732	560,412	58.37%	354,876
2003	Low Bridge Clearance Signing PJ	292,000	161,000	131,000	44.86%	74,360
2003	Clearance Signing and Speed Limit Review	250,000	161,984	88,016	35.21%	148,813
2003	Statewide emergency sign and traffic signal pole repair	575,000	430,000	145,000	25.22%	135,523
Central Region Totals		\$ 16,721,230	\$ 10,106,149	\$ 6,615,081		\$ 5,941,006
Southeast Region -						
2000	Haines-Lutak Road Storm Damage Repair	\$ 264,778	\$ 206,788	\$ 57,990	21.90%	\$ 242,083
Non-National Highway System -						
2000	Pavement Rehabilitation	1,022,651	832,794	189,857	18.57%	554,212
2000	Road Service Treatment	1,061,410	805,984	255,426	24.06%	668,962
2001	Haines-Chilkat Lake Rd Surfacing	791,200	513,000	278,200	35.16%	764,901
2002	Road Surface Treatments Ketchikan/Juneau	678,500	527,000	151,500	22.33%	303,441
2003	Region Road Surface Treatment	1,255,550	811,000	444,550	35.41%	474,331
Pavement Refurbishment -						
2004	Haines Highway Erosion Control	249,715	193,830	55,885	22.38%	10,876
2004	Hydaburg Chip Seal	885,190	697,000	188,190	21.26%	560,343
2004	Juneau Chip Seal	147,276	105,954	41,322	28.06%	3,949
Southeast Region Totals		\$ 6,356,270	\$ 4,693,350	\$ 1,662,920		\$ 3,583,098
Northern Region -						
Community Transportation Program						
Preventative Maintenance & Repair -						
2000	Denali Surface	\$ 273,595	\$ 100,000	\$ 173,595	63.45%	\$ 59,555
2001	Denali Surface	367,999	158,000	209,999	57.07%	100,207
2002	Denali Surface	327,664	150,000	177,664	54.22%	114,072
2000	Fairbanks Surface	2,913,782	1,065,000	1,848,782	63.45%	1,553,964
2001	Fairbanks Surface	3,493,657	1,500,000	1,993,657	57.07%	1,752,899
2002	Fairbanks Surface	3,075,014	1,407,700	1,667,314	54.22%	1,424,678
2003	Fairbanks Surface	2,884,355	2,068,800	815,555	28.28%	2,257,653
2004	Fairbanks Surface	1,622,571	1,132,000	490,571	30.23%	590,789
2002	Interior Crack Seal & Repairs	288,344	132,000	156,344	54.22%	144,158
2003	Interior Crack Seal & Repairs	321,646	230,700	90,946	28.28%	241,454
2003	Northern Region Bridge Repairs	372,256	267,000	105,256	28.28%	143,956
2004	Northern Region Bridge Repairs	210,705	147,000	63,705	30.23%	53,664

Appendix B
Summary of Force Account Projects 2000 - 2004
(Sorted by Project Administrator and Region)

DOTPF Prepared						
Year	Project Name	Contractor Estimate	State Force Estimate	Estimated Savings	Percent Estimated Savings	Expenditure Total Thru June 30, 2004
Northern Region - Continued						
Community Transportation Program						
Preventative Maintenance & Repair - Continued						
2000	Northern Region Bridge Repairs	1,509,421	551,700	957,721	63.45%	283,960
2001	Northern Region Bridge Repairs	684,757	294,000	390,757	57.07%	266,663
2002	Northern Region Bridge Repairs	720,860	330,000	390,860	54.22%	469,081
2000	Southcentral Surface	1,431,720	523,300	908,420	63.45%	343,207
2001	Southcentral Surface	554,327	238,000	316,327	57.07%	147,628
2002	Southcentral Surface	498,049	228,000	270,049	54.22%	231,515
2003	Southcentral Surface	149,181	107,000	42,181	28.28%	230,266
2004	Southcentral Surface	329,674	230,000	99,674	30.23%	293,787
2000	Tok Surface	287,274	105,000	182,274	63.45%	110,494
2004	Tok Surface	437,177	305,000	132,177	30.23%	15,622
2000	Western Surface	1,641,568	600,000	1,041,568	63.45%	584,638
2001	Western Surface	1,572,146	675,000	897,146	57.07%	609,618
2002	Western Surface	1,446,089	662,000	784,089	54.22%	767,414
2003	Western Surface	1,013,595	727,000	286,595	28.28%	801,603
National Highway System, Interstate						
Preventative Maintenance & Repair -						
2000	Denali Surface	2,175,077	795,000	1,380,077	63.45%	767,212
2001	Denali Surface	1,802,727	774,000	1,028,727	57.07%	852,608
2002	Denali Surface	2,182,240	999,000	1,183,240	54.22%	766,858
2003	Denali Surface	899,270	645,000	254,270	28.28%	823,671
2004	Denali Surface	680,849	475,000	205,849	30.23%	347,304
2000	Fairbanks Surface	1,162,777	425,000	737,777	63.45%	452,970
2001	Fairbanks Surface	447,188	192,000	255,188	57.07%	567,807
2002	Fairbanks Surface	501,325	229,500	271,825	54.22%	266,833
2003	Fairbanks Surface	340,189	244,000	96,189	28.28%	286,060
2004	Fairbanks Surface	563,313	393,000	170,313	30.23%	161,402
2001	Interior Crack Seal & Repairs	312,100	134,000	178,100	57.07%	167,199
2003	Interior Crack Seal & Repairs	132,032	94,700	37,332	28.28%	128,629
2003	Interior Pavement Markings	237,017	170,000	67,017	28.28%	184,483
2001	Northern Region Bridge Repairs	279,493	120,000	159,493	57.07%	398,391
2003	Southcentral Pavement Markings	222,378	159,500	62,878	28.28%	160,099
2000	Southcentral Surface	1,470,571	537,500	933,071	63.45%	871,091
2001	Southcentral Surface	1,397,463	600,000	797,463	57.07%	988,021
2002	Southcentral Surface	2,452,235	1,122,600	1,329,635	54.22%	1,187,567
2003	Southcentral Surface	1,081,215	775,500	305,715	28.28%	1,169,091
2004	Southcentral Surface	1,271,396	887,000	384,396	30.23%	552,024
2000	Tok Surface	2,872,743	1,050,000	1,822,743	63.45%	1,024,418
2001	Tok Surface	2,274,604	976,600	1,298,004	57.07%	1,360,241
2002	Tok Surface	2,293,645	1,050,000	1,243,645	54.22%	1,201,229
2003	Tok Surface	2,497,042	1,791,000	706,042	28.28%	2,018,210
2004	Tok Surface	1,536,569	1,072,000	464,569	30.23%	374,246
National Highway System, Non-Interstate						
Preventative Maintenance & Repair -						
2002	Dalton Surface	1,033,233	473,000	560,233	54.22%	398,829
2003	Dalton Surface	382,015	274,000	108,015	28.28%	287,594
2000	Fairbanks Surface	273,595	100,000	173,595	63.45%	89,591
2001	Fairbanks Surface	798,883	343,000	455,883	57.07%	753,700
2002	Fairbanks Surface	336,401	154,000	182,401	54.22%	289,695
2003	Fairbanks Surface	318,160	228,200	89,960	28.28%	297,375
2004	Fairbanks Surface	475,878	332,000	143,878	30.23%	251,046

Appendix B
Summary of Force Account Projects 2000 - 2004
(Sorted by Project Administrator and Region)

DOTPF Prepared						
Year	Project Name	Contractor Estimate	State Force Estimate	Estimated Savings	Percent Estimated Savings	Expenditure Total Thru June 30, 2004
National Highway System, Non-Interstate						
Preventative Maintenance & Repair - Continued						
2000	Northern Region Bridge Repairs	338,163	123,600	214,563	63.45%	92,051
2003	Northern Region Bridge Repairs	281,632	202,000	79,632	28.28%	150,441
2004	Northern Region Bridge Repairs	266,606	186,000	80,606	30.23%	59,890
2000	Southcentral Surface	1,244,855	455,000	789,855	63.45%	286,908
2001	Southcentral Surface	1,360,197	584,000	776,197	57.07%	606,744
2002	Southcentral Surface	1,067,091	488,500	578,591	54.22%	475,961
2003	Southcentral Surface	1,272,223	912,500	359,723	28.28%	952,082
2004	Southcentral Surface	809,852	565,000	244,852	30.23%	397,571
2001	Tok Surface	349,366	150,000	199,366	57.07%	176,997
2003	Tok Surface	197,560	141,700	55,860	28.28%	135,336
2004	Tok Surface	137,603	96,000	41,603	30.23%	120,877
2004	Western Surface	712,383	497,000	215,383	30.23%	395,185
2002	Tok Surface	216,912	99,300	117,612	54.22%	101,647
2000	Dalton Highway MP 407 Erosion Control	151,000	118,000	33,000	21.85%	123,387
2002	Dalton Highway Painted Traffic Markings	260,000	175,000	85,000	32.69%	90,252
Northern Region Totals		71,796,492	36,343,900	35,452,592		37,203,368
Total Maintenance & Operations Administered Projects		\$ 94,873,992	\$ 51,143,399	\$ 43,730,593		\$ 46,727,472
Local Government Administered Projects:						
Central Region -						
2001	Kwiggillingok Sanitation Road	\$ 4,580,000	\$ 3,000,000	\$ 1,580,000	34.50%	\$ 2,998,560
2003	Soldotna: East Redoubt Avenue Improvements	892,000	633,000	259,000	29.04%	538,373
2004	2001CR3:5TH/6TH Avenue @ A/C Street Signal	222,255	118,050	104,205	46.89%	1,759
Central Region Totals		\$ 5,694,255	\$ 3,751,050	\$ 1,943,205		\$ 3,538,692
Northern Region -						
2000	Russian Mission Airport Clearing Airport Improvement Program	\$ 139,035	\$ 122,000	\$ 17,035	12.25%	\$ 118,642
2001	Gulkana - Crack Seal and Surface Maintenance	N/A	100,000	N/A	N/A	103,850
2001	Tok - Crack Seal and Surface Maintenance	N/A	100,000	N/A	N/A	115,904
2003	Tatitlek - Surface Repairs	N/A	100,000	N/A	N/A	-
Northern Region Totals		\$ 139,035	\$ 422,000	\$ 17,035		\$ 338,396
Total Local Government Administered Projects		\$ 5,833,290	\$ 4,173,050	\$ 1,960,240		\$ 3,877,088
Department of Environmental Conservation (DEC) Administered Projects:						
Central Region -						
2000	Chefornak sanitation Boardwalk project	\$ 2,028,400	\$ 1,380,000	\$ 648,400	31.97%	\$ 1,358,584
2001	Nunapitchuk	3,010,000	2,100,000	910,000	30.23%	1,933,211
Total DEC Administered Projects		\$ 5,038,400	\$ 3,480,000	\$ 1,558,400		\$ 3,291,795
Design & Construction Administered Projects:						
Northern Region -						
2001	St. Marys Airport Road Rehabilitation	\$ 3,526,740	\$ 2,999,514	\$ 527,225	14.95%	\$ 2,564,027
Statewide Totals		\$ 109,272,422	\$ 61,795,963	\$ 47,776,458		\$ 56,460,382

(Intentionally left blank)

Appendix C
Summary of Force Account Projects 2000 - 2004
(Sorted by Region and Year)

Project Name	DOTPF Prepared			Expenditure Total Thru June 30, 2004
	Contractor Estimate	State Force Estimate	Percent Estimated Savings	
Central Region				
FY 2000 -				
Chefornak sanitation Boardwalk project	\$ 2,028,400	\$ 1,380,000	31.97%	\$ 1,358,584
National Highway System Crack	1,433,240	893,752	37.64%	796,942
Non-National Highway System Federal Crack Seal Program	362,364	269,709	25.57%	311,914
Bridge Maintenance & Repair -				
Interstate Maintenance & Bridge Repair	960,144	399,732	58.37%	354,876
Non-National Highway System	987,790	399,536	59.55%	335,250
Non-National Highway System Federal Crack Seal Program	1,215,001	808,447	33.46%	929,116
Cascade Shop Reconstruction	616,070	312,000	49.36%	351,494
Totals Central Region FY 2000	\$ 7,603,009	\$ 4,463,176		\$ 4,438,176
FY 2001 -				
Nunapitchuk	\$ 3,010,000	\$ 2,100,000	30.23%	\$ 1,933,211
Kwigillingok Sanitation Road	4,580,000	3,000,000	34.50%	2,998,560
Non-National Highway System Federal Crack Seal Program	645,380	425,906	34.01%	425,851
Bridge Maintenance/Repair National Highway System	678,546	361,137	46.78%	353,760
Totals Central Region FY 2001	\$ 8,913,926	\$ 5,887,043		\$ 5,711,382
FY 2002 -				
Bridge Maintenance & Repair -				
Non-National Highway System	\$ 775,604	\$ 447,593	42.29%	\$ 401,898
National Highway System	547,297	318,515	41.80%	18,706
Federal Crack Seal Program -				
Non-National Highway System	1,294,000	856,205	33.83%	520,234
National Highway System	1,376,497	911,749	33.76%	404,881
Totals Central Region FY 2002	\$ 3,993,398	\$ 2,534,062		\$ 1,345,719
FY 2003 -				
Soldotna: East Redoubt Avenue Improvements	\$ 892,000	\$ 633,000	29.04%	\$ 538,373
Low Bridge Clearance Signing PJ	292,000	161,000	44.86%	74,360
Statewide emergency sign and traffic signal pole repair	575,000	430,000	25.22%	135,523
Interstate Maintenance -				
National Highway System Crack Seal	1,467,121	971,403	33.79%	201,319
Non-National Highway System Crack Seal	1,420,125	927,404	34.70%	71,861
Interstate Maintenance, Bridge Repair -				
Non-National Highway System	1,049,502	604,368	42.41%	57,694
National Highway System	775,549	445,709	42.53%	46,514
Clearance Signing and Speed Limit Review	250,000	161,984	35.21%	148,813
Totals Central Region FY 2003	\$ 6,721,297	\$ 4,334,868		\$ 1,274,457
FY 2004 -				
2001CR3:5TH/6TH Avenue @A/C Street Signal Upgrade	\$ 222,255	\$ 118,050	46.89%	\$ 1,759
Central Region Totals	\$ 27,453,885	\$ 17,337,199		\$ 12,771,493
Northern Region				
FY 2000 -				
Dalton Highway MP 407 Erosion Control	\$ 151,000	\$ 118,000	21.85%	\$ 123,387
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair -				
Denali Surface	273,595	100,000	63.45%	59,555
Fairbanks Surface	2,913,782	1,065,000	63.45%	1,553,964
Northern Region Bridge Repairs	1,509,421	551,700	63.45%	283,960

Appendix C
Summary of Force Account Projects 2000 - 2004
(Sorted by Region and Year)

Project Name	DOTPF Prepared			Expenditure Total Thru June 30, 2004
	Contractor Estimate	State Force Estimate	Percent Estimated Savings	
Northern Region - continued				
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair - Continued				
Southcentral Surface	1,431,720	523,300	63.45%	343,207
Tok Surface	287,274	105,000	63.45%	110,494
Western Surface	1,641,568	600,000	63.45%	584,638
Maintenance & Operations, National Highway System				
Interstate Preventative Maintenance & Repair -				
Denali Surface	2,175,077	795,000	63.45%	767,212
Fairbanks Surface	1,162,777	425,000	63.45%	452,970
Southcentral Surface	1,470,571	537,500	63.45%	871,091
Tok Surface	2,872,743	1,050,000	63.45%	1,024,418
Maintenance & Operations, Non-Interstate Preventative				
Maintenance & Repair -				
Fairbanks Surface	273,595	100,000	63.45%	89,591
Northern Region Bridge Repairs	338,163	123,600	63.45%	92,051
Southcentral Surface	1,244,855	455,000	63.45%	286,908
Russian Mission Airport Clearing	139,035	122,000	12.25%	118,642
Totals Northern Region FY 2000	\$ 17,885,176	\$ 6,671,100		\$ 6,762,088
FY 2001 -				
Airport Improvement Program				
Gulkana - Crack Seal and Surface Maintenance	N/A	100,000	N/A	103,850
Tok - Crack Seal and Surface Maintenance	N/A	100,000	N/A	115,904
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair -				
Denali Surface	367,999	158,000	57.07%	100,207
Fairbanks Surface	3,493,657	1,500,000	57.07%	1,752,899
Northern Region Bridge Repairs	684,757	294,000	57.07%	266,663
Southcentral Surface	554,327	238,000	57.07%	147,628
Western Surface	1,572,146	675,000	57.07%	609,618
Maintenance & Operations, National Highway System				
Interstate Preventative Maintenance & Repair -				
Denali Surface	1,802,727	774,000	57.07%	852,608
Fairbanks Surface	447,188	192,000	57.07%	567,807
Interior Crack Seal & Repairs	312,100	134,000	57.07%	167,199
Northern Region Bridge Repairs	279,493	120,000	57.07%	398,391
Southcentral Surface	1,397,463	600,000	57.07%	988,021
Tok Surface	2,274,604	976,600	57.07%	1,360,241
Maintenance & Operations, National Highway System				
Non-Interstate Preventative Maintenance & Repair -				
Fairbanks Surface	798,883	343,000	57.07%	753,700
Southcentral Surface	1,360,197	584,000	57.07%	606,744
Tok Surface	349,366	150,000	57.07%	176,997
St. Marys Airport Road Rehabilitation	3,526,740	2,999,514	14.95%	2,564,027
Totals Northern Region FY 2001	\$ 19,221,647	\$ 9,938,114		\$ 11,532,504
FY 2002 -				
Dalton Highway Painted Traffic Markings	260,000	175,000	32.69%	90,252
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair -				
Denali Surface	327,664	150,000	54.22%	114,072
Fairbanks Surface	3,075,014	1,407,700	54.22%	1,424,678

Appendix C
Summary of Force Account Projects 2000 - 2004
(Sorted by Region and Year)

Project Name	DOTPF Prepared			Expenditure Total Thru June 30, 2004
	Contractor Estimate	State Force Estimate	Percent Estimated Savings	
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair - Continued				
Interior Crack Seal & Repairs	288,344	132,000	54.22%	144,158
Northern Region Bridge Repairs	720,860	330,000	54.22%	469,081
Southcentral Surface	498,049	228,000	54.22%	231,515
Western Surface	1,446,089	662,000	54.22%	767,414
Maintenance & Operations, National Highway System				
Interstate Preventative Maintenance & Repair -				
Denali Surface	2,182,240	999,000	54.22%	766,858
Fairbanks Surface	501,325	229,500	54.22%	266,833
Southcentral Surface	2,452,235	1,122,600	54.22%	1,187,567
Tok Surface	2,293,645	1,050,000	54.22%	1,201,229
Maintenance & Operations, Non-Interstate Preventative Maintenance & Repair -				
Dalton Surface	1,033,233	473,000	54.22%	398,829
Fairbanks Surface	336,401	154,000	54.22%	289,695
Southcentral Surface	1,067,091	488,500	54.22%	475,961
Tok Surface	216,912	99,300	54.22%	101,647
Totals Northern Region FY 2002	\$ 16,699,102	\$ 7,700,600		\$ 7,929,789
FY 2003 -				
Airport Improvement Program Tatitlek - Surface Repairs ¹	N/A	100,000	N/A	-
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair -				
Interior Crack Seal & Repairs	321,646	230,700	28.28%	241,454
Northern Region Bridge Repairs	372,256	267,000	28.28%	143,956
Southcentral Surface	149,181	107,000	28.28%	230,266
Western Surface	1,013,595	727,000	28.28%	801,603
Fairbanks Surface	2,884,355	2,068,800	28.28%	2,257,653
Maintenance & Operations, National Highway System				
Interstate Preventative Maintenance & Repair -				
Denali Surface	899,270	645,000	28.28%	823,671
Fairbanks Surface	340,189	244,000	28.28%	286,060
Interior Crack Seal & Repairs	132,032	94,700	28.28%	128,629
Interior Pavement Markings	237,017	170,000	28.28%	184,483
Southcentral Pavement Markings	222,378	159,500	28.28%	160,099
Southcentral Surface	1,081,215	775,500	28.28%	1,169,091
Tok Surface	2,497,042	1,791,000	28.28%	2,018,210
Maintenance & Operations, National Highway System Non-Interstate Preventative Maintenance & Repair -				
Dalton Surface	382,015	274,000	28.28%	287,594
Fairbanks Surface	318,160	228,200	28.28%	297,375
Northern Region Bridge Repairs	281,632	202,000	28.28%	150,441
Southcentral Surface	1,272,223	912,500	28.28%	952,082
Tok Surface	197,560	141,700	28.28%	135,336
Totals Northern Region FY 2003	\$ 12,601,766	\$ 9,138,600		\$ 10,268,003
FY 2004 -				
Maintenance & Operations, Community Transportation Program				
Preventative Maintenance & Repair -				
Fairbanks Surface	1,622,571	1,132,000	30.23%	590,789
Northern Region Bridge Repairs	210,705	147,000	30.23%	53,664
Southcentral Surface	329,674	230,000	30.23%	293,787
Tok Surface	437,177	305,000	30.23%	15,622

Appendix C
Summary of Force Account Projects 2000 - 2004
(Sorted by Region and Year)

Project Name	DOTPF Prepared			Expenditure Total Thru June 30, 2004
	Contractor Estimate	State Force Estimate	Percent Estimated Savings	
Maintenance & Operations, National Highway System				
Interstate Preventative Maintenance & Repair - Continued				
Denali Surface	680,849	475,000	30.23%	347,304
Fairbanks Surface	563,313	393,000	30.23%	161,402
Southcentral Surface	1,271,396	887,000	30.23%	552,024
Tok Surface	1,536,569	1,072,000	30.23%	374,246
Maintenance & Operations, National Highway System				
Non-Interstate Preventative Maintenance & Repair -				
Fairbanks Surface	475,878	332,000	30.23%	251,046
Northern Region Bridge Repairs	266,606	186,000	30.23%	59,890
Southcentral Surface	809,852	565,000	30.23%	397,571
Tok Surface	137,603	96,000	30.23%	120,877
Western Surface	712,383	497,000	30.23%	395,185
Totals Northern Region FY 2004	\$ 9,054,576	\$ 6,317,000		\$ 3,613,407
Northern Region Totals	\$ 75,462,267	\$ 39,765,414		\$ 40,105,791
Southeast Region				
FY 2000 -				
Haines-Lutak Road Storm Damage Repair	\$ 264,778	\$ 206,788	21.90%	\$ 242,083
Non-National Highway System - Pavement Rehabilitation	1,022,651	832,794	18.57%	554,212
Road Service Treatment	1,061,410	805,984	24.06%	668,962
Totals Southeast Region FY 2000	\$ 2,348,839	\$ 1,845,566		\$ 1,465,257
FY 2001 -				
Haines-Chilkat Lake Rd surfacing	791,200	513,000	35.16%	764,901
FY 2002 -				
Road Surface Treatments Ketchikan/Juneau	678,500	527,000	22.33%	303,441
FY 2003 -				
Region Road Surface Treatment	1,255,550	811,000	35.41%	474,331
FY 2004 -				
Region Pavement Refurbishment Juneau Chip Seal	147,276	105,954	28.06%	3,949
Pavement Refurbishment -				
Haines Highway Erosion Control	249,715	193,830	22.38%	10,876
Hydaburg Chip Seal	885,190	697,000	21.26%	560,343
Totals Southeast Region FY 2004	\$ 1,282,181	\$ 996,784		\$ 575,168
Southeast Region Totals	\$ 6,356,270	\$ 4,693,350		\$ 3,583,098
Statewide Totals	\$ 109,272,422	\$ 61,795,963		\$ 56,460,382

3132 CHANNEL DRIVE
JUNEAU, ALASKA 99801-7898

TEXT : (907) 465-3652
FAX: (907) 586-8365
PHONE: (907) 465-3900

OFFICE OF THE COMMISSIONER

April 25, 2005

Ms. Pat Davidson, Legislative Auditor
Legislative Budget and Audit Committee
Division of Legislative Audit
P.O. Box 113300
Juneau, AK 99811-3300

Dear Ms. Davidson:

Thank you for allowing me to respond to the overall audit findings and recommendations contained in preliminary audit report, Department of Transportation and Public Facilities, Force Account Projects, March 3, 2005. You have done a thorough job of looking at the department's recent practices regarding force account work. The following are our comments:

Recommendation 1

The Department of Transportation and Public Facilities (DOT&PF) Commissioner should improve procedures governing public interest findings on force account projects.

The audit findings and recommendation are reasonable. We agree that a final report that summarizes the outcome of force account projects (including overruns) would provide valuable information for us, especially when reviewing future public interest findings (PIF). A final report will be made a condition of approval for all future PIFs.

We agree that some of the estimating methodologies could be clarified by providing additional guidance in the department's policy and procedure manual. We will incorporate this into the next revision is expected within the next six months.

The department agrees to add clarification in the Standard Specification for Highway Construction Manual regarding markups for overhead and profit.

If you require any further information, please contact Nancy Slagle at 465-8974.

Sincerely,

Mike Barton
Commissioner

cc: Gordon Keith, Central Regional Director
John MacKinnon, Deputy Commissioner of Highways and Public Facilities
Andrew Niemiec, Northern Regional Director
Mark O'Brien, Chief Contracts Officer
Gary Paxton, Southeast Regional Director
Frank Richard, Statewide Maintenance and Operations Engineer
Nancy Slagle, Director, Division of Administrative Services