



AIP Equipment Sustainability Analysis



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Executive Summary

The Alaska Department of Transportation & Public Facilities (DOT&PF) owns and operates 253 rural airports throughout the state. These airports are often the sole means of year round transportation and the cornerstone to the sustainability of these communities. They provide essential services including: medical evacuation, food, fuel, supplies, and mail. Historically, the DOT&PF paid monthly fees into the Highway Equipment Working Capital Fund (HEWCF) to ensure replacement of the equipment assigned at the airports once it has met its useful life. In 1996, these payments ceased to cover a looming budget shortfall. This change in payment of replacement fees to the HEWCF has resulted, over time, in a backlog of \$52.2 million dollars in equipment replacement purchases, as of 2013, and is estimated to be \$77.9 million by FY27.

This paper discusses the history of funding airport maintenance equipment, where the State Equipment Fleet (SEF) stands today and options for moving forward with a viable plan to correct the current equipment replacement shortfall. The paper presents several alternatives for funding the current backlog and future equipment purchases through FY27. Adopting the following recommended plan would result in bringing all airport equipment back into the pre-1996 fixed fee replacement program as of 2027.

After analyzing the current status of equipment and options for replacement, it was determined that airport equipment should be placed back into the HEWCF system. The most practical method of purchasing the \$52.2 million in equipment would be to combine that backlog with the amount of equipment that is already identified to be purchased over the next six years (FY13–FY18). A total of \$89.2 million dollars in equipment would be purchased in this six year timeframe, referred to as Alternative 3. Dividing the cost equally over six years results in \$14.9 million in new equipment purchases per year. DOT&PF would continue to utilize the current allocation of \$7 million in federal Airport Improvement Program (AIP) funds and request an annual capital appropriation of \$7.9 million from the legislature. As this equipment is purchased and placed into service, monthly payments of fees collected for future replacements must begin, resulting in an average annual \$1.8 million dollar operating budget increment over the next six years.

To address the same needs, for equipment due to be retired from FY19 through FY27, equipment that will be replaced FY19 and beyond must also be caught up and funded (Assuming Alternative 3 has been chosen). The total cost to fund new equipment FY19 through FY27 is \$93.7 million, less annual AIP funds (\$7 million per year for FY19-FY27, a total of \$63 million) resulting in a \$30.7 million shortfall. This \$30.7 million shortfall could be funded in many ways, including a similar process as used in the FY 13–FY 18 proposal. The monthly fees for equipment replacement acquired from FY19 through FY27 would also need to be reinstated. These funds could be averaged and phased in over 9 years at \$1.1 million annually (operating budget Increments) FY19 through FY27, or could be funded each year based on actual replacements.

Failure to properly maintain these airports would place the DOT&PF in non-compliance with AIP grant assurances, requiring repayment of all funds expended on airport projects.

Introduction

Over the years a shortfall in Federal Aviation Administration (FAA) funding has resulted in DOT&PF airport Maintenance and Operation equipment purchases being deferred, resulting in a \$ 52.2 million dollar backlog as of 2013. This paper addresses the history of funding Aircraft Rescue and Firefighting (ARFF) equipment and airport snow removal equipment (SRE) and provides options for the future sustainability of the State of Alaska's rural airport equipment.

Background

Most rural communities in Alaska are unique. They are not connected to the National Highway System (NHS), typically have small populations, and do not have other rental equipment available that could be used for airport snow removal. These communities depend on their airports as the sole transportation link to allow for vital necessities such as medical evacuation services, supplies, commodities, mail and transportation services. The airport is essentially a lifeline, as such, reliable airport maintenance and access is the cornerstone to the sustainability of these communities.

As the owner of these airports, the DOT&PF is charged with operating the airports in accordance with FAA rules and grant assurances. In doing so, the State Equipment Fleet (SEF) acquires and maintains adequate and appropriate ARFF equipment and SRE to adequately maintain the airports.

Until 1996, the DOT&PF funded the replacement of this equipment through the HEWCF. This fund was created in 1960 to enable Executive Branch agencies to pay a monthly fee for equipment, thus forward-funding its replacement once depreciated. Seventy-seven percent (77%) of all state owned and agency operated equipment is currently being replaced under this system.

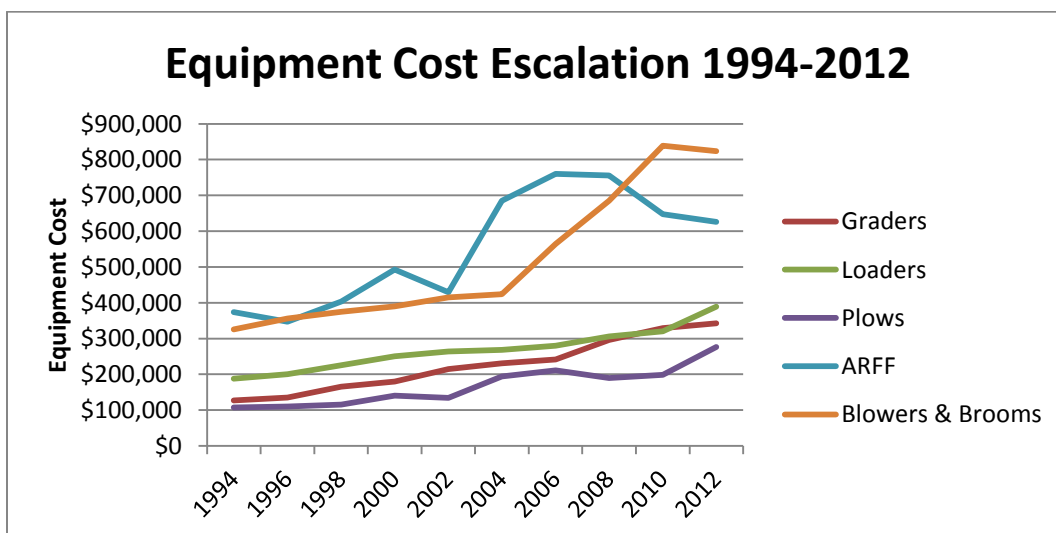
During the 1996 budget cycle, the DOT&PF was faced with a substantial reduction of operating funds that would have resulted in significant impacts to airport services. Failure to provide these services would have jeopardized the DOT&PF's FAA AIP grant assurances, ultimately requiring all, or a portion of, the AIP funds to be repaid.

The DOT&PF evaluated the options available at that time to bridge the shortfall without impacting vital services and a decision was made to discontinue the operating budget payment of the replacement or "fixed" fees on AIP eligible equipment. This decision has required the DOT&PF to rely solely on AIP funds to provide for the future replacement of all ARFF equipment and SRE at DOT&PF's rural airports (This does not include the International, Municipal or privately owned airports).

Current System

Currently airport SRE is being replaced and/or upgraded using approximately \$7 million in annual federal AIP funding. This funding level has drastically fallen short with regard to accomplishing the replacement of the full array of equipment required to operate and maintain these airports. Overall, AIP funding levels continue to be uncertain. For many of these remote communities, each piece of equipment purchased can incur freight costs exceeding 40% of the purchase price of the equipment. This coupled with the effects of inflation, results in less buying power for purchasing equipment. New airports, expanded airport surface areas, and larger aircraft have also caused the purchase of additional and larger equipment to achieve the FAA and air carrier mandated surface conditions. These additional requirements and increasing costs (see Graph 1 below), have resulted in the SEF deferring replacement of nearly \$52.2 million worth of equipment, as of 2013.

There is significant risk and liability in not immediately beginning to correct the funding shortfall. Two hundred and fifty three rural communities and its citizens rely on DOT&PF, as the airport owner, to provide safe and serviceable airports. In most cases the community's airport serves as the sole year round transportation link. Without adequate and serviceable equipment to properly maintain these airports, communities lose the ability to rely on this vital transportation link for essential services, and the State of Alaska may be in noncompliance with AIP grant assurances. Aircraft and their passengers are also subjected to significant risk by increasing the probability of accidents from inadequate maintenance. Failure to address and correct this critical equipment funding shortfall will create an untenable situation jeopardizing the safe operation of these airports, reducing and/or eliminating essential supplies, travel and medical care and ultimately threatening the continuing existence of these Alaskan communities and their citizens.



Graph 1. Equipment Cost Escalation

Alternatives

Due to the critical need for this equipment, DOT&PF must examine the long term options for airport equipment replacement and enact immediate measures to ensure sufficient equipment is replaced in a timely manner in the near and distant future. The following alternatives allow for the purchase of missing equipment in any of several ways. These alternatives assume a range of life expectancy for rural heavy equipment, which typically exceeds the 10 year life expectancy used by the FAA. Life expectancies were determined based on the difference between the in service and “Z” dates (the estimated replacement date for equipment based on its specific location and actual usage) for each piece of equipment. The alternatives only address the equipment through the proposed dates and do not address the arrears and future replacement (fixed) fee costs for equipment currently in the system requiring replacement FY19 and beyond, which are addressed in the section entitled Fixed Fee Proposal.

It should also be noted that using AIP funds for equipment purchases prevents equipment from being used off airport to aid in times of emergencies and natural disasters. For example, during a winter storm an airport loader could be used to transport and place sand bags to protect a community along the coast from storm surge. However, if AIP funds were used to purchase the loader, its use is restricted to strictly airport property until the grant assurances (10 year life) are satisfied. Use of equipment for purposes other than airport needs can result in repayment of grant funds to the FAA. Purchasing certain pieces of critical airport equipment with state funds will allow for equipment usage off airport during emergencies.

Alternative 1 – Continue with Current AIP Funding Program

Alternative 1 continues to use only the current AIP fund allocation for the replacement of SRE and ARFF equipment. This is a status quo option and does not address the current, as of FY13, \$52.2 million in deferred equipment replacement or the long term future equipment replacement requirements for operating these airports and will ultimately increase the deferred equipment list.

AIP Funds: \$7 million

Shortfall from FY 13-FY 27: \$77.9 million in equipment

Alternative 2 – Single Fiscal Year Funding Request

Alternative 2 funds replacement of all extended (eligible prior to FY13) or due (eligible in FY13) equipment to date through AIP funds and a capital budget request of \$45.2 million. Once purchased DOT&PF would begin paying fixed fees on this equipment, resulting in a \$6.3 million operating budget increment in FY13.

Total Cost: \$52.2 million

AIP funds: \$7 million (With current AIP funding levels)

Capital Budget Request in FY13: \$45.2 million

Operating Budget Increment in FY13 for Estimated Annual Fixed Fees: \$6.3 million

Note: This fixed fee increment only accounts for deferred and FY13 equipment. This does not account for existing equipment that will be due for replacement FY14 and beyond. Therefore, Alternative 2 only corrects the immediate need to fund deferred and FY 13 equipment.

Alternative 3- Combined Six Year Funding Request

Alternative 3, the recommended plan, pays for equipment over a period of six years by combining the total funds required for replacement of deferred equipment purchases, plus current and future 6 year needs (FY13-FY18). In this alternative a combination of general funds and AIP funds are needed to bring the fleet current as of FY18. The total need of \$89.2 million (deferred and FY13-18) is divided by 6 (years), resulting in a need of \$14.9 million, this amount less annual AIP funds of \$7 million results in a capital budget request of \$7.9 million. This alternative also recommends paying fixed fees on each piece of this equipment after purchase, totaling a \$1.8 million annual operating budget increment over the six years.

Cost per year FY13-FY18: \$14.9 million a year

AIP Funds: \$7 million per year (With current AIP funding levels)

Capital Budget Request: \$7.9 million

Operating Budget Increment for Estimated Annual Fixed Fees (FY13-FY18): \$1.8 million per year

Note: For equipment FY19 and beyond, please refer to the Proposal for Equipment FY19 and Beyond in the following section.

Alternative 4- Six Year AIP Funding Increase

Alternative 4 modifies alternative 3 and instead of a capital request increases AIP funds for a 6 year period (FY13-FY18), to purchase the deferred and FY13-FY18 equipment totaling \$89.2. An annual operating budget increment to pay fixed fees in the amount of \$1.8 million is also recommended so that in the future equipment will be funded through the HEWCF system.

Cost per year FY13-FY18: \$14.9 million per year

AIP Funds: \$ 14.9 million per year (Increase of \$7.9 million from current AIP funding levels)

Operating Budget Increments for Fixed Fees (FY13-FY18): \$1.8 million per year

Note: This option will reduce the AIP funding available to address the backlog of airport reconstruction and safety projects. For equipment FY19 and beyond, please refer to the Proposal for Equipment FY19 and beyond.

Proposal for Equipment FY19 and Beyond

To keep the entire fleet sustainable, equipment that is planned to be replaced in FY19 and beyond must also be funded (Assuming either Alternative 3 or 4 has been chosen). The total cost to fund replacement equipment FY 19 through FY 27 is \$93.7 million, less annual AIP funds (\$7 Million per year for years FY19-FY27, for a total of \$63 million) resulting in a \$30.7 million shortfall. This \$30.7 million shortfall could be funded in at least two ways, either a single capital appropriation of \$30.7 million or a capital request for \$5.1 million each year for 6 years. If a 6 year capital request program is preferred, this could also be funded in the FY13 through FY 18 timeframe, or could be delayed and funding requested beginning in FY19 for 9 years at \$3.4 million per year.

The monthly fixed fees for equipment being replaced during the FY 19 through FY27 period would also need to be reinstated. These funds could be averaged and phased in over 9 years at \$1.1 million annually (operating Budget Increments), FY 19 through FY 27, or could be funded each year based on actual replacement fees. This would bring all airport equipment back into the pre-1996 fixed fee replacement program as of FY27.

Total Cost for equipment replacement FY19-FY27:\$93.7 million

AIP Funds: \$7 million (Totaling \$63 million) per year FY 19–FY27

Capital Budget Request Options: \$5.1 million for 6 years (FY13-FY18) or

\$3.4 million for 9 years (FY19-FY27) or

\$30.7 million single appropriation

Operating Budget Increments for Fixed Fees beginning in FY19: \$1.1 million per year

Note: Other options are available and may be further examined once an alternative has been chosen.

Conclusion

The recommended funding plan is to proceed with Alternative 3, as well as the Proposal for Equipment FY19 and beyond. However, implementation of Alternative 3 or 4 in conjunction with the Proposal for Equipment FY19 and beyond will ultimately result in the DOT&PF successfully returning to the pre-1996 equipment replacement system. This system will allow for the timely and cost effective replacement of critical airport equipment for future generations of Alaskan citizens, without relying on additional AIP or general fund appropriations that may or may not be available.

Over the past seventeen years the DOT&PF's AIP Airport Equipment Funding Program has declined from being self-sustaining to facing an equipment replacement deficit of \$52.2 million dollars. Failure to correct this situation promptly will result in an equipment replacement deficit of up to \$77.9 million by FY27. This airport equipment, both ARFF and SRE, is critical to the DOT&PF in meeting the FAA grant

assurance requirements and to safely and efficiently operate airports throughout the state. Failure to own and use this equipment will prevent and/or delay proper maintenance of airports, resulting in unreliable medevac operations, cancelled flights and eventually unsafe aircraft operating areas. Some existing airport equipment is over 25 years old; failure to replace this equipment in a timely manner has resulted in escalating equipment maintenance costs and reduced reliability. The longer equipment replacement is deferred the more difficult and more expensive it will be to replace, ultimately increasing the equipment replacement backlog.