



# Wiley Post/Will Rogers Memorial Airport MASTER PLAN UPDATE

## Chapter 7 Financial Analysis

**DRAFT**

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# 7 Financial Analysis

This section presents an analysis of financial feasibility of airport improvements for the Wiley Post/Will Rogers Memorial Airport (Barrow Airport) Master Plan. The discussion includes existing revenue streams and expenses, as well as potential sources of funding from bonding, passenger facility charges, airport landing fees, in-kind contributions, and public-private partnerships. The section concludes with a discussion about local hire and job skills development opportunities.

## 7.1 Existing Operating Revenues and Expenses

This section summarizes current operating revenues and expenses, as well as the Barrow Airport’s ongoing Capital Improvements Plan (CIP).

### 7.1.1 Operating Revenues

The Barrow Airport currently has three funding sources: State General Funds, Leasing Revenue, and Federal TSA Grants. In the state’s fiscal year 2013, the airport received \$1.96 million of funding, mostly comprised of nearly \$1.79 million from State General Funds, with an additional \$164,000 received from leasing revenues (Zenger, 2013). Table 7-1 summarizes the amounts received in fiscal years 2009–2013 in each of the revenue categories.

**Table 7-1 – Barrow Airport Operating Revenues by Category, Fiscal Years 2009–2013**

Fiscal Year	Facility	Revenue Category			Total (\$)
		State General Fund (\$)	Leasing (\$)	Federal TSA Grant (\$)	
2013	Aviation	1,659,498	163,856	6,953	1,830,307
	Facilities	130,549			130,549
	Total	1,790,047	163,856	6,953	1,960,855
2012	Aviation	1,491,959	145,358	31,188	1,668,505
	Facilities	69,764			69,764
	Total	1,561,723	145,358		1,707,081
2011	Aviation	855,857	143,214	34,824	1,033,895
	Facilities	50,697			50,697
	Total	906,555	143,214		1,049,769
2010	Aviation	638,051	137,788	33,662	809,501
	Facilities	27,543			27,543
	Total	665,593	137,788		803,382
2009	Aviation	597,020	143,057	26,865	766,941
	Facilities	54,959			54,959
	Total	651,979	143,057		795,036

Source: Zenger (2013)

## 7.1.2 Operating Expenses

The Barrow Airport incurred expenses of \$1.96 million in fiscal year 2013. Supplies and personnel were the largest expense categories, together accounting for more than 75% of total expenses. Table 7-2 provides details on the airport’s operating expenses for fiscal years 2009-2013.

**Table 7-2 – Barrow Airport Operating Expenses by Category, Fiscal Years 2000-2013**

Fiscal Year	Facility	Revenue Category					Total (\$)
		Personnel (\$)	Travel (\$)	Maintenance (\$)	Utilities (\$)	Supplies (\$)	
2013	Aviation	586,134	74,523	309,110	22,089	838,450	<b>1,830,307</b>
	Facilities	50,936	19,930	9,962	19,113	30,608	<b>130,549</b>
	Total	637,070	94,453	319,072	41,202	869,058	<b>1,960,855</b>
2012	Aviation	522,740	86,551	282,987	19,041	757,185	<b>1,668,505</b>
	Facilities	14,224	6,869	23,615	12,958	12,098	<b>69,764</b>
	Total	536,964	93,420	306,602	32,000	769,283	<b>1,738,269</b>
2011	Aviation	467,671	46,828	264,891	17,433	237,073	<b>1,033,895</b>
	Facilities	4,584	4,407	17,585	9,443	14,678	<b>50,697</b>
	Total	472,255	51,234	282,477	26,876	251,751	<b>1,084,592</b>
2010	Aviation	393,632	61,701	224,298	13,372	116,498	<b>809,501</b>
	Facilities	627	2,250	9,163	6,546	8,957	<b>27,543</b>
	Total	394,259	63,951	233,461	19,918	125,455	<b>837,044</b>
2009	Aviation	354,461	52,876	256,661	11,727	91,216	<b>766,941</b>
	Facilities	17,129	2,565	11,458	7,642	16,165	<b>54,959</b>
	Total	371,589	55,442	268,119	19,370	107,381	<b>821,900</b>

Source: Zenger (2013)

Maintenance expense has varied over the years shown due to changes in the types of expenses incurred. Table 7-3 provides more detail about the maintenance expense categories.

**Table 7-3 – Barrow Airport Detailed Maintenance Expense Categories, Fiscal Years 2009-2013**

Category	Expense (\$) by Fiscal Year				
	2013	2012	2011	2010	2009
<b>SEF Equipment Operating &amp; Replacement Costs</b>	166,251	105,271	107,570	100,038	95,694
<b>Bulk Fuel</b>	60,154	59,749	32,650	46,747	50,083
<b>Chemicals/Sand</b>	26,950	0	100,857	3,752	0
<b>Asphalt</b>	29,841	35,700	119	0	0
<b>Grader Blades</b>	40,450	0	0	9,782	5,170
<b>Equipment Purchase</b>	420,849	0	0	0	0
<b>TSA Agreement</b>	18,214	78,993	78,076	48,522	44,038

Source: Zenger (2013)

In comparing the airport’s annual revenues with its expenses, the Barrow Airport’s expenses regularly exceed its revenues. The vast majority of its revenues come from state and federal funding rather than activities at the airport. As a result, it does not have any surpluses to cover improvements without external support.

### 7.1.3 Capital Improvement Program

The Barrow Airport has eight CIP projects underway, with total funding of \$12.5 million. Of that amount, 87 percent has been expensed, with \$1.6 million of funds remaining on the projects. Table 7-4 summarizes the airport’s current capital projects.

Table 7-4 – Barrow Airport Capital Projects

Project Name	State ID	Funding (\$)	Expenses (\$)	Balance (\$)
Barrow Ahkovak Street Upgrade	60460	451,000	169,522	281,478
Barrow Airport Apron Expansion	61435	1,001,000	882,784	118,216
Barrow Airport ARFF Bay Addition with Sand Storage	61706	250,000	5,691	244,309
Barrow Airport Deicing Chemical Storage Building	62378	501,000	33,901	467,099
Barrow Airport Master Plan Update	61974	600,000	591,093	8,907
Barrow Arctic Research Center Road	76970	860,501	518,150	342,351
Barrow ARFF Freezeback System Chiller Replacement & OSA DM FY13	62209	125,000	19,948	105,052
Barrow Runway & Apron Paving & Safety Area Expansion	63506	8,717,789	8,699,822	17,967

Source: Zenger (2013)

### 7.1.4 Historic Airport Improvement Program Funding

The Federal Aviation Administration, through its Airport Improvements Program (AIP), provides grants to public agencies for planning and development of public use airports. Over the last 30 years, the Barrow Airport has been the recipient of nearly \$56 million of AIP funding (see Table 2-15 on page 2-41).

## 7.2 Funding Plan and Revenue Enhancement

This section discusses the improvements noted in the implementation plan and their cost (see Chapter 6), then lays out sources of funding. The analysis looks solely at funding sources and does not attempt to evaluate the feasibility of the funding plan, nor does it include a benefit-cost analysis of the implementation plan.

### 7.2.1 Summary of Expenditures in Implementation Plan

The current implementation plan includes three phases of development, totaling \$109.2 million. As shown in Table 7-5, funding needs will begin with \$35.4 million in the 2014–2019 period, \$32.4 million in 2019–2024, and \$41.4 million in 2024–2034.

**Table 7-5 – Summary of Improvement Costs by Phase**

Phase	Period	Implementation Program Expenditure (\$)
<b>Phase I</b>	2014–2019	35.4 million
<b>Phase II</b>	2019–2024	32.4 million
<b>Phase III</b>	2024–2034	41.4 million
<b>Total</b>		<b>109.2 million</b>

Details about the projects in the implementation plan can be found in Chapter 6.

## 7.2.2 Sources of Funding for Implementation Plan

This section discusses four sources of funding: bonding, Passenger Facility Charges (PFCs), landing fees, and other sources. At present, the Barrow Airport does not charge Passenger Facility Charges or landing fees. While these fees are discussed below, even if they were to be implemented, they would not likely be able to fund more than a very small portion of the annual debt obligation associated with the planned improvements. Realistically, legislative appropriations and external grants and other support appear to be the only viable sources of funding for the planned capital improvements.

Using debt obligations to fund the airport improvements will result in annual debt costs ranging from 1.5 to 3.5 times the current operating cost for the airport, representing a significant burden on state funding and highlighting the need to identify additional funding sources.

Given the current fiscal situation faced by the state and federal governments, it will be challenging to acquire financial support for the implementation plan. Funding will likely need to come from several sources, some of which are conventional (state and federal appropriations, debt issues funded with new revenues sources, etc.) and some that are less common (in-kind contributions, local support, and public-private partnerships).

### Bonding

It appears that issuance of bonds and capital appropriations by the Alaska Legislature are the two feasible options for funding the Barrow Airport’s implementation plan. The caveat is that bonding creates an obligation that would need to be repaid from external sources since revenues generated by the airport would not be sufficient to cover more than a small portion of the debt costs.

FAA AC 150/5070-6B (FAA, 2007) mentions four categories of bonds that might be used for airport projects:

- General obligation (GO) bonds
- Revenue bonds
- Special facility revenue bonds
- Industrial development bonds

GO bonds are issued and backed by the full faith and credit of the issuer, which results in a lower risk of default and therefore lower required interest rate compared to revenue bonds, which are backed by a specific revenue stream. In Barrow’s case, revenues are insufficient to justify the use of revenue bonds and therefore GO bonds would be the preferred approach for aviation facilities.

The final category of bonds listed by the FAA is tied to industrial development that would attract business, increase non-aeronautical leasing, and promote industrial development in an area. The Alaska Industrial Development and Export Authority (AIDEA) would be the appropriate authority to issue industrial development bonds for facilities at the Barrow Airport. However, public airport facilities are not eligible for AIDEA funding, though AIDEA funding could potentially be used for other developers of industrial or export-related facilities at the airport (see AIDEA and Federal Express example in Section 7.4).

This analysis assumes that the airport would use GO bonds issued by the City of Barrow, North Slope Borough, or State of Alaska. The Alaska Municipal Bond Bank Authority (AMBBA) issues bond packages for local governments in the state and would be the likely issuer for bonds associated with the Barrow Airport. At present, yields for 20-year municipal bonds range from 3.75% to 4.45% for AAA- and AA-rated issuers at the national level (FMSbonds, Inc., 2013). This is very low compared to long-term historical rates and slightly low when compared to recent AMBBA debt issues (AMBBA, 2012). For planning purposes, it is prudent to assume bond yields of 5.0–5.5% over the course of the planned improvements. This analysis uses the upper end of that range to be conservative.

This analysis assumes that bonds will be issued at the start of each phase for the full amount needed for that phase. Table 7-5 summarized the starting years and funding needs for each phase. All bond issues are assumed to have a 20-year term and a 5.5% yield. Each bond package is assumed to have a 2.5% issuance cost built in to the total issue amount.

Assuming the full cost of each phase is covered through the issuance of debt, Table 7-6 shows projected debt issues for the three phases of planned improvements. The table shows the issuance amounts for each phase (including a 2.5% issuance cost), the annual debt obligation if the debt is amortized, and the final year of payment. To the extent that appropriations offset a portion of the improvement costs, the debt issue amounts and annual obligation would be reduced proportionally.

**Table 7-6 – Projected Debt Issues, by Phase**

Debt Issuance	Year of Issue	Implementation Program Expenditure (\$)	Issuance Amount (\$)	Annual Debt Obligation with Amortization (\$)	Year of Final Payment
<b>Phase I</b>	2014	35.40 million	36.31 million	3.04 million	2034
<b>Phase II</b>	2019	32.40 million	33.23 million	2.78 million	2039
<b>Phase III</b>	2024	41.40 million	42.46 million	3.55 million	2044
<b>Total</b>		<b>109.20 million</b>	<b>112.0 million</b>		

Note: Assumes a 2.5% issuance cost, 5.5% yield, and 20-year term for each bond.

Due to the phased approach of debt issues, the annual debt obligation will change over time. Table 7-7 provides a summary of the annual amortized cost resulting from the phased debt issues. Annual amortization costs will reach more than \$9.3 million in 2024, once debt has been issued for each of the three phases, and will decline with the retirement of Phase I debt in 2034 and Phase II debt in 2039.

**Table 7-7 – Summary of Annual Amortized Costs, Fiscal Years 2014–2044**

Period	Annual Amortized Cost (\$)
2014–2018	3.04 million
2019–2023	5.82 million
2024–2034	9.37 million
2035–2039	6.33 million
2040–2044	3.55 million

If bonds were issued for improvement to the Barrow Airport, much or all of the costs would need to be covered externally, likely from the state. PFCs, discussed below, would likely cover only a small portion of debt costs (approximately 1.5% in the peak 2024–2034 period), assuming the Barrow Airport would receive FAA authorization to assess them.

It is possible that the City of Barrow or the North Slope Borough could levy a property tax to cover airport costs or the payment of the airport’s debt, but this would require an agreement outlining how the funding arrangement would work since the Barrow Airport is owned by the State of Alaska. No such agreement is currently in place elsewhere in the state. The City of Barrow does not currently levy a property tax, while the North Slope Borough’s property tax rate is currently 18.5 mills (ADCCED, 2013).

### Passenger Facility Charges

The Aviation Safety and Capacity Expansion Act of 1990 provided airports with an additional source of funding for capital projects in the form of Passenger Facility Charges (PFCs). Under this Act, PFCs may be used as a source of funding for airport-related projects that preserve or enhance safety, capacity, or security of the national air transportation system; reduce noise from an airport that is part of the system; or furnish opportunities for enhanced competition between or among air carriers.

The Aviation Safety and Capacity Expansion Act authorizes a public agency to impose a PFC of \$1.00, \$2.00, or \$3.00 per enplaned passenger at commercial airports it controls. The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, which was enacted in 2000, included authorization to charge a PFC at the \$4.00 and \$4.50 levels provided specific eligibility requirements are met.

As in the case of operating surpluses, PFC revenues are: 1) used on a “pay-as-you-go” basis, where PFC collections and interest earnings are spent directly on capital projects; and/or 2) leveraged; that is, used to pay debt service on bonds. Airport operators must obtain approval from FAA before they begin the collection and use of such revenues. ADOT&PF has the authority to impose a PFC subject to federal regulations. However, federal legislation prohibits a public agency from imposing a PFC on any passenger for whom the following conditions apply:

- ➔ On any flight to an eligible point on an air carrier that receives essential air service compensation on that route. The Administrator makes available a list of carriers and eligible routes determined by the US DOT for which PFCs may not be imposed under this section.
- ➔ On enplanements in Alaska aboard an aircraft having a certificated seating capacity of less than 60 passengers.



As of October 1, 2013, 288 small hub, non-hub, and commercial service airports and 59 large and medium hub airports, are approved to collect at the \$4.50 PFC level (FAA, 2013). In Alaska, four airports are currently collecting PFCs: Juneau International, Fairbanks International, Anchorage International, and Ketchikan International. For Barrow Airport to qualify to collect a PFC, it would have to petition the FAA. There are a number of exclusions the Barrow airport would have to obtain, including its service to a population of less than 10,000, and the fact that the community is not connected to a state highway system. Because of these circumstances, there are several requirements that would have to be met, so it is not certain if this program would be feasible for Barrow.

Should the ADOT&PF choose to petition the FAA to collect a PFC at BRW, Alaska Airlines would be the only carrier required to pay because their aircraft are the only ones with more than 60 passengers that currently serve BRW.

During 2012, there were 31,315 enplanements on aircraft with over 60 seats. Therefore, the Barrow Airport could raise approximately \$140,000 by collecting a \$4.50 PFC. This is a substantial funding source, equal to nearly 10 percent of the airport's operating expense in fiscal year 2012 (approximately \$1.8 million), but it would only cover a tiny portion of the funding needs for the preferred alternative.

## Airport Landing Fee<sup>1</sup>

An airport owner may impose a two-part landing fee consisting of a combination of a per-operation charge and a weight-based charge provided that (1) the two-part fee reasonably allocates costs to users on a rational and economically justified basis; and (2) the total revenues from the two-part landing fee do not exceed the allowable costs of the airfield.

Alaska is experiencing a general trend towards use of larger aircraft carrying a greater number of passengers per aircraft. The design aircraft for BRW is the 737-800, with a passenger capacity of 157. It is a reasonable assertion that larger aircraft are subject to landing fees based primarily on their weight, for which the airport sponsor must be compensated to maintain the facilities, such as pavement and apron areas, for the aircraft's future use.

To ensure the viability and security of an airport landing fee, it is recommended that the State pursue reasonable use agreement discussions with existing and potential large aircraft operators utilizing facilities at Wiley Post/Will Rogers Memorial Airport. This process could take the form of a simple letter informing the user(s) that a landing fee is assessed for a particular aircraft configuration.

The most viable course of action to pursue this end is to proceed with establishing landing fees by utilizing a compensatory approach to establishing those fees. In this model of rates and charges determination, the user is charged based on their actual use for the facility from which they derive a benefit. A fee is levied against the user to cover the corresponding cost of the expenses to maintain and operate the facility. Furthermore, the cost/rate of the imposed fee is based on the aircraft operator's prorated share of occupancy or usage. This share of usage or occupancy can be based on total weight of the aircraft or annual operational activity. A landing fee for large aircraft operators might be classified under different term such as a ramp fee.

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<sup>1</sup> Section Sources: Bowers Field Airport (WA), "Airport Financing Program"; Ketchikan International Airport, Fees; Nome Airport; Fairbanks International Airport (FAI); Anchorage International Airport (ANC); Notice of Proposed Changes in Alaska International Airport System Rates & Fees (6/5/13).

Determination of an actual landing fee/ramp fee amount would be best decided on by the State of Alaska. Suggested landing fees might be \$1.00 per 1,000 pounds, or part thereof, of the FAA certified maximum landing weight. Other similar sized airport markets in Alaska have a range of aircraft landing fees that vary between \$0.75 to \$1.00 per thousand pounds of aircraft weight. It is suggested that these rates should only apply to aircraft, 6,000 lbs. and greater.

As an alternative, a simple flat fee of \$10.00 to \$12.00 per departure would be a reasonable expectation. Another course of action or alternative might include the State electing to waive a landing fee/ramp fee if the aircraft operator purchases a minimum amount of fuel to assist in recovering costs associated with operation and maintenance of the facility.

## Other Sources

In addition to the funding sources discussed above, other forms of financial support may be available for the airport. Programs are highlighted here for two federal agencies in particular: the United States Department of Agriculture (USDA) Rural Development, and the Economic Development Administration (EDA).

USDA Rural Development may offer financial support to the Barrow Airport through its Community Facilities Loans and Grants program. In addition to a loan guarantee program, the agency also offers Community Facility Grants that may be applicable for the Barrow Airport due to the small population of Barrow and the importance of the airport (USDA Rural Development, 2013).

EDA, based under the United States Department of Commerce, may offer financial support to the Barrow Airport, principally in the form of loans or grants for infrastructure. The EDA website lists a number of major programs, the following of which may be directly or indirectly applicable to the Barrow Airport (EDA, 2013):

- **Public Works:** Empowers distressed communities to revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term, private sector jobs and investment.
- **Economic Adjustment:** Assists state and local interests in designing and implementing strategies to adjust or bring about change to an economy. The program focuses on areas that have experienced or are under threat of serious structural damage to the underlying economic base.
- **Partnership Planning:** Supports local organizations (Economic Development Districts, Indian Tribes, and other eligible areas) with long-term planning efforts. The Comprehensive Economic Development Strategies (CEDs) Summary of Requirements (PDF), provides a synopsis of the requirements for comprehensive economic development strategies.
- **Local Technical Assistance:** Helps fill the knowledge and information gaps that may prevent leaders in the public and nonprofit sectors in distressed areas from making optimal decisions on local economic development issues.

## 7.3 In-Kind Contributions

In addition to direct financial support from sources discussed above, there may be opportunities for in-kind contributions of labor, equipment, or materials, or other cost-sharing arrangements, at the Barrow Airport. This section discusses some potential sources of in-kind contributions and other unconventional

forms of support. These sources were generated through a brainstorming process and many represent thinking outside the box. As a result, some of these sources may not be legally feasible, realistic, or viable, but their inclusion is intended to spur thinking about other opportunities to fund the airport.

The North Slope Borough has offered political support for the Barrow Airport improvements, as discussed in Section 7.5. In addition to the political support, the North Slope Borough could be asked to donate gravel, equipment, or services to construct the airport improvements, or it could be approached to identify other ways it could help to encourage development. The borough would benefit from the increased tax base should additional private development associated with the airport take place (for example, see the note about development south of the airport in Section 7.6.1).

Historically, oil and gas companies have been generous supporters of community programs and facilities. Given Barrow's proximity to current oil production on land as well as potential offshore oil and gas production, oil and gas companies may be interested in providing financial or in-kind support for the Barrow Airport's improvements. This support could be for specific facility elements that are named in recognition of their supporters or support could be made in conjunction with additional advertising or educational opportunities. For instance, a runway could be named in honor of a donor, or an educational display on the history of oil and gas development on the North Slope could be built in the terminal along with some financial support for other improvements.

Regular air carriers that use the Barrow Airport may also be interested in supporting airport construction in exchange for naming or other recognition. Within legal constraints, there may be opportunities for preferential use agreements or other beneficial arrangements.

The regional and local Alaska Native Corporations, Arctic Slope Regional Corporation (ASRC) and Ukpeaġvik Iñupiat Corporation (UIC), respectively, may also be willing to provide financial support to the Barrow Airport's construction. The corporations might also sponsor local training for contractor employees for construction or operations as a way to support local economic development.

The City of Barrow is a potential donor for the airport. It could make a capital contribution for construction, sponsor local training for contractor employees for construction or operations to support local economic development, or offer operating support through in-kind or financial contributions.

Local businesses may be interested in supporting the new airport. Barrow does not appear to have a local chamber of commerce, so this support would need to be handled individually or coordinated through another entity.

Barrow is popular as a tourist destination due to local bird viewing opportunities and its position as the northernmost city in the United States. Local tourism companies may be interested in providing signage or other educational displays associated with Barrow's location. Barrow does not appear to have a local convention and visitors bureau, so this support would need to be handled individually or coordinated through another entity.

Private donors may be encouraged to contribute to funding the construction of the airport. Donations could range from fundraising for construction (like brick or plaque-purchasing programs), starting of a nonprofit organization related to the airport, or private estate donations or endowments that could be used to support the airport and local transportation.

## 7.4 Public-Private Partnerships (PPP)

### Introduction to PPP

“Public private partnerships are arrangements between government and private sector entities for the purpose of providing public infrastructure, community facilities and related services. Such partnerships are characterised by the sharing of investment, risk, responsibility and reward between the partners” (Bojovic, 2006).

Simply deciding to open up traditional public sectors to private finance is not enough to encourage investments. Conditions to enable the possible implementation of PPP include: an adequate legal framework, timely and transparent mapping of costs and predictable revenue streams, reasonable market and political risks, and public acceptance. At the same time the public administration has to have the capacity and skills to manage and negotiate successful projects. It is “necessary, if not sufficient for good performance, to explicitly identify the procedure for selecting partners, the roles of partners, any environmental costs associated with the project, and the risks likely to affect overall performance of a project.” (Sagalyn, 2007).

There are many ways of doing business that involve varying degrees of private-sector involvement. The United States General Accounting Office (1999) defines the following varieties of PPPs:

- ➔ **Build-Own-Operate (BOO):** Under a BOO transaction, the contractor constructs and operates a facility without transferring ownership to the public sector.
- ➔ **Build/Operate/Transfer (BOT) or Build/Transfer/Operate (BTO):** Under the BOT option, the private partner builds a facility to the specifications agreed to by the public agency, operates the facility for a specified time period under a contract or franchise agreement with the agency, and then transfers the facility to the agency at the end of the specified period of time. In most cases, the private partner will also provide some, or all, of the financing for the facility, so the length of the contract or franchise must be sufficient to enable the private partner to realize a reasonable return on its investment through user charges. The BTO model is similar to the BOT model except that the transfer to the public owner takes place at the time that construction is completed, rather than at the end of the franchise period.
- ➔ **Buy-Build Operate (BBO):** A BBO transaction is a form of asset sale that includes a rehabilitation or expansion of an existing facility. The government sells the asset to the private sector entity, which then makes the improvements necessary to operate the facility in a profitable manner.
- ➔ **Design-Build-Operate (DBO):** In a DBO project, a single contract is awarded for the design, construction, and operation of a capital improvement. Title to the facility remains with the public sector unless the project is a design/build/operate/transfer or design/build/own/operate project. Combining all three phases into a DBO approach maintains the continuity of private sector involvement and can facilitate private-sector financing of public projects supported by user fees generated during the operations phase. However, the DBO method of contracting is contrary to the separated and sequential approach ordinarily used in the United States by both the public and private sectors.
- ➔ **Lease/Develop/Operate (LDO) or Build/Develop/Operate (BDO):** Under these partnership arrangements, the private party leases or buys an existing facility from a public agency; invests its own capital to renovate, modernize, and/or expand the facility; and then operates it under a contract with the public agency.

Among the wide spectrum of PPP arrangements, there is not an *a priori* best model; it depends on the specific context. Private funding opportunities in the particular case of Barrow Airport are discussed in the next section.

## Private Funding Opportunities for Barrow Airport

There are four general types of private funding opportunities for the Barrow Airport that fall under the umbrella of PPPs, each of which is discussed below. Due to the nature of these arrangements, there is significant overlap of these funding opportunities and private in-kind contributions as discussed in Section 7.3. As with the discussion of in-kind contributions, the examples presented here are intended to spur thinking about PPP opportunities and may not be realistic or viable at the Barrow Airport.

### Hybrid PPP

One “hybrid” PPP alternative that could be explored by Barrow airport would be for the state government to hold title to the land on both the airside and landside, and basic infrastructure improvements on the airside including runways and taxiways. Private investment would be emphasized in developing revenue-generating landside facilities—a private developer could be given the responsibility for construction and management of new commercial lease lots (or expansion of existing ones). The developer would lease the land from the local government authority under a long-term agreement, hold title to the facilities, concessions and any other improvements it built on the land, and control development rights on the airport. Financial risks would be shared between the public and private sectors. The public trust would be maintained via the government authority ownership of the airport land, maintenance of AIP grant and other agreements, and terms of the public-private development agreement.

### Third-Party Financing

Another type of infrastructure funding that has emerged is third-party financing, in which an entity invests large sums in project design and construction, but may not actually operate the facility. In this financing model, the airport may start by working with a financial advisor to determine if a viable entity exists to underwrite a desired project.

#### Example: AIDEA and Federal Express<sup>2</sup>

Federal Express management realized the potential of being able to perform line maintenance on their fleet of 747 aircraft operating through Anchorage and approached AIDEA to finance the facility. The facility consists of a hangar capable of accommodating one wide-body aircraft, a ramp, taxiway, road, utilities, and landscaping. The hangar is supported by a fire suppression pump house and water storage facility, which was constructed as part of this project.

Federal Express had a ground lease agreement at the Ted Stevens Anchorage International Airport, which was conveyed to AIDEA. Federal Express signed a 20-year lease with AIDEA for use of the facility. The construction budget was \$30.75 million. Tax-exempt bonds (\$28 million) sold by AIDEA in September 1992, along with Authority funds, financed the project. The investment will be repaid through user fees.

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<sup>2</sup> This section is a summary extract of the example of a PPP reported by the Alaska Industrial Development and Export Authority (AIDEA, 2011).

### *Private Contributions*

Barrow could seek private contributions (including in-kind contributions) as part of an application for a United States Department of Transportation (USDOT) grant. USDOT scores projects higher when a public-private partnership has been or will be established and when the affected community is interested in contributing to the project.

### **Example: Small Community Air Service Development Program<sup>3</sup>**

The Small Community Air Service Development Program (SCASDP) is a grant program managed under USDOT's Office of Aviation Analysis. The core objective of the program is to secure enhancements that will be responsive to a community's air transportation needs and whose benefits can be expected to continue after the initial expenditures.

Barrow could apply to the SCASDP following the successful example of five communities in Southeast Alaska. Similar to those communities, Barrow meets the eligibility criteria and presents many of the characteristics that DOT prioritizes in the selection process.

To be eligible for a grant, a community must meet the following criteria:

- ➔ **Size:** For calendar year 1997, the airport serving the community or consortium was not larger than a small hub airport, and had insufficient air carrier service or had unreasonably high air fares.
- ➔ **Characteristics:** The airport presents characteristics, such as geographic diversity or unique circumstances that will demonstrate the need for, and feasibility of, the program.

In selecting communities to participate in the program, the statute directs the Secretary to give priority to those communities where:

- ➔ Average air fares are higher than the air fares for all communities
- ➔ A portion of the cost of the activity contemplated by the community is provided from local, non-airport-revenue sources
- ➔ A public-private partnership has been or will be established to facilitate air carrier service to the public
- ➔ Improved service will bring the material benefits of scheduled air transportation to a broad section of the traveling public, including businesses, educational institutions, and other enterprises whose access to the national air transportation system is limited
- ➔ The assistance will be used in a timely fashion
- ➔ Multiple communities cooperate to submit a regional or multistate application to consolidate air service into one regional airport

SCASDP grant funds can be used to cover the expenses of new activities that can reasonably be related to improving the air service to the community. In addition, grant funds may be used for financial incentives, such as revenue guarantees to air carriers to provide service, or to ground handling providers. The statute limits the use of grant funds for air carrier subsidy to a maximum period of three years. SCASDP can involve, among others, revenue guarantees, financial assistance for marketing programs, start-up costs and studies. For FY 2013, up to \$11.5 million were made available for SCASDP grants awarded to 25 benefitting communities in 22 states.

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<sup>3</sup> This section is an extract of the Small Community Air Service Development Program description presented in USDOT (2013) and the application made by Southeast Alaska Consortium (2013).

In 2013 the communities of Angoon, Elfin Cove, Pelican, Tenakee Springs, and Kake formed a consortium to seek a federal SCASD grant to invest in their marketing plan and air service. The five airports comprising the Consortium found private partners in Alaska Seaplanes and the Juneau Empire newspaper to support the proposal. The proposal requested \$300,000 of federal support and provided a commitment of \$79,195 in private in-kind contributions (\$55,195 in in-kind support from Alaska Seaplanes for web development and various advertising initiatives, and \$24,000 in in-kind support from The Juneau Empire newspaper as part of the advertising package in that newspaper).

The Consortium's proposed marketing plan stated that Alaska Seaplanes representatives, as well as members of the Consortium communities, will participate in the Juneau Convention and Visitors Bureau and in trade shows in western US. Grant funds would also produce ads in websites and newspapers in Juneau and Anchorage. Regional and national travel writers would be invited to visit Consortium communities and write about their experiences.

#### **Example: Platinum Airport Runway Extension Project Public/Private Partnership<sup>4</sup>**

According to ADOT&PF's 2012 Annual Report (ADOT&PF, 2012):

Coastal Villages Region Fund (CVRF) opened a new \$41 million seafood processing plant at Platinum in 2009, which processes about 4,000,000 lbs of salmon annually from the Kuskokwim delta. Currently all of the fish is sold in frozen product form, though CVRF could sell product into the global fresh seafood market, which commands a higher price. The runway at Platinum airport is too short to accommodate a fully loaded Hercules C-130 air cargo plane required for transporting fresh fish.

CVRF proposed a runway extension at Platinum airport from the existing 3,300 ft to 5,000 ft to facilitate the shipping of fresh fish to global markets. This runway extension will add value to the processed fish, and is important to Alaska because the plant employs more than 250 residents from western Alaska, provides a market for 1000 salmon and halibut permit holders and their crews, and profits go to an Alaskan company. CVRF paid for the survey, appraisal, and purchase of the needed land, and is donating it to the State to expedite the project. This is truly a "public-private" partnership to make an economic development project happen.

#### ***Funding Opportunities from the Oil and Gas Industry***

Barrow, the northernmost community in the United States, is located on the Chukchi Sea coast, 10 miles south of Point Barrow. It lies almost exactly at the division line between the Chukchi Sea and Beaufort Sea Planning Areas. Because of its location, Barrow is at a comparative disadvantage in terms of distance to the oil and gas leases on these planning areas, since it is near both the Chukchi and Beaufort Seas but Wainwright and Deadhorse are located closer to leases in those areas, respectively. Onshore leases are also concentrated around the Deadhorse area.

Since distance is one of the determinants of cost effectiveness of air support services, it is not surprising that Deadhorse Airport is the main transportation hub for current oil and gas operations on the North Slope. Deadhorse Airport will likely remain as the main hub for future Outer Continental Shelf (OCS) activities in the Beaufort Sea and onshore future activities (for example, Point Thompson, Liberty, and Greater Mooses Tooth).

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<sup>4</sup> This section is an extract from the Alaska Airports and Aviation 2012 Annual Report (ADOT&PF, 2013).

OCS activities in the Chukchi Sea could provide some financial opportunities for Barrow Airport in the long term. In the near term, the uncertainty inherent during the exploration phase combined with the relatively limited air support requirements, appear to provide little incentive for companies to invest in Barrow Airport improvements until later phases. For example, recent exploration by Shell Oil was almost 100% supported by watercraft, along with helicopters and fixed-wing aircraft needed for crew changes and, at the end of the year, for rescue and salvage operations. And according to Shell's 2012 exploration plan for the Chukchi Sea (Shell, 2012):

Resupply will be from Dutch Harbor using an offshore supply vessel (OSV), with some small vessel support out of Wainwright. Aviation operations will be conducted primarily from Barrow with some operations possibly out of Wainwright. These are the plans only for the exploration drilling program covered by this revised Chukchi Sea EP, and do not reflect Shell's longer term commitments for shorebases or other facilities needed to support future exploration drilling plans or development of any of its Chukchi Sea prospects.

In the long term, if commercially developable amounts of oil and gas in Chukchi Sea are confirmed, oil and gas companies could be interested in funding Barrow Airport improvements that would support their development and production activities. These firms would look for a nearby, low-cost airport with sufficient capacity and reliability. Barrow Airport may be farther away than Wainwright, but it has regularly scheduled jet services year-round and a 6,500-foot-long by 150-foot-wide asphalt runway as opposed to the 4,494-foot-long by 90-foot-wide gravel airstrip the NSB owns and operates at Wainwright. However, oil and gas production for any discoveries in the Chukchi Sea is not forecast to start until about 2025.

## 7.5 North Slope Borough Political Support

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Political support from the NSB would help individual projects score higher at ADOT&PF's Aviation Project Evaluation Board (APEB), thereby improving the likelihood of obtaining federal funding. Such support could be expressed in a resolution but could also take the form of financial or in-kind contributions.

## 7.6 Alaska Hire, North Slope Borough Hire, Native Hire, and Job Skills Development

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This section discusses job skills development and training programs to support the aviation industry, as well as local resources for Alaska residents, North Slope Borough residents, and Alaska Natives to develop skills and opportunities in the aviation industry.

ADOT&PF noted in its Alaska Airports and Aviation 2012 Annual Report (ADOT&PF, 2013):

Many people do not realize there are 47,000 aviation related jobs in Alaska, representing 8% of Alaska's economy and 10% of our workforce. The FAA will hire 10,000 new air traffic controllers over the next 10 years. Aviation in Alaska needs hundreds of mechanics, electronics technicians and maintenance personnel. The U.S. needs talented young people to go into Science, Technology, Engineering, and Mathematics (STEM) careers. Hundreds of "baby boomers" are retiring and there is a need to develop a future workforce starting now.



The report highlights the need for skilled workers in the aviation industry and some training programs around the state that are working to meet that need.

### 7.6.1 Alaska Resident, North Slope Borough, and Alaska Native Hire

Alaska resident hire and employment preference may be required under Alaska law for public works projects with certain job classifications. Though the requirement no longer exists for portions of south central and southeast Alaska (Demer, 2013), it does still apply to the North Slope Borough. Under current program criteria (ADOL&WD, undated), the following classifications qualify for a minimum 90% Alaska resident hire preference, including those most likely needed for public works projects in Barrow:

- Bricklayers
- Carpenters
- Cement masons
- Culinary workers
- Electricians
- Equipment operators
- Insulation workers
- Iron workers
- Laborers
- Mechanics
- Painters
- Piledriver occupations
- Plumbers and pipefitters
- Roofers
- Truck drivers
- Welders

Alaska Native Corporations (ANCs) normally include Alaska Native Hire clauses in their contracts to encourage shareholder employment. The regional and village ANCs for Barrow, Arctic Slope Regional Corporation and Ukpeaġvik Iñupiat Corporation, respectively, would likely do the same for work done at Barrow Airport.

ASRC SKW Eskimos recently completed work on a \$37 million contract for improvements at the Barrow Airport (ASRC SKW Eskimos, 2013). Included in that work was a subcontract with ASRC Civil Construction for paving (ASRC Civil Construction, 2013). Another ASRC company, ASRC Builders, has experience with aviation-related construction in the Arctic, including a hangar it built for Bering Air in 2011 in Nome (ASRC Builders, 2013).

UIC's construction company UIC Construction Services has subsidiaries such as UIC Construction, LLC and Kautaq Construction Services, LLC that provide Arctic construction services (UIC Construction Services, 2013). UIC Construction, LLC has completed a number of projects in the region, including a Baker Hughes facility in Deadhorse, the Barrow Global Climate Facility, and a hospital in Barrow (UIC Construction, LLC, 2013). UIC has also developed conceptual plans for development immediately south of the Barrow Airport, which could support increased OCS oil development activities, U.S. Coast Guard operations, and emergency response activities, along with supporting facilities such as fuel storage, water and wastewater treatment, and power generation (Umiaq, 2013).

### 7.6.2 Local and Regional Aviation Employment, Training

A number of organizations recognize the importance of local training and hire programs, many of which could lead to direct employment in the aviation industry. The ADOL&WD shows that there were 2,087 employed residents in Barrow, of whom 197 or 9.4% were employed in the trade, transportation and utilities industry (ADOL&WD, 2013). Though occupations specific to the aviation industry do not make

the list of top occupations, there are several occupations with crossover skills to aviation, including General and Operations Managers; Maintenance and Repair Workers, General; Operating Engineers and Other Construction Equipment Operators; and Plant and System Operators, All Other.

The remainder of this section discusses local and regional educational providers of aviation training.

## Iḷisaḡvik College

Iḷisaḡvik College is a two-year tribal college located in Barrow. The college offers Associate Degrees and certificates in a variety of academic and vocational fields. The college strives to offer programs that have substantial career and employment opportunities in the Arctic and elsewhere in Alaska (Iḷisaḡvik College, 2013).

Two programs within the college that may be applicable to the Barrow Airport are the Associated Construction Trades and CDL/Heavy Truck Operations programs, each of which are certificate programs. Given sufficient demand, there may also be opportunities for the college to offer aviation-specific training.

## North Slope Borough School District

The North Slope Borough School District operates public schools across the North Slope and has both educational and administrative facilities in Barrow. School facilities include Ipalook Elementary School, Hopson Middle School, Barrow High School, and the alternative high school, Kiita Learning Community. (North Slope Borough School District, 2013). Given sufficient demand, there may be opportunities for school-business partnership activities between the local schools and aviation-related businesses.

## Arctic Education Foundation

The Arctic Education Foundation is a non-profit private foundation that offers financial support for eligible students pursuing either a degree or certification, with focus on jobs requiring professionals within the North Slope region (Arctic Education Foundation, 2013). The foundation may be a source of funding for local students who wish to prepare for careers in the field of aviation.

### 7.6.3 Statewide and National Training

At the statewide level, the University of Alaska system has training programs that can directly benefit students interested in a career in aviation. Various state agencies and programs may also provide training or financial support for training. These training options and others are discussed in this section.

## University of Alaska

University of Alaska campus training centers in Anchorage (near Merrill Field) and Fairbanks (Hutchinson Institute of Technology, Fairbanks International Airport) provide the majority of academic aviation training within the state. Table 7-8 shows current offerings from the Anchorage and Fairbanks campuses.

Table 7-8 – University of Alaska Aviation Training Programs, by Training Level and Campus

Training Level	Anchorage Campus	Fairbanks Campus
<b>Certificates</b>	Aviation Maintenance	Airframe Airframe & Powerpilot Gr. Vehicle Maintenance Technology
<b>Associate’s Degree</b>	Air Traffic Control Aviation Administration Aviation Maintenance Professional Piloting	Aviation Maintenance Professional Piloting
<b>Bachelor’s Degree</b>	Aviation Technology	
<b>Continuing Education</b>	Helicopter Underwater Egress Training Avionics Maintenance & Installation	Avionics Maintenance & Installation

Source: University of Alaska (2008)

The University of Alaska Fairbanks (UAF) program can be completed in 12 months and features an option to continue training in Calgary, Canada at the Southern Alberta Institute of Technology, which allows students to qualify to sit for the Canadian Aircraft Maintenance Engineer license (UAF, 2011).

### Aviation Career Education

FAA’s Aviation Career Education Academy Program is an aviation summer camp for middle and high school students (FAA, 2013). The academies offer students an opportunity to learn more about aviation. Numerous academies have been held in Alaska, including in the Lower Kuskokwim School District in Bethel and the Challenger Learning Center in Kenai (ADOT&PF, 2013). ADOT&PF (2013) also notes other aviation-related educational offerings, including Introduction to Aviation classes and a private pilot ground class offered at Palmer High School. The Aviation Career Education Academy Program and other similar programs may be excellent outside resources to bring into the North Slope Borough School District to support aviation education.

### AVTEC

AVTEC is a vocational technology school operated by ADOL&WD. It offers a number of training programs that are applicable for the construction, operation, and maintenance of facilities at the Barrow Airport, though no aviation-specific programs are currently offered. Selected programs of interest might include their Applied Technology (Combination Welding, Diesel/Heavy Equipment Technologies, and Pipe Welding) and Energy & Building Technology (Facility Maintenance Mechanical Trades, Facility Maintenance Construction Trades, Industrial Electricity, Power Plant Operation, and Related Studies Program) programs (AVTEC, 2012).

## Alaska Department of Labor and Workforce Development

Through the Alaska Job Center Network, ADOL&WD offers funding to training providers from both state and federal sources as well as training through Individual Training Accounts (ITAs) (ADOL&WD, 2011). ITAs are issued to individuals seek training through their local Alaska Job Centers and will vary by background, skill levels, and training consistent with the position sought.

ADOL&WD offers a variety of training programs, including (ADOL&WD, 2013):

- Alaska Technical Vocational Education Program (TVEP)
- Alaska Youth First
- Denali Training Fund
- State Training and Employment Program (STEP)
- Workforce Investment Act (WIA) Adult
- WIA Dislocated Worker
- WIA Youth

The STEP program regularly requests training grant proposals from training providers, with particular focus on high wage, high demand occupations in Alaska, a list that includes transportation, construction, and other industries. Many of these training programs that have received STEP grants in the past are focused in the construction and building trades, including building maintenance—key skills for successfully operating almost any airport.

## Alaska Department of Commerce, Community and Economic Development Division of Community and Regional Affairs

The Division of Community and Regional Affairs' Grants Section, located within the Alaska Department of Commerce, Community and Economic Development (ADCCED), administers a variety of state and federal grant programs (ADCCED, 2013). The City of Barrow or North Slope Borough might seek funding for the Barrow Airport through some of the available grant programs, such as the Community Coastal Impact Assistance Program, which offers funds to offset impacts of OCS oil and gas activities, or the National Petroleum Reserve-Alaska (NPR-A) Impact Grant Program, which offers funds to mitigate significantly adverse impacts related to oil and gas development within the NPR-A, which could apply to use of the Barrow Airport.

## United States Bureau of Indian Affairs

The Bureau of Indian Affairs (BIA), part of the United States Department of the Interior, has a regional Alaska office in Anchorage. That office assumes responsibility for the 229 tribes and estimated 80,000 tribal members in Alaska (BIA, 2013).

The BIA may be able to assist its members with training in the field of aviation, as it maintains 183 schools throughout the U.S., under the Bureau of Indian Education. Several BIA areas are sparsely settled and display the same need for aviation support, trade, medical assistance, and transportation as seen in remote parts of Alaska.

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