FAI MASTER PLAN PROJECT

FINAL

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Prepared for

State of Alaska
Department of Transportation
& Public Facilities
2301 Peger Road
Fairbanks, AK 99709

Prepared by

PDC INC. ENGINEERS
1028 Aurora Drive
Fairbanks, AK 99709
T: 907.452.1414
F: 907.456.2707

in association with

Reynolds, Smith & Hills, Inc.

ABR, Inc.
Environmental Research
& Services

ARCADIS U.S., Inc.

Bettisworth North
Architects & Planners, Inc.

R&M Consultants, Inc.

Woolpert, Inc.

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Acronyms and Abbreviations

AAC .... Alaska Administrative Code
AADT .... Annual Average Daily Traffic
AASP .... Alaska Aviation System Plan
AC .... Advisory Circular
ACMP .... Alaska Coastal Management Plan
ACS .... Alaska Communication Systems, Inc.
ADEC .... State of Alaska Department of Environmental Conservation
ADF&G .... State of Alaska Department of Fish & Game
ADG .... Aircraft Design Group
ADOT&PF .... State of Alaska Department of Transportation & Public Facilities
AHRS .... Alaska Heritage Resource Survey
AIAS .... Alaska International Airport System
AIP .... Airport Improvements Program
ALP .... Airport Layout Plan
ALSF .... Approach Lighting with Sequenced Flashers
ANC .... Ted Stevens Anchorage International Airport
ANCSA .... Alaska Native Claims Settlement Act
ANSA .... Airport Noise-Sensitive Area
AOA .... Airport Operational Area
APDES .... Alaska Pollutant Discharge Elimination System
APFD .... Airport Police and Fire Department
APOA .... Alaska Peace Officers Association
ARFF .... Aircraft Rescue & Firefighting Facility
ARRA .... American Recovery and Reinvestment Act
AS .... Alaska Statute
ASV .... Annual Service Volume
ATCT .... Air Traffic Control Tower
ATO .... Air Traffic Organization
avgas .... aviation fuel
BESS .... Battery Energy Storage System
BFE .... Base Flood Elevation
BLM .... United States Bureau of Land Management
BMPs .... Best Management Practices
CCF .... hundred cubic feet
CEDDS .... Complete Economic and Demographic Data Source
CIP .... Capital Improvements Plan
CO .... Carbon Monoxide
CUC .... College Utilities Corporation
DA .... Density Altitude
DNL .... Day-Night Average Sound Level
DOL .... State of Alaska Department of Labor & Workforce Development
EA .... Environmental Assessment
eALP .... Electronic Airport Layout Plan
EIS .... Environmental Impact Statement
EMT .... Emergency Medical Technician
EPA .... United States Environmental Protection Agency
ESCP .... Erosion and Sediment Control Plan
ESWG .... East Side Working Group
FAA .... Federal Aviation Administration
FAB .... FAI Master Plan Advisory Board
FAI .... Fairbanks International Airport
FAR .... Federal Aviation Regulation
FBO .... Fixed-Base Operator
FEMA .... Federal Emergency Management Administration
FHR .... Flint Hills Refinery
FIRM .... Flood Insurance Rate Map
FMATS .... Fairbanks Metropolitan Area Transportation System
FNG .... Fairbanks Natural Gas, LLC
FNSB .... Fairbanks North Star Borough
FSS .... Flight Service Station
FY .... Fiscal Year
GA .... General Aviation
GCI .... General Communications, Inc.
GHU .... Golden Heart Utilities
GIS .... Geographic Information System
gpd .... gallons per day
GPS .... Global Positioning System
GVEA .... Golden Valley Electric Association
HIRL .... High-Intensity Runway Lighting
HMCP .... Hazardous Materials Control Plan
IARF .... International Airport Revenue Fund
IATP .... Interior Alaska Transportation Plan
IFR .... Instrument Flight Rules
ILS .... Instrument Landing System
INM .... Integrated Noise Model
ISER .... Institute of Social and Economic Research
JPARC .... Joint Pacific Alaska Range Complex
LAX .... Los Angeles International Airport
LIRL .... Low-Intensity Runway Lighting
LO .... Land Occupancy
LOC .... Localizer
LOMR .... Letter of Map Revision
MACS .... Metropolitan Area Commuter System
MALSR .... Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MIRL .... Medium-Intensity Runway Lighting
MN .... Magnetic North

MOA .... Military Operations Area
MoS .... Modification of Standards
MS4................ Municipal Separate Storm Sewer System
MSGP .... Multi-Sector General Permit
MTOW .... Maximum Takeoff Weight
MW .... megawatts
NAAQS ....National Ambient Air Quality Standards
navaids.. navigational aids
NDB.. Non-Directional Beacon
NEPA ....National Environmental Policy Act
NOI...Notice of Intent
NOTAM .... Notice to Airmen
NPI .... Non-Precision Instrument
NPIAS .... National Plan of Integrated Airport Systems
NPS ....National Park Service
NRHP .... National Register of Historic Places
NWI................................... National Wetlands Inventory
OASIS ....Operational and Supportability Implementation System
OFA .... Object-Free Area
ORD...................... Chicago O'Hare International Airport
ORL .... Owner-Requested Limit
PAPI......................... Precision Approach Path Indicators
PCC.......................................Portland Cement Concrete
PCI.. Pavement Condition Index
PFC.. Passenger Facility Charge
PIP .... Public Involvement Plan
PLASI .... Pulse Light Approach Slope Indicator
PM .... Particulate Matter
PME .... Primary Meter Entrance
PSWCP .... Permanent Storm Water Control Plan
RAIL...................... Runway Alignment Indicator Lighting
RDC .... Runway Design Code
REIL .... Runway End Identifier Lighting
RIV .... Rapid Intervention Vehicle
RNAV... Area Navigation
RON ....Remote Overnight [Parking Position]
ROW ....Right of Way
RPZ.. Runway Protection Zone
RVR ....Runway Visual Range
sf .... square feet
SHPO.........................State Historic Preservation Officer
SIDA .... Security Identification Display Area
SWPPP ....Storm Water Pollution Prevention Plan
T&G.. Touch-and-Go
TAF ....Terminal Area Forecast
TCC.. Tanana Chiefs Conference
TCF .... The Conservation Fund
TDG .... Taxiway Design Group
TRSA.................................. Terminal Radar Service Area
TSA....................Transportation Security Administration
UAF ....University of Alaska Fairbanks
USACE .... United States Army Corps of Engineers
USFWS .... United States Fish & Wildlife Service
VASI.............................. Visual Approach Slope Indicator
VMC .... Visual Meteorological Conditions
VOR...........Very High Frequency Omnidirectional Range
VPD ....Vehicle/Pedestrian Deviation
VSR..Vehicle Service Road
WMP..................................Wetlands Management Plan

Executive Summary

The Fairbanks International Airport Master Plan Update is a comprehensive study of the airport. It compares the existing and forecasted aviation demand with existing conditions and facilities to identify the need for future development. The plan describes near-, mid-, and long-term development plans and identifies the triggers necessary to begin those projects. This framework cost-effectively guides airport development while also considering potential environmental and socioeconomic impacts.

This master plan is an update to the previous master plan that was completed in 2004. Concurrent with the master plan update was the preparation of an Alaska International Airport System (AIAS) plan. This master plan draws heavily upon the AIAS study for the forecast of aviation demand (Chapter 3).

To assist in the development of this master plan update, a project advisory board was created; this board convened five times. Other work to engage pilots and the public included two public open houses, attendance by project representatives at two Aviation Day events, a project website, and a Fairbanks-area pilot survey.

BACKGROUND

Fairbanks International Airport (FAI), a state-owned, public-use airport, is the state's second busiest airport and the regional link to Interior Alaska communities. FAI facilitates regularly scheduled passenger air service to Interior villages, the North Slope, Anchorage, and the lower 48 states. FAI, together with Ted Stevens Anchorage International Airport (ANC), comprises the AIAS. As such, FAI plays a critical role in supporting international cargo tech stops between Asia and North America.

FAI also serves as a hub of General Aviation (GA) activity for the Fairbanks area. The east side of the airport, with a paved runway, ski strip, and float pond, is home to flight training schools, Part 135 operators, a pilot lounge, aircraft mechanics, private hangars, and an air park.

FACILITIES

This master plan update examined facility needs to address three primary purposes:

- Safety/Security
- Demand
- 50% Cargo Shift Scenario

Safety/Security projects are those that address airfield safety or security issues. Recommended safety/security improvements include pavement rehabilitation, Taxiway B safety enhancements, and a gate on Float Pond Road.

Demand-based projects are those that are contingent upon a certain trigger occurring such as passenger enplanements or aircraft operations. Demand-based projects can occur at any time during or beyond the planning period and include projects such as terminal expansion and lease lot growth.

The **50% Cargo Shift Scenario** was developed for this master plan update as part of the AIAS strategy to fully utilize FAI as part of the AIAS. Detailed in chapter 6, this scenario requires certain projects be implemented to accommodate an increase in cargo traffic at FAI. The results of this analysis recommend several key facility improvements at FAI should this scenario occur: an expanded cargo apron, additional deicing facilities, and compliance with Aircraft Design Group (ADG) V requirements.

IMPLEMENTATION

Many of the recommendations in this master plan update will be implemented when demand warrants. Trigger points for each recommendation have been identified and included in the implementation plan (Chapter 7) to help the airport determine when a project is needed.

Near-term improvements include installation of security improvements on Float Pond Road, safety enhancements to Taxiway B, and east side lease lot expansion. Medium and long-term development at the airport will be primarily driven by demand and includes projects such as terminal expansion, additional lease lot development, and accommodations for additional cargo operations.

The cost of implementing all of the projects recommended in this plan is approximately $95.8 million (in 2014 dollars). It is unlikely that all of the trigger points will be met during the planning period. However, past events have shown that aviation activity can increase rapidly (e.g., construction of the Trans-Alaska Pipeline) and that the airport needs to have a plan to adapt to such changes.

1 Introduction

1.1 WHAT IS AN AIRPORT MASTER PLAN?

An airport master plan is a comprehensive study of an airport that usually describes the short- (5-year), medium- (10-year), and long-term (20-year) development plans to meet future aviation demand. The goal of a master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

The general goals and objectives addressed by an airport master plan include the following:

- Provide a framework for long-range planning
- Graphically present preferred airport development concepts
- Define, in general terms, the purpose and need for development projects
- Identify facility requirements for all airport users
- Evaluate alternative solutions to meet the facility needs
- Comply with applicable FAA requirements
- Enable the airport to achieve its mission
- Ensure compatible land use development
- Support the financial health of one of a city's most powerful economic engines

A successful master plan includes the following characteristics:

- ***Financially feasible***: The phasing of the plan's capital projects should be aligned with identified need and the ability to secure funding.
- ***Environmentally compatible***: The plan should minimize potential environmental impacts.
- ***Balanced***: The plan should maintain a balance between airport development needs and community impacts.
- ***Technically sound***: The plan should comply with federal, state, and local requirements, and it should be able to be constructed efficiently and cost-effectively.
- ***Responsive***: The plan should address the physical and operational needs of the stakeholders.
- ***Flexible***: The plan should consider changes in industry dynamics so that DOT&PF can respond effectively.

The master plan process provides a blueprint for the future. The plan is just that, a plan, and will only be implemented as warranted by actual activity. The recommendations contained in a master plan are also contingent upon further environmental study and financial feasibility.

This master plan update was conducted concurrent with the Alaska International Airport System (AIAS) study and draws extensively upon the results of that study's aviation demand forecast.

1.2 ISSUES THAT THE FAIRBANKS INTERNATIONAL AIRPORT MASTER PLAN MUST ADDRESS

Figure 1-1 – FAI float pond with Runway 20R and Boeing 737 in the background

Fairbanks International Airport (FAI) has several unique characteristics that pose both opportunities and challenges when planning future development. Examples include the presence of a seaplane base between two runways, two runways in line with one another, and a fleet mix ranging from PA-18 Super Cubs to Boeing 747s.

Relevant issues were identified during the initial phase of the project through methods such as formation of an Advisory Board; discussions with the airport users including air taxi and commercial operators, general aviation pilots, and lease lot owners, as well as Fairbanks businesses and residents; site inspections; and reviews of previous airport studies. Comments came primarily through personal interviews, telephone conversations, e-mail correspondence, and other public outreach.

The general issues to be addressed at FAI include:

- East side development
- Regional carrier terminal expansion
- Safety and security
- Design standard deficiencies

1.3 BACKGROUND

1.3.1 HISTORY OF FAIRBANKS INTERNATIONAL AIRPORT

Aviation made its debut in Fairbanks in the 1920s, with early aviation pioneers such as Ben Eielson using Weeks Field in what is now downtown Fairbanks. Ladd Army Airfield was constructed east of Fairbanks by the United States government in the late 1930s. Congress authorized construction of Fairbanks International Airport at its current site in the late 1940s (Figure 1-2) to meet the increasing aviation demand (ADOT&PF, 2011). Operations began at FAI in 1951, and construction of the terminal was completed in 1954.

Figure 1-2 – Fairbanks International Airport Construction – 1949
(Source: FNSB)

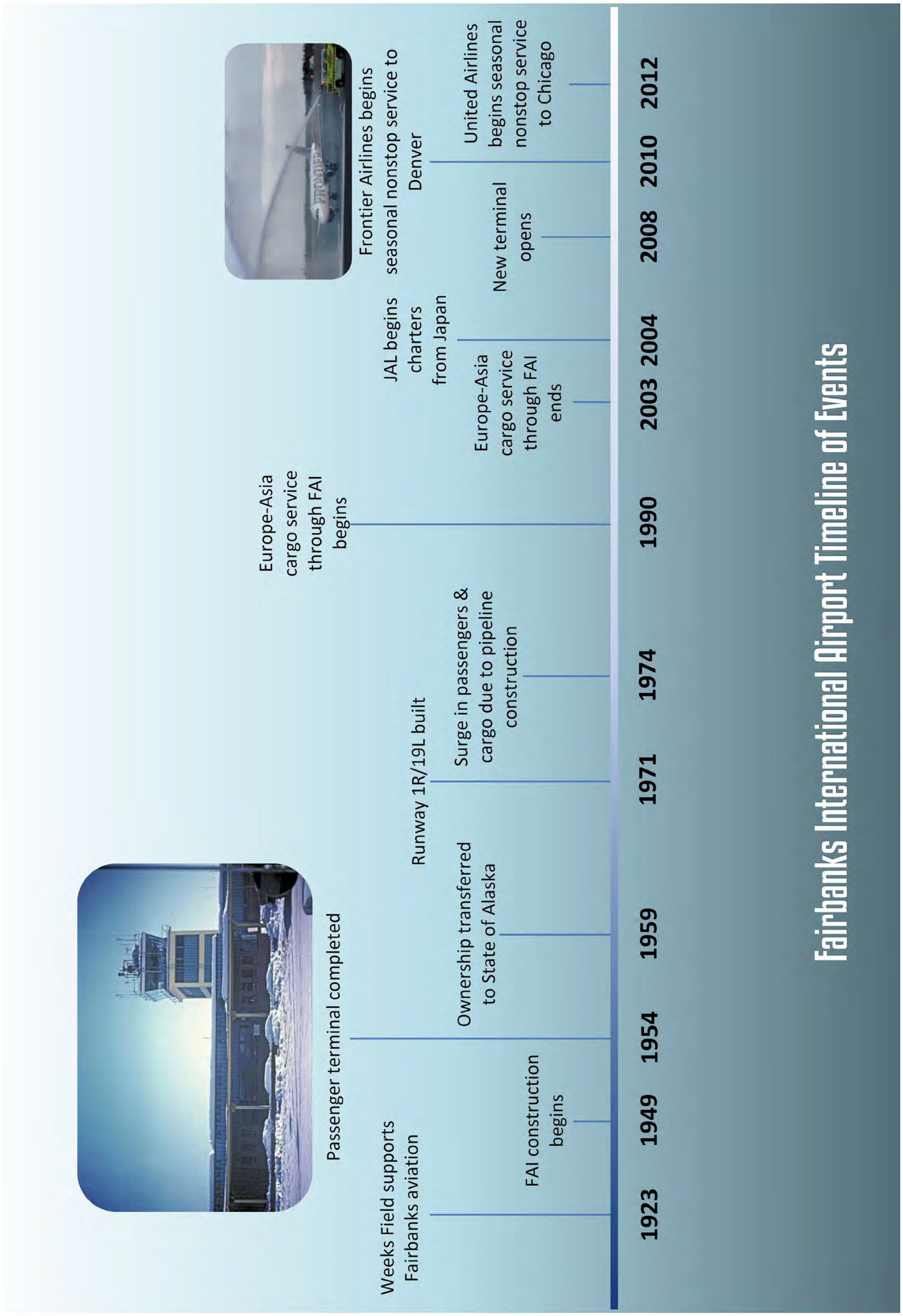

Figure 1-3 – FAI Timeline

FAI was transferred from federal to state ownership with the 1959 Alaska Statehood Act. The AIAS was subsequently created by the state legislature in 1961 (ADOT&PF, 2011).

When the airport was constructed, it was located in a rural area four miles from the City of Fairbanks. Since then, Fairbanks has experienced considerable growth, and development has extended from the original Fairbanks townsite to areas around the airport.

1.3.2 CURRENT ROLE

National Aviation System

FAI is considered a Small Hub airport in the National Plan of Integrated Airport Systems (NPIAS). Small Hubs are defined as airports that enplane 0.05% to 0.25% of total US passengers.

As Alaska's second largest airport, FAI saw over 470,000 enplanements and more than 130,000 total aircraft operations in 2010 (Bureau of Transportation Statistics, 2011).

Fairbanks' geographic location makes it an appealing tech stop to international cargo carriers transiting between Asia and North America. Likewise, Alaska has liberalized air cargo transfer rights, allowing foreign carriers to transfer air cargo to another carrier without being considered to have broken its international journey (Alaska Department of Transportation & Public Facilities, 2010).

Regional Hub

FAI serves as a hub for more than 50 rural communities across Interior and northern Alaska, providing a critical link in transporting passengers, mail, and cargo. Additionally, Fairbanks is a gateway for domestic and international travelers visiting Alaska. The airport also supports a robust general aviation community with nearly 400 tie-down tenants and four flight training operators.

Seasonal fluctuations in passenger enplanements are due in part to the tourism industry, with Frontier Airlines, United Airlines, Alaska Airlines, and Delta Air Lines offering direct flights to Fairbanks in the summer (Northern Economics, 2011). Since 2004, Japan Airlines has been bringing Asian travelers to Fairbanks in the winter months, with 18 flights scheduled for 2011-2012 (Richardson, 2011). Additionally, FAI routinely hosts cold-weather testing of aircraft thanks to local amenities and on-airport support services. Boeing, Sikorsky, and Gulfstream, among others, have used FAI for cold-weather performance tests of their aircraft.

Community

The Fairbanks International Airport is an important economic engine for the Fairbanks area. According to the Alaska Aviation System Plan (Northern Economics, 2011), FAI leaseholder and ADOT&PF airport operations resulted in over 1,400 on-site jobs in 2009. This resulted in nearly $70 million in wages and benefits, as well as $143 million in operating expenditures on items such as food, fuel, supplies, and other services needed to run their businesses.

Private development at FAI also provides significant tax revenue to the Fairbanks North Star Borough. The FNSB property tax database showed over $30,000,000 in assessed land and building value within the airport boundary.

Recent Airport Development

In the years since the previous master plan update in 2000, over $160 million of new construction has been completed or is nearing completion at FAI, perhaps most notably the new airport terminal (Table 1-1).

Table 1-1 – Major Construction Projects at FAI 2003-2013

Project	Year[1]	Construction Cost
ARFF Reconstruction	2013	$21.9 million
Apron Improvements	2011	$4.8 million
ARFF Building Reroof	2010	$1.1 million
Access Control	2009	$2.5 million
Dispatch to ARFF Building	2008	$0.5 million
Terminal Redevelopment	2008	$91.0 million
1L-19R Reconstruction	2007	$33.0 million
Heavy Cargo Apron Replacement	2006	$13.8 million
Taxiway A Rehabilitation / Apron Improvements, Stage II	2004	$8.5 million
GA Ramp Electrification	2004	$0.5 million
Drainage Improvements, Phase III	2003	$9.9 million
Total		**$187.5 million**

Sources: ADOT&PF BidTab database and FAI

[1] Note that the "year" column represents the year of the bid opening, not the year when construction was completed.

1.3.3 FAIRBANKS

Non-Native settlement of Fairbanks began in 1901 when E.T. Barnette set up a trading post on the banks of the Chena River at the site of what is now downtown Fairbanks. The town grew, sparked by a gold rush in 1902 and relocation of federal government offices from Eagle to Fairbanks in 1903. The City of Fairbanks was incorporated in November 1903 (City of Fairbanks, 2011).

Table 1-2 – Historic FNSB Populations

Year	Population
1950	19,409
1960	43,412
1970	45,864
1980	53,983
1990	77,720
2000	82,840
2010	97,581

Fairbanks has continued to grow since 1903, fueled by major construction projects such as the Alaska Highway, Fort Wainwright, Eielson Air Force Base, and the Trans-Alaska oil pipeline (Table 1-2). Today, Fairbanks is Alaska's second largest population settlement area with nearly 100,000 residents and serves as the regional service and supply center for interior Alaska (Division of Community and Regional Affairs, 2011).

Fairbanks' population is predominantly Caucasian (77%) and fairly young, with nearly half the residents under age 30 (Figure 1-4) and a median age of 31.0.

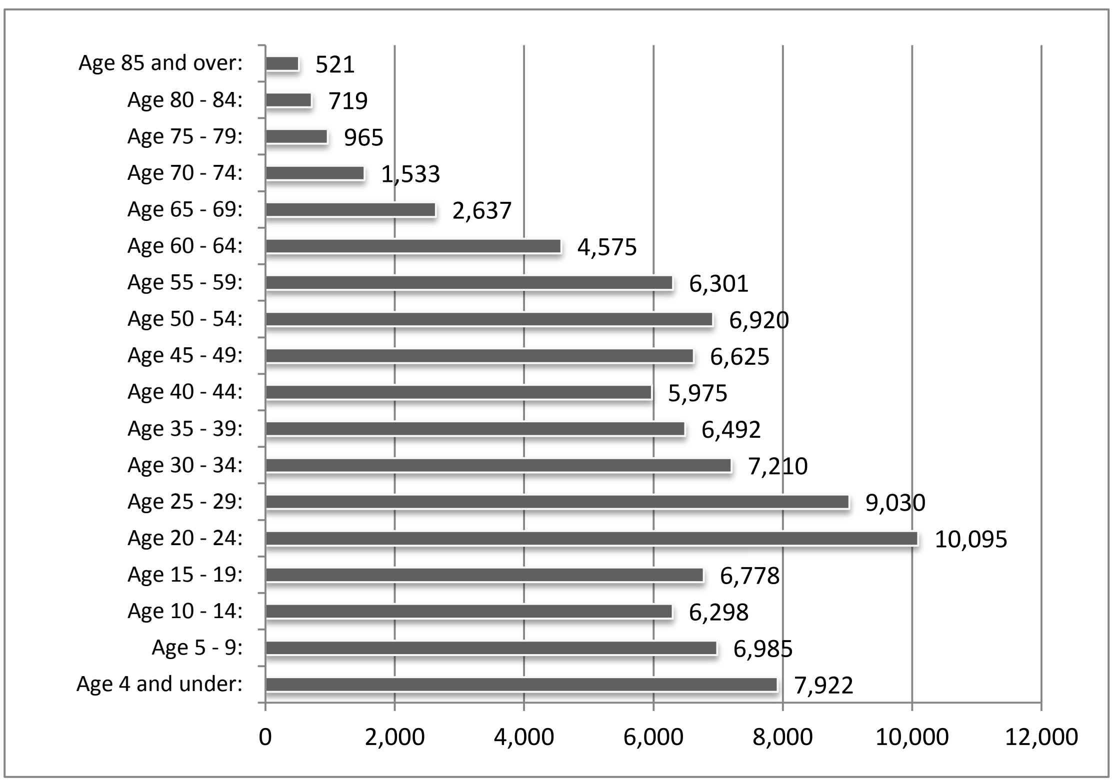

Figure 1-4 – 2010 FNSB Population by Age
Source: 2010 US Census

Government

The Fairbanks North Star Borough (FNSB) encompasses over 7,000 square miles of land and includes the City of Fairbanks, City of North Pole, and several unincorporated communities (FNSB, 2011). The FNSB is a Second Class Borough with an elected mayor and nine-member assembly.

Neither the FNSB nor the City of Fairbanks collects sales taxes; the City of North Pole collects a 4% sales tax. The FNSB and both cities collect an 8% bed tax, 5% alcohol tax, and 8% tobacco tax. Property taxes are 12.973 mills in the FNSB, 17.235 mills in the City of Fairbanks, and 16.898 mills in the City of North Pole.

Doyon, Limited, the regional Native corporation for interior Alaska, has headquarters in Fairbanks, as does the regional non-profit established under the Alaska Native Claims Settlement Act (ANCSA), the Tanana Chiefs Conference (TCC).

Economy

The Fairbanks economy, like much of Alaska, relies heavily on government spending. Over one-third of the employment in the FNSB is provided by government agencies (Division of Community and Regional Affairs, 2011). However, health care is the fastest growing sector in Fairbanks (Dodson, 2011). Tourism provides a significant seasonal boost to the local economy. Eielson Air Force base and Fort Wainwright also play important roles in the local economy, generating many direct and in-direct civilian jobs.

Figure 1-5 shows the breakdown of employees by industry.

The top ten employers in the FNSB in 2010 (Alaska Department of Labor and Workforce Development, 2010) were:

- University of Alaska
- FNSB School District
- State of Alaska (excluding the University of Alaska)
- Banner Health System
- Fred Meyer Stores, Inc.
- Wal-Mart Associates, Inc.
- FNSB (excluding the school district)
- Fairbanks Gold Mining, Inc.
- Tanana Chiefs Conference
- Safeway, Inc.

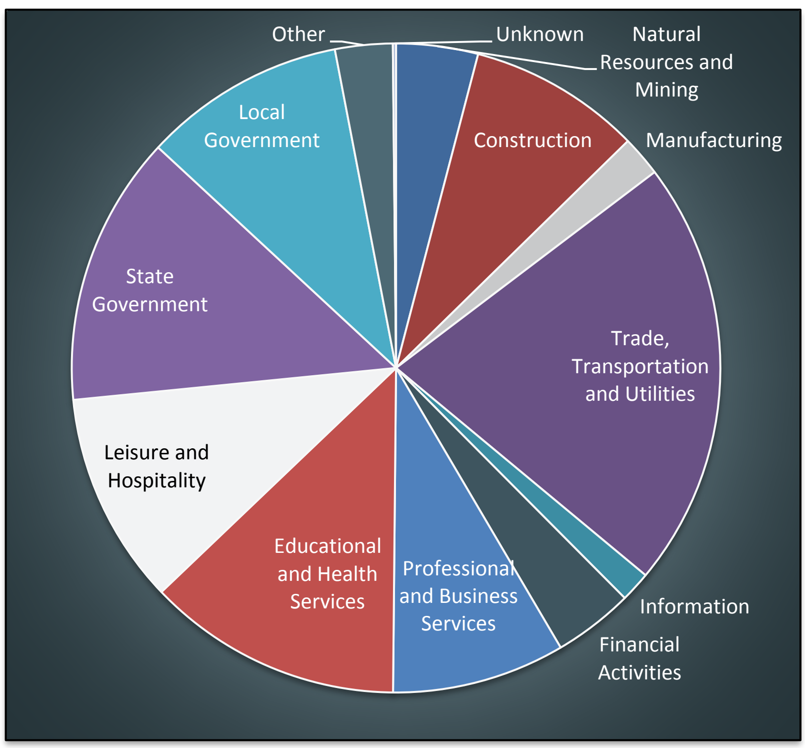

Figure 1-5 – 2010 FNSB Resident Workers by Industry[2]
Source: Alaska Dept. of Labor & Workforce Dev., Research & Analysis Section

[2] Military jobs not included

Per capita income in the FNSB was $28,373, with median household income at $65,121 in 2009 (Division of Community and Regional Affairs, 2011). The annual distribution of Permanent Fund Dividends has a significant effect on the regional economy with a significant portion going towards big-ticket purchases (Goldsmith, 2001).

Transportation

Fairbanks lies at the junction of four of Alaska's major highways (Richardson, Steese, Parks, and Elliott), providing overland access to Anchorage, Canada, Prudhoe Bay, and the lower 48 states. Industrial equipment bound for the North Slope oil fields passes through Fairbanks on its way up to the Dalton Highway.

Fairbanks is the northern terminus of the Alaska Railroad, which began passenger service between Fairbanks and Seward in 1923, and continues providing passenger service today. As a Class II freight railroad, the railroad provides connections to ports in Anchorage, Seward, and Whittier (Alaska Railroad Corporation, 2010). Construction of the Tanana River Bridge, which will provide year-round rail access to military training grounds southeast of Fairbanks, began in 2011.

Fairbanks is 45 minutes from Anchorage and 3 hours from Seattle by air, and the geographic location of Fairbanks puts it within 9-10 hours flight time from 90% of the industrialized world. Fairbanks International Airport is the Interior's aviation hub, providing passenger and cargo services to communities throughout the region, as well as providing scheduled jet service to domestic and international destinations. There are also several privately owned airstrips in the Borough that serve a variety of aviation uses.

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2 Existing Conditions

2.1 ABOUT THIS CHAPTER

2.1.1 DATA COLLECTION

The first step in the airport master planning process is to gather information about the airport and its environs from a variety of sources. An inventory of current conditions is essential to the success of a master plan, since the information also provides a foundation, or starting point, for subsequent evaluations.

The inventory of existing conditions for the Fairbanks International Airport (FAI) Master Plan Update was obtained through on-site investigations; interviews with airport management, users, tenants, and air traffic control tower staff; and review of previous reports and studies. This chapter includes the following information:

- Airport ownership and management, the general airport setting, transportation access, the airport's role in regional transportation, and airport history
- An overview of the area's airspace and navigational aids and procedures
- Descriptions of facilities and services now provided at the airport, including airside, terminal, landside, and support facilities, as well as utilities and other infrastructure
- A summary of environmental and meteorological conditions at the airport
- Population and socioeconomic information for the geographic area the airport serves
- A review of historic and current airport activity, including commercial service, air cargo, general aviation, and military activity

Detailed reports for individual elements of this chapter (biological resources, geotechnical investigations, etc.) are included in an accompanying Resource Documents binder. Those reports have been distilled down to their salient issues for this document.

Concurrent with the master plan update, FAI participated in one of the Federal Aviation Administration (FAA) pilot projects to develop an electronic Airport Layout Plan (eALP). Data gathered for the eALP will ultimately be uploaded to a Geographic Information System (GIS) for the airport. When the project is complete, users will be able to view, query, print, and grant access to airport data located within the GIS database. A list of GIS data collected during this phase of the project is included in the Resource Documents binder and referenced as appropriate in the following sections.

2.1.2 PREVIOUS MASTER PLANNING

DOT&PF first developed an airport master plan for FAI in 1980. It has been updated several times since then, most recently in 2004. Many of the recommendations from the 2004 master plan update have been implemented. The 2004 Master Plan Update recommended:

- Providing additional aircraft holding aprons at runway ends **(east side complete)**
- Reconstructing asphalt at the hardstand **(complete)**
- Adding aircraft parking space **(complete)**
- Relocating Taxiway A
- Developing a helicopter landing pad and transient parking area
- Improving airfield drainage
- Constructing de-icing pads near the runway ends **(complete)**
- Evaluating reconstruction of the passenger terminal **(complete)**
- Developing improvements to on-airport vehicle traffic routes
- Identifying space for future cargo activities, particularly wide-body commercial airlines **(complete)**
- Maximizing land-leasing
- Establishing a new snow storage site for maintenance and operations **(complete)**
- Relocating the fire-training pit and firing range
- Relocate airfield lighting regulator building **(complete)**
- Providing electrical power to leased tie-downs and water and sewer service to all lease lots

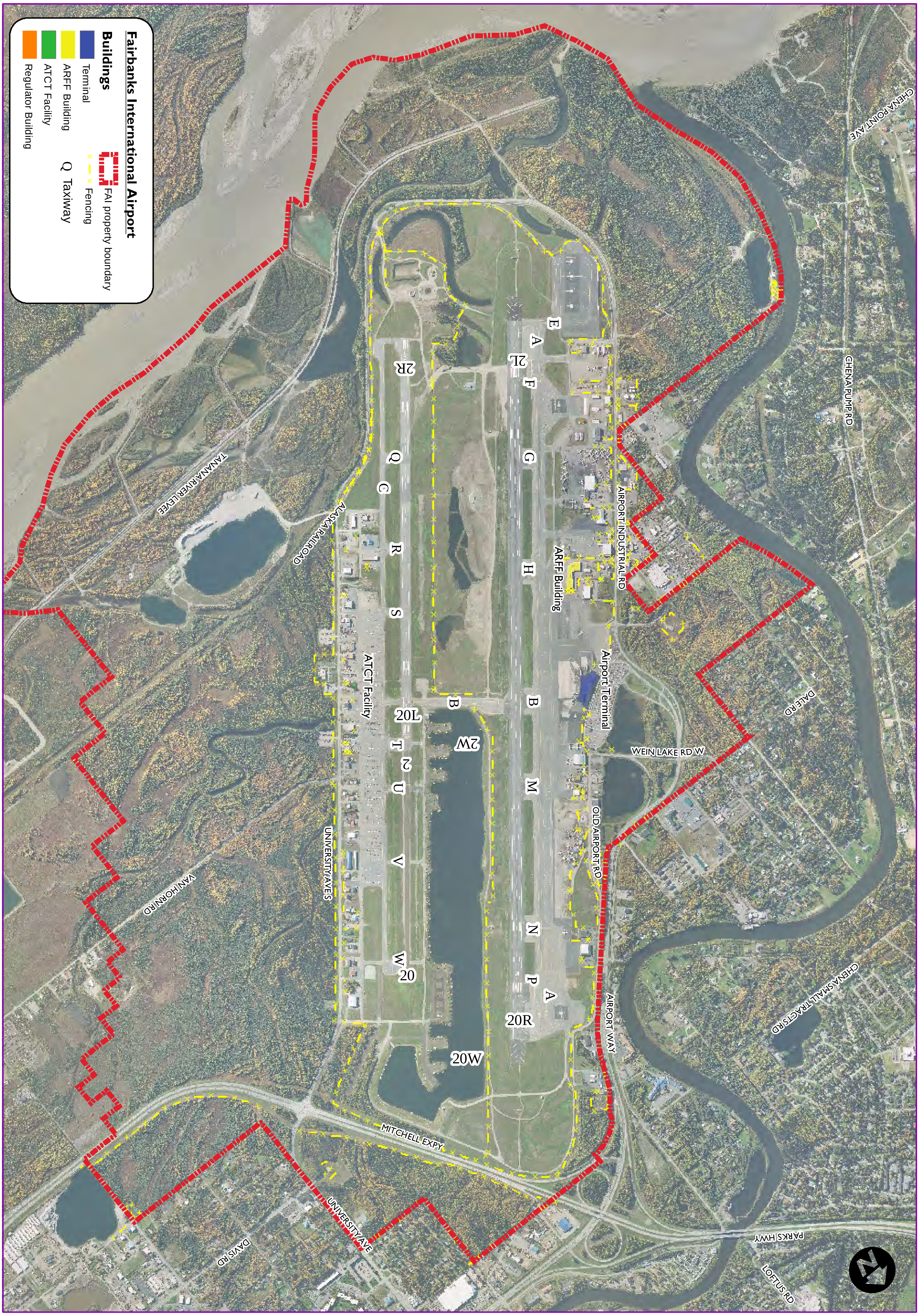
2.1.3 LAYOUT OF THIS CHAPTER

This chapter of the master plan generally follows the FAA's Advisory Circular (AC) for Master Plans. Because the issues and infrastructure at FAI are different on the western and eastern sides of the airport, the sections that follow are organized accordingly.

2.2 INVENTORY OF EXISTING FACILITIES

2.2.1 AIRFIELDS

FAI's runways and taxiways can be divided generally down the middle of the airport between the runway on the west side and the runways and float pond on the east side. A fence separates the west side of the airport, which is FAA Part 139 certificated, from the east side, which is not. The runways and taxiways on the east side of the airport are used by the air taxis and general aviation aircraft (see Figure 2-1).



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DATE	JANUARY, 2012		

PROJECT No. 11072FB

FIGURE NUMBER **2-1**

SHEET TITLE:

Overview

Existing Conditions

PROJECT:

FAI MASTER PLAN PROJECT

PLANS DEVELOPED BY:
PDC, INC.

CONSULTANT:

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Runways

There are four runways at FAI. Since the previous master plan and Airport Layout Plan (ALP), the runway numbers have been updated due to geomagnetic changes that affect the magnetic bearing: former Runway 1L/19R is now designated Runway 2L/20R, and so on. Dimensions, surface type, and other features of each runway are presented in Table 2-1.

Runway 2L/20R, which serves the commercial air carriers and heavy cargo aircraft, is constructed to Design Group V standards and for pavement loading up to 1,100,000 pounds (double-dual-tandem-wheel landing gear). This is a precision instrument runway with appropriate lighting and markings. The runway is 11,800 feet long, but the thresholds have been displaced on each end, with resulting declared distances published in the ALP and the Alaska Supplement.

The pavement for Runway 2L/20R was reconstructed in 2009 and is in good condition. The 2011 Pavement Inspection report shows the pavement is in good condition and recommends only preventative maintenance. (See Resource Documents binder for pavement inspection report.)

Table 2-1 – Runways

Feature	Runway 2L/20R	Runway 2R/20L	Runway 2W/20W	Ski Strip 2/20
Type	Commercial	General Aviation	Waterlane	Gravel/Ski
Dimensions	11,800’ x 150’	6,501’ x 100’	5,400’ x 100’	2,900’ x 75’
Surface	Asphalt Concrete	Asphalt Concrete	Water	Gravel/Snow
Surface Treatment	Grooved			
Pavement Classification Number (PCN)	78 F/A/W/T			
Load Bearing Capacity	75,000 S 220,000 D 580,000 DT 1,100,000 DDT	18,000 S	N/A	N/A
Airport Reference Code	D-V	Utility B-II	Utility B-II	Utility B-II
Runway Lighting	High Intensity Runway Lighting (HIRL) Touchdown Landing Zone Centerline	Medium Intensity Runway Lighting (MIRL)	None	None
Runway Marking	Precision Instrument	Non-Precision Instrument (NPI)	N/A	N/A

S = Single-wheel landing gear
D = Dual-wheel landing gear
DT = Dual-tandem-wheel landing gear
DDT = Double-dual-tandem-wheel landing gear

Other runways serve non-air-carrier, general aviation (GA) aircraft. Of the GA runways, only Runway 2R/20L is paved. Most of this pavement is 5 to 9 years old, and the 2011 Pavement Inspection report recommends corrective maintenance. This runway has lighting and markings appropriate for non-precision instrument runways.

Ski Strip 2/20 serves aircraft that are more suited to landing on a gravel surface. In the winter, snow is packed on the surface to support aircraft landing on skis.

Runway 2W/20W is used by aircraft on floats. The water depth varies as the groundwater elevation changes seasonally. In summer when the water is low, sandbars appear on the float pond. There is no parallel taxilane for this runway, which can cause delay for taxiing aircraft waiting for others to take off or land.

Taxiways

Parallel Taxiway A and connecting taxiways on the west side of Runway 2L/20R serve the air carriers and heavy cargo aircraft and meet all the standards of FAA Aircraft Design Group (ADG) V except for the distance between the runway centerline and the parallel taxiway (when operating under low visibility). There is currently 400 feet between the taxiway and runway centerlines. For ADG V, with visibility minimums less than ½ mile, the separation distance increases to 500 feet (plus an adjustment for elevation which is dependent on the wingspan of the design aircraft). For ADG VI, the separation distance would increase to 550 feet plus elevation adjustment (during low visibility). To provide separation between aircraft in the present configuration, FAI operational procedures prohibit aircraft from entering Taxiway A during the takeoffs and landings of ADG VI aircraft.

Taxiways meeting the standards for ADG II serve the GA aircraft on the east side of the airport.

Table 2-2 – Taxiways

Taxiway	ADG	Length	Width
A	V	12,375’	75’
B (West)	V	400’	150’
B (East)	II	2,250’	75’
C	II	10,547’	50’
D	II	4,550’	40’
E	V	112’	118’
F	V	400’	245’
G	V	400’	120’
H	V	400’	150’
M	V	400’	130’

Taxiway	ADG	Length	Width
N	V	560’	150’
P	V	400’	250’
Q	II	375’	35’
R	II	375’	35’
S	II	450’	35’
T (West)	II	270’	35’
T (East)	II	450’	200’
U	II	645’	35’
V	II	720’	35’
W	II	1,000’	35’

Most of the taxiway pavements are 5 to 9 years old, but the pavement of Taxiway B is over 30 years old. Pavement recommendations from the 2011 pavement inspection range from preventative maintenance for Taxiway A and most west side exit taxiways to corrective maintenance and rehabilitation of taxiway pavements on the east side.

Taxiway B is the only connection between the air operation areas on the east side of the airport and Runway 2L/20R. Runway 2L/20R and Taxiway B are used regularly by air taxi and GA aircraft under IFR conditions. The taxiway enters the runway near the midpoint, which is less desirable from a safety standpoint than entering near the ends of runway, and is the only unfenced area in the security fence surrounding the Part 139 certificated portion of the airport. To prevent runway incursions, Taxiway B is signed to restrict vehicle traffic and constantly monitored by security and the air traffic control tower.

2.2.2 AIRSPACE AND NAVIGATIONAL AIDS

Airspace

The airspace surrounding FAI is designated as a Terminal Radar Service Area (TRSA). In a TRSA, air traffic controllers use radar to ensure that aircraft targets do not merge unless the aircraft have a minimum of 500 feet vertical separation. The Fairbanks TRSA extends 15 nautical miles from the airport to the north, south, and west and beyond Eielson Air Force Base to the southeast.

Military Operations Areas (MOAs) have impacts on the areas and altitudes where aircraft may operate, imposing serious limits on aircraft operating under Instrument Flight Rules (IFR). Alaska has extensive military training areas, and the associated MOAs cover vast areas south and east of FAI. The Alaska Command is proposing to expand and establish new MOAs further restricting the airspace available to civilian aircraft. The Final Environmental Impact Statement (EIS) was released in June 2013. The *Record of Decision for the Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex (JPARC) in Alaska* was signed in August 2013. MOA airspace restrictions may result in less efficient routing, approach, and departure paths.

Federal Aviation Regulation (FAR) Title 14, Part 77, establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for:

- Evaluating the effect of construction or alteration on operating procedures
- Determining the potential hazardous effect of proposed construction on air navigation
- Identifying mitigating measures to enhance safe air navigation
- Charting of new objects

Imaginary surfaces, described in Part 77, define the lower limits of the airspace surrounding airports. Objects that penetrate these surfaces are listed as obstructions on the ALP, which also lists the proposed action for each obstruction. Obstructions affect the approach minimums and approach/departure procedures. The 2005 ALP indicates trees, roads, railroad, and light poles as obstructions based on the 2004 photosurvey. FAI is currently obtaining an airspace study to update the obstruction information.

Navigational Aids

A variety of electronic and visual navigational aids are located on or near FAI. The electronic aids work in concert with an aircraft's on-board navigational systems for navigation and landing. Visual aids are ground-based and provide visual cues to pilots for approach, landing, taxiing, and aircraft parking. Runway approach lights and runway and taxiway edge lighting also aid navigation.

Non-Directional Beacon

The non-directional beacon (NDB) provides navigational guidance by means of a low-frequency radio signal (in essence, a homing marker). With the use of an on-board automatic direction finder, the pilot can determine the position of the aircraft relative to the NDB antenna.

There are three NDB antennae in the vicinity of FAI, all listed in the Alaska Supplement:

- FOX (frequency 356 kHz), approximately 12 nautical miles north of the airport (in shutdown status)
- CHENA (frequency 257 kHz), approximately 9 nautical miles east of the airport
- WEARR (frequency 510 kHz), approximately 6 nautical miles north of the airport

Very-High Frequency Omni-directional Range Transmitter

The Very-High Frequency Omni-directional Range (VOR) transmitter provides course guidance by radiating 360-degree radio signals, corresponding to each of the 360 degrees of the compass, on very high frequencies. Selected radials between adjoining stations provide guidance to pilots for designated airways or routes in the sky. VOR facilities such as the Fairbanks VORTAC also contain military tactical air navigation equipment. The tactical air navigation equipment provides azimuth and distance-measuring information.

The VOR transmitter in the Fairbanks area is located approximately four nautical miles southwest of the airport. It broadcasts on a frequency of 108.6 MHz, or military channel 23.

Instrument Landing System

The instrument landing system (ILS) provides aircraft alignment, descent gradient, and position relative to a runway until the runway is visible to the pilot. The instrument landing system consists of a localizer, a glide slope, marker beacons, approach lights, and high-intensity runway lights. The localizer, located in-line with the runway centerline, emits a radio signal that establishes horizontal course alignment. The glide slope signal is used to establish the correct angle of descent. Two marker beacons, which emit a low-power fan-shaped signal, are installed on the approach path to mark key decision points for the pilot.

Aircraft instrument approaches that utilize the ILS are called precision instrument approaches. Aircraft capable of precision instrument approach are equipped with special instrumentation and must be flown by pilots who hold an instrument rating. Precision instrument approaches are designated as CAT I, CAT II, and CAT III, based on the minimum altitude at which pilots must decide to land or abort the landing. Runway visual range systems facilitate the measurement of horizontal visibility.

At FAI, Runways 2L and 20R are equipped to support precision instrument approaches. The instrument landing system category for Runway 2L is CAT III-B, with a visual range of 600 feet and no decision height requirement. Runway 20R is classified as CAT II, with a visual range of 1,200 feet and a decision altitude of 538 feet. This information is provided in *U.S. Terminal Procedures, Alaska,* October 21, 2011.

Approach Lighting Systems

Approach lighting systems provide the pilot visual assistance during landing. They are mainly used on runways equipped for precision instrument approaches to assist in transition from instrument conditions to visual references. Runway 2L is equipped with a high intensity approach lighting system with sequenced flashing lights (ALSF-2). An ALSF consists of a threshold bar and 24 other light bars.

Runway 20R is equipped with a medium-intensity approach lighting system (MALS), which consists of a threshold bar and six other steady burning light bars. This is complemented by a runway alignment indicator light (RAIL) system that has three sequenced flashers that flash toward the runway threshold twice per second. This combination of approach and alignment lighting is commonly referred to as a MALSR.

Visual Glide Slope Indicator System

A visual glide slope indicator is a system of lights that indicate to pilots whether they are above, below, or on the appropriate glide path. Types of systems include visual approach slope indicator (VASI), precision approach path indicator (PAPI), and pulse light approach slope indicator (PLASI).

FAI has PAPI lights installed for Runways 2L, 2R, 20L, and 20R.

Runway End Identifier Lights

Runway end identifier lights (REIL) may be installed on runways that have no approach lights. With these lights in place, pilots can make positive visual identification of the approach end of the runway.

Runway 20L is equipped with runway end identifier lights.

Runway Edge Lights

There are three types of runway edge lighting, classified by their intensity:

- Low intensity lighting (LIRL) is used on runways operating under visual conditions with no planned instrument approach procedures.
- Medium intensity lighting (MIRL) is used on both visual and non-precision instrument approach runways.
- High intensity lighting (HIRL) is used on runways with precision instrument approaches.

Runway 2L/20R is equipped with a high-intensity runway lighting system. Runway 2R/20L is equipped with a medium-intensity runway lighting system.

Instrument Approach Procedures

The FAA publishes instrument approach procedures that rely on the navigational aids listed above. There are 12 pages of instrument approach procedures published in the October 20, 2011, *U.S. Terminal Procedures, Alaska.* These range from GPS approaches to Runways 2R and 20L up to a Category III-B precision instrument approach to Runway 2L. The lowest minimums of the CAT III-B approach allow specially equipped aircraft with trained pilots to land with visibility as low as 600 feet runway visual range (RVR) and no minimum height above touchdown. Published approaches are listed at right.

Table 2-3 – Published Runway Approaches

Runway	Approaches
Runway 2L	◆ ILS *or* LOC RWY 2L ◆ ILS RWY 2L (CAT II) ◆ ILS RWY 2L (CAT III) ◆ RNAV (GPS) RWY 2L
Runway 20R	◆ HI-ILS *or* LOC RWY 20R ◆ ILS *or* LOC RWY 20R ◆ ILS RWY 20R (SA CAT I) ◆ ILS RWY 20R (SA CAT II) ◆ RNAV (GPS) RWY 20R ◆ VOR *or* TACAN RWY 20R
Runway 2R	◆ RNAV (GPS) RWY 2R
Runway 20L	◆ RNAV (GPS) RWY 20L

2.2.3 AIRCRAFT PARKING AREAS

West Side

Commercial airlines use the apron adjacent to the terminal, commonly referred to as the West Ramp. The September 2011 Alaska Airport Pavement Inspection Report lists the area of this paved apron as 1,948,361 sf. Most of the pavement is asphalt concrete. About one-third of the pavement is over 30 years old. Pavement recommendations range from preventative maintenance for the majority of the pavement to rehabilitation for most of the older pavements. A project to reconstruct portions of the commercial apron was complete in 2013. Individual Portland cement concrete (PCC) hardstands are used for parking heavy aircraft south of the terminal and at terminal gates 1, 5, and 6. A large area of PCC is used for parking jets at terminal gates 2, 3, and 4 (see Figure 2-2).

Commuter and regional aircraft park at the northwest end of the terminal. The parking configuration for aircraft at Gates 1 through 6 restricts these aircraft to parking some distance away from the terminal. This is undesirable, especially in cold or rainy weather.

Heavy cargo aircraft park south of the terminal. The cargo apron has four PCC hardstands for Boeing 747 aircraft. The pavement area is listed as 679,935 sf. Construction of the heavy cargo apron was completed in 2008, so the pavement is less than 4 years old, and the 2011 pavement inspection recommends preventative maintenance.

Figure 2-2 – Fairbanks International Airport Terminal
(Source: ADOT&PF)

North of the terminal lies the Northwest Apron, with a paved area listed at 342,915 sf. This apron is used by business jets and heavy cargo charter aircraft. The pavement is 20 to 24 years old, and the 2011 pavement inspection report recommends corrective maintenance.

East Side

GA aircraft park on the apron on the east side of the airport, commonly referred to as the East Ramp. The pavement area of this apron is listed as 1,394,150 sf, with parking for approximately 300 aircraft. Tie-downs with electricity and taxi-through parking are the most desirable.

Table 2-4 – East Side GA Parking

Type of Parking	Electricity	No Electricity
Paved Tie-Downs	150	104
Gravel Tie-Downs	0	19
Transient Tie-Downs	5	22
Float Pond Slips	0	183
Transient Float Pond Slips	0	6
Air Park Sites	0	15

Most of the pavements of the GA apron are over 25 years old and recommended for rehabilitation by the 2011 pavement inspection.

Helicopters also park on the East Ramp. The fixed wing aircraft operators would prefer the helicopters relocate to a separate dedicated area to avoid the wind and dust generated by helicopters when they take off, land, or taxi.

2.2.4 PASSENGER TERMINAL FACILITIES

West Side—Main Passenger Terminal

The primary passenger terminal facilities are located at the intersection of Airport Way, Airport Industrial Road, and Old Airport Way on the northwest side of the airfield, four miles west of downtown Fairbanks. The 150,000 sf, two-story terminal was constructed in 2008-09 to replace aging facilities originally built in the 1950s. It currently serves domestic and international passenger and cargo airlines, as well as regional commuters. Table 2-5 summarizes the terminal building space by size and functional use.

Table 2-5 – Passenger Terminal Building Space by Function[1]

Area	Floor	Area (sf)	Design Occupancy (persons)
Bag Claim	First	26,189	1,309
Concourse/Lobby	First	13,905	140
Bag Handling	First	26,176	89
Regional Carrier Waiting Area	First	1,635	109
Business Space	First	24,811	241
Waiting Area	Second	17,600	1,175
Business Space	Second	15,409	109
Concourse	Second	17,275	173
Concessions	Second	4,514	77

The terminal's first floor (see Figure 2-4) includes ticketing counters, baggage claim areas, rental car counters, visitor information, restrooms, courtesy phones, luggage carts, visitor seating, and passenger waiting areas. The secured, non-public side of the first floor provides space for support activities such as baggage handling and screening as well as international passenger processing.

Figure 2-3 – Air Carrier Ticket Counters and Passenger Queuing Area

[1] Source: Bettisworth North Architects & Planners, Inc.

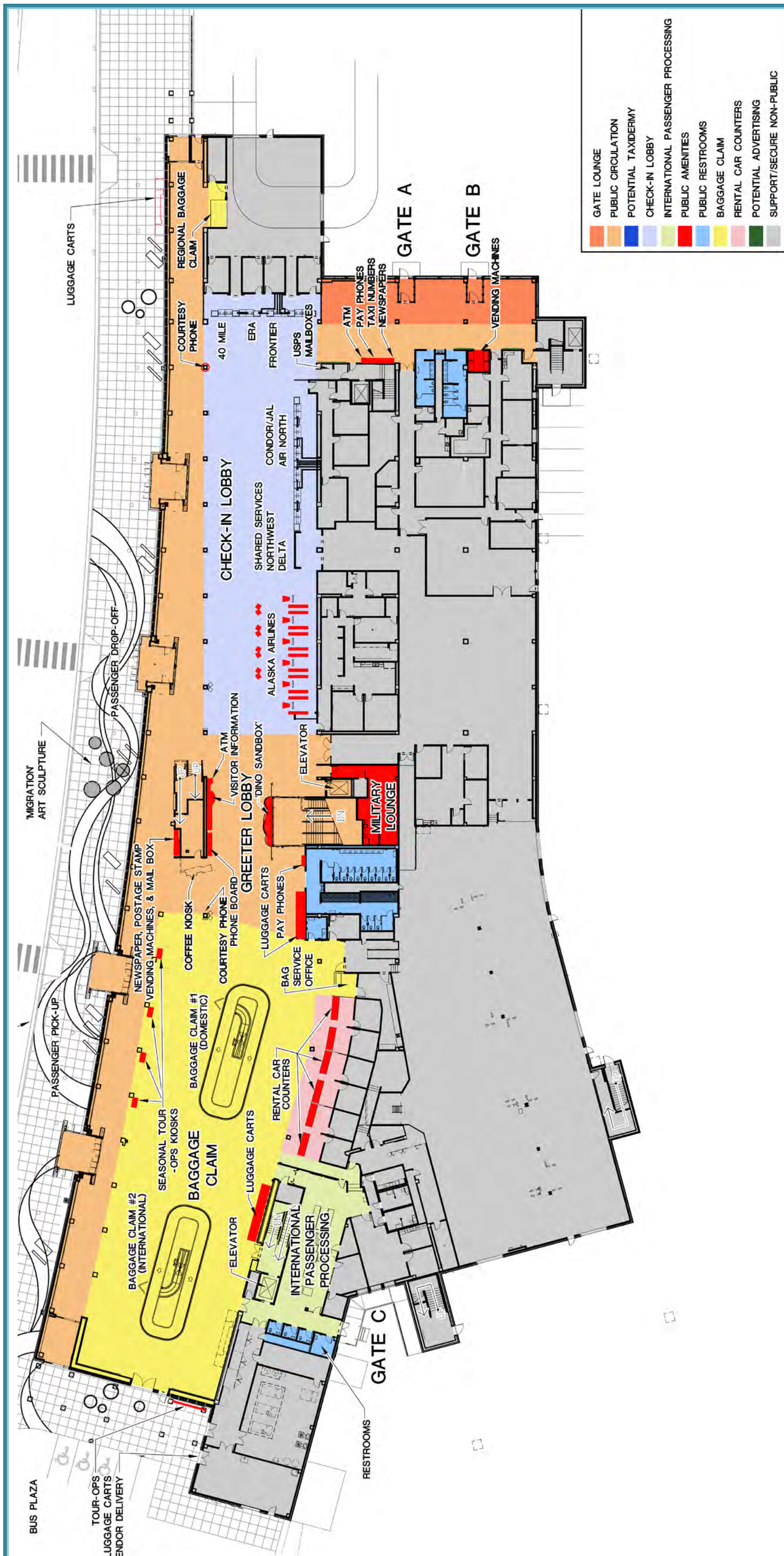

Figure 2-4 – Passenger Terminal Floor Plan – First Floor
(Source: Bettisworth North Architects & Planners, Inc.)

There are three baggage claim areas in the terminal—two conveyor-belt systems for the air carriers and one slide for the commuter airlines—at the south and north ends of the terminal, respectively. Tour bus operators meet passengers near the south baggage claims.

Airlines with leased space in the terminal include Alaska Airlines, Delta Air Lines, Ravn Alaska (formerly Era Aviation), Shared Services Aviation, 40-Mile Air, and Air North. United Airlines, Frontier Airlines, Condor, and Japan Airlines pay for terminal space on a per-turn basis.

There are 15 self-serve kiosks in the check-in lobby (11 Alaska Air, 4 Delta), as well as 19 ticket counter positions along 120 linear feet of ticket counters for the air carriers. Alaska Airlines uses a non-traditional set-up, with individual stations and baggage conveyor belts for ticketing and luggage processing. Commuter airlines have eight ticket counter positions located along 48 linear feet of counter.

Continued growth of the regional air carriers will create a demand for additional terminal space, better access to aircraft, and a larger baggage claim area.

Six rental car agencies are located in the terminal: Avis, Hertz, Budget, National/Alamo, Dollar, and Payless. Rental car counters are located on the first floor near the baggage claim area at the south end of the terminal.

The terminal's second floor (Figure 2-6) consists primarily of sterile passenger waiting areas, including food services and a gift shop. The Transportation Security Administration (TSA) provides passenger screening on the second floor. The airport administrative offices are located at the north end of the second floor. Miscellaneous storage and mechanical rooms are also found on the second floor.

Five jetways accommodate passenger boarding through five gates on the second floor, with a sixth gate (Gate 3) available but unused at this time. Commuter aircraft board from the north end of the first floor through Gates A and B.

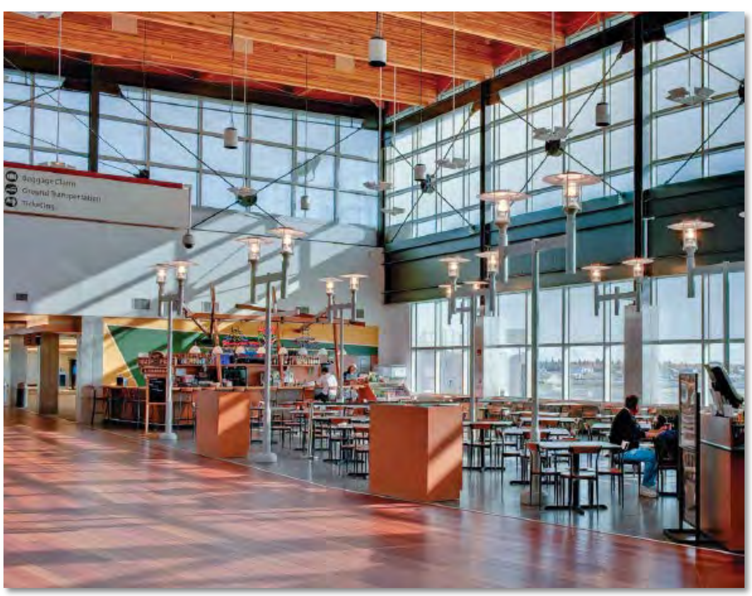

Figure 2-5 – Food service area on the second floor of the terminal
(Source: ADOT&PF)

There are two food service operations in the terminal, Jazzman's Café and the Bush Pilot Lounge. Both are located on the second floor beyond security screening. There is one gift shop located on the second floor also within the sterile area, providing gifts, periodicals, snacks, and travel necessities. The Armed Services YMCA military lounge is located on the lower level of the terminal. During the summer, a coffee kiosk (Aviator's Landing) on the first floor provides beverages and snacks.

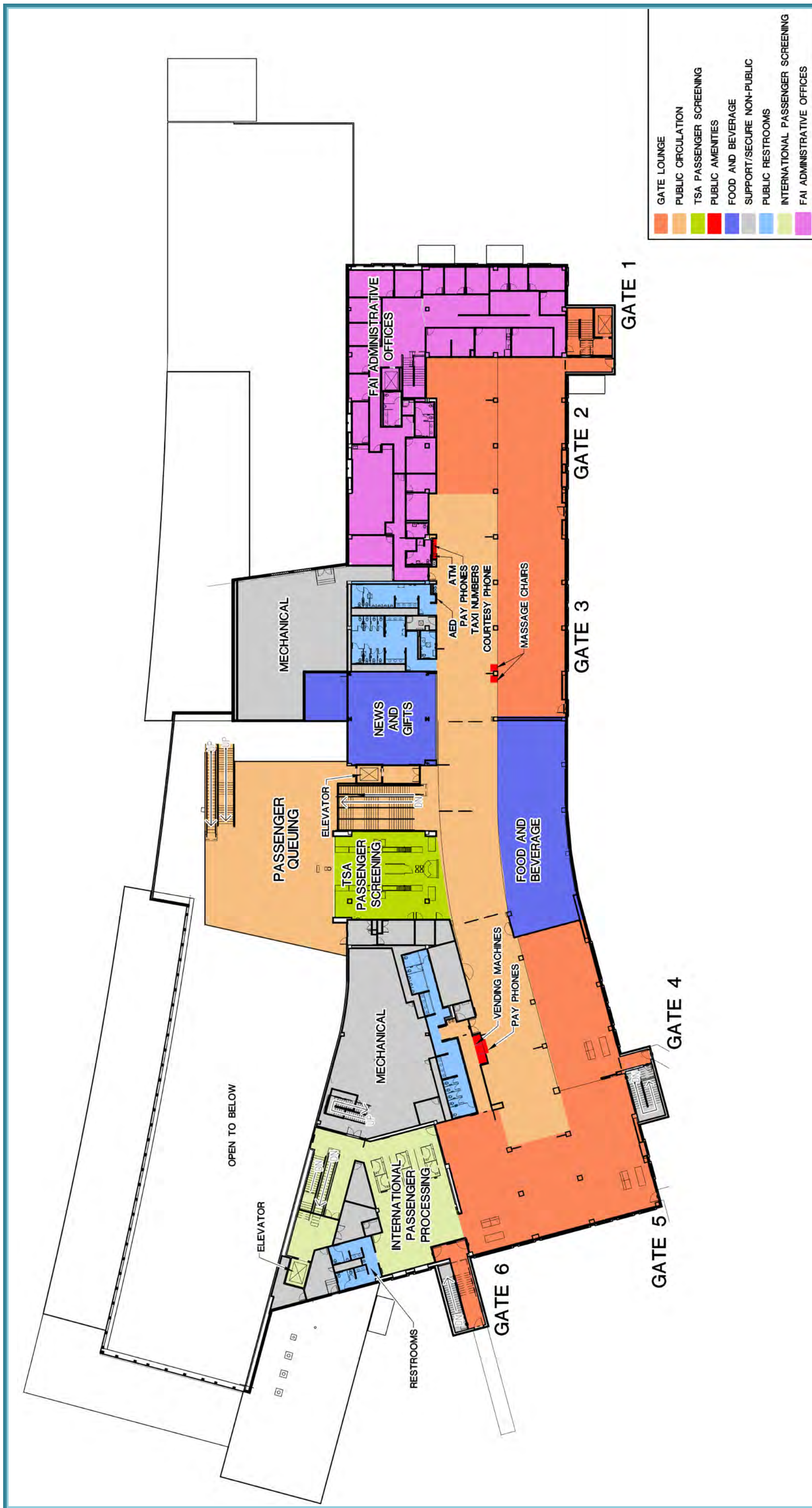

Figure 2-6 – Passenger Terminal Floor Plan – Second Floor
(Source: Bettisworth North Architects & Planners, Inc.)

In addition to the primary passenger terminal facilities, there are two fixed base operators on the west side that also provide passenger facilities: Everts Air and Alaska Aerofuel. Alaska Aerofuel also accommodates on-site U.S. Customs and Immigration processing for international flights, with a U.S. Customs office in their building.

East Side

Passenger terminal facilities on the East Ramp are spread out amongst individual operators. Fixed base operators with terminal facilities include Wright Air, Warbelow's, Larry's Flying Service, and Air Arctic/ Northern Alaska Tour Company. There is a pilot's lounge near the Air Traffic Control Tower that contains restrooms, showers, and public phones (Figure 2-7).

Figure 2-7 – East Ramp pilot facilities

2.2.5 ACCESS, CIRCULATION, AND PARKING

Figure 2-8 – Traffic flow at the FAI terminal

Figure 2-9 – Airport Way curbside at the FAI terminal building

The primary airport access road to the FAI terminal and adjacent facilities on the west side is Airport Way. Four lanes of two-way traffic carry the primary traffic flow to and from the terminal. Counter-clockwise one-way roads circulate traffic in a centralized ground access concept at the terminal and parking areas (Figure 2-8). Airport Way also provides access to Airport Industrial Road to the south. The main Fairbanks post office, the bulk fuel storage area, leaseholder facilities, and residential areas are located off Airport Industrial Road.

At the FAI terminal there are two through lanes, one curb/maneuvering lane, and a single curb frontage lane. Approximately 580 feet of curb frontage is available for passenger pick-up and drop-off (Figure 2-9).

2010 Annual Average Daily Traffic (AADT) counts for the primary access roads onto and through FAI are shown on Figure 2-10. A detailed map of traffic counts for the roads on and adjacent to FAI is included in the Resource Documents binder.

Figure 2-10 - ADOT&PF 2010 Annual Average Daily Traffic for the access roads at FAI

Figure 2-11 – East Ramp entrance at University Avenue South, near the Mitchell Expressway

Access to the East Ramp is primarily via University Avenue South, southwest of the Mitchell Expressway. Two-way traffic on University Avenue South provides the main access to tie-down locations, air taxi operations, the air campground, and the air traffic control tower and Flight Service Station. Van Horn Road (formerly Cartwright Road), which intersects University Avenue South along the East Ramp, provides access to areas of Fairbanks south of the Mitchell Expressway.

Figure 2-12 – Informational display on University Avenue South

Over the past several years, FAI has constructed features such as motion-activated gates, decorative arches, and information signs (Figure 2-12) on the east side of the airport along University Avenue South and Cartwright Road to inform the public that they are entering airport property. Informational signs include maps of controlled surfaces, airport contacts, and other airport-related notifications. These improvements were made to a) alert the public that they were entering an airport and b) provide increased situational awareness for customers and other users to locate airport business facilities.

In the event that the security level at FAI is heightened, traffic patterns and public parking access near the FAI terminal will be impacted in order to maintain necessary separation distances.

FAI is also connected to the Alaska Railroad via tracks that run around the south end of the airport and along Airport Industrial Road. However, the rail line has not been used in over 20 years. An analysis of railroad passenger and cargo (including fuel delivery) potential would be necessary to determine any future possible use of the railroad tracks at FAI.

2.2.6 PARKING

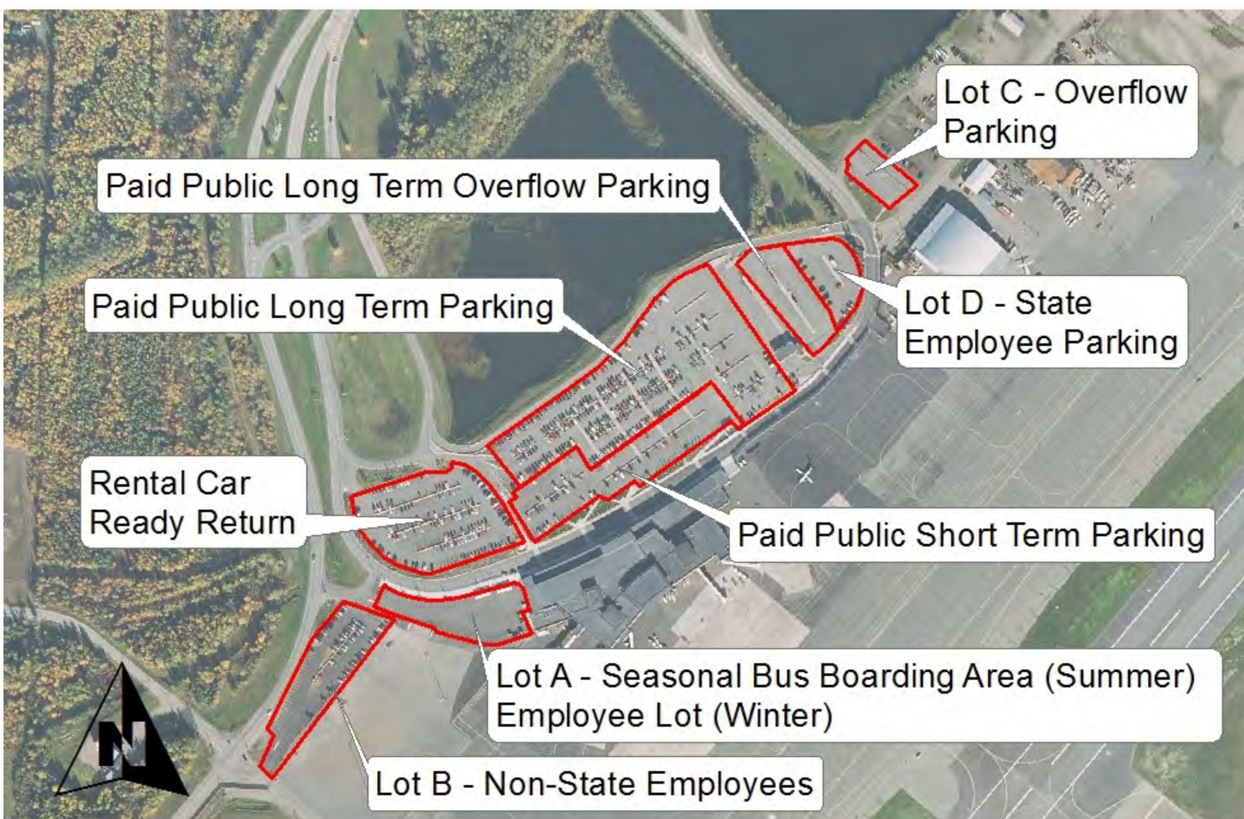

Figure 2-13 – West side parking lots at FAI

Figure 2-14 – East Ramp public parking lots on University Avenue South, on either side of the Flight Service Station

Public Parking

The parking concession at FAI is operated by Republic/Aurora Parking System of Alaska. Republic/Aurora collects fees, removes snow from some of the walkways, and monitors the headbolt heater breakers to make sure they haven't been tripped. The manager of Republic/Aurora operations at FAI indicates the current parking facilities at the airport are adequate.

Both long-term and short-term public parking is provided at paved parking lots located adjacent to the main terminal building (Figure 2-9, Figure 2-13, and Figure 2-15). There are eight marked crosswalks across Airport Way from the parking area to the terminal side. There are 155 short-term parking spaces, 426 long-term parking spaces, and 97 long-term overflow parking spaces. Payment for public parking at the main terminal is via timed electronic tickets which are taken by drivers as they enter the long- or short-term lots. Republic/Aurora collects payment for parking at the terminal at three booths. These booths are generally configured as two manned and one unmanned.

Republic/Aurora also operates two employee parking lots near the main terminal, a 58-space lot for State of Alaska employees and a 110-space lot for other airport workers (Figure 2-13). Employees pay a monthly fee to park in these lots.

Figure 2-15 – Short-term public parking entrance adjacent to the FAI terminal building

In addition, two gravel parking lots located along University Avenue South near the East Ramp provide public parking for users of the general aviation portion of FAI (Figure 2-14 and Figure 2-16). East Ramp Lots 1 and 2 have 135 and 140 public parking spaces, respectively (Figure 2-14). A $3 per day (pre-paid) fee is required. Customers are allowed to park for extended periods in the East Ramp lots, which accommodates passengers being flown to remote areas by East Ramp air charter operators. Payment for public parking at the East Ramp lots is via payment envelopes, which are deposited in drop boxes located at the entrance to each lot and picked up by Republic/Aurora.

Figure 2-16 – East Ramp public parking area and payment drop box

The rate structure for the various parking lots is detailed in Table 2-6.

Table 2-6 – Public Parking Rates

Parking Area	Duration	Fee
Public Parking Lot—Short Term (Maximum stay 30 days) 155 spaces	Up to 30 Minutes	Free
	31-60 Minutes	$2.50
	1-2 Hours	$5.00
	2-3 Hours	$7.50
	3-4 Hours	$10.00
	4-5 Hours	$12.00
	5-24 Hours	$13.00
	Daily	$13.00
	Weekly	$84.00
Public Parking Lot—Long Term (Maximum stay 90 days) 523 spaces	Up to 30 Minutes	Free
	31-60 Minutes	$2.00
	1-2 Hours	$4.00
	2-3 Hours	$6.00
	3-4 Hours	$8.00
	4-24 Hours	$10.00
	Weekly Rate	$65.00
Employee Parking Lots B and D 168 spaces	Monthly	$20
	3 Months	$55
East Ramp Lots 1 and 2 275 spaces	Per Day	$3.00

Other Parking

Additional paved parking near the terminal includes rental car return spaces and seasonal bus parking spaces (Figure 2-13).

Rental cars are parked in a separate parking lot off the southwest end of the terminal (Figure 2-13). The 224 parking spaces in the lot are allocated to each rental car agency based on revenue. Rental company employees that work in the terminal also park in this lot. Rental cars are washed and serviced off airport property in the Dale Road area.

Rental car companies report steady growth in business at FAI over the past 10 years and foresee a need to expand the parking lot in the future. They expressed concern that a satellite rental car lot and corresponding shuttle bus service is neither economical to operate nor practical in the Fairbanks climate.

Seasonal bus parking to accommodate the influx of summer tourists is provided immediately southwest of the terminal (Figure 2-13). In the winter the bus parking area is used as additional employee parking.

Approximately 200 feet of designated taxi cab parking/queuing area is located along the sidewalk curb immediately southwest of the terminal.

Some FAI tenants provide parking spaces for their patrons and employees within their lease lots. Leaseholder parking lots vary in size and configuration according to the leaseholder's particular needs.

2.2.7 UTILITIES

Utilities serving FAI include water, sewer, electricity, telephone/Internet, and solid waste disposal. Limited natural gas distribution is also available to portions of the West Ramp. Providers of the utilities to FAI are listed in Table 2-7.

Table 2-7 – Utility Service Providers

Utility	Provider
Water	College Utilities
Sewer	College Utilities / Golden Heart Utilities
Electricity	Golden Valley Electric Association
Solid Waste	Various - FNSB Landfill
Telephone/Internet	GCI / ACS
Natural Gas	Fairbanks Natural Gas

FAI maintains maps of the utility system locations on airport property. The current version of these maps is included in the Resource Documents binder.

Water and Sewer

College Utilities Corporation (CUC), a division of Utility Services of Alaska, provides water distribution and wastewater collection services to customers outside the city limits of Fairbanks. CUC is a publicly regulated utility, and its service area covers the area west of Fairbanks including FAI. The water source for CUC is four groundwater wells located along the Chena River in Fairbanks.

Potable water is distributed to FAI via an underground pipe network. Individual airport tenants may also store their own water in holding tanks if they choose and as approved by airport management. Table 2-8 outlines the CUC water rates for commercial facilities in comparison to residential buildings. All facilities at FAI, including individual tenants, are classified and billed by CUC as commercial facilities.

Table 2-8 – CUC Water Service Rates (2011)

Classification	Rate
Single Family	$7.05/1,000 gallons
Duplex	$7.05/1,000 gallons
Multi Family	$6.37/1,000 gallons
Commercial	**$7.58/1,000 gallons**

Sewer service is provided at FAI via the CUC underground pipe network, with seven CUC-owned lift stations serving the FAI east and west ramps at multiple locations. While CUC sewer service is available throughout much of FAI, there are areas near the south end of Airport Industrial Road that are not served by sewer mains at this time. In addition, some tenants (including Aerofuel) do not use the sewer system and have their own holding tanks and leach fields.

For the serviced sewer, wastewater flows from FAI to the Golden Heart Utilities (GHU) Wastewater Treatment Plant, which serves as the regional sewage treatment plant. The plant has a design capacity of 8 million gallons per day (gpd) and is one of very few fully enclosed wastewater treatment plants in the United States. Table 2-9 outlines the sewer usage rates for CUC customers.

Table 2-9 – CUC Sewer Service Rates (2011)

Classification	Rate
Single Family	$9.08/1000 gallons
Duplex	$9.08/1000 gallons
Multi Family	$9.08/1000 gallons
Commercial	**$10.89/1000 gallons**

Table 2-10 outlines the CUC water and sewer rate structure for a 25,000 sf commercial facility using 1,000 gallons of water per month. Water meters at FAI range in size from ¾ inch to 4 inches.

Table 2-10 – CUC Commercial Monthly Water and Sewer Rates (2011)

Charge	¾” meter	1” meter	1 ½” meter	2” meter	3” meter	4” meter
Water Usage	$ 7.58	$ 7.58	$ 7.58	$ 7.58	$ 7.58	$ 7.58
Water Fixed	$ 5.88	$ 11.71	$ 21.45	$ 33.12	$ 60.37	$ 99.31
Regulatory Commission	$ 1.47	$ 1.52	$ 1.62	$ 1.73	$ 1.99	$ 2.37
Sewer Usage	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13
Sewer Fixed	$ 5.34	$ 5.34	$ 5.34	$ 5.34	$ 5.34	$ 5.34
Cost of Energy Adjustment	$ 0.28	$ 0.28	$ 0.28	$ 0.28	$ 0.28	$ 0.28
Fire Protection*	$122.00	$122.00	$122.00	$122.00	$122.00	$122.00
Sewer Treatment	$ 3.76	$ 3.76	$ 3.76	$ 3.76	$ 3.76	$ 3.76
Total Monthly Bill	**$153.44**	**$159.32**	**$169.16**	**$180.94**	**$208.45**	**$247.77**

*With an accredited sprinkler system

Fire protection charges are based on the size of the structure served by the utility and represent the largest single portion of the rate that a CUC customer pays for monthly water and sewer service. For instance, a 100,000 sf structure with an accredited sprinkler system would incur a monthly fire protection charge of $488, while the rate for a 15,000 sf structure would be $73 per month. For commercial facilities that do not have an accredited sprinkler system, the fire protection charge is doubled.

ADEC records of individual wastewater systems at FAI indicated that a vaulted toilet is located near the southwest end of the air campground. This public outhouse uses a holding tank which is pumped on a regular basis and does not discharge on-site.

According to CUC, the water distribution infrastructure at FAI is more than adequate for the current demand and could accommodate substantial increases in demand should expansion occur at any portion of FAI. This is due to the sizing of the system to accommodate large fire flow volumes in the event of an emergency.

The CUC sewer system in the vicinity of FAI is in generally good condition. However, most of the gravity lines are relatively small (8-inch diameter) and could not accommodate substantial increases in volume. The light industrial activities at FAI, particularly on the East Ramp, do not usually generate substantial amounts of wastewater, so the smaller-diameter lines are more practical than they would be in a residential area. According to CUC records, there is a substantial amount of ductile iron sewer pipe along the East Ramp. Ductile iron pipe is generally resilient and requires relatively little maintenance. On the other hand, there are records of portions of the East Ramp sewer system being U-lined, which suggests that the sewer line was compromised and repairs were necessary.

According to CUC, the Karen Street lift station is operating at or near capacity, and any significant new developments at FAI would require an upgrade in the wet well capacity. Also, depending on the location of new development, addition of a new lift station could be necessary.

Electricity

Golden Valley Electric Association (GVEA) provides FAI with electricity services. GVEA is a member-owned cooperative that was incorporated in Fairbanks in 1946 and today serves nearly 100,000 residents of Interior Alaska. GVEA generates electricity from a variety of power sources located throughout Alaska.

Peak load for GVEA in 2010 was approximately 208 MW. In addition to generating its own electricity, GVEA purchases up to 25 MW of power from Aurora Energy's coal-fired power plant in Fairbanks. GVEA also has the ability to purchase up to 70 MW of natural gas generated electricity from Anchorage, via the Anchorage-to-Fairbanks Intertie.

In 2003, GVEA installed a Battery Energy Storage System (BESS) that can act as a backup electrical source in the event of a power outage. GVEA's BESS is the most powerful battery energy storage system in the world and can provide 27 MW of electricity for 15 minutes or up to 40 MW for shorter periods of time. In 2010 the BESS responded to 40 outages, preventing 173,318 members from losing electricity.

GVEA relies heavily on oil for electricity generation. Therefore, the volatility of oil prices in recent years has played a significant part in the increase in electrical costs to GVEA customers.

Table 2-11 outlines GVEA's rate structure. All facilities at FAI are classified as GS-2 commercial.

Table 2-11 – GVEA Rate Structure (2011)

Service Type	Customer Charge	Demand Charge	Utility Charge	Effective Rates*
Residential	$17.50/month	N/A	$0.08791/kWh	$0.21528/kWh
GS-1	$20.00/month	N/A	$0.08712/kWh	$0.21449/kWh
GS-2	**$30.00/month**	**$10.79/kW**	**$0.04728/kWh**	**$0.17465/kWh**
GS-3	$295.00/month	$17.27/kW	$0.02221/kWh	$0.14958/kWh

*Effective Rate is the sum of the Fuel and Purchased Power Charge ($0.12737/kWh) and the Utility Charge.

There are 12 Primary Meter Entrances (PME) that belong to FAI. Individual airport tenants beyond the PME are connected to GVEA.

Multiple backup generators provide electrical service to key airport components in the event of a power outage. Both the north and south ends of the airfield have separate automated generators for backup power to the navigational aids. Two separate generators are located in the regulator building for backup power to the runway lighting. The tower and ARFF each have their own dedicated backup generators. Two additional backup generators located adjacent to the terminal provide it with emergency power.

According to GVEA, three-phase power lines run down both the East and West Ramp sides of FAI. Adding new services off of the existing lines to accommodate future airport expansions would be feasible.

No plans are currently in place at FAI to implement any electrical system changes, such as LED lighting, that could reduce demand at the airport.

Solid Waste

Solid waste generated at FAI is disposed of at the Fairbanks North Star Borough (FNSB) landfill, which is located approximately 5 miles east of FAI. All Alaska Department of Transportation & Public Facilities (ADOT&PF) facilities at FAI use Waste Management, Inc., to collect and dispose of their solid waste. Individual tenants at the airport can select their own solid waste collection provider. FAI carries out the disposal of all solid waste from international flights as regulated by USDA Customs. Solid waste collection companies in Fairbanks that individual tenants may use include:

- Waste Management, Inc.
- Trash Talk, Inc.
- Alaska Waste Interior, LLC
- B&P Waste Services, Inc.
- Drake Sanitation Services
- University Refuse

The FNSB landfill is located off of South Cushman Street, near the Tanana River in South Fairbanks. The landfill encompasses a total of 252 acres with a projected capacity through the year 2048. Table 2-12 outlines the rate structure at the FNSB landfill.

Table 2-12 – FNSB Landfill Rate Structure (2011-2012)

Waste Type	Rate
Regular Solid Waste *Scrap metal, metal containers, and construction debris*	◆ Residential - Accepted free of charge ◆ Commercial - $78/ton (2,000 lbs)
Brush	◆ Residential - All loads accepted free of charge ◆ Commercial - Same as regular solid waste
Automobiles	◆ Residential - Accepted free of charge ◆ Commercial - $30/each
Household Appliances	◆ Same as regular solid waste ◆ Commercial - Additional $20 charge for any appliance that contains Freon
Aluminum	◆ Accepted free of charge
Asbestos	◆ Asbestos material generated within the FNSB is accepted at $117/ton, plus $50 flat rate fee per load of asbestos brought to the landfill

Telephone/Internet

Telephone and Internet services at FAI are provided by General Communication Inc. (GCI) and Alaska Communication Systems (ACS). Individual airport tenants can select their own provider, and rates vary widely based on the selected level of service.

Communication lines at FAI owned by GCI are primarily fiber optic, while the communication lines owned by ACS are primarily copper. FAI owns the fiber optic lines that run from the terminal to the ARFF.

FAI provides Internet service in the terminal to the public free of charge.

Natural Gas

Natural gas distribution provided by Fairbanks Natural Gas, LLC (FNG) is available to portions of the West Ramp, including the terminal, for which it is the heating source. FNG trucks liquefied natural gas from Cook Inlet to Fairbanks, where it is stored and ultimately distributed via an underground pipe network. FNG bills based on overall consumption (Table 2-13), with facilities that use more than 15,000 MCF (thousand cubic feet) annually classified as large commercial facilities. According to FNG, most facilities at FAI would be billed as large commercial facilities.

Table 2-13 – FNG Natural Gas Rates (2011)

Service Type	Rate (CCF = 100 Cubic Feet)
Residential	$2.335 per CCF
Small Commercial	$2.291 per CCF
Large Commercial	**$2.266 per CCF**

Natural gas rates in Fairbanks are significantly higher than in Anchorage, where natural gas costs less than $1.00 per CCF or less than $1.32 per gallon equivalent of heating oil. According to calculations provided by FNG, natural gas at the large commercial rate would cost $2.99 per gallon equivalent of #2 heating oil when compared on a heat generation basis. This means natural gas could be a more economical heating source than oil when heating oil prices exceed $3.00 per gallon. A leaseholder on the West Ramp reports that although natural gas service is available to their facility, they have elected not to use it because the cost of conversion from heating oil would not be cost-effective.

2.2.8 SECURITY

Law enforcement activities at FAI are carried out by the Airport Police and Fire Department (APFD). APFD is a division of ADOT&PF, while the similarly trained Alaska State Troopers are a division of the Alaska Department of Public Safety. APFD are state trained law enforcement officers who are also trained as firefighters and emergency medical technicians (EMTs). Their area of operation includes the airport property as well as the adjacent surrounding areas outside of the airport property.

The APFD offices, dispatch center, training room, gym, and vehicle storage are located in the Airport Rescue and Firefighting Facility (ARFF) located southwest of the main terminal. The ARFF is scheduled to be rebuilt in 2014 and 2015. The new ARFF will be constructed in the same location as the current ARFF, but to current seismic standards so that it can better withstand an earthquake.

Staffing levels for the APFD at FAI are set and do not fluctuate based on the time of day, seasonal variations, or flight timing. Individual staff may alternate roles between law enforcement and firefighting duties at any given time depending on where they are needed.

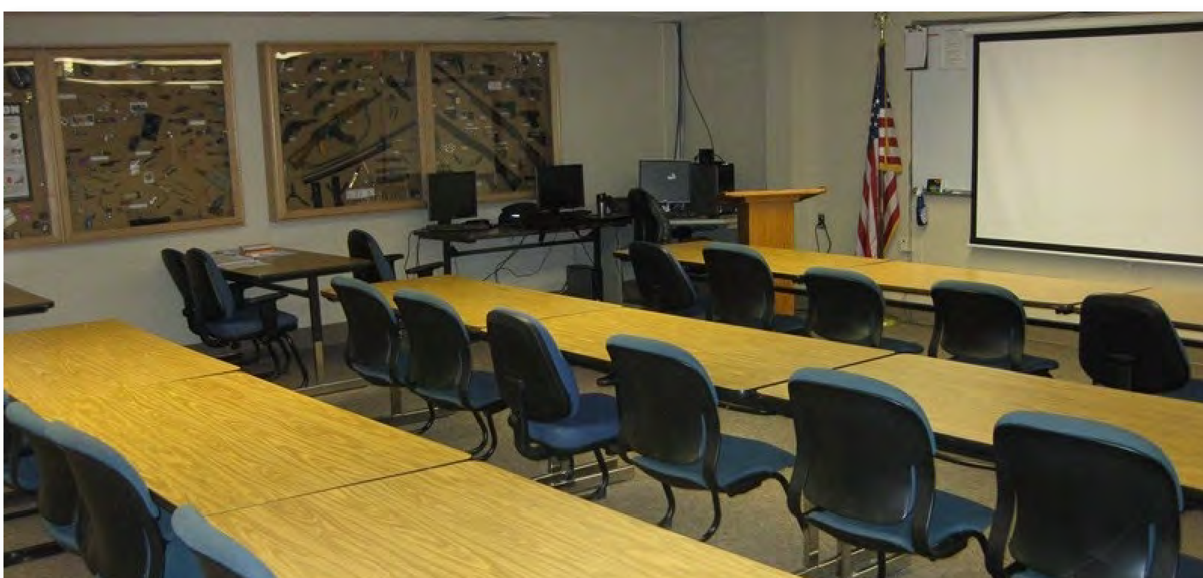

Figure 2-17 – APFD training room located in the FAI ARFF

Transportation Security Administration

The Transportation Security Administration (TSA), a division of the U.S. Department of Homeland Security, also operates at the FAI terminal. TSA's primary function at FAI is passenger screening and the monitoring of security protocols such as verifying that appropriate doors and gates are kept locked. TSA does not perform law enforcement activities; in the event that law enforcement is needed, TSA contacts the APFD.

In December 2011, TSA began using a millimeter-wave Advanced Imaging Technology body scanner for passenger screening. This body scanner is able to scan for both metallic and non-metallic objects that could be concealed on a passenger. The ability to scan for non-metallic objects allows the body scanner to pick up items that could potentially be missed by a traditional metal detector. The scanner does not generate images of a passenger's body like other more controversial body scanners that have been used in the Lower 48, and passenger-specific images are not saved.

U.S. Customs

FAI is considered a Port of Entry (Port Code 3111) by U.S. Customs and Border Protection. U.S. Customs, a division of the U.S. Department of Homeland Security, is responsible for the screening and inspection of incoming international flights to FAI.

SIDA / Secured Area

Figure 2-18 – FAI Security Identification Display Area (SIDA) Secured Area

The entire Airport Operational Area (AOA) west of Taxiway B is a Security Identification Display Area (SIDA). Within the SIDA is the "Secured Area" (Figure 2-18), which has additional badging requirements for entry. Within the buildings inside the fence line on the west side of the AOA, the SIDA boundary can be either the back of the building, where the doors are always locked and the interior of the building is a SIDA, or the front of the building, where the interior of the building is public, but access to the apron is controlled.

There is currently approximately 61,700 feet (11.7 miles) of perimeter and interior security fencing at FAI.

FAI has no private security staff, Alaska State Troopers, or military police presence.

Firefighting

FAI is a Part 139 Certified Airport and as such the APFD is required to have firefighting agents such as water, foam, Halotron® I, etc., available at specified volumes, rates, and response times at midfield of the main runway. Although these are not required for the GA portion of the airport, APFD responds to incidents at all parts of the airport.

Fire and emergency response equipment at FAI includes Oshkosh 3000 Striker Vehicles (Figure 2-19), a GMC Rapid Intervention Vehicle (RIV), a Pierce Fire Truck, a Hazardous Materials trailer, a Mass Casualty trailer, four Ford Expedition SUV's, two Arctic Cat snow machines, two jet boats, and miscellaneous other pieces of equipment. The wide variety of equipment allows for responses during varying seasonal conditions as well as water rescue.

Processing equipment for the production and bottling of breathable air for use in self-contained breathing apparatuses is available in the ARFF.

A fire training facility is located at the southwest corner of the SIDA, near the end of Runway 2R/20L.

Figure 2-19 – Oshkosh 3000 Striker Vehicle at FAI. One person can drive the vehicle and simultaneously operate multiple fire suppression devices located on the outside of the vehicle.

Figure 2-20 – Firefighting equipment and dressing room area in the FAI ARFF

Fire and Security Training

The Don Bennett Firing Range is located adjacent to the fire training area at the southwest corner of the airport. The range is used on nearly a daily basis for a variety of firearms training, including law enforcement shooting scenarios and bear defense shooting with shotguns. A wide variety of state, federal, and local law enforcement who are associated with the Alaska Peace Officers Association (APOA), as well as regulatory agencies such as the North Pole Police Department, the U.S. Bureau of Land Management (BLM), and the U.S Fish & Wildlife Service (USFWS), use the range for live fire firearms training. APFD views the firing range as a highly valuable training tool because it is close and convenient for them to use.

The shooting range has been in use since at least the late 1960s. Due to the high level of lead contamination in the groundwater and soils, a plan to relocate the range is in place. Remediation of the existing site will be required due to the recognized contamination. FAI staff, APOA representatives from the City of Fairbanks and the Alaska State Troopers, the EPA Brownfield Program, the U.S. Army Corps of Engineers (USACE), and the Alaska Department of Environmental Conservation (ADEC) are organizing the remediation and redevelopment of the range.

APFD recommends implementing new security technology whenever practical in order to increase security at FAI.

2.2.9 SUPPORT FACILITIES

FAI operations are supported by service facilities both on and off of airport property. Tourists and business travelers utilize a wide variety of area service facilities. While these can be located well outside of the FAI boundary, they provide an integral service related to air transportation at FAI.

On-Airport Service Facilities

Aircraft Fueling

Aircraft fueling via truck is available from four vendors: Alaska Aerofuel, Ace Fuel, Everts Fuel, and Crowley. There are also two card-lock pumps on the East Ramp for smaller GA aircraft, and a number of lease lot owners store fuel on their lots in small tanks.

There are two bulk fuel storage facilities at the airport, one belonging to Flint Hills and the other to Tesoro. Each consists of six above-ground storage tanks. The Flint Hills facility has a capacity of 22,000 barrels. Tesoro's facility has a total capacity of 60,000 barrels, but it has not been in service for over 20 years.

A fuel hydrant system was constructed for the commercial apron more than 35 years ago, but it has not been used in more than 20 years. This hydrant system has been removed during the construction of other projects and is no longer operable.

As part of the heavy cargo apron construction in 2006, new fuel hydrant piping was installed for future use when demand warrants. This piping does not yet connect to any storage tanks or hydrants and has never been used.

Accommodations

FAI maintains an air campground off the north end of Taxiway C, near the intersection of University Avenue South and the Mitchell Expressway. The campground is open during the summer and offers itinerant pilots a convenient place to park their aircraft and tent camp in close proximity to the airfield. Stays are limited to no more than 14 days, at a fee of $10 per day. Fifteen tie-down spaces are available, each with space for a single tent. Amenities include two covered pavilions, barbeque pits, a shower facility, and restrooms. While the land could potentially generate greater revenue if it were used for lease lots, the campground provides a unique experience for private pilot tourists visiting the Fairbanks area.

A public use pilot lounge is located on the East Ramp near the control tower. Restrooms and showers are available for use by general aviation pilots and passengers.

General Community

Fairbanks has numerous hotel and visitor service businesses relatively close to FAI. Table 2-14 lists 15 hotels and 4 bed-and-breakfasts within 10 miles of FAI.

Table 2-14 – Fairbanks Area Hotels and Bed & Breakfast Facilities

Hotel	Address	Phone	Distance from FAI
Alpine Lodge Fairbanks	4920 Dale Road	907-328-6300	0.6 miles
Extended Stay Deluxe Fairbanks	4580 Old Airport Way	907-456-4500	1.02 miles
Pikes Waterfront Lodge	1850 Hoselton Drive	907-456-4500	1.33 miles
Princess Riverside Lodge	4477 Pikes Landing Road	907-455-4477	1.80 miles
7 Gables Inn & Suites (Bed & Breakfast)	4312 Birch Lane	907-479-2229	2.00 miles
Rivers Edge Resort	4200 Boat Street	907-474-3601	2.25 miles
Best Western Chena River Lodge	1255 TVSA Way	907-328-3500	2.51 miles
Golden North Motel of Fairbanks	4888 Old Airport Road	907-479-6201	2.66 miles
2 Kings Bed and Breakfast	3714 Mitchell Ave.	907-479-2570	2.85 miles
Comfort Inn Fairbanks	1908 Chena Landing Loop	907-479-8080	3.26 miles
Super 8 Motel	1909 Airport Way	907-451-8888	3.38 miles
Springhill Suites by Marriott	575 1st Ave.	907-451-6552	4.48 miles
Abbey Archway Inn	4316 Birch Lane	907-479-7300	4.49 miles
Borealis Inn	1500 Airport Way #C	907-456-1100	4.52 miles
Regency Fairbanks Hotel	95 10th Ave.	907-459-2700	4.73 miles
Holiday Inn Express and Suites	400 Merhar Ave.	907-328-1100	5.41 miles
Downtown Log Cabin Bed and Breakfast	304 Badger Street	907-452-1100	5.59 miles
Hampton Inn	433 Harold Bentley Ave.	907-451-1502	5.64 miles
Minnie Street Bed and Breakfast	345 Minnie Street	907-456-1802	7.00 miles

Source: Google

Three public campgrounds are located within 10 miles of the airport (Table 2-15). Numerous others exist outside of Fairbanks along the Richardson, Steese, and Elliott Highways and Chena Hot Springs Road.

Table 2-15 – Fairbanks Area Public Campgrounds

Camping Area	Address	Phone	Distance from FAI
Rivers Edge RV Park	4140 Boat Street	907-474-0286	2.89 miles
Chena River Wayside	221 University Avenue	907-452-7275	3.02 miles
Chena Marina RV Park and Resort	1145 Shypoke Drive	907-479-4653	6.67 miles

Source: Google

Ground Transportation

The Metropolitan Area Commuter System (MACS) is the public bus transportation system for the Fairbanks North Star Borough. MACS offers six different routes from downtown Fairbanks to outlying areas, including FAI and the City of North Pole. The Yellow Line bus route serves FAI with seven daily stops on weekdays and three stops on Saturdays. Standard fares for the MACS system are $1.50, with discounts for children, seniors, disabled individuals, and active duty military personnel. Daily and monthly passes are also available for $3 and $36, respectively. MACS conducted a survey from July 1, 2007, to June 30, 2008, to determine bus use at the airport and found that 606 individuals got on or off the bus at FAI during that timeframe.

Several taxi cab companies operate in Fairbanks, including Alaska Cab, King Cab, Eagle Cab, and Moose Cab. Dedicated taxi cab parking is adjacent to the main terminal. To operate at FAI, taxis are charged $100 annually, per vehicle, and given a color-coded sticker.

Commercial tour buses transport passengers to and from FAI during the summer tourism season. Dedicated tour bus parking is available adjacent to the main terminal.

2.3 REGIONAL SETTING AND LAND USE

2.3.1 REGIONAL SETTING

FAI is within the Fairbanks North Star Borough, Alaska's second largest population settlement area (Division of Community and Regional Affairs) with nearly 100,000 residents. The FNSB includes the cities of Fairbanks and North Pole, as well as the unincorporated communities of Ester, Fox, and Salcha. There are also two military bases within the FNSB: Fort Wainwright and Eielson Air Force Base.

The airport also falls within the boundaries of the local Metropolitan Planning Organization, the Fairbanks Metropolitan Area Transportation System (FMATS). Most of the airport lies within the Carbon Monoxide (CO) maintenance area (the south end of the airport is outside the boundary), while the entire airport is within the $PM_{2.5}$ non-attainment area. For further discussion of air quality, see Section 2.4.1.

Airport property lies primarily within State House District 8 and Senate Seat D, with a small piece falling inside Senate Seat E and House District 9.

Other Airports

Understanding nearby aviation facilities and the services they offer is important when evaluating the issues at an airport. In addition to at least 12 private airstrips located throughout the FNSB, there are five other commercial or military airports within 25 miles of FAI (listed below and shown on Figure 2-21):

- Chena Marina
- Metro Field
- Bradley Sky Ranch
- Ladd Army Airfield at Fort Wainwright
- Eielson Air Force Base

Chena Marina and Metro Field are privately-owned GA airports in Fairbanks, each with float ponds and gravel runways. Both airports are surrounded by private property that supports general aviation facilities—hangars, tie-downs, fuel storage, mechanics, etc. Both of these airports are private use facilities. Metro Field activity is approximately 95 percent helicopter operations supporting the Trans-Alaska Pipeline (Trotter, 2011). Chena Marina and Metro Field are in FAI's Class D airspace. Bradley Sky Ranch is a privately-owned GA airstrip in North Pole with similar facilities. The facilities at Bradley Sky Ranch are available for public use; making it the only other airport in the greater Fairbanks area open to the public. Bradley Sky Ranch supports a large number of ultralights and gliders.

Ladd Army Airfield and Eielson Air Force Base are military installations that support military and government aviation activities. Civilian use of these airfields is limited, although the Alaska Fire Service is based at Fort Wainwright. Military aircraft from these installations occasionally utilize FAI for touch-and-go and low approach operations.

Figure 2-21 – Airports within 25 miles of FAI

2.3.2 LAND OWNERSHIP

The 2008 FAI Property Plan includes a detailed history of acquisition of the tracts and avigation and hazard easements that comprise the property rights of the existing airport. The configuration of the airport stems from the Omnibus Deed conveyance in 1959 and has been supplemented by property acquisitions over the years. Including avigation easements, approximately 3,800 acres are under the control of the airport. The Resource Documents binder includes detailed ownership information.

Some of the land has been leased to third parties as parcels with lot-and-block or “Item” designations as shown on the airport’s Land Occupancy (LO) drawings (see Resource Documents binder). Approximately 108 parcels aggregating approximately 180 acres are currently under lease. Of those leases, a dozen or so are in “holdover” status, 30 are scheduled to expire by the end of 2020, 10 more before 2031, and 22 more before 2036. A few leases do not expire until 2065. Additional authorizations for use of airport lands have been made for the railroad spur, flood control project, utilities, and a few other easements and rights of way.

Leasing terms and guidelines are set out in Alaska Statute 2.15.090, et seq., and in Alaska Administrative Code 17 AAC 42.200, et seq. (Excerpts appear in the Resource Documents binder.) Lease terms of up to 55 years are possible and are set according to schedules based on investment by the lessee. Leases may be granted on a “first come, first served” basis, subject to public notice, or competitively. However, the statutes (AS 2.15.090(c)) allow existing lessees to extend or renew their leases on a non-competitive basis.

2.3.3 LAND USE

Existing

On-Airport

Land uses related to commercial passenger service and cargo operations predominate on the west side of the airport. There are also hangar facilities for corporate and transient jet aircraft, medical evacuation (medevac) services, fuel storage and distribution, and airport maintenance operations, as well as the main passenger terminal.

Several fuel storage tanks on the west side are empty, leaving nearly 3 million gallons of fuel storage unutilized.

There is demand for apron frontage on the west side, as evidenced by FAI’s first competitive bid for a lease in Spring 2011. Additionally, there has been considerable interest in leasing property on the east side, primarily for developing private hangars (Harvey, 2011).

The Alaska Railroad owns track that enters airport property from the east, passes along the south end of the airfield, and ends at Block 6, Lot 1, on the west side. The railway is currently unused.

Land uses on the east side of the airport are predominantly GA-related and include aircraft maintenance, aircraft storage, and flight training. There are also several air taxis as well as federal and state agency facilities (civil air patrol, USFWS, FAA, etc.). ADOT&PF also maintains an air campground and a gravel pit on the east side. The easternmost portions of airport property are currently undeveloped. There are no non-aeronautical uses of airport property.

Off-Airport

The area east of University Avenue South is primarily undeveloped airport property. However, there are some industrial and commercial sites outside airport property along Van Horn Road. This area has seen some industrial growth over the past 15 years, primarily as material source development and equipment storage. Lands south and southwest of the airport are owned by the military and largely undeveloped, as the Tanana River separates them from the Fairbanks road system. West of Airport Way is a mix of residential and commercial properties, including three hotels, three churches, and a charter school. Land uses north and northeast of the airport have historically been and remain a mix of residential and commercial.

The Tanana River limits airport growth to the south and southwest, while the Chena River limits westward and northwestward expansion. The Tanana River levee crosses the southern portion of airport property, and the Mitchell Expressway forms part of the northern property boundary.

Planned Development

On-Airport

Guardian Flight built a new hangar and support facility on Block 4, Lot 5 on the west side in 2012. There are no known plans for development in 2014.

Off-Airport

No off-airport development that could affect FAI is known at this time. The 2005 FNSB Comprehensive Plan aims to protect active airports from the encroachment of incompatible land uses and facilitate airport expansion. The plan also indicates that height restriction zoning could be examined in the future; however, no height restrictions currently exist.

Zoning

The FAI property is zoned as Light Industrial by the FNSB. Adjacent zoning includes Heavy Industrial, Light Commercial, General Commercial, Single Family Residential, Multiple-family Residential, Rural Residential, General Use, and Outdoor Recreational. There is also an Airport Noise-Sensitive Area (ANSA) overlay zone on property around the airport that is based on the 1988 Part 150 Noise Analysis. The ANSA designation informs existing and potential property owners that aircraft noise may affect those properties. Generalized zoning around the airport is depicted in Figure 2-22.

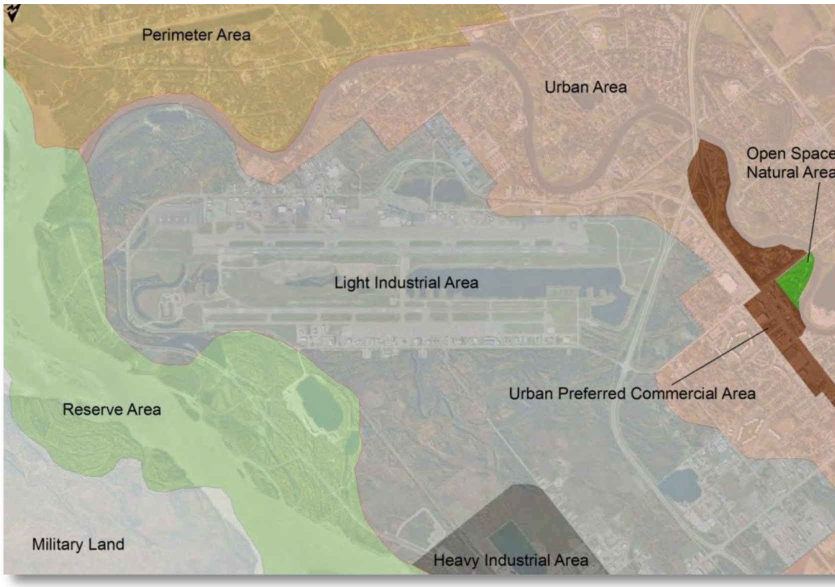

Figure 2-22 - Generalized land use around FAI
Source: FNSB Comprehensive Plan

2.3.4 RELATED PLANS, PROGRAMS, AND PROJECTS

FAI Master Plan Update, 2004

Many of the improvements recommended in the 2004 FAI master plan update have been completed or are nearing completion. The attacks of September 11, 2001, occurred during plan development, stimulating major changes to security requirements in the following years. The 2004 master plan recommendations included:

- Reconstruct pavement at hardstands (**completed in 2012**)
- Provide additional aircraft parking at the terminal building (**completed in 2008**)
- Relocate taxiway A (**completed in 2004**)
- Construct helicopter landing pad
- Improve airfield drainage, including de-icing pads at runway ends (**completed in2005**)
- Secure the airfield (ongoing)
- Develop new terminal building and associated parking, access, and curb front (**completed in 2008**)
- Improve on-airport vehicle routes (ongoing)
- Identify and reserve space for future cargo facilities (**completed in 2005**)
- Maintain current Airport Noise Overlay Zone (ongoing)
- Maximize land-leasing potential (ongoing)
- Identify additional snow storage sites **(completed in 2010)**
- Relocate the fire-training pit and firing range
- Relocate regulator building (**completed in 2005**)
- Provide electrical power to leased tie-downs
- Evaluate Part 77 obstructions (**completed in 2010**)

FNSB Regional Comprehensive Plan, 2005

The FNSB regional comprehensive plan provides the framework for land-use decisions and serves as the basis for land development ordinances. Of particular consequence to this master plan update, the comprehensive plan aims to protect active airports from the encroachment of incompatible land uses and facilitate airport expansion. Other goals of the plan include:

- Continue public land use and sales programs
- Have a variety of land uses
- Enhance development opportunities while minimizing land use conflicts
- Strengthen and expand the existing economy
- Diversify the economy
- Have a safe, efficient, multi-modal transportation system that anticipates community growth
- Have sufficient public utilities and infrastructure to meet existing and future demands
- Work to increase the overall percentage of private property holdings
- Promote responsible stewardship of the Borough ecosystem
- Protect natural systems
- Protect and enhance both the natural and formal landscape
- Have services and facilities that enrich the quality of life for all residents
- Have a variety of educational and training opportunities available to residents
- Embrace the cultural and historic heritage of the community
- Maximize citizen involvement in all aspects of our community

FAI Near-Term Improvements Environmental Assessment, 2005

This environmental document evaluated several airport projects which have since been constructed:

- Terminal and parking expansion
- Runway construction
- Heavy aircraft cargo apron replacement
- Facilities relocation (e.g. ALSF, localizer [LOC], regulator building)

Of particular note to the current master plan update is the agreement by ADOT&PF to discuss additional mitigation for wetland impacts when development east of University Avenue begins (page 3 of the FONSI – Wetlands mitigation measures).

Let's Get Moving 2030: Alaska Statewide Long-Range Transportation Policy Plan, 2008

Let's Get Moving 2030 is Alaska's statewide long-range transportation plan for 2008 through 2030. The plan was developed to guide transportation policies, programs, and investments through 2030. While not specific to FAI, *Let's Get Moving 2030* plays an important role in developing future transportation planning documents, capital programs, and budgets for the multi-modal transportation network served by the airport.

Fairbanks Metro 2035, "A plan to keep you moving," 2010

This plan focuses on the Fairbanks Metropolitan Area Transportation System (FMATS), which encompasses the urban area of the Fairbanks North Star Borough, including FAI.

The plan makes the following recommendations of relevance to FAI:

- Upgrade Van Horn Road west of Peger Road to enhance freight mobility between south Fairbanks and the FAI East Ramp
- Construct a new frontage road to link Dale and Hoselton Roads, construct a signalized or roundabout intersection to replace the two existing intersections, and construct bicycle and pedestrian facilities along Hoselton Road

Interior Alaska Transportation Plan, 2010

The Interior Alaska Transportation Plan (IATP) examined the existing transportation network for Interior Alaska and developed recommendations for improvements to the network. This included several recommendations for improvements to rural airports served by FAI. Additionally, the IATP recommended inclusion of Bradley Sky Ranch in the National Plan of Integrated Airport Systems (NPIAS), which would make that airport eligible for AIP funds.

Alaska International Airport System Planning Study, 2013

The Alaska International Airport System (AIAS), comprising Ted Stevens Anchorage International Airport (ANC) and Fairbanks International Airport, initiated the AIAS Planning Study to determine how to optimize use of the capacity of both airports to attract and retain international cargo traffic. The study provided technical information and broad recommendations as the basis for specific improvements to be formulated in follow-on Anchorage and Fairbanks Airport Master Plans.

Alaska Aviation System Plan, in progress

The Alaska Aviation System Plan (AASP) sets the vision for Alaska's aviation network by addressing statewide aviation infrastructure and policy needs. The plan, which is currently under way, will:

- Identify needed airport improvements
- Set funding priorities
- Propose aviation policy
- Document the existing system
- Continuously support the system through special studies, updates, and reviews

2.4 ENVIRONMENTAL OVERVIEW

The Environmental Overview portion of this chapter details the environmental setting on and around FAI and identifies environmental features that may have the potential to influence future planning efforts at the airport. Features that are inventoried include air quality, floodplains, fish and wildlife resources, hazardous materials, historic resources, water quality, and wetlands.

2.4.1 AIR QUALITY

A combination of factors has led to air quality concerns in the Fairbanks area. Fairbanks is surrounded by hills on three sides, which makes the area prone to temperature inversions during the winter. These temperature inversions can trap air pollutants for extended periods of time, leading to poor air quality. Pollutants of particular concern are carbon monoxide (CO) and fine particulate matter ($PM_{2.5}$).

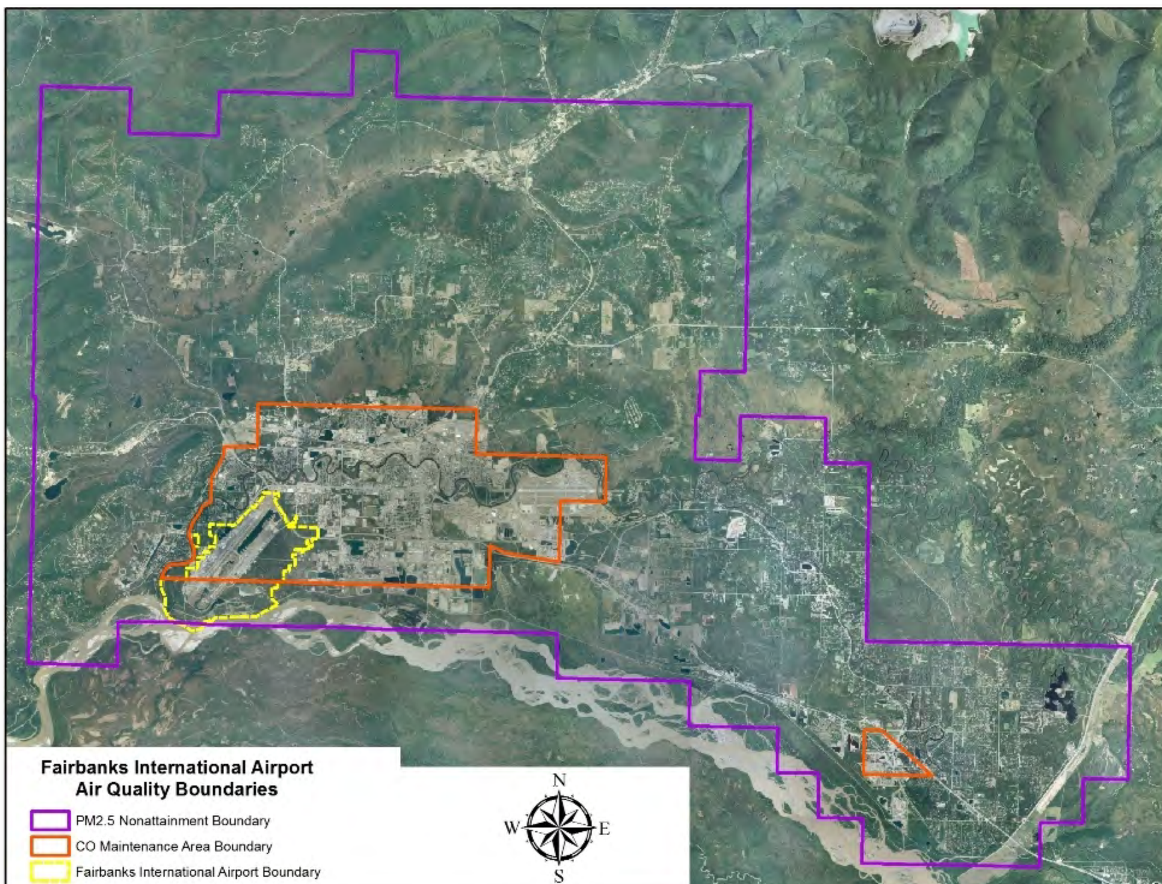

Figure 2-23 – FNSB PM2.5 Non-Attainment and CO Maintenance Area boundaries

In 1991, the U.S. Environmental Protection Agency (EPA) designated the urban portion of the FNSB, which includes most of FAI, as a Non-Attainment Area for CO (Figure 2-23). Because the FNSB has not violated National Ambient Air Quality Standards (NAAQS) for carbon monoxide since 1999, the CO Non-Attainment Area officially became a CO Maintenance Area in September 2004.

PM2.5 is primarily a byproduct of the combustion of fuel oil, wood, coal, waste oil, or motor vehicle fuels. A portion of the FNSB was designated as a PM2.5 Non-Attainment Area in December 2009. The PM2.5 Non-Attainment Area includes all of FAI and the surrounding areas north of the Tanana River (Figure 2-23).

Construction activities in Fairbanks generally occur in the summer, when the temperature inversions that lead to poor wintertime air quality do not occur. Therefore, summertime construction in Fairbanks usually has a negligible and temporary effect on air quality. Construction activities that extend into the winter or that could promote increased fuel combustion during the winter may need to be evaluated for potential negative impacts to air quality.

Air quality compliance in the Fairbanks area is a joint collaboration between the FNSB and Alaska Department of Environmental Conservation (ADEC). These two agencies share responsibility for air pollution control, permitting, and monitoring within the FNSB.

FAI currently operates under three air quality permits and agreements issued by ADEC:

- **Title V – Owner Requested Limits (ORL):** As an alternative to acquiring a full Title V Operating Permit, FAI has obtained an ADEC ORL agreement, which limits FAI to less than 100 tons per year for all air emissions generated by FAI operations (modified in April 2010 to reflect change from the Terminal Development Project)
- **Open-Burning Black Smoke Approval** (Fire training with vehicles)
- **Open-Burning Approval for Fire Training with Fuels**

2.4.2 FISH AND WILDLIFE RESOURCES

FAI is situated in an area of riparian shrubland and forested lowland habitat between the Tanana and Chena Rivers. The main channels of the Tanana and Chena provide habitat for both resident and anadromous fish species during various portions of their life stages. In addition, sloughs, ponds, and wetland complexes adjacent to FAI provide varying levels of habitat for some resident fish species.

Moose, beaver, muskrat, and a variety of birds including sandhill cranes, ducks, geese, ravens, and shorebirds are known to inhabit areas on and around FAI. Sandhill cranes and waterfowl pose a particular hazard for aircraft operations during the spring and summer when they are attracted to open water and large grassy areas. Further detail regarding the fish and wildlife resources at FAI is included in the *Fairbanks International Airport Biological Conditions Report* (see Resource Documents binder).

According to a private pilot who operates out of the FAI float pond, northern pike occur in the pond and will actively prey upon ducklings. While the pike do not pose a threat to aircraft operations, the waterfowl that they prey upon certainly can. Maintaining a healthy and viable pike population in the float pond could act as a biological deterrent to some of the bird species that can pose a threat to aircraft.

2.4.3 FLOODPLAINS

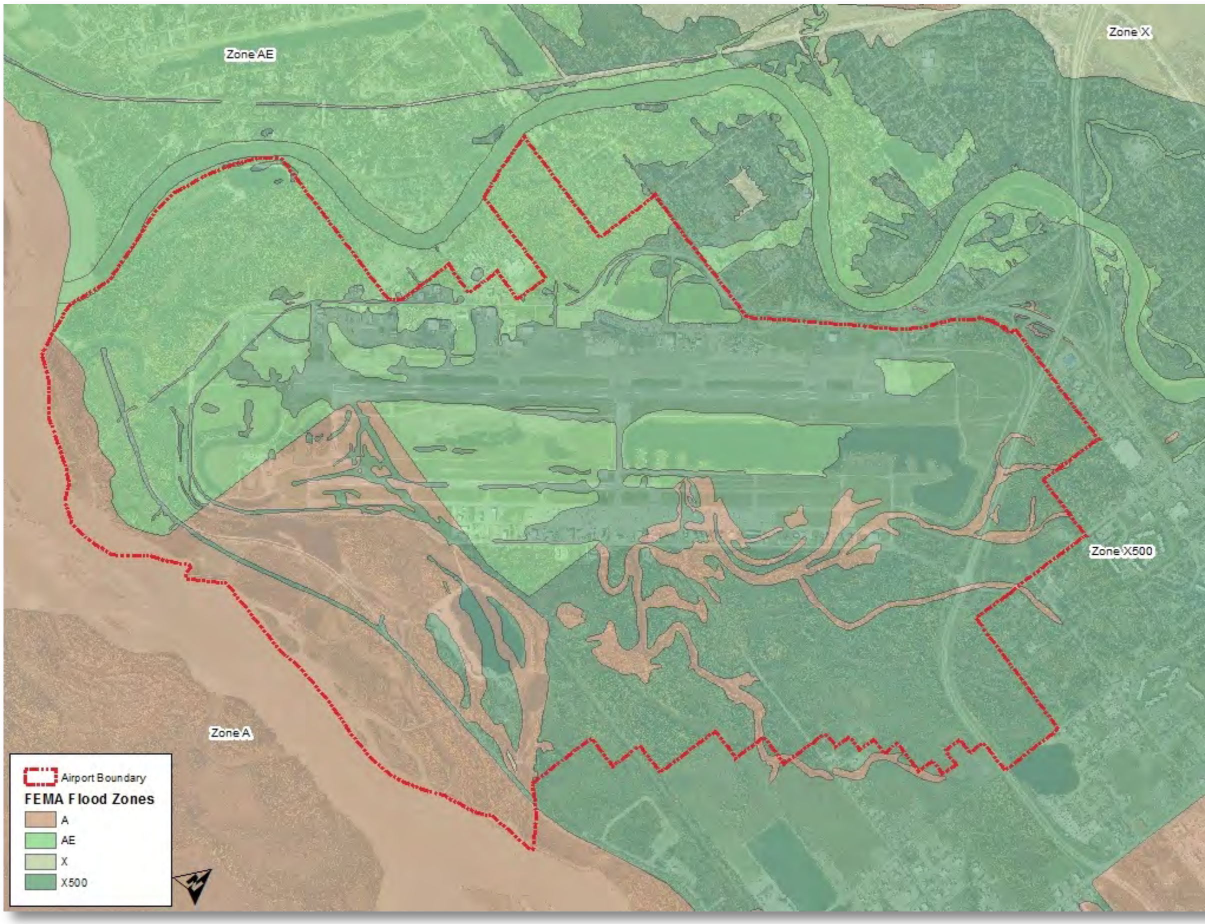

Figure 2-24 – Current FEMA Designated Flood Zones at FAI and the surrounding area

FAI is located near the confluence of the Chena and Tanana Rivers. According to the current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Community Panel 025009 0183G), portions of FAI are located within flood zones associated with both rivers (Figure 2-24). FEMA mapped flood zones shown on Figure 2-24 and Figure 2-25 are defined as follows.

Flood areas inundated by 100-year flood events:

- **Zone A:** Areas subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, and Base Flood Elevations (BFEs) or flood depths are not determined. The FNSB requires a floodplain permit for any new or substantially improved structure, alteration of a watercourse, or other development within any Zone A flood areas. Mandatory flood insurance purchase requirements and floodplain management standards apply.
- **Zone AE:** Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are determined. Floodway areas are in Zone AE. Mandatory flood insurance purchase requirements and floodplain management standards apply.

- **Zone AH:** Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. BFEs derived from detailed hydraulic analyses are determined in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Other FEMA mapped zones:

- **Zone X:** Areas outside of the 500-year (0.2-percent-annual-chance) floodplain
- **Zone X500:** Areas of 500-year flood and areas protected by levees from 100-year flood

According to the FNSB Floodplain Manager, preliminary new digital dFIRM maps have been under development for the past several years (Figure 2-25). The new dFIRM places more of the FAI property in Zone X500, which could eliminate mandatory flood insurance requirements. Issuance of the new dFIRM could occur by October 2012. FAI can submit a Letter of Map Revision (LOMR) to FEMA in order to better market lease lots, particularly on the East Ramp. A LOMR is a modification to an existing FIRM map that is based on physical modifications that affect a floodway and officially revises the current FIRM.

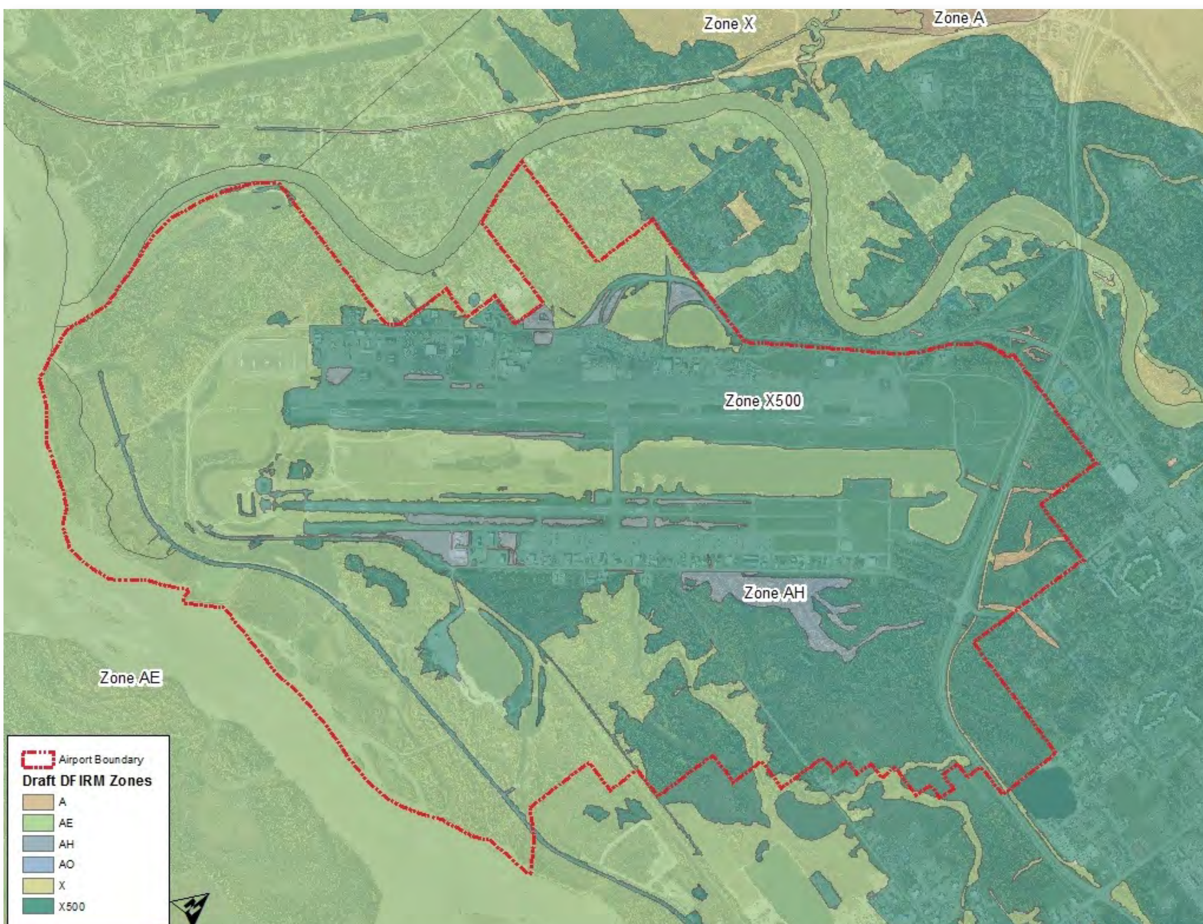

Figure 2-25 – Preliminary new dFIRM of FAI, pending approval by FEMA

Flooding of the Chena River is controlled largely by the Chena River Lakes Flood Control Project some 17 miles east of Fairbanks. The Moose Creek Dam on the Chena River is the northernmost flood control project operated by the U.S. Army Corps of Engineers (USACE). It was constructed after the devastating 1967 Chena River flood (http://www.co.fairbanks.ak.us/communityplanning/floodplain/pictures.htm), which inundated much of Fairbanks. Construction of the dam and its associated floodway allows for the restriction of the Chena River flow and diversion of excess water south into the Tanana River.

The Chena River Lakes Flood Control Project also includes the Tanana River levee system, which protects against flooding from the Tanana River to the south. The Tanana River levee system is nearly 21 miles long. It was constructed by the USACE and is maintained by the FNSB. The levee system extends around the southern margin of FAI and has historically acted as an effective barrier to Tanana River floodwaters.

In 2008, severe flooding of the Tanana River caused by above-average summer precipitation led to the inundation of areas from Salcha to Nenana, with notable flooding in the Rosie Creek area approximately 3 miles downstream of FAI. While substantial flooding occurred in several outlying areas of the Tanana River floodplain the Tanana levee system effectively prevented major flooding of Fairbanks.

2.4.4 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

ADEC records indicate 25 contaminated sites at FAI are in “Cleanup Complete” status. An additional 6 contaminated sites have a status of “Cleanup Complete with Institutional Controls.” Another 29 contaminated sites at FAI are in “Active” status and are in varying stages of monitoring and/or remediation, for a total of 60 known sites.

Contaminated sites at FAI are primarily the result of aviation and vehicular fuel spills that have occurred both above and below ground. Contamination can be found throughout the developed areas of the airport. FAI Environmental Management maintains detailed records of recognized sites and current conditions. The Don Bennett Firing Range and the Fire Training Pit, both south of Runway 2R, are also areas of known contamination. The Firing Range has been in use since the late 1960’s and is known to contain lead contamination in both the soil and groundwater. Figure 2-26 shows the approximate locations of contaminated sites at FAI that are in either “Cleanup Complete,” “Cleanup Complete with Institutional Controls,” or “Active” status according to ADEC records.

A table of available data sources including historic reports and ADEC records is included in the FAI Facility Inventory Database. This data could potentially be incorporated into a GIS system showing generalized locations linked to the appropriate data reports.

Solid waste generated at FAI is disposed of at the FNSB landfill. A detailed discussion of solid waste disposal is included in Section 2.2.7.

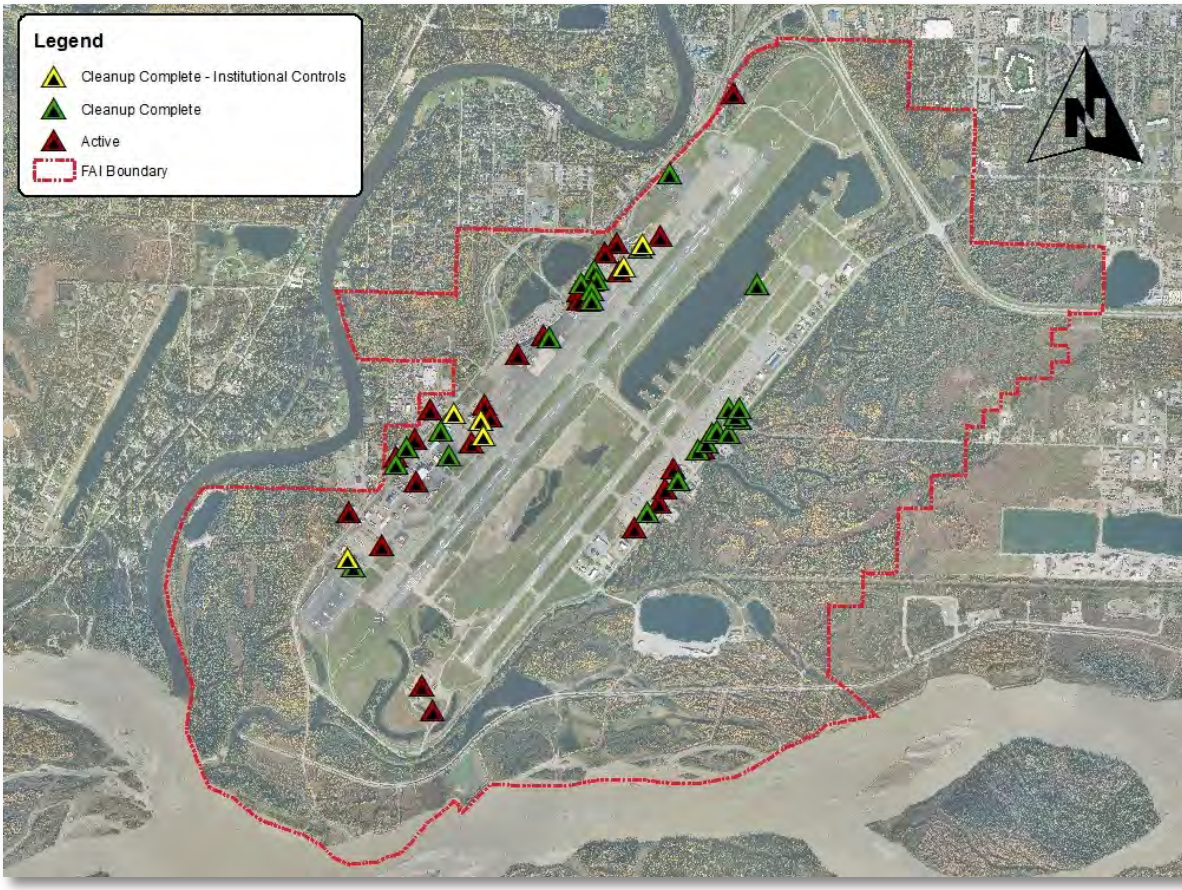

Figure 2-26 – Active and closed contaminated sites at FAI

2.4.5 HISTORICAL, ARCHITECTURAL, AND CULTURAL RESOURCES

The 2004 FAI Master Plan indicated that the State of Alaska Office of History and Archaeology's Alaska Heritage Resource Survey (AHRS) did not identify any historic, archaeological, architectural or cultural resources at that time. Changes in access protocol to the AHRS database since 2004 have drastically limited access; therefore a new search could not be conducted.

The existing footprint of FAI has been substantially altered and is unlikely to contain any prehistoric artifacts. Any future expansion into the largely undeveloped area to the east of the existing airport would likely require a cultural resources survey and coordination with the State Historic Preservation Officer (SHPO).

In order to be eligible for the National Register of Historic Places (NRHP), a historic place must meet certain eligibility requirements including age, integrity, and historic significance. The age requirement for NRHP eligibility is 50 years. According to the FNSB property database, there are at least three buildings located to the north of the passenger terminal that were built between 1951 and 1958 and are therefore older than 50 years. The FNSB property database also lists several buildings on airport property along South University Avenue and Airport Industrial Road that were constructed between

1968 and 1970 (Figure 2-27) and will reach the 50-year age requirement for NRHP eligibility beginning in the year 2018. Any future developments should take into consideration the potential for historic eligibility of these buildings. It should be noted that an age of 50 years or greater does not automatically qualify a structure as eligible for the NRHP, as the building's integrity and historic significance must also be taken into account.

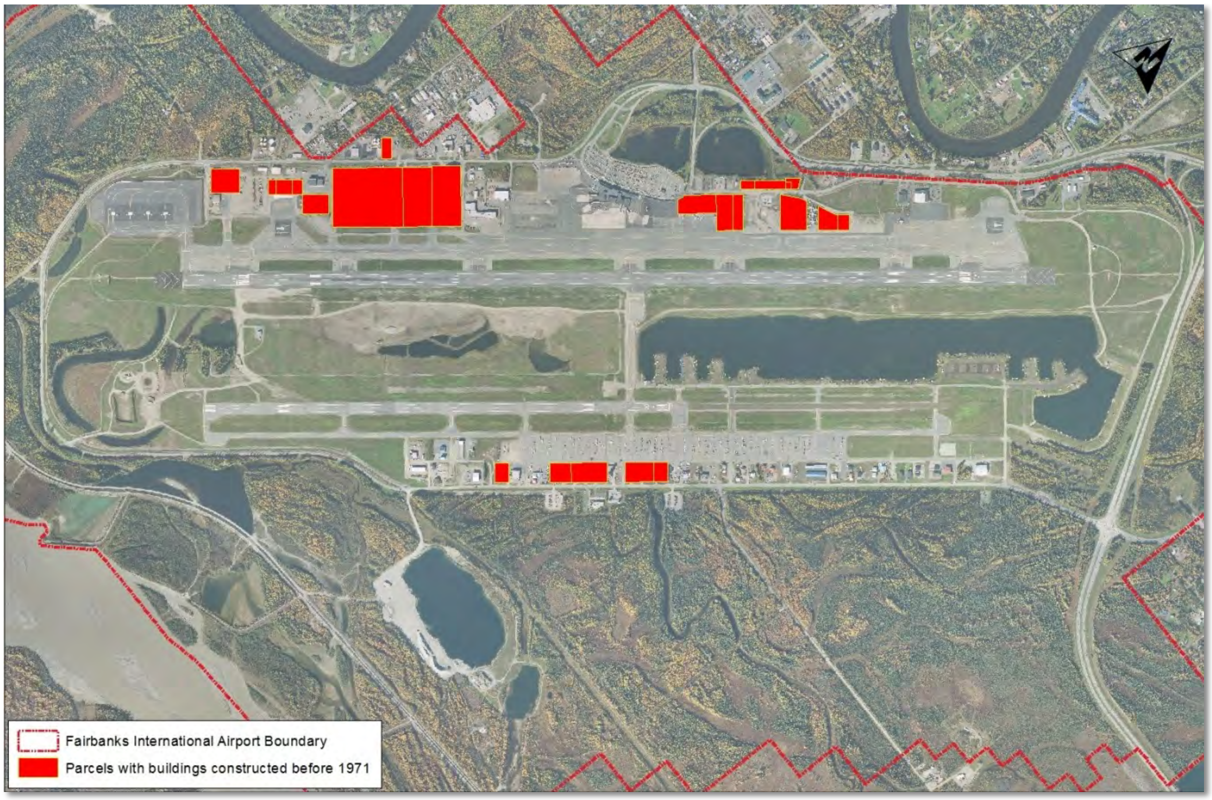

Figure 2-27 – FAI parcels that contain buildings built before 1971 according to FNSB property records

The closest NRHP-listed site is the Chena Pump House, which is located approximately a mile west of the airport on the other side of the Chena River.

2.4.6 NOISE

A complete FAR Part 150 noise analysis would study and recommend mitigation measures to reduce the impact of aircraft noise in the event that a specific noise exposure threshold over noise-sensitive areas in the vicinity of the airport is currently exceeded or is projected to be exceeded within five years.

This analysis reviewed the most recent FAR Part 150 study and the projections of aviation activity as a baseline. This was compared to the current level of activity to quickly determine if the type of aircraft and the frequency of operations are greater than projected in the previous study. In addition, this analysis reviewed the surrounding land uses to determine if there has been significant noise-sensitive development since the FAR Part 150 study period. Finally, this analysis establishes triggers for initiating an update to the FAR Part 150 study.

The existing FAR Part 150 study was prepared in 1988. Noise thresholds were modeled using the Integrated Noise Model (INM), version 3.9. The INM is the FAA-recognized model for modeling aircraft noise at airports. Refinements to the model have been made over the years, and the current version is INM 7.0b.

Broadly defined, inputs to the INM consist of:

- **Flight tracks** that define the path of aircraft arriving, departing, transiting, or in a closed traffic pattern associated with a particular runway end.
- **Aircraft** that are operating at the airport and are assigned to specific flight tracks.
- **Operations** that define the frequency in an average 24-hour period (derived from annual operations forecasts) that a particular aircraft is operating on a specific flight track. Operations are further divided into day and night (and sometimes evening).

Utilizing these inputs, the INM calculates the noise exposure and generates contours that are overlaid on a base map to indicate geographic areas that are within certain thresholds. The FAA has utilized the 65 DNL (day-night average sound level) contour as the highest noise exposure that is compatible with all uses.

At the time of the FAR Part 150 study, the following mix of aircraft was operating at FAI in the average 24-hour period.

Table 2-16 – Aircraft Mix (Average 24-Hour Period)

Aircraft Type	Daytime Operations	Nighttime Operations	Total
B-727 (Stage 2)	10.3	8.2	18.5
B-737 (Stage 2)	8.0	4.4	12.4
B-767 (Stage 3)	1.7	0	1.7
Business Jet	3.5	0.2	3.7
Light Twin	48.3	13.8	62.1
Light Single	210.8	37.3	249.3
Total	**282.6**	**63.9**	**346.5**

Source: FAR Part 150 Study, 1988 (Data taken from FY86)

The total annual operations assumed for the base case in 1988 was 126,472. Of those, approximately 88% of operations were by general aviation aircraft and 12% by air carrier aircraft. By comparison, data from the FAA Terminal Area Forecast for the years 2010 through 2030 reports that at FAI the total annual operations for FY2009 were 121,295. Of those, approximately 91% were by general aviation aircraft and 9% by air carrier aircraft.

Table 2-17 – Air Carrier Operations

Fiscal Year	Total Operations	Air Carrier Operations	Percent Air Carrier
1986	126,472	15,184	**12%**
2009	121,295	10,618	**9%**

Source: FAR Part 150 Study, 1988 (Data taken from FY86), 2010 FAA Terminal Area Forecast

The significant information is the specific types of air carrier aircraft that are included in the 1988 study. The air carrier operations were dominated by two "Stage 2" aircraft. These "stages" refer to engine types and the specific noise limits allowed by regulation at the time. Aircraft with Stage 2 engines were common in the air carrier fleet in 1986 but have since been phased out for all aircraft weighing less than 75,000 pounds. Stage 3 engines are much quieter and more fuel efficient. In general, for an airport with a similar number of operations by aircraft with Stage 3 engines, the noise exposure contours are significantly smaller than when Stage 2 aircraft are in the fleet mix. Thus, in this brief analysis it is reasonable to assume that the overall areas exposed to noise in excess of 65 DNL is smaller—perhaps significantly so—than in 1988 when the FAR Part 150 study was published.

The area within the 65 DNL contour from the 1988 study was reviewed to see if there has been any new noise-sensitive development. This approach utilizes the more conservative boundary for identifying airport noise compatibility, in effect acting as a worst case. A survey utilizing aerial photography from September 2010 confirms that the vast majority of the 65 DNL is on airport property and undeveloped land to the southwest in line with the runways. A small portion lies on the west side of the Chena River opposite from Pikes Landing; a review of historic aerial photographs indicates that the uses have not changed. The remainder of the 65 DNL contour remains primarily over commercial industrial land and south of Airport Way.

Current locations of schools, hospitals, and churches were identified, and none was found to be within the 1988 65 DNL contour.

For the purposes of this analysis, there appears to be no immediate need to update the FAR Part 150 study. However, a recommendation to greatly expand the ability of FAI to accommodate large cargo aircraft such as the Boeing 747 or 777 series on technical stops may result from this master plan. If so, data beyond that provided by the Alaska International Airport System Plan (in a separate but coordinated project) would need to be gathered and/or derived for model inputs as described above.

2.4.7 WATER QUALITY

Water quality degradation at airports can occur as a result of pollutants entering storm water and migrating both on and off the site. Storm water pollutants can include sediment from construction activities and discharges from aircraft and vehicle maintenance areas, equipment cleaning, and airport deicing operations. The Tanana River, FAI ponds and remnant sloughs, and wetlands are the receiving waters for all storm water discharges from FAI.

Municipal Separate Storm Sewer System (MS4)

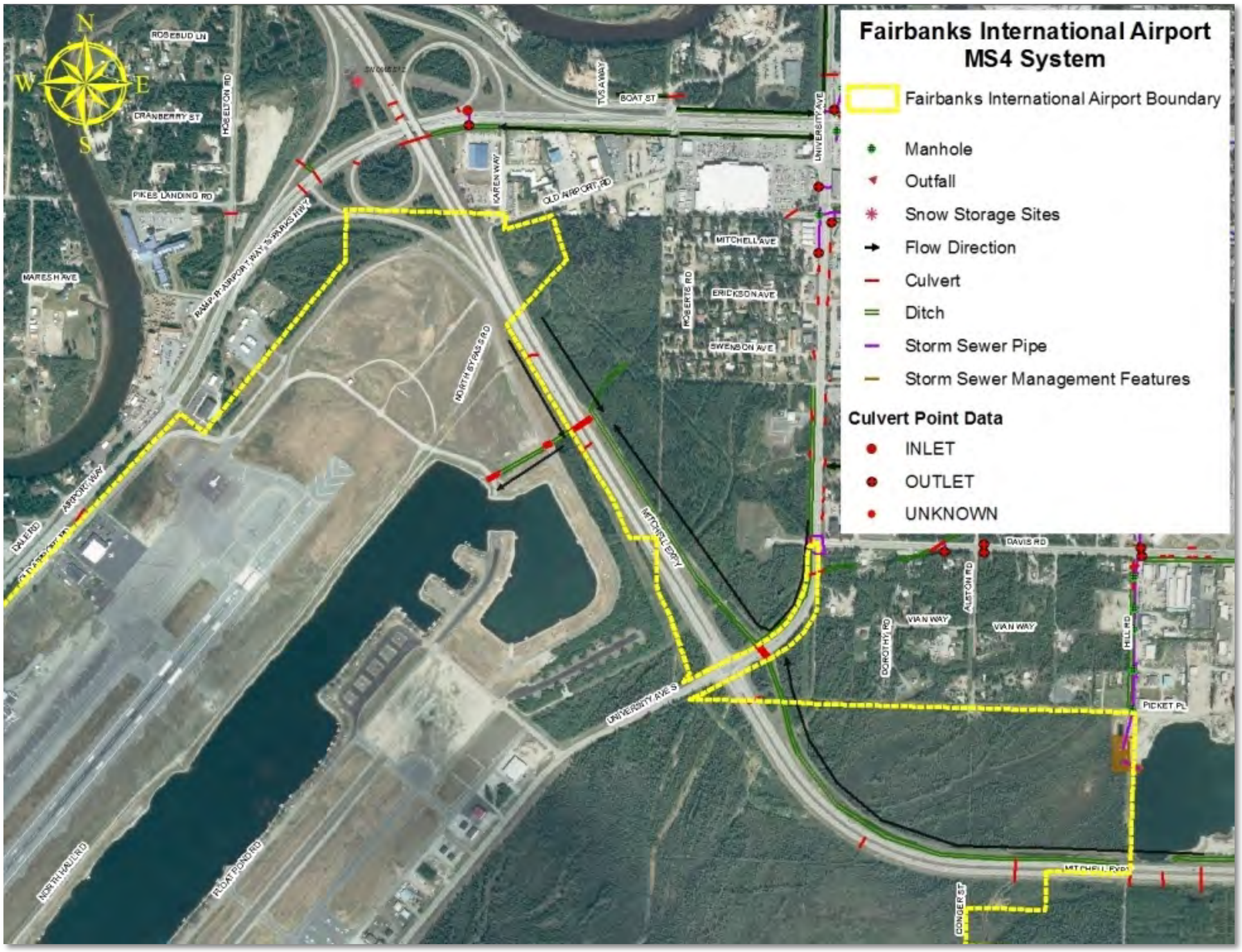

Figure 2-28 – The portion of the Municipal Separate Storm Sewer System (MS4) on FAI property

The City of Fairbanks, City of North Pole, University of Alaska Fairbanks, and Alaska Department of Transportation and Public Facilities-Northern Region are co-permittees for Alaska Pollutant Discharge Elimination System (APDES) permit AKS-053406. This APDES permit covers the Phase II Small Municipal Separate Storm Sewer System (MS4) and authorizes discharges of storm water to area waterways. Discharges are allowed from portions of the MS4 with State of Alaska rights-of-way (ROW) located within the boundaries of the Fairbanks Urbanized Area that are owned and operated by ADOT&PF. Most of FAI is included in the Fairbanks Urbanized Area, and the portion of the airport property that is included in the MS4 system is shown on Figure 2-28.

APDES permit AKS-053406 was renewed and adopted by ADEC on June 10, 2013.

Multi-Sector General Permit (MSGP)

Industrial operators in the Fairbanks area are eligible to discharge storm water under the Multi-Sector General Permit for Storm Water Discharges from Industrial Activities (MSGP-2008). Individual industrial operators (e.g., private businesses or the State operations at FAI) that wish to operate under the MSGP are required to determine whether their facility discharges to an MS4 or to Waters of the United States. They must also submit a Notice of Intent (NOI), develop a Storm Water Pollution Prevention Plan (SWPPP), and implement control measures that will meet identified effluent limits for their storm water discharges. FAI maintains coverage under the MSGP for State operations and for joint use areas at FAI such as the ramp. Tenants of FAI that will discharge under the MSGP must develop their own SWPPP and apply for their own separate permit coverage. Drainage area maps for FAI do not take into account all of the new recent areas of development, and a current drainage area study would be beneficial.

Two operational deicing pads are located west of Runway 2L/20R near the north and south ends. Used deicing fluid is stored in the snow dump until spring breakup. Once thawed, the snowmelt and waste deicing fluid are sampled prior to discharge to the CUC sanitary sewer system. Under the discharge agreement, FAI calls in to the GHU wastewater plant to determine the amount of snowmelt/ deicing fluid that can be discharged and GHU provides a daily gallon amount with the caveat that they can require FAI to cease discharging at any time if a problem arises at the wastewater treatment plant.

Construction Storm Water

Any new construction project at FAI that involves one or more acres of ground disturbance would be required to comply with the APDES General Permit for Discharges from Large and Small Construction Activities (Permit Number: AKR100000). ADOT&PF would prepare an Erosion and Sediment Control Plan (ESCP) for any project requiring APDES permit compliance. The approved ESCP would then be used by the contractor as a guide for the development of a SWPPP. The approved SWPPP must detail sufficient Best Management Practices (BMPs) that will minimize erosion and prevent the discharge of sediment or other pollutant-laden storm water from the project area.

The FNSB requires both privately- and publicly-funded projects that impact an acre or more to develop a Permanent Storm Water Control Plan (PSWCP or “Engineering Plan Review”). This pre-construction document is similar to an ESCP and describes the specific BMPs and their maintenance that will be incorporated into the project design.

2.4.8 WETLANDS AND VEGETATION

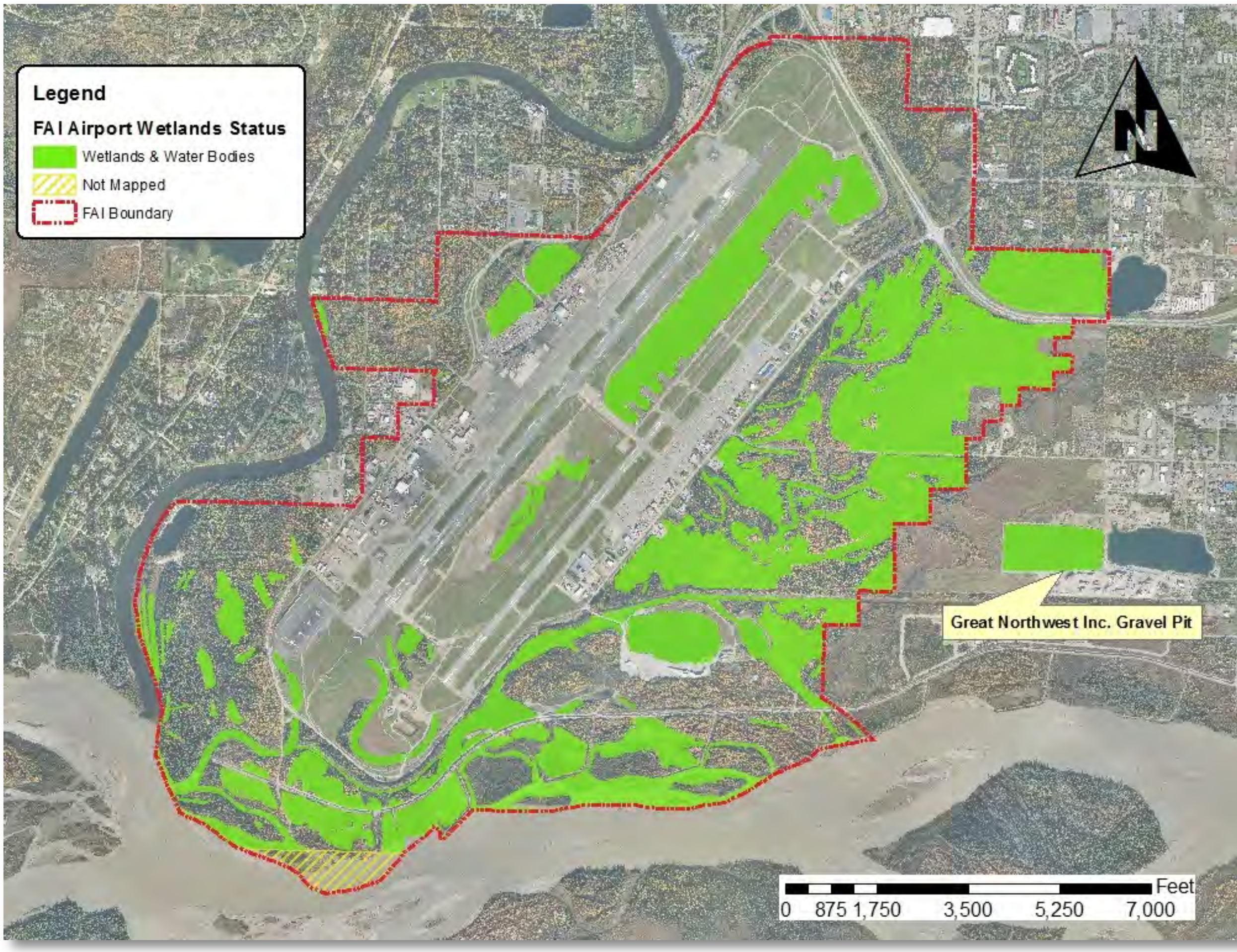

Figure 2-29 – Wetlands and water bodies at FAI

The majority of FAI property consists of uplands that are largely the result of construction of the existing embankments. The most current mapping of wetlands in the vicinity of FAI (NWI digitized, USFWS 2007) shows that Willow/Birch/Dwarf Black Spruce Scrub Shrub (PSS1/4B, PSS4/1B) and Black Spruce Forest/ Birch/Willow Shrub (PFO4/SS1B) are the most common wetland types on FAI property. Wetlands are primarily concentrated on the eastern side of the FAI property (Figure 2-29). Not all of the wetlands shown on Figure 2-29 will meet the criteria to be considered jurisdictional by the USACE. Jurisdictional determinations will likely be on a case-by-case basis as development progresses.

Recent federal court cases have attempted to clarify the jurisdictional authority of the USACE over Waters of the U.S. One such case (*Great Northwest Inc. vs. USACE*) involved the Great Northwest gravel pit located immediately east of FAI. In that case, the court found that those wetlands did not meet the definition of Waters of the U.S. and therefore fell outside of the jurisdiction of the USACE. Many of the wetlands at FAI likely share the same characteristics of these wetlands.

Invasive plant species that are known to occur on and around FAI include yellow sweetclover, perennial sowthistle, narrowleaf hawksbeard, and bird vetch. Unintentionally spreading these and other invasive species during construction activities should be avoided whenever possible. The eradication of invasive plants is generally recommended whenever practicable.

Further information regarding wetland and vegetation status at FAI, including a detailed map of wetland types, is included in the *Fairbanks International Airport Biological Conditions Report* (FAI Facility Inventory Database).

2.4.9 COMPATIBLE LAND USE / WILDLIFE MANAGEMENT

Wildlife hazards, primarily from birds colliding with aircraft, can represent a serious threat to airport operations. Large numbers of migratory sandhill cranes, gulls, and waterfowl are of particular concern at FAI during the summer months, and ravens are present in the Fairbanks area year round. The FAI Wildlife Hazard Management Plan is included in the FAI Facility Inventory Database and includes detailed procedures for deterring wildlife from FAI. These measures include the elimination and modification of attractive wildlife habitat on FAI property, hazing, and elimination of potential food sources.

The FNSB landfill also represents another potential land use conflict in the FAI vicinity. The landfill is located approximately 4 miles east of FAI and acts as an attractant to large numbers of ravens and gulls. FAA Advisory Circular 150/5200-33B recommends that airports maintain a separation distance of 10,000 feet from municipal solid waste landfills in order to avoid bird strikes.

Reporting wildlife strikes is a voluntary procedure. Not all wildlife strikes are reported to the FAA, as pilots may simply choose not to—or might not realize that a strike has occurred. The FAA Wildlife Strike Database shows that 93 wildlife strikes have been reported at FAI from 1990 through August 2012. Of these, 91 involved a wide variety of bird species, and the other two involved red foxes. In nearly all instances, the reported level of damage was “none” or “minor”; however, two instances of “substantial” damage were reported when aircraft struck mallard ducks and gulls.

2.5 METEOROLOGY

2.5.1 OVERVIEW

Fairbanks experiences a continental climate characterized by large seasonal temperature variations (Figure 2-30), with mean annual temperatures slightly below freezing. Mountain ranges to the north and south serve as climate barriers, sheltering Fairbanks from maritime influences and severe winds. Permafrost is discontinuous throughout the region and easily disturbed by human activity (Alaska Climate Research Center).

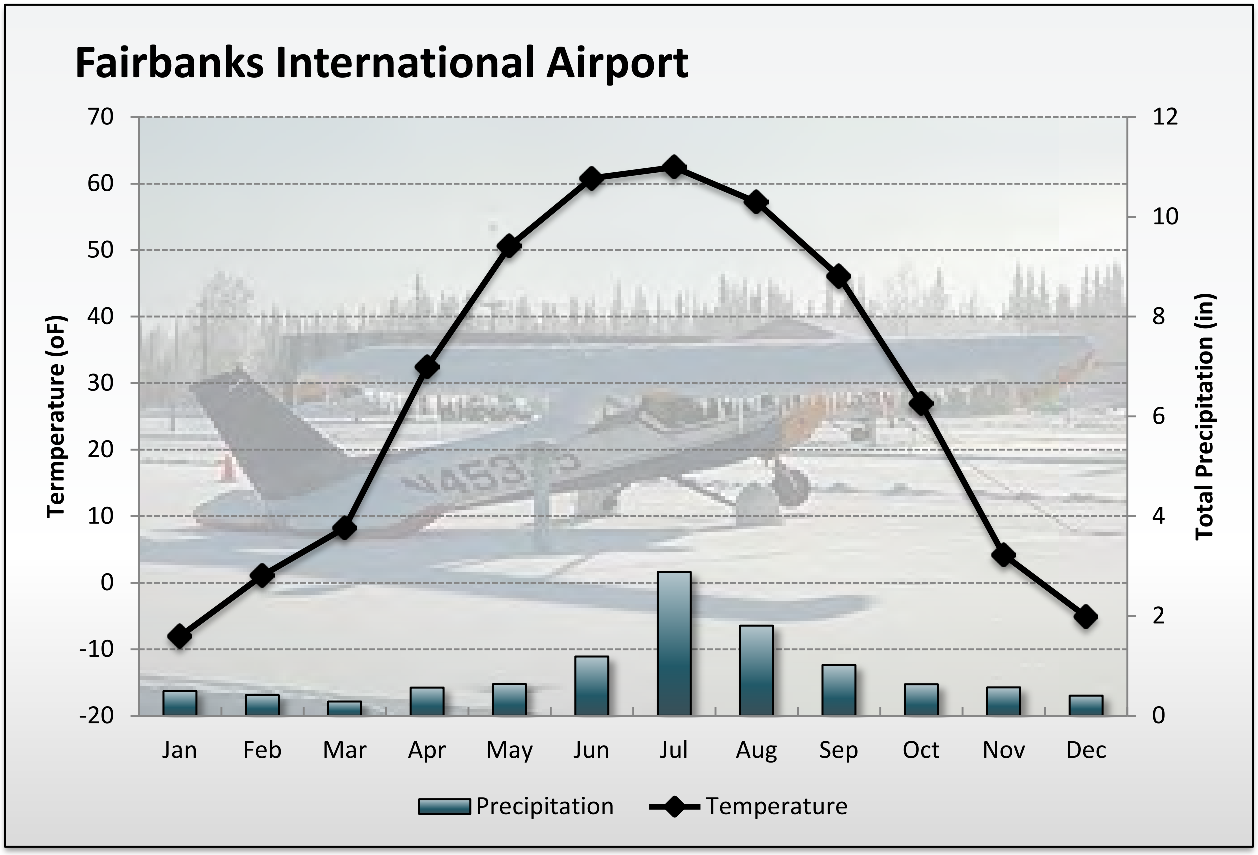

Figure 2-30 – Mean monthly temperature and total precipitation at FAI, 2001-2010
Source: Alaska Climate Research Center

Annual precipitation in Fairbanks is relatively light, averaging just over 10 inches during the past 10 years. The seasonal average snowfall during that time was 51.7 inches.

Weather conditions affecting airport operations include cloud ceiling, visibility, and wind direction. Visual Meteorological Conditions (VMC) occur when visibility is at least 3 statute miles and the cloud ceiling is 1,000 feet or higher. FAI experiences VMC approximately 94% of the time (ADOT&PF, 2011). This high frequency of VMC sometimes results in diversion of Anchorage-bound flights to FAI when Anchorage is experiencing very low visibility. The most recent wind coverage data (summarized in Table 2-18) indicate that wind is generally light at FAI.

Table 2-18 – FAI Wind Coverage

All Weather Conditions			
<10.5 knots	<13 knots	<16 knots	<20 knots
98.94%	99.62%	99.96%	99.99%
IFR Weather Conditions			
<10.5 knots	<13 knots	<16 knots	<20 knots
99.58%	99.88%	99.98%	99.99%

Source: FAI ALP, 2005

Weather data for FAI for the years 2001-2010, including wind direction, cloud ceiling, visibility, precipitation, and temperature, has been collected as part of this project; however, a complete analysis has not been conducted as local wind and weather patterns have not changed substantially since the last analysis.

During the summer, Fairbanks sometimes experiences episodes of thick smoke from Interior wildfires that can affect air traffic. In August 2009, Alaska Airlines cancelled 20 FAI flights in a 24-hour period because visibility did not meet Alaska Airlines' minimum requirements due to wildfire smoke (Joling, 2009).

Another meteorological condition that occasionally affects air traffic at FAI is volcanic eruptions in southwest Alaska. Ash plumes from volcanic eruptions can force Anchorage-bound flights to redirect to FAI. This has occurred three times since 1989, most recently in 2009.

2.6 SOILS AND GEOLOGY

This section provides brief summaries of the geologic setting, past geotechnical investigations, and the general geotechnical conditions at FAI. Further detail is available in the draft *Geotechnical Data Summary* prepared by R&M Consultants, Inc., in November 2011, which is included in the Resource Documents binder. Cited names of the aircraft pavements (runways, taxiways, ramps, etc.), vehicle roads, buildings, and other improvements follow the ADOT&PF *Fairbanks International Airport Information Map*.

2.6.1 GEOLOGIC SETTING

Terrain

The city of Fairbanks is situated on the north side of the *Tanana-Kuskokwim Lowlands* physiographic division, a broad, east-west trending alluvial-filled basin between the Alaska Range to the south and the *Yukon-Tanana Uplands* to the north. The airport is located on the west side of the city, on the floodplain between the Tanana River to the south and the Chena River to the north and west. The land surface around the airport is generally flat, with small natural and man-made drainage courses.

Surficial Geology

The surficial geology in the vicinity of FAI (Figure 2-31) is generally composed of unconsolidated glacial and alluvial deposits that extend to depths of about 600 to 700 feet.

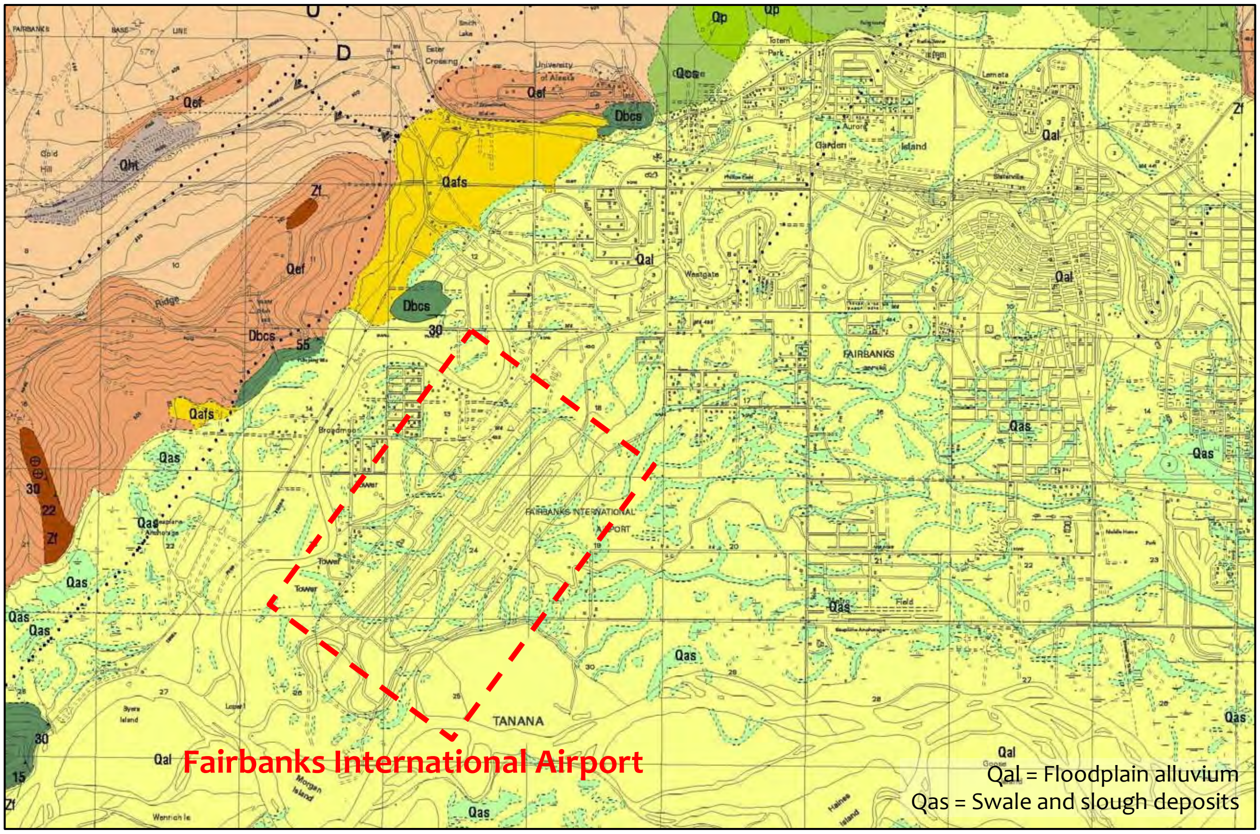

Figure 2-31 – Surficial Geology
(Source: Newberry and Bundtzen, 2006)

Geologic Hazards

The major geologic hazards which affect all or portions of FAI include flooding, permafrost, seasonal frost action, and earthquakes.

Flooding

The entire airport is within the 500-year Tanana and Chena River flood area, but protected by earthen levees to the east and south. Portions of the infield and undeveloped areas at FAI are also within the 100-year flood level (see Section 2.4.3 for further discussion).

Permafrost

The Fairbanks area is underlain by discontinuous permafrost. Perennially frozen ground in the flood plains along the Tanana and Chena Rivers reportedly extends to depths exceeding several hundred feet, but often is interspersed and interstratified with unfrozen zones (*talik*). It generally contains low volumes of interstitial ice and very few large ice masses.

Seasonal Frost Action

The fine-grained soil deposits blanketing much of the airport site are generally very frost susceptible. Further, groundwater at the airport is relatively shallow (see Groundwater Regime, below). As such, these soils may experience intense frost heaving in winter and a reduction in bearing strength during the annual thaw.

Earthquakes

Interior Alaska experiences frequent moderate to strong earthquakes. The interior Alaska seismic region is bounded by two active, large-scale strike-slip fault systems, the Denali fault to the south and the Kaltag-Tintina fault to the north, with most earthquakes occurring in three linear, north-northeast trending seismic zones (Minto Flats, Fairbanks, and Salcha) between these two defined fault systems (Figure 2-32).

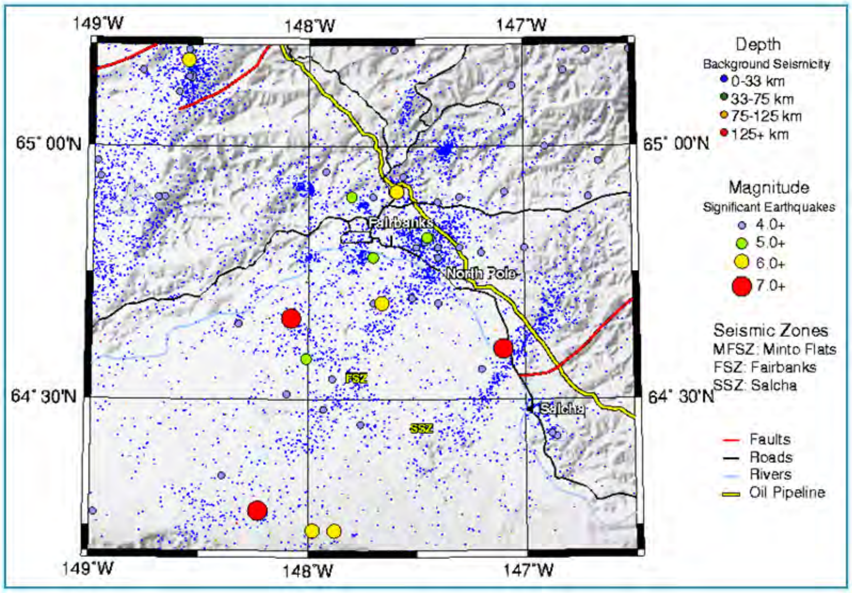

Figure 2-32 – Fairbanks Area Seismicity
(Source: Alaska Earthquake Information Center)

Since 1898, at least 46 earthquakes with local magnitude (M_L) greater than 5 have been recorded within about 100 miles of FAI, including two M_L 7.3 events (circa 1904 and 1937) that both occurred within about 25 miles south of Fairbanks, a M_L 7.2 event (circa 1947) that occurred about 50 miles south of Fairbanks, and a M_W 7.9 event ("Denali Earthquake," November 3, 2002) that occurred about 90 miles south of Fairbanks.

The most likely earthquake hazard at FAI is strong ground shaking, although there may also be some possibility of ground cracking and/or settlement associated with localized liquefaction of foundation soils.

Based on the age and type of soil deposits and the presence of discontinuous permafrost, saturated foundation soils at FAI can be considered to have a low to moderate likelihood of liquefying during a strong earthquake. Based on case histories, seismic ground motions strong enough to induce liquefaction and ground cracking could be expected at a site that is within about 75 to 100 miles of a +M7 earthquake. Therefore, while no liquefaction has ever been reported at FAI, the historic regional seismicity (four +M7 earthquakes within 90 miles of Fairbanks over the past 100 years) indicates that liquefaction could be a potential hazard in the saturated, loose, cohesionless soils at FAI, with the most likely consequences including differential settlement and localized ground cracking.

2.6.2 PREVIOUS GEOTECHNICAL INVESTIGATIONS

Since the late 1950s, investigations or studies have been completed at FAI that included geotechnical field explorations (test borings or test pits, groundwater monitoring, etc.), laboratory soil testing, or at least provided interpretations of the subsurface conditions (soils, groundwater, frozen ground, etc.). Some investigations pertained to various airside facilities (aircraft operating areas); some to landside facilities (terminal, lease lots, buildings, etc.); and some to miscellaneous airport areas (roads, navigation aids, fire training, material sources, etc.). In addition, at least eight of these previous investigations pertained specifically to pavement evaluations (condition survey, falling weight deflectometer testing, structural section, etc.) or pavement design. Summaries of each category of reports are included in Tables 2, 3, and 4 of the *Geotechnical Data Summary* in the Resource Documents binder.

2.6.3 GEOTECHNICAL CONDITIONS

The following section describes the general surface, soil, groundwater and frozen soil conditions at FAI, based on the previous geotechnical investigations.

Surface

The ground surface across FAI is relatively flat, with surface elevations generally varying less than about 10 feet. Most of the airport property is developed (aircraft and vehicle pavements, terminal, built lease lots, graded infield areas, etc.). However, the southwestern periphery, between the Tanana River and the Airport Perimeter Road, and the land east of South University Avenue are relatively undisturbed and partially covered with dense stands of spruce and birch, mixed with thickets of scrub alder and willow.

Soil Profile

Based on the previous geotechnical investigations, the soil profile across FAI can be grouped into four general units including fill, overburden, and/or abandoned slough deposits, overlying a variable sand and gravel, although the presence and thickness the first three units varies notably.

Fill

The ground under most, if not all, of the existing pavements and developed lease lots consists of engineered fill, generally less than 10 to 15 feet thick. Much of the fill was obtained during excavation of the existing floatplane facility (Waterlane 2/20 and turning basin) or of Material Site MS-37-1-158-2 (aka “bail-pond”) located in the southeast portion of the airport.

Overburden

Much of the undeveloped ground is covered with fine-grained overburden soil, which is often also encountered under the fill. The overburden unit is typically less than 10 feet thick, but has been reported to depths up to 15 to +20 feet. Based simply on grain size, the overburden soils are considered to be very susceptible to frost heaving and thaw weakening.

Abandoned Slough Deposits

The airport is crisscrossed by several abandoned, narrow sloughs and drainages that were filled and graded over during the early periods of airport development. Some of these abandoned sloughs have been found to contain a unit of now buried fine-grained organic soil, reported up to 4 to 6 feet thick. These organic slough deposits are considered to be very compressible and very susceptible to frost heaving and thaw weakening.

Sand and Gravel

All of FAI is underlain by a thick unit of cohesionless, alluvial deposits, extending to a depth of at least 90 feet. This coarse-grained unit has generally been described as poorly-graded sand with variable gravel and non-plastic silt and scattered cobbles.

Groundwater Regime

The airport is situated near the confluence of the Tanana River (to the south) and the Chena River (to the west). Groundwater has been reported in most of the boreholes drilled at the airport, at depths generally ranging from about 10 to 20 feet. Based on data reported in Claar and Lilly (1997), the groundwater flow across FAI ranges seasonally between the northwest and southwest (towards the Chena River), and the depth of groundwater is influenced by both the Tanana and Chena Rivers, which fluctuate throughout the year.

Frozen Ground

The depth of seasonal frost penetration reported in past geotechnical investigations at FAI has varied considerably as a function of the surface conditions, soil profile, and groundwater level. Maximum depths have typically ranged between 10 and 15 feet under pavements kept clear of snow. Seasonally frozen coarse-grained soils have generally been described as poorly bonded, or well bonded with no excess ice, while frozen samples of fine-grained soils have generally been described as well bonded with excess ice or containing visible forms of segregated ice (e.g., individual crystals).

Several of the past geotechnical explorations have also reported discontinuous zones of permafrost, generally in undisturbed, wet areas covered with relatively dense vegetation, and below depths of about 5 to 20 feet. However, the depth to and extent of permafrost in all areas has likely been degrading over the past few decades as a result of changes in the surface conditions (clearing, pavements, buildings, etc.), and regional climate warming. The permafrost soils have generally been described as well bonded, without visible forms of segregated or massive ice.

2.7 FINANCIAL DATA

2.7.1 AIRPORT BUSINESS MODEL

FAI is one of the two airports that comprise the Alaska International Airport System (AIAS); Ted Stevens Anchorage International Airport is the other. Created by the state legislature in 1961, the AIAS is operated as a state-owned enterprise fund—the International Airport Revenue Fund—under ADOT&PF. The AIAS utilizes a Cost Center Allocation model, with both airports utilizing a common fee schedule for landings[2], parking, land leases, building space, concessions, fuel dispensing, and vehicle parking. The AIAS also has bonding authority to fund major capital improvements.

2.7.2 OPERATING REVENUES AND EXPENSES

The operating revenues and expenses for the AIAS from state fiscal year 2005 through 2010 are presented in Figure 2-33. As a system, the AIAS has net positive revenue.

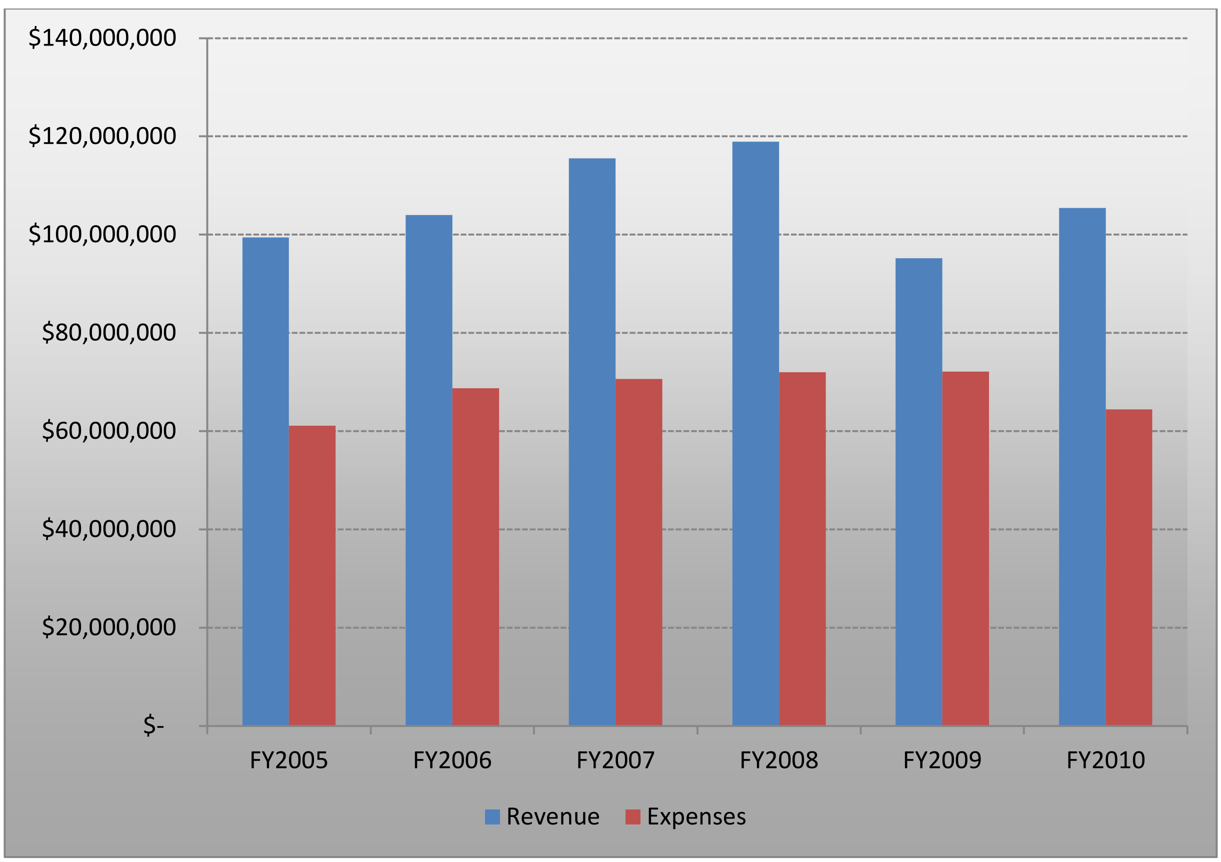

Figure 2-33 - AIAS Operating Revenues and Expenses, state fiscal years 2005-2010
Source: AIAS Audited Financial Statements (http://dot.state.ak.us/aias)

[2] FAI is exempted from non-signatory differential

Examination of operating revenue components for FAI (Figure 2-34) reveals that while fuel flowage fees have decreased since fiscal year (FY) 2005, increases in vehicle parking revenue and "other" revenues have nearly compensated for that decrease.

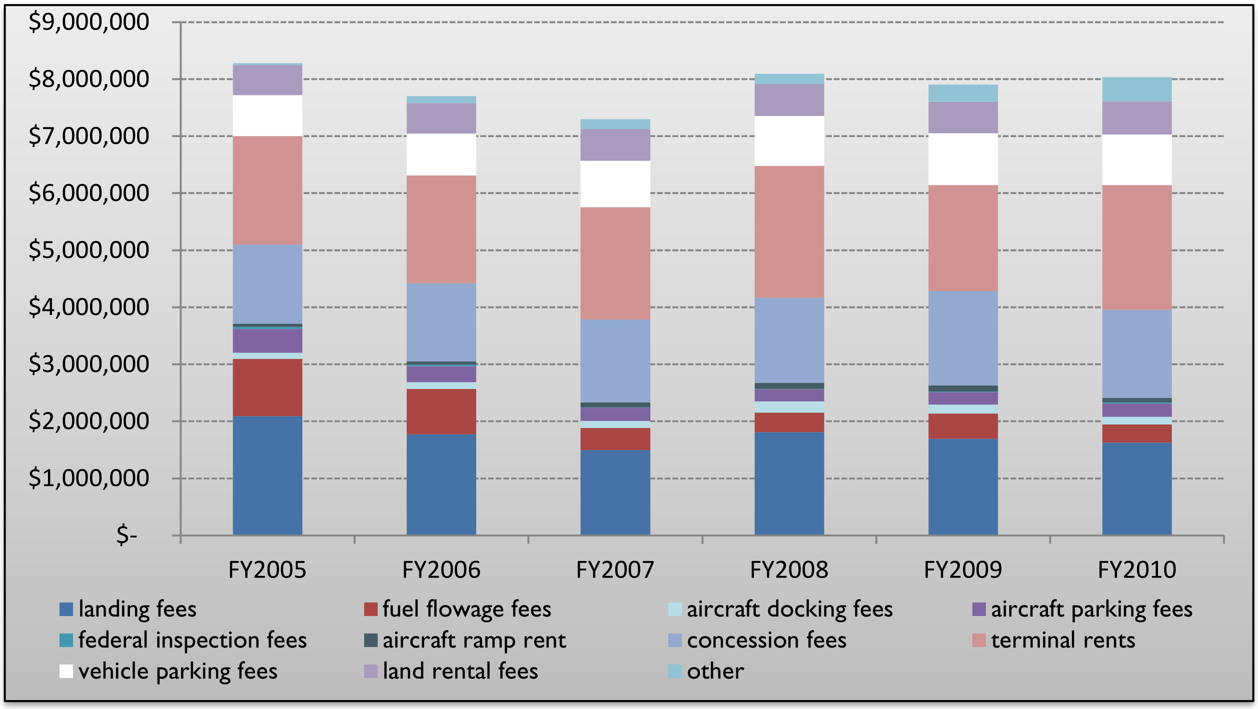

Figure 2-34 – FAI Operating Revenues, State Fiscal Years 2005-2010
Source: AIAS Audited Financial Statements (http://dot.state.ak.us/aias)

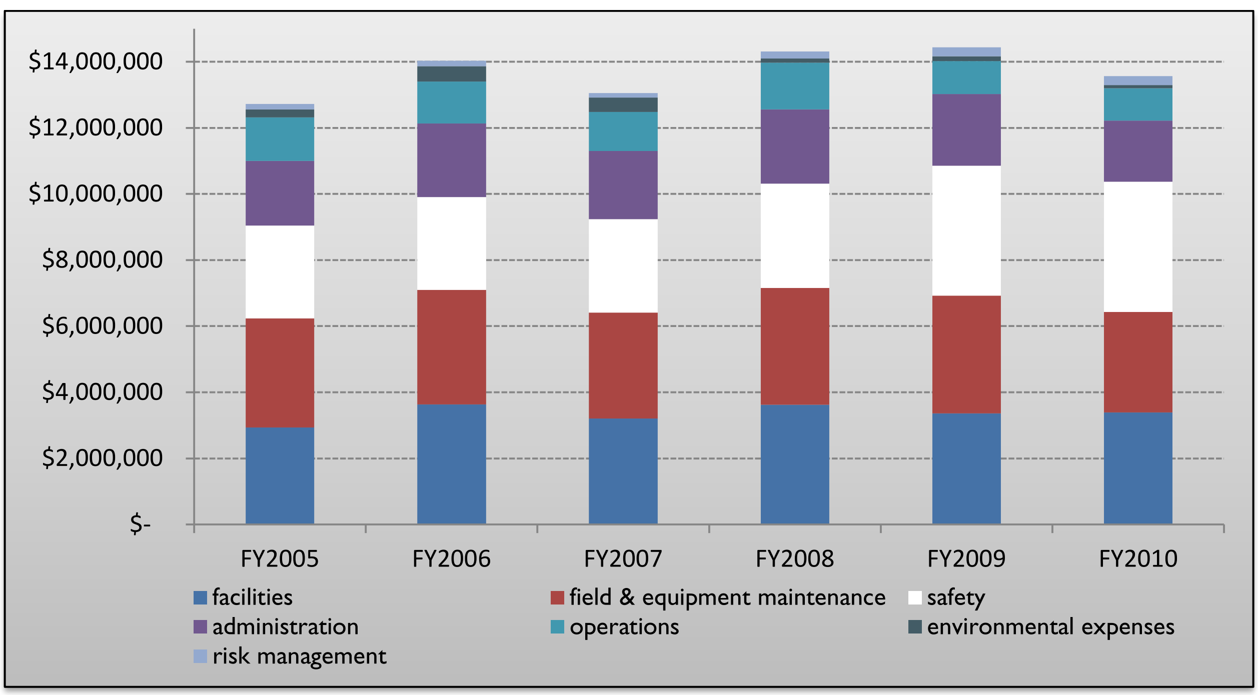

Figure 2-35 - FAI Operating Expenses, State Fiscal Years 2005-2010
Source: AIAS Audited Financial Statements (http://dot.state.ak.us/aias)

2.7.3 CAPITAL FUNDING

There are four primary sources of funding for capital projects at FAI:

- Airport Improvement Program (AIP) funds
- International Airport Revenue Fund (IARF)
- Passenger Facility Charge (PFC) Revenue
- General Airport Revenue Bonds

Table 2-19 lists the AIP funding for FAI from 2000 to 2010. AIP funds are available to public-use airports included in the National Plan of Integrated Airport Systems (NPIAS) for planning and development projects. AIP funding covers 95% of eligible costs at FAI.

Table 2-19 – FAI AIP Funding 2000-2010

AIP No.	Project Name	Entitlement	Discretionary	TOTAL
3-02-0096-021-2000	Conduct Noise Compatibility Plan Study	$110,000	—	**$110,000**
	Conduct Airport Master Plan Study	$347,360	—	**$347,360**
	Conduct Miscellaneous Study	$170,000	—	**$170,000**
3-02-0096-022-2000	Improve Terminal Building	$1,320,705	—	**$1,320,705**
3-02-0096-023-2001	Extend Runway	$3,212,446	$5,298,028	**$8,510,474**
	Improve Seaplane Base	$2,120,400	—	**$2,120,400**
3-02-0096-024-2001	Improve Airport Drainage	$457,370	—	**$457,370**
3-02-0096-025-2002	Security Enhancements	—	$260,500	**$260,500**
3-02-0096-026-2002	Security Enhancements	—	$311,400	**$311,400**
3-02-0096-027-2003	Improve Airport Drainage	$493,901	—	**$493,901**
3-02-0096-028-2003	Rehabilitate Terminal Building	$1,389,925	—	**$1,389,925**
3-02-0096-029-2003	Rehabilitate Taxiway A	$2,774,396	$9,671,669	**$12,446,065**
	Construct Deicing Containment Facility (North)	$1,500,000	$569,333	**$2,069,333**
3-02-0096-030-2004	Expand Apron	$601,665	—	**$601,665**
3-02-0096-031-2004	Rehabilitate Taxiway	$3,124,955	$7,956,173	**$11,081,128**
3-02-0096-032-2006	Rehabilitate Runway 01R/19L	$1,000,000	—	**$1,000,000**
	Install Taxiway Lighting	$250,000	—	**$250,000**
	Construct Apron	$3,509,407	—	**$3,509,407**
	Construct Apron (Construction)	$5,888,658	$10,888,343	**$16,777,001**
3-02-0096-033-2007	Rehabilitate Runway 01L/19R (Ph. 1)	—	$16,778,236	**$16,778,236**
3-02-0096-034-2008	Rehabilitate Runway 01L/19R (Ph. 2)	$2,393,366	$15,000,000	**$17,393,366**
3-02-0096-035-2008	Rehabilitate Runway 01L/19R (Ph. 3)	$823,156	$8,776,844	**$9,600,000**
3-02-0096-036-2009	Improve Aircraft Rescue & Fire Fighting Bldg.	$2,195,109	—	**$2,195,109**
3-02-0096-037-2009	Acquire Safety Equipment and/or Fencing Access Control (ARRA funded)	—	—	**—**
3-02-0096-038-2010	Collect Airport Data for Airports GIS	—	$700,000	**$700,000**
3-02-0096-039-2010	Update Airport Master Plan	$950,000	—	**$950,000**
	2000-2010 Totals	**$34,632,819**	**$76,210,526**	**$110,843,345**

Source: FAA

In general, AIP funds can be used on most airfield capital improvements or repairs except those for terminals, hangars, and non-aviation development. For Primary Airports there are two types of funding within the AIP program:

- ***Entitlement funds,*** based on levels of passenger traffic, and cargo service to airports based on levels of cargo aircraft landed weight, subject to certain minimum and maximum levels.
- ***Discretionary funds,*** distributed based on the ranking of the airport's projects in relation to others deemed most important for improving the national airspace system. Discretionary funds are generally used for safety area, pavement, and security improvements.

PFC revenue comes from fees charged for enplaned passengers at the airport. These fees are used for FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition. FAI is currently approved to collect at the $4.50PFC level through October 2026. The current PFC application is designed to pay debt service related to terminal construction.

PFC revenues are either used on a "pay-as-you-go" basis, where PFC collections and interest earnings are spent directly on capital projects, or "leveraged," i.e., used to pay debt service on bonds. However, federal legislation prohibits a public agency from imposing a PFC on:

- Any passenger 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 U.S. Department of Transportation for which PFCs may not be imposed under this section.
- Enplanements in Alaska aboard an aircraft having a certificated seating capacity of less than 60 passengers.

2.8 ADDITIONAL RELEVANT INFORMATION

2.8.1 MAINTENANCE & OPERATIONS

Facilities

The primary ADOT&PF maintenance facilities for FAI are located ½ mile south of the main passenger terminal, east of the intersection of Dale Road and Airport Industrial Road. The two-story, 25,000 sf building includes space for vehicle maintenance, offices, parts storage, and specialty maintenance shops. It was constructed in 2001 and airport staff report it is in good shape.

Figure 2-36 – ADOT&PF Maintenance Facility

In addition to the main maintenance building, FAI has one warm storage building attached to the ARFF building, one open storage building, and five other unheated storage buildings. Overall, the maintenance facilities are in good condition. Maintenance personnel do, however, report a need for additional warm storage facilities and improved handling facilities for traction sand.

The maintenance facilities occupy 12 acres of land across nine lots with taxiway frontage. Discussions with airport staff indicate that consolidation and/or relocation of some of the maintenance facilities could open up additional land for leasing.

Equipment

Figure 2-37 – ADOT&PF Maintenance Equipment

State-owned maintenance equipment is listed in Table 2-20. Equipment maintenance costs from 2006 through 2010 are outlined in Figure 2-38.

Table 2-20 - FAI M&O Equipment

Equipment	Number	Equipment	Number	Equipment	Number
Graders	4	Snow Blowers	2	SUVS	5
Multi-Purpose Machine	1	Cupping Ramp Plows	2	Vans	2
Snow Brooms	5	Plow Trucks	2	Snow Drag	1
Loaders	5	Paint Trucks	1	Miscellaneous	60+
Dump Trucks	3	Pickup Trucks	18		

Maintenance staff recently acquired a multi-purpose machine which has a plow and broom, similar to the model currently in operation at Ted Stevens Anchorage International Airport.

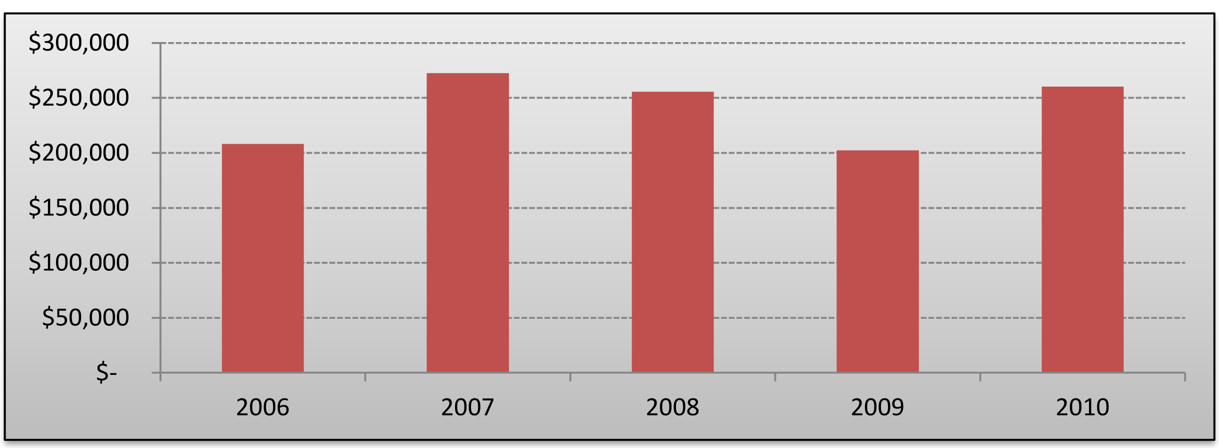

Figure 2-38 – ADOT&PF Equipment Maintenance Costs, 2006-2010
Source: FAI Maintenance

Procedures

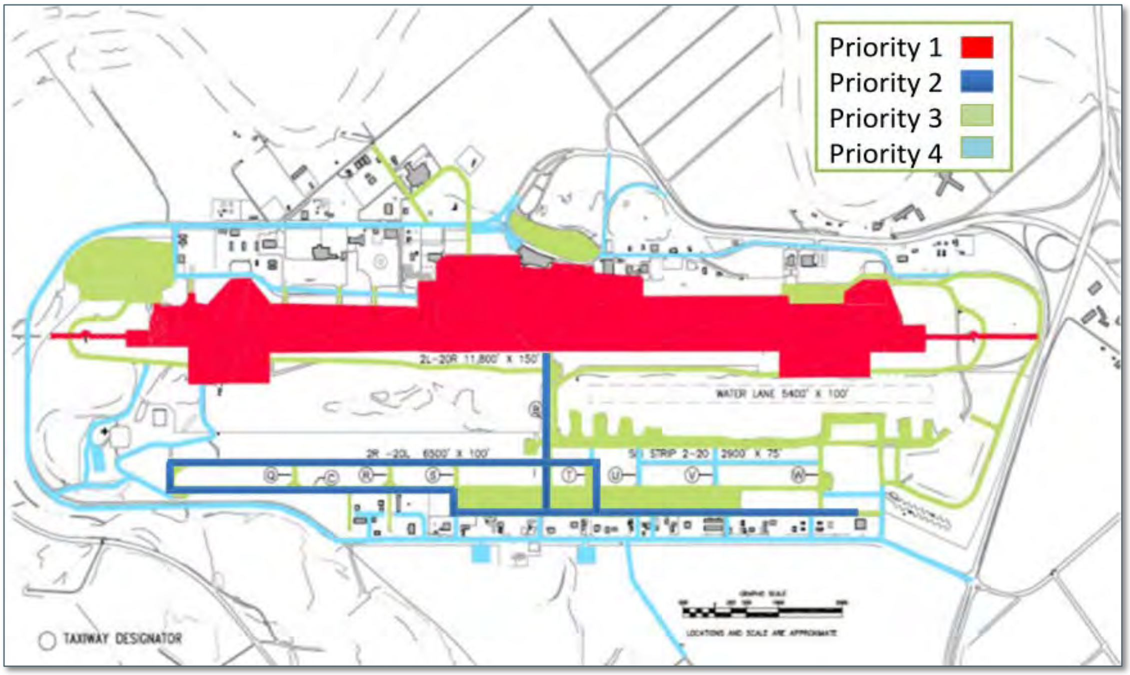

Figure 2-39 – Snow Removal Priorities

Snow removal priorities are as follows:

- Primary runway, Taxiway A, ARFF access, and terminal area apron
- Taxiway B, Runway 2R/20L, and Taxiway T
- Public parking areas, East Ramp, and cargo apron
- Access roads

The Airport Certification Manual requires snow removal to begin after ¼ inch of snowfall or if aircraft braking action degrades, although the chief of maintenance may initiate snow removal sooner.

The primary runway is approximately eight passes wide for the existing fleet of snow plows and brooms. Self-propelled runway brooms begin the snow clearing process, followed by rubber-bladed plows and snow blowers.

Maintenance personnel operate in two shifts, day and swing. The day shift runs from 7 a.m. until 3 p.m., and the swing shift runs from 3 p.m. until 11 p.m. Maintenance staff does not work on the weekends unless weather conditions warrant. When adverse weather requires a 24-hour maintenance schedule, work shifts are changed to 12 hours each.

Snow removed from the airfield is pushed to designated areas on the airport. Primary snow storage sites on the west side are located adjacent to the heavy cargo apron, the de-icing aprons, and fence gate 20. Construction of a hangar at the north end of the primary runway eliminated part of one snow storage area.

DOT&PF maintenance personnel do not remove snow from lease lots or tie-downs; this is the responsibility of the individual lessee. On the east side of the airport, ADOT&PF uses a custom drag to pack snow on the ski strip, Taxiway D, and much of Taxiway C to accommodate ski-equipped aircraft. This packed snow is then scraped away in the spring when the snow begins to melt.

Summer tasks include pavement crack sealing, pavement marking, and grass mowing, as well as other routine field maintenance.

2.8.2 AIR TRAFFIC CONTROL TOWER

Figure 2-40 – FAI Air Traffic Control Tower

The Air Traffic Control Tower (ATCT) is responsible for the Class D airspace and Terminal Radar Service Area (TRSA) around FAI. The TRSA around FAI is the only one in Alaska, and one of about 30 nationwide.

Staffing

The tower is staffed 24 hours per day, 7 days a week. There are currently 35 employees. Of these, only 12 are certified controllers, while 7 to 9 are in training at any given time. Tower staff report that they are understaffed and subsequently have temporary duty controllers assigned to FAI on 6-month to 1-year details. These temporary controllers come to FAI from much busier airports across the nation (such as LAX or ORD).

Facilities

The tower was built in 1994. Tower staff report that the tower facilities are adequate for their needs. The ATCT utilizes an ASR11 radar to track aircraft. This radar is located approximately nine miles east of the airport near Badger Road. There are no plans to upgrade the radar.

Airfield Use

The most common approach to FAI is from the north, landing on Runways 20R, 20L, or 20W. Likewise, most aircraft depart to the south. This is the airport's calm wind configuration, utilized approximately 85% of the time. However, the ATCT accommodates pilot requests to land from the south on Runway 2R or 2L. The calm wind configuration does change to a head-to-head procedure at night (e.g., land 2L and depart 20R).

Table 2-21 summarizes average numbers of daily operations[3] during the summer. September is the busiest time of year for operations at the airport due to the rise in GA activity during hunting season. June and July also see higher numbers of operations due to military training.

Table 2-21 – Average Daily Operations at FAI, May – September

Operation Type	IFR	VFR
Air Carriers	12	0
Air Taxi	9	9
GA	6	114
Military	55	0
Touch & Go (T&G)	0	150

Source: FAI ATCT

Touch-and-go operations are very common during the summer, averaging approximately 150 per day from May to September. Military aircraft from Fort Wainwright and Eielson Air Force Base commonly use FAI for low approach and touch-and-go operations, although the touch-and-go operations account for less than 2% of all military operations.

In winter, the number of GA operations drops to about 40 per day, with an approximately 50/50 split between IFR and VFR operations.

ATCT staff report that helicopter operations at FAI have remained steady over the past several years.

2.8.3 FLIGHT SERVICE STATION

The Fairbanks Flight Service Station (FSS) is a hub facility that includes the Northway, Nome, Kotzebue, Barrow, and Deadhorse satellite Flight Service Stations. The FAI FSS provides pre- and inflight weather briefings, handles flight plans, distributes Notices to Airmen (NOTAMs), relays airport advisories, and provides emergency services. When a satellite FSS facility closes for the night, the FAI FSS takes over most of these functions.

In 2007, all Alaska FSS facilities received upgrades to Operational and Supportability Implementation System (OASIS) equipment, thereby allowing all FSS facilities to use the same equipment to display weather, NOTAMs, and flight plan information. In August 2010, FAI began participating in an electronic NOTAM delivery system, one of only 12 such systems in the United States.

[3] T&G's and military fly-bys each count as two operations; GA operations include Chena Marina and Metro Field because they are in the TRSA.

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3 Aviation Forecasts

The 20-year aviation demand forecast for the Fairbanks International Airport (FAI) is presented in this chapter. The base year is 2010, and the projections are in five-year increments to 2030.

Aviation demand forecasts provide a basis for determining the type, size, and timing of aviation facility development. The facility analysis steps of the Master Plan process are dependent upon these forecasts.

Forecasting future aviation activity involves analytical techniques and subjective considerations. Regardless of the methodology used, assumptions must be made about how internal and external forces might change in the future. Factors that can influence aviation activity levels include:

- Regulatory policy at the local, state, and national level
- Technological innovations
- Aviation industry trends
- Local fluctuations in population and employment

3.1 INDEX OF SECTIONS

This report summarizes the aviation activity forecasts prepared for FAI. This chapter has the following sections:

- 3.2 Historical Aviation Activity
- 3.3 Key Forecast Assumptions
- 3.4 Passenger Forecasts
- 3.5 Air Cargo Forecasts
- 3.6 Other Aviation Activity Forecasts

This FAI forecast is based upon the *Alaska International Airport System (AIAS), Final Forecast Technical Report*, June 5, 2012, described herein as the "AIAS Forecast." The AIAS Forecast was approved by the FAA on September 13, 2012, and includes the Ted Stevens Anchorage International Airport and its adjacent Lake Hood Airport, in addition to the Fairbanks International Airport.

In March 2014, Alaska Airlines began utilizing Bombardier Q400 aircraft instead of Boeing 737-400 and 737-800 to serve the Fairbanks-Anchorage market. With seven daily flights between the two cities, the Q400 operations represent less than one percent of total annual passenger enplanements at FAI and do not affect the Facility Requirements (Chapter 4) identified in this master plan update.

3.2 HISTORICAL AVIATION ACTIVITY

This section presents a general overview of commercial service activity, followed by a brief review of long-term historical trends at Fairbanks International Airport. Elements reviewed include annual enplaned passengers, air cargo activity, and aircraft operations.

3.2.1 CURRENT SCHEDULED CARRIERS

Airlines make their own decisions regarding service to a particular airport or community. Based on FAI information from mid-2012, the following airlines provide scheduled service.

Domestic Passenger Service:

- Alaska Airlines
- Bettles Air
- Delta Air Lines
- 40-Mile Air, Ltd.
- Frontier Airlines
- Northern Air Cargo
- Ravn Alaska (formerly Era Aviation)
- Shared Service Aviation
- United Airlines
- Warbelow's Air Ventures
- Wright Air Service, Inc.

International Passenger Service:

- Air North Charter and Training
- Condor

Air Cargo

- Everts Air Cargo
- FedEx
- Northern Air Cargo

There are other commercial airlines that provide non-scheduled, charter, and transit flights. Military and government aircraft also utilize the facility. Additionally, private, corporate, and business aircraft frequent FAI.

3.2.2 HISTORICAL PASSENGER ACTIVITY

The recent history of total commercial service passengers at Fairbanks International Airport is presented in Table 3-1. Despite a brief decline during the 2008-2009 economic recession, FAI has experienced a slow growth of domestic enplaned and deplaned passengers from 2000 to the present.

More detailed historical passenger activity information is contained in the AIAS Forecast. It indicates most FAI passengers travel to/from the Lower 48 states and/or Anchorage. The number of transit passengers has also experienced a slight increase in recent years – numbering approximately 60,000 in 2011. Flights between FAI and other Alaska airports have seen the least growth, while service to and from other U.S. airports has had the most significant growth. FAI international service consists primarily of seasonal flights to Asia, Europe, and Canada. International enplanements have grown to approximately 30,000 annually in recent years.

Table 3-1 – Historical Commercial Passengers at FAI

Year	Enplanements	Deplanements	Transit
2000	403,565	404,997	48,236
2001	407,975	411,568	49,487
2002	409,626	420,856	48,015
2003	417,959	423,834	46,742
2004	455,821	463,477	45,982
2005	457,621	462,522	50,019
2006	449,558	458,104	48,106
2007	465,380	489,474	45,910
2008	473,413	486,993	46,264
2009	446,332	464,290	48,487
2010	458,167	464,401	54,970
2011[1]	460,542	466,808	60,440
Average Annual Growth Rate			
2000-2011	0.5%	0.4%	04.7%

Source: AIAS Forecast, Table 4.2

3.2.3 HISTORICAL AIR CARGO ACTIVITY

Traditionally, Anchorage International Airport has been the principal gateway for domestic air cargo to and from Alaska. Anchorage is also the main transit and transshipment point for international and regional air cargo.

In the past, FAI served as a technical stop for certain over-the-pole air cargo flights between Europe and Asia. However, this traffic ceased after 2005 when Russia opened up its airspace for non-stop flights. Since the stopover traffic stopped in 2005, FAI has focused on local and regional air cargo including service to the North Slope. The types of FAI air cargo activity are summarized as follows.

- Intrastate cargo to and from other Alaskan airports. FAI has historically been the main staging point for air cargo to the North Slope; however, in recent years airports farther north have taken some of this traffic, which caused a decline in enplaned cargo at FAI.
- Origin-destination cargo flows from FAI to and from the Lower 48 states.
- Origin-destination cargo flows from FAI to and from other countries. Before 2005, FAI served as one of the larger technical stops for cargo flights between Europe and Japan/Korea. This was due to the restrictions over Russian air space. With the lifting of these restrictions, FAI has experienced a loss in this type of traffic.

[1] Projected based upon 10 months of activity

- Transfer cargo, which is cargo that is unloaded from one airplane and loaded to another airplane; this can be international-to-domestic or domestic-to-domestic.
- Transit cargo, which is cargo that is neither loaded nor unloaded at FAI, is carried on aircraft that land at FAI for refueling or crew relief.

Finally, FAI serves as a critical reliever and diversion airport for Anchorage in case of bad weather, accident, or other issues. The historical air cargo tonnage record from 2000 to 2011 is shown in Table 3-2.

Table 3-2 - Historical Air Cargo at FAI (Tons)

Year	Enplaned Cargo	Deplaned Cargo	Transit Cargo	Total Cargo[2]	T-100[3]		
					Intra-Alaska	US/Int'l	Total
2000	27,421	6,777	128,009	290,216	n/a	n/a	n/a
2001	24,444	6,350	130,239	291,272	n/a	n/a	n/a
2002	27,053	7,267	134,010	302,340	n/a	n/a	n/a
2003	26,402	8,576	99,584	234,146	32,462	120,237	152,699
2004	29,983	8,900	86,794	212,471	33,841	113,752	147,593
2005	30,166	6,740	74,303	185,512	31,263	92,702	123,965
2006	25,842	5,496	18,011	67,361	25,270	18,805	44,075
2007	20,595	5,599	4,352	34,897	20,112	3,409	23,521
2008	17,361	5,423	6,939	36,661	21,224	11,302	32,526
2009	18,436	6,705	9,462	44,063	17,793	8,422	26,215
2010	16,958	4,954	8,240	38,391	18,441	11,424	29,865
2011	16,289	4,232	2,119	24,759	n/a	n/a	n/a
Average Annual Growth Rate							
2000-2011	-4.6%	-4.2%	-31.1%	-20.0%			
2003-2010					-7.8%	-28.6%	-20.8%

Source: AIAS Forecast, Table 4.4

3.2.4 HISTORICAL AIRCRAFT OPERATIONS

An aircraft operation is defined as either a takeoff or a landing. Table 3-3 presents the history of annual aircraft operations recorded at the Fairbanks International Airport in several categories: passenger, air cargo, air carrier, air taxi, itinerant, local, and other. From 2000-2007, FAI experienced a decline in aircraft operations as a result of lost international all-cargo activity and a reduction in general aviation operations. In 2008, FAI began to recover from this decline as general aviation activity and military operations increased.

[2] Total Cargo calculated as Transit Cargo, multiplied by two (inbound and outbound), plus Enplaned Cargo and Deplaned Cargo.

[3] The Air Carrier Statistics database, also known as the T-100 data bank, contains domestic and international airline market and segment data. Certificated US air carriers report monthly information using form T-100.

Table 3-3 - Historical Aircraft Operations at FAI

Calendar Year	Commercial Passenger			Air Cargo	Other	Passenger (Part 135)	Air Taxi	Itinerant		Local		
	Domestic	Int'l	Subtotal					GA	Military	GA	Military	Total
Fairbanks International Airport Operations												
2000	33,696		33,696	16,524	n/a	17,754	21,856	49,616	1,641	46,505	1,243	138,615
2001	34,286	32	34,318	19,504	n/a	18,266	21,092	56,004	1,210	36,581	152	133,305
2002	35,430	44	35,474	18,700	3,561	18,190	39,545	40,175	1,330	40,162	73	139,475
2003	40,106	38	40,144	16,092	3,233	16,629	42,840	32,891	1,527	42,517	52	136,456
2004	43,332	44	43,376	13,298	2,223	15,738	43,159	27,353	1,917	33,952	76	122,195
2005	40,696	46	40,742	11,532	3,986	15,287	40,973	26,774	1,187	28,367	172	112,760
2006	39,230	70	39,300	9,238	4,045	12,630	39,953	28,303	1,523	27,993	114	110,516
2007	40,090	78	40,168	7,008	3,381	11,568	38,989	28,058	1,346	29,176	149	109,286
2008	42,434	82	42,516	5,954	3,642	11,645	40,467	31,020	1,384	30,793	405	115,714
2009	39,560	86	39,646	5,696	3,391	10,314	38,419	37,772	1,360	33,157	415	121,437
2010	40,422	74	40,496	5,062	2,603	10,948	37,213	38,425	2,235	32,674	486	121,981
2011[4]	41,687	63	41,750	4,227	2,588	10,887	37,678	36,605	2,572	33,145	258	121,145
Operations Based on T100 Data - Fairbanks International Airport												
2010	36,277	219	36,496	3,337	8,328			38,425	2,235	32,674	486	121,981

Source: AIAS Forecast, Table 4.6

3.3 KEY FORECAST ASSUMPTIONS

The following section presents factors that impact Fairbanks International Airport air service and aircraft operations.

3.3.1 SOCIOECONOMIC ASSUMPTIONS

Consideration of a community's existing and projected economic character is particularly important to the determination of business travel, general aviation, and local air cargo levels. Three sets of socioeconomic forecasts were considered for use in the AIAS Forecast:

- Woods & Poole, Complete Economic and Demographic Data Source (CEDDS)
- Alaska Department of Labor and Workforce Development (DOL), Alaska Population Projections: 2010 to 2034
- Institute of Social and Economic Research (ISER), Economic and Demographic Projections for Alaska and Greater Anchorage 2010-2035

[4] Projected based upon 10 months of activity

3.3.2 FUEL COSTS AND AIR FARES

Airfare levels have an important effect on the demand for airline service nationally and at Fairbanks International Airport. Airfares are influenced by airline operational costs such as aircraft acquisition, maintenance expense, industry competition, employee wages, and airport fees. However, the largest single expense is fuel costs.

Between 2000 and 2011, jet fuel prices greatly fluctuated due to various production and supply issues. However, the overall trend was an increase in fuel costs despite intermittent dips as shown in Table 3-4.

Table 3-4 – Historical Average Jet Fuel Prices

Year	Jet Fuel Price (per gallon)	
	Nominal	2010 Dollars
2000	$0.85	$1.05
2001	$0.73	$0.88
2002	$0.69	$0.82
2003	$0.82	$0.97
2004	$1.15	$1.31
2005	$1.72	$1.90
2006	$1.92	$2.08
2007	$2.13	$2.24
2008	$2.96	$3.01
2009	$1.66	$1.69
2010	$2.15	$2.15
2011	$2.94	$2.87

Source: AIAS Forecast, Table 3.1

In line with historical trends and expert analysis, oil prices are anticipated to increase. Historical and projected crude oil and jet fuel prices are provided in Table 3-5.

Table 3-5 - Comparison of Fuel and Oil Projections (2010 Dollars)

Year	Jet Fuel Costs (per gallon)				Crude Oil Prices (per barrel)			
	Actual	DOE Reference Case	DOE High Oil Price	Recommended	FAA Refiner's Acquisition Cost	DOE Baseline	DOE High	ISER
2008	$2.96				$102.95	$93.44	$93.44	
2009	$1.66				$55.62	$59.04	$59.04	
2010	$2.15				$74.11	$74.86	$74.86	$96.69
2011	$2.94	$2.28	$3.06	$2.94	$73.57	$80.32	$103.99	$96.69
2012		$2.44	$3.47	$3.01	$79.49	$80.65	$120.24	$96.69
2013		$2.49	$3.70	$3.09	$81.65	$82.87	$128.22	$96.69
2014		$2.53	$3.81	$3.16	$82.85	$85.07	$133.73	$96.69
2015		$2.57	$3.89	$3.23	$84.38	$86.83	$136.84	$96.69
2020		$2.97	$4.35	$3.66	$80.77	$98.65	$160.60	$96.69
2025		$3.18	$4.78	$3.98	$74.22	$107.40	$175.09	$96.69
2030		$3.33	$5.04	$4.19	$75.91	$112.38	$185.03	$96.69
Average Annual Growth Rate								
2010-2030		0.6%	2.7%	1.8%	0.2%	1.7%	2.9%	0.0%

Source: AIAS Forecast, Table 3.2

Air fares in inflation-adjusted dollars have historically shown a declining trend. However, with the expected increase in jet fuel costs, an increase in fares over the analysis period is projected. The projected change in real airfares through the forecast period is shown in Table 3-6.

Table 3-6 - Projected Domestic FAI Fares (2010 Dollars)

Year	FAA Adjusted Yield (cents)	FAA Average Trip Length	FAA Fare (Dollars)	FAI Outbound Fares (dollars)		
				To Anchorage	To Rest of Alaska	To Other U.S.
2008	14.58	873.5	$127.40	$116.34	$141.77	$340.43
2009	12.24	869.7	$106.42	$117.30	$140.62	$349.73
2010	12.95	874.9	$113.30	$120.43	$143.73	$347.03
2015	14.39	902.5	$129.84	$138.01	$164.71	$397.67
2020	14.61	930.0	$135.90	$144.45	$172.40	$416.24
2025	14.81	956.4	$141.61	$150.51	$179.64	$433.71
2030	14.40	983.6	$141.60	$150.51	$179.63	$433.70

Source: AIAS Forecast, Table 3.3

3.3.3 OTHER FORECAST ASSUMPTIONS

This forecast is based upon the previously identified assumptions including a continuation of existing conditions and activities. These analysis factors are fully described in the AIAS Forecast and include:

- The U.S. and world economies will show long-term growth with no significant financial crisis
- The economy of Alaska will continue to grow as projected including operation of the oil/gas industry and an expanding tourism industry
- Jet fuel, while remaining available for transportation, will continue to increase in price
- The DOT's Essential Air Service program will continue to support passenger service to rural Alaskan communities
- No nighttime curfews are initiated at either Anchorage or FAI
- New environmental regulations will not restrict commercial air transportation
- The U.S. Government policy of "Open Skies" with foreign countries will continue to expand international tourism
- Foreign air carriers will not be permitted to serve U.S. domestic routes (that is, no cabotage)[5]
- The FAA will continue to expand and improve the national airspace control system to permit continued growth in number of flights
- No international conflicts or trade wars will limit growth of the Pacific region trade
- Passenger and air cargo security systems and costs will not unduly restrict growth of air travel
- Airline consolidation may continue to occur; however, this will not limit airline competition

3.4 PASSENGER FORECASTS

This section provides the passenger forecast for FAI including domestic and international activity. Transit passengers are identified and included in the total activity.

3.4.1 DOMESTIC PASSENGER FORECAST

Domestic passengers were projected in the AIAS Forecast using regression analysis. Historical and projected information was used in the regression including population, employment, income, airline yield, and historical passengers. Separate analysis was conducted for origin-destination passengers between Anchorage and Fairbanks, within the rest of Alaska, and to the remainder of the United States.

3.4.2 INTERNATIONAL PASSENGER FORECAST

International passengers were projected in the AIAS Forecast by a "top-down" approach based on analysis of many variables. This method was used because historical records by market are incomplete

[5] AIAS Forecast, 2012

and the international airline market is so dynamic. Considerable historical growth of air passengers has occurred, which is expected to continue as the world becomes more affluent and air travel becomes more available and customary.

A growth rate consensus was generated based upon the world forecasts of FAA, Boeing, and Airbus. These international studies predict the Asia–North America markets will continue to grow rapidly. From the same sources, direct (non-transit) passengers in each region were projected to grow at the same rate as the consensus growth rates. These growth rates were further adjusted to reflect the projected economic growth in the Fairbanks metropolitan area.

3.4.3 AIR TAXI AND OTHER PASSENGERS

Based on the historical trends and continued growth of domestic and international passengers, air taxi and other passengers are also expected to increase over the forecast period.

3.4.4 TRANSIT PASSENGER FORECAST

Domestic transit passengers are expected to increase as residents and visitors utilize FAI to access outlying airports. International transit passengers will increase for the same reason.

The result is the total number of transit passengers are forecast to increase over the 20-year analysis period.

3.4.5 SUMMARY OF PASSENGER FORECAST

Total FAI enplanements are projected to increase at a rate of about 1.2 percent per year between 2010 and 2030. This results in total enplanements growing from approximately 520,000 in 2010 to 655,000 in 2030 or a 26 percent increase for the 20-year period – see Table 3-7.

Table 3-7 – Forecast of FAI Enplaned and Transit Passengers by Category Reconciled to Airport Statistics

Year	Enplaned			Transit			Enplaned plus Transit		
	Domestic	Int'l	Air Taxi and Other	Domestic	Int'l	Air Taxi and Other	Domestic	Int'l	Total
2010	452,427	5,703	6,439	36,911	2,971	15,088	510,865	8,674	519,539
2015	479,153	6,492	7,160	39,091	3,382	16,778	542,182	9,874	552,056
2020	502,592	7,395	7,762	41,004	3,852	18,187	569,545	11,247	580,792
2025	529,375	8,428	8,260	43,189	4,391	19,354	600,178	12,819	612,997
2030	565,123	9,611	8,583	46,105	5,007	20,112	639,923	14,618	654,541
Average Annual Growth Rate									
2010-2030	1.1%	2.6%	1.4%	1.1%	2.6%	1.4%	1.1%	2.6%	1.2%

Source: AIAS Forecast, Table 10.2

3.4.6 PEAK PERIOD PASSENGER FORECAST

Airport passenger facilities are not always designed with regard to annual passengers, but rather peak months, days, or hours. This section will project the peak periods of passenger activity for FAI.

In general, summer is the peak time for air passengers at FAI and winter is less busy. August is the peak month for FAI passengers, as it is for total U.S. passenger travel. The reason for the summer peak of passenger travel is that vacation travel, particularly to Alaska, generally occurs in summer. Therefore, June and July are nearly as busy as August at FAI. By a very slight margin, January sees the least number of passengers. February and April are also slower months for passenger travel at FAI. The peak month of August has almost twice as many passengers as January. The forecast projection of passengers continues the same monthly ratio; therefore, August remains the peak month through the 20-year planning period.

The average FAI terminal August busy day in 2010 had approximately 2,000 passengers each direction (enplaning and deplaning), while the January average day saw approximately 1,000 passengers each way. For facility planning purposes, the average day of the peak month is used to measure the level of service provided. The average busy day forecast projects the daily passengers increasing from 1,916 in 2010 to 2,533 in 2030.

Calculating the average busy day of the peak month on a peak 60-minute period basis, FAI saw 344 enplaning and 349 deplanements during the peak hour in 2010. These peak hours of the peak month grow to 374 enplanements and 472 deplanements by 2030.

The peak month, average busy day, and peak 60-minute passenger flows are shown in Table 3-8.

Table 3-8 – Peak Period Passenger Activity

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
	Monthly												
2010	29,613	30,038	36,026	30,352	38,321	51,167	55,703	56,128	46,352	37,136	31,828	38,301	480,965
2015	31,326	31,824	38,107	32,042	40,648	54,454	59,442	59,935	49,271	39,161	33,585	40,382	510,177
2020	32,699	33,227	39,706	33,299	42,801	57,822	63,484	63,978	51,920	40,569	34,854	41,811	536,170
2025	34,294	34,870	41,581	34,776	45,241	61,586	67,975	68,488	54,947	42,245	36,353	43,515	565,871
2030	36,461	37,092	44,145	36,828	48,454	66,422	73,662	74,197	58,907	44,615	38,452	45,934	605,169
	Average Busy Day												Maximum
2010	1,011	1,136	1,230	1,071	1,308	1,805	1,902	1,916	1,635	1,268	1,123	1,308	**1,916**
2015	1,070	1,203	1,301	1,131	1,388	1,921	2,030	2,046	1,738	1,337	1,185	1,379	**2,046**
2020	1,116	1,256	1,356	1,175	1,461	2,040	2,168	2,184	1,832	1,385	1,230	1,428	**2,184**
2025	1,171	1,318	1,420	1,227	1,545	2,173	2,321	2,338	1,939	1,442	1,283	1,486	**2,338**
2030	1,245	1,402	1,507	,299	1,654	2,344	2,515	2,533	2,078	1,523	1,357	1,568	**2,533**

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
	Peak 60-Minute Enplanements												
2010	182	204	221	192	235	324	342	344	294	228	202	235	**344**
2015	178	201	217	188	231	320	338	341	290	223	198	230	**341**
2020	172	193	209	181	225	314	333	336	282	213	189	220	**336**
2025	177	199	214	185	233	328	350	353	292	218	193	224	**353**
2030	184	207	223	192	244	346	372	374	307	225	200	232	**374**
	Peak 60-Minute Deplanements												
2010	184	207	224	195	238	328	346	349	297	231	204	238	**349**
2015	201	226	244	212	261	361	381	384	327	251	223	259	**384**
2020	216	244	263	228	283	396	420	424	355	269	238	277	**424**
2025	223	250	270	233	294	413	441	444	368	274	244	282	**444**
2030	232	261	281	242	308	436	468	472	387	284	253	292	**472**

Source: AIAS Forecast, Table 10.2

3.5 CARGO FORECAST

Air cargo is a critical component of Alaskan airport activity. At FAI, most current air cargo is inbound from domestic points either for local Fairbanks-area destinations or to transfer to other Alaskan locations. International air cargo is currently limited, but may increase in the future if Anchorage growth is restricted or incentives are in effect for use of FAI.

The air cargo forecast is provided in this section. Separate analysis was utilized for domestic and international activity as described below.

3.5.1 INTRASTATE TONNAGE FORECASTS

To project FAI's domestic air cargo volume, separate analysis was made of the traffic to/from Anchorage and then to/from other Alaskan points. Air cargo to/from ANC is projected to decrease slightly over time as trucks (rather than aircraft) transfer cargo the approximately 375 miles between the two cities. Subsidized air service to/from other Alaskan points is expected to result in an increase in local air cargo volume over time. North Slope service will continue with some loss to trucks. The air cargo forecast expects continuation of the trend that inbound freight loads are normally much larger than outbound.

3.5.2 INTERNATIONAL / OTHER U.S. CARGO TONNAGE FORECAST

International air cargo is defined as any shipment whose ultimate origin or destination is outside of the United States. Various independent forecasts project world air cargo demand to grow at an average of 5.6 percent per year and Asia/Pacific cargo to grow an average of 6.8 percent per year.

Total eastbound air cargo flowing through AIAS airports is estimated to increase from about 1.7 million tons to 3.1 million tons, an average annual increase of 3.1 percent. Total westbound cargo is expected to increase from 0.7 million tons to 1.3 million tons, an average annual increase of 2.7 percent.

Only limited growth of international air cargo is projected at FAI because most Alaskan flights occur at ANC. Regression analysis projection indicates international air cargo will grow at an average annual rate of 3.0 percent at FAI.

3.5.3 SUMMARY OF CARGO TONNAGE

The air cargo tonnage forecast for FAI is summarized is Table 3-9. This is the baseline projection that excludes transfer or diversion of traffic from ANC to FAI.

Table 3-9 – Forecast of FAI Air Cargo Tonnage Reconciled to Airport Statistics

Year	Intra-Alaska				International/U.S.				Total			
	Enplaned	Deplaned	Transit	Total	Enplaned	Deplaned	Transit	Total	Enplaned	Deplaned	Transit	Total
2010	16,885	4,800	1,616	24,917	74	153	6,624	13,474	16,958	4,954	8,240	38,391
2015	17,088	5,243	1,684	25,699	81	168	7,173	14,595	17,169	5,411	8,857	40,294
2020	17,053	5,003	1,652	25,360	106	220	9,007	18,339	17,159	5,223	10,659	43,699
2025	17,037	4,827	1,629	25,122	137	284	10,452	21,325	17,174	5,111	12,081	46,447
2030	17,067	4,712	1,616	25,011	170	353	11,894	24,310	17,237	5,065	13,510	49,321
Average Annual Growth Rate												
2010-2030	0.1%	-0.1%	0.0%	0.0%	4.3%	4.3%	3.0%	3.0%	0.1%	0.1%	2.5%	1.3%

Source: AIAS Forecast, Table 10.6

3.6 OTHER ACTIVITY FORECASTS

This section of FAI forecast projects air taxi, general aviation, and military activity. Types of aircraft are also projected for the various users of FAI.

3.6.1 AIR TAXI AND OTHER ENPLANEMENTS AND OPERATIONS

The air taxi and other passenger category includes traditional "for hire" and also non-commercial charter activity such as the flights operated by BP Exploration and Conoco-Phillips. These types of passenger operations are not reported to U.S. DOT; therefore, they are separated from the cargo and passenger forecasts. These aircraft operate under Federal Aviation Regulations Part 135. A regression model could not be developed with the available data from FAI; therefore, it was assumed air taxi and other operations will increase at the same rate as those same type of activities at Anchorage. The FAI air taxi/other passenger forecast is shown in Table 3-10.

Table 3-10 – FAI Air Taxi and Other Passenger Forecast

Year	Enplaned	Deplaned	Transit
2010	6,439	6,528	15,088
2015	7,160	7,259	16,778
2020	7,762	7,869	18,187
2025	8,260	8,374	19,354
2030	8,583	8,702	20,112
Average Annual Growth Rate			
2010-2030	1.4%	1.4%	1.4%

Source: AIAS Forecast, Table 7.2

Aircraft operations in the air taxi/other category were projected to grow at the same rate as enplaned passengers. This projection is shown in Table 3-11.

Table 3-11 – Air Taxi and Other Aircraft Operations Forecast FAI

Year	Enplaned Passengers	Aircraft Operations
2010	6,439	8,328
2015	7,160	9,261
2020	7,762	10,039
2025	8,260	10,683
2030	8,583	11,101
Average Growth Rate		
2010-2030	1.4%	1.4%

Source: AIAS Forecast, Table 7.4

3.6.2 GENERAL AVIATION OPERATIONS

General aviation operations at FAI have declined in the last ten years as measured both in number and in share of total United States hours flown. Since the Fairbanks metropolitan area economy is projected to grow less quickly than the U.S. economy in the future, it is reasonable to assume that going forward this slight decline both in number of operations and share of U.S. will continue. The projection of FAI general aviation aircraft operations is shown in Table 3-12.

Table 3-12 – Forecast of General Aviation Aircraft Operations FAI

Year	U.S. Hours Flown	Operations	Ratio
2000	30,102,000	96,121	0.0032
2001	29,132,999	92,585	0.0032
2002	27,040,100	80,337	0.0030
2003	27,329,430	75,408	0.0028
2004	28,125,896	61,305	0.0022
2005	26,982,383	55,141	0.0020
2006	27,705,164	56,296	0.0020
2007	27,851,982	57,234	0.0021
2008	26,009,375	61,813	0.0024
2009	23,771,000	70,929	0.0030
2010	24,051,000	71,099	0.0030
2015	26,398,000	74,456	0.0028
2020	28,614,000	77,003	0.0027
2025	32,261,000	82,834	0.0026
2030	36,858,000	90,295	0.0024
Average Annual Growth Rate			
2010-2030	2.2%	1.2%	-0.9%

Source: AIAS Forecast, Table 8.2

3.6.3 MILITARY FORECAST

Military operations are difficult to project as a result of national and international political and institutional factors. Therefore, the AIAS Forecast assumes activity will remain constant at the 2011 level. Note that military activity traditionally represents only a very small portion of Airport operations. Historical and projected military operations are shown in Table 3-13.

Table 3-13 – Military Operations Forecast FAI

Year	Operations
2000	2,884
2001	1,362
2002	1,403
2003	1,579
2004	1,993
2005	1,359
2006	1,637
2007	1,495
2008	1,789
2009	1,775
2010	2,721
2015	2,830
2020	2,830
2025	2,830
2030	2,830

Source: AIAS Forecast, Table 9.2

3.6.4 FORECAST OF AIRCRAFT TYPES IN OPERATION AT FAI

This section provides the forecast of aircraft operations by type. Separate tables will detail intra-Alaska passenger, other U.S. passenger, international passenger, all-cargo, air taxi, general aviation, and military operations. Decline of use of a particular aircraft within Alaska, such as the Piper PA-31T Cheyenne, is primarily due to operating factors such as the number of seats. Both the Beech 1900 and Piper Cheyenne are no longer in production; however, both these aircraft are modern aircraft and parts and service for both are easily obtained.

Intra-Alaska Passenger Aircraft Operations

Scheduled, commercial, intra-Alaska passenger flights represent one of the busiest and most important aspects of Airport operation. Flights to Anchorage and other Alaskan points are today largely on Boeing 737-400 aircraft. Over the 20-year forecast period, many such flights are expected to switch to Boeing 737-800 aircraft.

Passenger flights within Alaska are principally on three types of aircraft and these are expected to remain the main types over time; these prime intra-Alaska passenger aircraft are:

- ***Beech 1900:*** The various models of the Beech 1900 seat 2 crew and up to 19 passengers. This is a twin turboprop that is no longer in production, but is expected to increase in use at FAI.
- ***Cessna 208 Caravan:*** The Caravan has a single turboprop engine and seats up to nine passengers. This aircraft remains in production for both passenger and air cargo roles and is expected to increase its use on regional passenger flights at FAI.
- ***Piper PA-31T Cheyenne:*** Various models of the twin turboprop Piper Cheyenne are currently the largest volume type in intra-Alaska passenger service. Because it is no longer in production, over the 20-year forecast period the number of Piper Cheyenne operations are expected to decrease.

The projected number of intra-Alaska passenger operations by aircraft type is shown on Table 3-14.

Table 3-14 – Forecast of Intra-Alaska Passenger Operations by Aircraft Type

Aircraft Type	2009	2010	2015	2020	2030
Airbus A321	—	1	—	—	—
Beech 1900 A/B/C	2,923	2,544	3,695	4,682	6,516
Beech 200 King Air	5	2	—	—	—
Beech 35/36	58	60	5	—	—
Boeing 737-400	2,140	2,240	1,305	625	678
Boeing 737-700/LR	27	137	230	90	19
Boeing 737-800	733	593	909	1,566	1,594
Boeing 737-900	73	99	462	365	365
Cessna 172 Skyhawk	40	22	20	15	10
Cessna 180	—	1	—	—	—
Cessna 185A/B/C	1	—	—	—	—
Cessna 206/207/209	796	756	552	393	200
Cessna 208	3,061	3,710	4,470	5,084	6,325
Cessna 402/402A	21	—	—	—	—
DeHav DHC8-100 -8	1,049	1,214	852	826	744
Douglas DC-6A	4	—	—	—	—
Embraer EMB-120	10	6	—	—	—
Fairchild Metro 23	—	1	—	—	—
Helio H250/295/395	55	48	15	10	—
Pilatus PC-12	—	1	—	—	—
Piper PA-31T-1020	5,240	5,009	5,190	4,861	4,005
Piper PA-31T	223	204	49	55	61
Piper PA-32	234	177	645	720	665
Piper PA-34/39	5	3	—	—	—
Saab 340/B	5	—	—	—	—
Shorts 330	—	31	—	—	—
Swearingen Metro 3	1	1	—	—	—
Total	**16,704**	**16,860**	**18,399**	**19,292**	**21,182**

Source: AIAS Forecast, Table D.32

Domestic Passenger Aircraft Operations by Type

Scheduled commercial passenger flights between FAI and other U.S. points outside of Alaska are today largely on Boeing 737-800 and -900 aircraft. In the future, increased use of Boeing 737-700, -800, -900, and -900ER aircraft are expected. This projection is shown in Table 3-15.

Table 3-15 – Forecast Other U.S. Passenger Aircraft Operations by Type

Aircraft Type	2009	2010	2015	2020	2030
Airbus A320-100/200	1	—	—	—	16
Airbus A319	—	67	66	75	76
Boeing 737-100/200	10	4	—	—	—
Boeing 737-400	96	214	—	—	—
Boeing 737-700/LR	7	97	170	298	411
Boeing 737-800	416	338	571	459	681
Boeing 737-900	453	418	400	543	589
Boeing 737-900ER	—	—	—	202	246
Boeing 757-200	192	183	182	—	—
Embraer-145	1	—	—	—	—
Fairchild Metro 23	1	—	—	—	—
Total	**1,177**	**1,321**	**1,389**	**1,577**	**2,019**

Source: AIAS Forecast, Table D.33

International Passenger Operations by Type

Currently FAI sees few scheduled international passenger aircraft operations. The BAE-748 is utilized on certain flights to Canada and represents today's largest volume of operations. Over time, the BAE-748 is expected to be replaced by Boeing 737-400, Boeing 767-300, and Boeing 787-800 aircraft on international routes. The international passenger aircraft projection by type is shown on Table 3-16.

Table 3-16 – Forecast of International Passenger Operations by Aircraft Type

Aircraft Type	2009	2010	2015	2020	2030
BAE-748	51	74	75	—	—
Beech 1900 A/B/C	3	2	2	2	2
Boeing 737-200C	—	2	2	1	—
Boeing 737-400	20	11	11	11	11
Boeing 767-300/ER	17	27	32	35	45
Boeing 777-200/ER	—	1	1	1	3
Boeing 787-800	—	—	3	4	15
DeHav DHC8-100 -8	2	—	—	—	—
Fairchild Metro 23	—	1	—	—	—
Q 400	—	—	—	52	52
Total	**93**	**118**	**126**	**106**	**128**

Source: AIAS Forecast, Table D.34

All Cargo Aircraft Operations Forecast by Type

Over half of today's all cargo aircraft operations at FAI are on Boeing 747-400 aircraft. The dominance of the Boeing 747-400 is expected to continue because this is the largest type of aircraft in operation across the Pacific. In addition, over the 20-year forecast period, Boeing 777-200/ER and Boeing 747-800 aircraft are expected to be introduced in service. The forecast of FAI all cargo aircraft operations by type is shown in Table 3-17.

Table 3-17 – Forecast of All Cargo Operations by Aircraft Type

Aircraft Type	2009	2010	2015	2020	2030
Airbus A380-800F	-	-	-	-	708
Antonov 124	8	11	9	9	9
Antonov 225		1	1	1	1
Beech 18	-	-	-	-	-
Boeing 737-100/200	5	-	-	-	-
Boeing 737-400	42	43	1	1	-
Boeing 747-100	10	35	71	-	-
Boeing 747-200/300	3,572	2,928	970	544	103
Boeing 747-400	13,878	17,507	16,823	19,084	20,284
Boeing 747-800	-	-	2,344	4,479	7,664
Boeing 757-200	35	-	-	-	-
Boeing 767-200/ER	-	1	-	-	-
Boeing 767-300/ER	1,271	1,480	862	1,453	1,919
Boeing 777-200/ER	46	616	1,833	4,553	13,915
Douglas DC-10-10	25	35	10	-	-
Douglas DC-10-30	138	118	109	-	-
Douglas DC-10-30CF	-	7	-	-	-
Douglas DC-8-63F	-	4	-	-	-
Douglas DC-8-71	-	2	-	-	-
Douglas DC-8-73	-	5	-	-	-
Douglas DC-8-73F	-	1	-	-	-
Douglas DC-9-30	1	-	-	-	-
ILyushin 76/TD	-	2	-	-	-
Lockheed L100-30	1	11	15	15	14
McDonald MD-11	5,952	7,514	8,697	7,299	2,876
Swearingen Metro 3	-	1	-	-	-
Total	**24,984**	**30,322**	**31,745**	**37,438**	**47,493**

Source: AIAS Forecast, Table E.38

Air Taxi Aircraft Operations by Type

Currently, single engine piston aircraft represent approximately half of the air taxi operations at FAI. Over the 20-year forecast period, the number of single engine piston and turboprop operations will grow modestly, multi-engine piston operations will decrease slightly, and jet aircraft operations will increase at the fastest rate. By 2030, single engine piston aircraft operations will retain their role as the largest type of aircraft used for air taxi operations with jets in second place. The forecast of air taxi operations by aircraft type is shown in Table 3-18.

Table 3-18 – Forecast of Air Taxi Operations by Aircraft Type

Year	Single Engine Piston	Multi-Engine Piston	Turboprop	Jet	Total
2010	3,889	2,040	1,339	1,060	8,328
2015	3,987	1,992	1,549	1,733	9,261
2020	4,160	1,937	1,690	2,252	10,039
2025	4,403	1,868	1,743	2,669	10,683
2030	4,558	1,809	1,724	3,010	11,101
Average Annual Growth Rate					
2010-2030	0.8%	-0.6%	1.3%	5.4%	1.4%

Source: AIAS Forecast, Table F.3

General Aviation Aircraft Operations by Type

Most FAI general aviation operations are on single engine piston aircraft. Over the forecast period, the dominance of single engine piston aircraft is expected to continue as shown on Table 3-19.

Table 3-19 – Forecast of General Aviation Operations by Aircraft Type

Year	Single Engine Piston	Multi-Engine Piston	Turboprop	Jet	Total
2010	67,002	2,154	975	968	71,099
2015	69,581	2,130	1,142	1,603	74,456
2020	71,671	2,045	1,231	2,056	77,003
2025	77,065	2,004	1,289	2,476	82,834
2030	83,971	2,042	1,342	2,940	90,295
Average Annual Growth Rate					
2010-2030	1.1%	-0.3%	1.6%	5.7%	1.2%

Source: AIAS Forecast, Table G.2

Forecast of Military Aircraft Operations by Type

Military aircraft operations represent a relatively small use at FAI. Historically, these military flights have been turboprops or jets and this type of use is expected to continue. The forecast of military activity by aircraft type is shown in Table 3-20.

Table 3-20 – Forecast of Military Operations by Aircraft Type

Year	Single Engine Piston	Multi-Engine Piston	Turboprop	Jet	Helicopter	Total
2010	8	57	1,263	1,393	219	2,721
2015	8	59	1,314	1,449	227	2,830
2020	8	59	1,314	1,449	227	2,830
2025	8	59	1,314	1,449	227	2,830
2030	8	59	1,314	1,449	227	2,830
Average Annual Growth Rate						
2010-2030	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%

Source: AIAS Forecast, Table H.2

3.6.5 MONTHLY DISTRIBUTION OF AIRCRAFT OPERATIONS

This section presents the forecast of passenger and total aircraft operations by month. Separate tables will be provided for passenger related and total aircraft operations.

Monthly Distribution and Busy Day Forecast of Intra-Alaska Passenger Aircraft Operations

Intra-Alaska aircraft operations are relatively evenly distributed throughout the year with an increase in the summer months likely caused by the increased number of tourists. The forecast of intra-Alaska passenger aircraft operations by month and average day of the month is shown in Table 3-21.

Table 3-21 – Forecast of Peak Intra-Alaska Aircraft Operations

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Share	5.0%	4.2%	6.0%	5.0%	9.9%	14.6%	17.0%	15.8%	8.6%	4.7%	4.5%	4.7%	100%
Monthly													
2010	66	56	79	66	131	193	225	209	114	62	59	62	1,321
2015	70	59	83	69	137	203	236	220	120	65	62	65	1,389
2020	79	67	95	79	156	230	268	250	136	74	70	74	1,578
2025	90	76	108	90	178	262	306	285	155	84	80	84	1,798
2030	101	85	121	101	200	295	343	320	174	94	90	94	2,019

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Average Busy Day													
2010	2	2	3	2	5	7	8	7	4	2	2	2	**8**
2015	2	2	3	3	5	7	8	8	4	2	2	2	**8**
2020	3	3	3	3	6	8	10	9	5	3	3	3	**10**
2025	3	3	4	3	6	10	11	10	6	3	3	3	**11**
2030	4	3	4	4	7	11	12	11	6	3	3	3	**12**

Source: AIAS Forecast, Table D.39

Monthly Distribution and Busy Day Forecast of Other U.S. Passenger Aircraft Operations

Scheduled, commercial passenger aircraft flights between FAI and states other than Alaska peak in the summer. Approximately three times as many flights occur in June, July, and August versus the October through March period. The forecast of average month and average day of the month is shown in Table 3-22.

Table 3-22 – Forecast of Peak Other U.S. Aircraft Operations

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Share	5.0%	4.2%	6.0%	5.0%	9.9%	14.6%	17.0%	15.8%	8.6%	4.7%	4.5%	4.7%	100%
Monthly													
2010	66	56	79	66	131	193	225	209	114	62	59	62	1,321
2015	70	59	83	69	137	203	236	220	120	65	62	65	1,389
2020	79	67	95	79	156	230	268	250	136	74	70	74	1,578
2025	90	76	108	90	178	262	306	285	155	84	80	84	1,798
2030	101	85	121	101	200	295	343	320	174	94	90	94	2,019
Average Busy Day													Maximum
2010	2	2	3	2	5	7	8	7	4	2	2	2	**8**
2015	2	2	3	3	5	7	8	8	4	2	2	2	**8**
2020	3	3	3	3	6	8	10	9	5	3	3	3	**10**
2025	3	3	4	3	6	10	11	10	6	3	3	3	**11**
2030	4	3	4	4	7	11	12	11	6	3	3	3	**12**

Source: AIAS Forecast, Table D.40

Monthly Distribution and Busy Day Forecast of International Passenger Aircraft Operations

Scheduled, commercial, international passenger aircraft flights peak in the summer months with few or no flights outside of June, July, August, and September. The forecast of international operations by month and busy day is shown in Table 3-23.

Table 3-23 – Forecast of Peak International Aircraft Operations

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Share	0.009	0.050	0.037	0.000	0.009	0.119	0.338	0.315	0.110	0.000	0.000	0.014	1.000
Monthly													
2010	1	6	4	—	1	14	40	37	13	—	—	2	118
2015	1	6	5	—	1	15	43	40	14	—	—	2	127
2020	1	5	4	—	1	13	36	33	12	—	—	1	106
2025	1	6	4	—	1	14	40	37	13	—	—	2	117
2030	1	6	5	—	1	15	43	40	14	—	—	2	128
Average Busy Day													Maximum
2010	—	—	—	—	—	1	1	1	—	—	—	—	**1**
2015	—	—	—	—	—	1	2	1	1	—	—	—	**2**
2020	—	—	—	—	—	—	1	1	—	—	—	—	**1**
2025	—	—	—	—	—	1	1	1	—	—	—	—	**1**
2030	—	—	—	—	—	1	2	1	1	—	—	—	**2**

Source: AIAS Forecast, Table D.41

Monthly Distribution and Busy Day Forecast of Total Passenger Aircraft Operations

In summary, scheduled, commercial, passenger aircraft flights peak in the summer months with the peak month of August having approximately 50 percent more operations than the lowest activity month of February. The forecast of monthly passenger aircraft operations and average busy day and peak 60 minute operations is shown in Table 3-24.

Table 3-24 – Summary Forecast of Monthly Passenger Aircraft Operations

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Monthly													
2010	1,281	1,258	1,517	1,425	1,526	1,797	1,874	1,911	1,613	1,510	1,256	1,332	18,299
2015	1,395	1,370	1,652	1,553	1,660	1,953	2,035	2,076	1,755	1,646	1,368	1,451	19,914
2020	1,468	1,440	1,739	1,634	1,752	2,062	2,146	2,188	1,848	1,731	1,440	1,527	20,975
2025	1,548	1,517	1,833	1,721	1,852	2,185	2,277	2,320	1,951	1,823	1,517	1,608	22,152
2030	1,627	1,594	1,927	1,808	1,953	2,307	2,409	2,452	2,055	1,914	1,594	1,690	23,329
Average Busy Day													Maximum
2010	46	50	54	52	54	66	67	68	59	54	46	47	**68**
2015	50	54	59	57	59	72	72	74	65	59	50	52	**74**
2020	52	57	62	60	62	76	76	78	68	62	53	54	**78**
2025	55	60	65	63	66	80	81	83	72	65	56	57	**83**
2030	58	63	69	67	70	85	86	87	76	68	59	60	**87**

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Peak 60 Minute Departures													
2010	12	13	14	13	14	17	17	17	15	14	12	12	**17**
2015	10	11	12	12	12	15	15	16	14	12	11	11	**16**
2020	9	9	10	10	10	13	13	13	11	10	9	9	**13**
2025	9	10	11	10	11	13	13	13	12	11	9	9	**13**
2030	9	10	11	11	11	14	14	14	12	11	9	10	**14**
Peak 60-Minute Arrivals													
2010	8	8	9	9	9	11	11	12	10	9	8	8	**12**
2015	7	8	9	8	9	11	11	11	10	9	7	8	**11**
2020	7	7	8	8	8	10	10	10	9	8	7	7	**10**
2025	7	8	8	8	8	10	10	10	9	8	7	7	**10**
2030	7	8	8	8	9	10	11	11	9	8	7	7	**11**
Peak 60-Minute Operations													
2010	12	14	15	14	15	18	18	19	16	15	13	13	**19**
2015	12	13	14	14	14	17	17	18	15	14	12	12	**18**
2020	11	12	13	12	13	16	16	16	14	13	11	11	**16**
2025	11	12	13	13	13	16	16	17	14	13	11	12	**17**
2030	11	12	14	13	14	17	17	17	15	13	12	12	**17**

Source: AIAS Forecast, Table D.42

Monthly Distribution and Busy Day Forecast of Total Aircraft Operations

Total aircraft flights peak in the summer with the month of August having roughly three times as much activity as December. For 2010, August is the peak month with 15,458 operations and December is the lowest activity moth with 5,106 operations. The typical busy day in the summer months has over 500 aircraft operations, while the winter months see approximately 200. Peak 60 minute aircraft arrival and departure numbers are similarly skewed between summer and winter. The monthly, average busy day, and peak 60 minutes forecast for FAI aircraft operations is shown on Table 3-25.

Table 3-25 – Summary Forecast of Total Aircraft Operations

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Monthly													
2010	5,151	6,044	8,073	9,969	13,960	15,269	14,660	15,458	13,895	8,813	5,583	5,106	**121,981**
2015	5,557	6,487	8,639	10,638	14,819	16,217	15,590	16,443	14,779	9,420	6,007	5,527	**130,123**
2020	5,859	6,806	9,053	11,138	15,475	16,945	16,297	17,185	15,467	9,865	6,320	5,836	**136,248**
2025	6,225	7,236	9,642	11,884	16,559	18,132	17,449	18,393	16,547	10,513	6,716	6,189	**145,486**
2030	6,618	7,715	10,311	12,743	17,844	19,533	18,800	19,804	17,800	11,254	7,150	6,556	**156,128**
Average Busy Day													Maximum
2010	184	240	288	365	493	558	518	545	507	313	207	183	**558**
2015	199	257	308	390	523	593	551	580	540	334	222	198	**593**
2020	210	270	323	408	547	620	576	606	565	350	234	210	**620**
2025	223	287	344	436	585	663	617	649	605	373	249	222	**663**
2030	237	306	367	467	630	714	664	699	650	400	264	235	**714**

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
						Peak 60-Minute Aircraft Departures							
2010	11	15	18	23	31	35	32	34	32	19	13	11	**35**
2015	12	15	18	23	31	35	32	34	32	20	13	12	**35**
2020	12	15	18	22	30	34	32	33	31	19	13	11	**34**
2025	12	15	18	23	31	35	33	35	32	20	13	12	**35**
2030	12	16	19	24	33	37	35	37	34	21	14	12	**37**
						Peak 60-Minute Aircraft Arrivals							
2010	9	12	15	19	25	28	26	28	26	16	11	9	**28**
2015	10	13	16	20	26	30	28	29	27	17	11	10	**30**
2020	10	13	16	20	27	31	29	30	28	17	12	10	**31**
2025	11	14	17	21	28	32	30	32	29	18	12	11	**32**
2030	11	15	17	22	30	34	32	33	31	19	13	11	**34**
						Peak 60-Minute Aircraft Operations							
2010	17	22	26	33	45	51	47	49	46	28	19	17	**51**
2015	18	23	27	34	46	52	49	51	48	30	20	18	**52**
2020	18	23	28	35	47	54	50	52	49	30	20	18	**54**
2025	19	24	29	37	49	56	52	55	51	31	21	19	**56**
2030	20	25	30	38	52	59	55	58	54	33	22	19	**59**

Source: AIAS Forecast, Table I.2

3.6.6 DESIGN DAY FLIGHT SCHEDULE

In order to analyze airport noise and for detailed capacity planning, a schedule of aircraft operations by time of day, aircraft type, runway use, and direction of flight was constructed. A sample of this Gated Flight Schedule for the average weekday in August 2011 is attached as Appendix A. The schedule for the average weekday in August 2020 is attached as Appendix B.

3.6.7 BASED AIRCRAFT

The airport's 2012 count of based aircraft is used as the basis for planning. These records indicate 386 single engine aircraft and 65 multi-engine aircraft are based on the field or a total of 451. The single engine aircraft vary in their configuration among floats, skis, and wheels depending on the season and mission.

The AIAS Forecast of FAI operations predicts total general aviation operations will increase at a 1.2 percent average annual rate between 2010 and 2040. The AIAS Forecast is separated by annual growth rates for each category of general aviation aircraft as follows:

- Single engine piston.................. Plus 1.1 percent
- Multi-engine piston .... Minus 0.3 percent
- Turboprop................................ Plus 1.6 percent
- Jet .... Plus 5.7 percent
- Total... Plus 1.2 percent

The AIAS Forecast rate of change in general aviation aircraft operations is used in this analysis to forecast the change in number of based aircraft. This results in a projected increase in based aircraft to 532 in 2030, as shown in Table 3-26.

Table 3-26 – Forecast of Based FAI Aircraft

Year	Single Engine Piston	Multi-Engine Piston	Turbo-Prop	Jet	Helicopter	Total
2012	386	65	—	—	—	451
2015	399	64	—	—	—	463
2020	421	63	—	—	—	485
2025	445	63	—	—	—	508
2030	470	62	—	—	—	532
Average Annual Growth Rate						
2012-2030	1.1%	-0.3%	1.6%	5.7%	0.0%	0.9%

Source: AIAS Forecast and Airport, 2012

The number of based single engine aircraft is projected to rise from 386 in 2012 to 470 in 2030. Based multi-engine piston aircraft are projected to decrease from 65 to 62. In total, based aircraft are projected to increase from 451 in 2012 to 532 in 2030. This is an average annual growth rate of 0.9 percent.

3.6.8 CRITICAL AIRCRAFT

An airport's facilities must be designed to the standards which will accommodate the most demanding type of aircraft—this airplane is referred to as the "Critical Aircraft." Critical Aircraft must be currently using or expected to use an airport on a "regular basis." The FAA standard for regular basis is 500 operations per year or more. Weight, wingspan, approach speed, and other performance characteristics of the Critical Aircraft determine the geometry for runway and taxiway configurations, as well as the length, width, separations standards, and pavement strength capacity of supporting aviation facilities.

For planning purposes, this section identifies the Critical Aircraft that will use FAI over the 20-year planning period. The Airport currently has four runways, each being utilized by a different type of aircraft. Therefore, each of the four runways has a different Critical Aircraft associated with it as described below.

Runway 2L–20R

Runway 2L/20R is 11,800 feet long and is the primary runway for both commercial air cargo and passenger activities. The Boeing 747-400 is the largest aircraft type to regularly use the Airport today. However, the AIAS Forecast indicates the Boeing 747-800 will be the largest aircraft in regular service in the future. Other large all cargo aircraft such as the McDonald-Douglas MD-11 and Boeing 777-200ER are also expected to use the airport, in addition to various models of the Boeing 747.

In addition to passenger and air cargo aircraft that transit the Airport between North America and Asia, outsized shipments to the North Slope oil fields may arrive on Boeing 747 freighter aircraft, as well as the even larger Antonov AN-124 aircraft. Military landings of C-5 Galaxy and C-17 Globemaster aircraft are also anticipated because both types of aircraft are users of the nearby Eielson Air Force Base. These other types of large aircraft are not projected to have over 500 operations per year at FAI. At the same time, the far more common current users of this runway are various models of Boeing and Airbus narrow-body aircraft such as the 737-800 and 757-200.

Based on anticipated airport activity, the Boeing 747-800 is identified as the Design Aircraft for Runway 2L/20R. All-cargo versions of this aircraft are anticipated to utilize FAI between today and 2030 in scheduled and charter service, as well as for diversions from Anchorage and emergency landings. The Runway Design Code (RDC) for Runway 2L and Runway 20R is D-VI-1200 and D-VI-1600, respectively, with the Boeing 747-800 as the Design Aircraft.

Runway 2R/20L

Runway 2R/20L is 6,500 feet in length and is currently the primary runway for general aviation activities. The main users of this runway are existing and anticipated general aviation aircraft such as small twin-engine aircraft such as the Piper PA-23 Aztec, Piper PA-31 Navajo, and Beech C99. This runway is closed to jet aircraft operation. At 6,500 feet in length, the runway can be used in an emergency by corporate jet and large turboprop aircraft, as well as commercial aircraft such as the Boeing 737. Therefore, for facility planning purposes, corporate and commercial jets (such as the Boeing 737-800) are identified as the critical aircraft for this runway. With the Boeing 737-800 as the design aircraft, The RDC for Runway 2R/20L is D-III-4000.

Runway 2/20

Ski Strip 2/20 is 2,900 feet in length and surfaced with gravel. This runway is also utilized for general aviation activities. Based on existing and anticipated general aviation airport activity at the Airport, small single-engine aircraft such as the Cessna 150, Cessna 207, and Piper PA-18 Super Cubs utilize this runway. With the Cessna 207 as the Design Aircraft, the Runway Design Code (RDC) for Ski Strip 2/20 is B-I-VIS.

Runway 2W/20W

Runway 2W/20W is 5,400 feet in length and used only for water landings/takeoffs. This runway is utilized exclusively by floatplanes during the summer. The runway is closed during winter. Based on existing and anticipated general aviation activity, small single-engine aircraft such as the Lake 180, Stinson 108, Cessna 170B, and Piper PA-18 Super Cubs utilize this runway. With the Cessna 170B as the Design Aircraft, the RDC for Runway 2W/20W is B-II-VIS.

The RDC for each runway end is shown in Table 3-27.

Table 3-27 – Runway Design Code (RDC)

Design Aircraft	Runway End	Aircraft Approach Category	Airplane Design Group	Visibility Minimums (RVR)
Boeing 747-800	2L	D	VI	1,200
Boeing 747-800	20R	D	VI	1,600
Boeing 737-800	2R	D	III	4,000
Boeing 737-800	20L	D	III	4,000
Cessna 207	2	B	I	VIS
Cessna 207	20	B	I	VIS
Cessna 170B	2W	B	II	VIS
Cessna 170B	20W	B	II	VIS

Source: RS&H, 2012

3.7 IDENTIFIED DEFICIENCIES FROM GA PILOT SURVEY

As part of the FAI Master Plan update, a questionnaire was mailed to approximately 1,000 aircraft owners in the Fairbanks/North Pole area. The intent of the survey was to gather information regarding the needs of local pilots and understand their impressions of FAI. A total of 184 responses were received. Of these responses, 58.5 percent were pilots currently based at FAI.

There are 386 single engine land-based and 65 multi-engine land-based aircraft at FAI, totaling 451 fixed-wing, land-based aircraft. The following is a description of the demand and policy-driven deficiencies identified by the survey responses.

3.7.1 DEMAND-BASED DEFICIENCIES FOR GA OPERATIONS

The intent of the aircraft owners' survey in the Fairbanks/North Pole area was to seek insight on the current function of Fairbanks general aviation facilities. It was also to gather input on how the facility might improve in order to attract additional tenants. As a result of the survey, three key responses were prominent:

- Desire for additional hangar space
- Desire for an aircraft wash facility
- Desire for additional float pond slips and electrical outlets for those slips

This section describes these demand-based deficiencies identified by the FAI Master Plan pilot survey.

Hangars

The survey results suggest a demand for more hangar space. Of the responses 32.9 percent identified a conventional heated hangar as their preferred storage option, 2.4 percent chose a conventional unheated hangar, 10.2 percent prefer a heated T-hangar, and 7.8 percent an unheated T-hangar. These percentages suggest that a total of 53.3 percent of respondents prefer some form of hangar for plane storage.

Of those surveyed, 33 respondents said that they would like to own a hangar in the next 5 years and 18 said they possibly would like to own a hangar. In the write-in questions asked to respondents, the request for more hangar space was apparent. It was the second most mentioned topic in the write-in comments, only outweighed by a concern for cost of fuel. Some wrote that they would prefer to rent a hangar; however, several identified a need for more hangar area to build their own.

Based on the survey results and the forecast analysis, there is an immediate need to store approximately 30 aircraft. At 1,500 square feet per aircraft, this results in a need for 45,000 square feet of additional hangar area at FAI. While surveyed aircraft owners may express a desire for increased hangar space, there is a concern that the eventual capital cost or rental fee for hangars may result in less demand than requested. Therefore, a staged program of hangar development may be necessary to gauge demand.

Wash Facility

The write-in question about additional facilities desired at FAI yielding the largest response was for an aircraft wash facility. Of the write-in comments, 25 percent identified that a wash facility for their aircraft was a desirable amenity at FAI. Based on the forecast and the survey, the wash facility should have a capacity to clean one plane at a time. This could be accomplished with a single-bay wash facility that could have the ability to expand with future demand increases.

Float Pond Slips

A common response to current deficiencies and desired amenity questions on the survey suggest that there is a need for more float pond slips and provision for electric service.

Of those surveyed, 4.5 percent identified a need for more slip positions. The survey suggests an additional 10 slip positions are desired.

There are currently a handful of slips with electricity; however, of the write-in comments, 20 percent identified the need for additional electrical service to the float pond. Based on the survey results, there is a demand for approximately 40 of the existing float pond slips to be upgraded to have electricity available.

Summary of General Aviation Facility Requirements

In summary, Table 3-28 identifies the existing and recommended general aviation facilities identified as a result of the pilot survey.

Table 3-28 – Existing and Survey Proposed General Aviation Facilities

Facility	Unit	Additional Requirement
Hangar	Square Feet	45,000
Aircraft Wash Facility	Each	One
Float Pond Slips	Each	10
Electricity to Slips	Each	40

Source: RS&H, 2012

3.7.2 POLICY-BASED DEFICIENCIES

In addition to the facility results of the survey, the respondents identified several policy issues at FAI.

- Comments suggested the need for fuel supplier competition at the Airport; that is, the ability for tenants to have their own tanks or an increased number of fuel suppliers.
- Improved snow removal procedures
- Issues with vehicle access gate functions
- A desire for additional restaurant/eating establishments on the Airport

The overall consensus of the survey is that the existing tenants at FAI are satisfied with the facility and its amenities.

3.8 SCENARIO-BASED ACTIVITY IMPACTS

This section provides a number of “what-if" additional forecast scenarios for analysis. These scenarios were developed from several sources including:

- Further analysis of specific issues identified in the AIAS Forecast
- Input from FAI management and the Master Plan advisory team
- Identification by the Master Plan consultant of specific issues expected to impact Airport facilities over the next 20 years.

While the AIAS Forecasts are based upon the most likely occurrence of events and activities, these scenarios represent situations where concern exists regarding future conditions. What has been identified in this section are issues that would significantly impact airport facilities versus the AIAS Forecast. The specific facility impacts are addressed in the demand/capacity and facility requirement sections of this Master Plan.

3.8.1 NO-ACTION SCENARIO

Key Forecast Assumption

Under the no-action alternative, there is no growth of aviation traffic or expansion of facilities at FAI.

Rationale for the Scenario

This scenario assumes “no growth” where no types of aviation activity grow at the Airport. This includes passenger traffic for business/pleasure of local residents, connecting travel at the Airport to/from interior points, or inbound Alaska tourist traffic. Further, no increase in air cargo or general aviation activity occurs.

Likelihood of Occurrence

This scenario is doubtful given the expected growth of population and the economy, as well as the vital role played by FAI in providing access to/from central Alaska. However, from a financial and facility planning perspective, it is a concern.

Expected Forecast Impact

Three types of impacts could be expected:

- ***Annual air cargo tonnage:*** The AIAS Forecast predicts essentially no growth of intra-Alaska air cargo and a 3.0 percent average annual growth rate for international/U.S. air cargo. In total, air cargo volume is projected to grow approximately 1.3 percent per year in the 20-year forecast period. Under this no-action scenario, air cargo volumes would remain static at today's level. (See Section 4.2.1, *Capacity Trigger Points*, for more information on the potential impacts of Annual air cargo tonnage.)
- ***Annual O&D and connecting passengers:*** The AIAS Forecast projects enplaned and transit passengers to grow at an average annual rate of 1.2 percent. Under this no-action scenario, air passengers would remain static at today's level.
- ***Annual operations by category:*** The AIAS Forecast indicate total aircraft operations will grow at an average annual rate of 1.2 percent in the 20-year forecast period. Under the no-action scenario, operations would remain static at today's level.

No summary of aviation activity under this scenario is presented; rather, the 2010 amounts remain static through the 20-year forecast period.

3.8.2 INCREASED ALL-CARGO TECHNICAL STOP SCENARIO

Key Forecast Assumption

This scenario assumes the addition of 150 all-cargo aircraft technical stop operations per day at FAI (100% shift).

Rationale for the Scenario

Continued growth in airspace, runway, and ramp congestion at Anchorage may result in some current all-cargo technical stops at that airport switching to FAI. Further, State policy may create financial incentives for relocating a portion of the State's air cargo activity from one airport to another. Another less likely occurrence is that all-cargo aircraft technical stops in Alaska grow so dramatically over the forecast period that some of this traffic shifts to FAI.

Likelihood of Occurrence

This scenario is possible and is supported by both ANC and FAI. However, the scenario involves decisions and actions at the public policy and airline level, as well as growth of worldwide air cargo at higher than anticipated rates. The AIAS cannot require airlines to use a specific airport, and the airlines may choose to bypass Alaska altogether. Airlines have the right to use any public use airport that provides the required facilities.

Expected Forecast Impact

- ***Annual air cargo tonnage:*** The AIAS Forecast predicts essentially no growth of intra-Alaska air cargo and a 3.0 percent average annual growth rate for international/U.S. air cargo. In total, air cargo volume is projected to grow approximately 1.3 percent per year in the 20-year forecast period. Under this increased aircraft technical stop scenario, locally processed air cargo tonnage would not be significantly impacted. Therefore, the enplaned/deplaned air cargo activity remains as projected in the AIAS Forecast. However, the in-transit air cargo tonnage increases dramatically to match the load of 75 aircraft arriving and departing per day (150 operations).
- ***Annual O&D and connecting passengers:*** The AIAS Forecast projects enplaned and transit passengers to grow at an average annual rate of 1.2 percent. Under this increased in-transit air cargo scenario, air passengers would increase as projected in the AIAS Forecast.
- ***Annual operations by category:*** The AIAS Forecast indicates total aircraft operations will grow at an average annual rate of 1.2 percent in the 20-year forecast period. Under the increased all-cargo technical stop scenario, operations would increase by 150 per day throughout the forecast period. This numeric increase projection is provided below.

The increase of 150 daily technical all-cargo aircraft operations changes the number of annual all-cargo flights by approximately 55,000 annually or from the current projection of 5,000 in 2010 and 8,000 in 2030 to 60,000 in 2010 and 63,000 in 2030. Total operations grow by the same 55,000 annual number resulting in approximately 210,000 total operations in 2030. The increased all-cargo aircraft operations are reflected in Table 3-29.

Table 3-29 – Annual FAI Operations with Increased All-Cargo Aircraft Technical Stops (100% Shift)

Year	Passenger	Baseline All-Cargo	150 All-Cargo Ops	Air Taxi and Other	General Aviation	Military	Total
2010	40,496	5,062	59,812	2,603	71,099	2,721	**176,731**
2015	44,074	5,712	60,462	3,051	74,456	2,830	**184,873**
2020	46,464	6,750	61,500	3,201	77,003	2,830	**190,998**
2025	49,064	7,378	62,128	3,380	82,834	2,830	**200,236**
2030	51,664	8,010	62,760	3,329	90,295	2,830	**210,878**
	Average Annual Growth Rate						
2010-2030	1.2%	2.3%	2.0%	1.2%	1.2%	0.2%	**0.9%**

Source: AIAS Forecast, Table 10.13 adjusted to reflect an increase of 150 daily all-cargo operations

3.8.3 SIGNIFICANT EXPANSION OF ALASKAN NATURAL RESOURCES BUSINESS ACTIVITY SCENARIO

Key Forecast Assumption

This scenario assumes that significant new natural resource activity occurs in Alaska. This activity could involve oil and gas exploration and production on the North Slope or development of new fields including “fracking” operations. Development of “downstream” refining or processing facilities is also possible. The vast area of Alaska is also the proven and potential location of various minerals or rare earths. Substantial expansion of existing mines or development of new natural resource extraction facilities is expected in this scenario. Such new natural resource development would result in substantial increases in passenger activity to/from central Alaska to and through FAI.

Rationale for the Scenario

Shell Oil is currently preparing for new drilling in Alaska and several proposals have been made to build a pipeline for natural gas from the North Slope. One of the pipeline proposals suggests a cost of $45 to $65 billion, import of 1.7 million tons of steel, and a peak construction workforce of up to 15,000. During construction of the Trans-Alaska Pipeline, enplanements at FAI increased 150% in 18 months.

With the high worldwide price for oil and gas, additional exploration and production in Alaska is highly likely. Further, the volatility of Middle Eastern supply makes Alaska a more dependable supplier and the location of Alaska to the growing Asian market makes ocean shipping easier. Potential disruptions of Middle Eastern supply due to political disruption make America a more diverse and stable supplier. Therefore, increased Alaskan oil/gas exploration, production, and construction is possible in this scenario.

In addition, large deposits of coal, as well as other minerals such as iron ore, gold, silver, lead, and zinc, exist in Alaska. There are a number of existing mines and proposals have been made to construct additional extraction facilities. With the continued worldwide demand for raw materials from China and other locations, increased development of regional natural resources in addition to oil and gas is possible.

This scenario assumes that existing and potential environmental regulations can be met to allow development, processing, and transport of new natural resources.

Likelihood of Occurrence

This scenario is possible as the world economic expansion continues; therefore, there is an increased demand for natural resources. Further, as new methods are developed to find and process natural resources, the potential for safe and economic extraction of Alaska’s resources increases.

Expected Forecast Impact

- ***Annual air cargo tonnage:*** The AIAS Forecast predicts essentially no growth of intra-Alaska air cargo and a 3.0 percent average annual growth rate for international/U.S. air cargo. In total, air cargo volume is projected to grow approximately 1.3 percent per year in the 20-year forecast period. Under this increased natural resource development scenario, no significant change in air cargo volumes would occur.
- ***Annual O&D and connecting passengers:*** The AIAS Forecast projects enplaned and transit passengers to grow at an average annual rate of 1.2 percent. Under this increased natural resource scenario, air passengers would increase significantly as projected in the detailed air passenger section below.
- ***Annual operations by category:*** The AIAS Forecast indicates total aircraft operations will grow at an average annual rate of 1.2 percent in the 20-year forecast period. Under the increased natural resource scenario, operations would increase approximately the same as the AIAS Forecast with larger aircraft and higher load factors likely to accommodate the higher numbers of passengers. At the same time the average aircraft size increases, more direct flights from the Lower 48 and additional air carriers would be expected.

The change in enplanements with the increased natural resource activity results in approximately 50 percent more domestic passengers in 2030 versus the AIAS Forecast. Under this scenario, domestic enplanements grow at a 3.3 percent average annual rate – this is three times the 1.1 percent growth rate in the AIAS Forecast. The year 2010 passenger volumes are held constant, as are the International and Transit projections. Increasing the growth rate for domestic enplanements would result in 866,074 domestic enplaned passengers in 2030, versus the AIAS projection of 565,123. This is a 53 percent increase in the domestic enplanements. The total passenger projections in 2030 increase to 926,797 in 2030 versus 654,541 in the AIAS Forecast—a 42 percent increase. The revised passenger enplanements with the increased natural resource scenario are provided in Table 3-30.

Table 3-30 – FAI Enplanements with Increased Natural Resource Development

	Enplaned			Transit			Enplaned plus Transit		
Year	Domestic	Int'l	Air Taxi and Other	Domestic	Int'l	Air Taxi and Other	Domestic	Int'l	Total
2010	452,427	5,703	6,439	36,911	2,971	15,088	489,338	8,674	**498,012**
2015	532,170	6,492	7,160	39,091	3,382	16,778	571,261	9,874	**581,135**
2020	625,967	7,395	7,762	41,004	3,852	18,187	666,971	11,247	**678,218**
2025	736,298	8,428	8,260	43,189	4,391	19,354	779,487	12,819	**792,306**
2030	866,074	9,611	8,583	46,105	5,007	20,112	912,179	14,618	**926,797**
Average Annual Growth Rate									
2010-2030	3.3%	2.6%	1.4%	1.1%	2.6%	1.4%	3.2%	2.6%	**3.2%**

Source: AIAS Forecast, Table 10.2; modified to enhance domestic passenger volumes

3.9 FORECAST SUMMARY

Continued long-term growth of aviation activity is predicted for the Fairbanks International Airport as summarized in this section. The projection is also generally similar to the FAA Terminal Area Forecast as shown.

3.9.1 FORECAST ACTIVITY SUMMARIES

Over the 20-year forecast period, enplaned passengers are projected to grow at an average annual rate of 1.2 percent. The enplaned and transit passenger forecast summary is shown in Table 3-31.

Table 3-31 – FAI Passenger Forecast Summary

Year	Enplaned			Transit			Enplaned plus Transit		
	Domestic	Int'l	Air Taxi and Other	Domestic	Int'l	Air Taxi and Other	Domestic	Int'l	Total
2010	452,427	5,703	6,439	36,911	2,971	15,088	510,865	8,674	**519,539**
2015	479,153	6,492	7,160	39,091	3,382	16,778	542,182	9,874	**552,056**
2020	502,592	7,395	7,762	41,004	3,852	18,187	569,545	11,247	**580,792**
2025	529,375	8,428	8,260	43,189	4,391	19,354	600,178	12,819	**612,997**
2030	565,123	9,611	8,583	46,105	5,007	20,112	639,923	14,618	**654,541**
Average Annual Growth Rate									
2010-2030	1.1%	2.6%	1.4%	1.1%	2.6%	1.4%	1.1%	2.6%	**1.2%**

Source: AIAS Forecast, Table 10.2

With the exception of military, all classes of aircraft operations are expected to grow over the 20-year forecast period. The Master Plan aircraft operations forecast is shown in Table 3-32.

Table 3-32 – Summary of FAI Aircraft Operations Forecast Reconciled to Airport Statistics

Year	Passenger	All-Cargo	Air Taxi and Other	General Aviation	Military	Total
2010	40,496	5,062	2,603	71,099	2,721	121,981
2015	44,074	5,712	3,051	74,456	2,830	130,123
2020	46,464	6,750	3,201	77,003	2,830	136,248
2025	49,064	7,378	3,380	82,834	2,830	145,486
2030	51,664	8,010	3,329	90,295	2,830	156,128
Average Annual Growth Rate						
2010-2030	1.2%	2.3%	1.2%	1.2%	0.2%	1.2%

Source: AIAS Forecast, Table 10.13

3.9.2 COMPARISON TO FAA TERMINAL AREA FORECAST

The FAA provides guidance regarding Master Plan forecasts versus the FAA's own Terminal Area Forecast (TAF). This FAA guidance is that total enplanements, based aircraft, and total operations differ by less than 10 percent in the 5-year forecast period and 15 percent in the 10-year forecast period. The FAI forecasts herein meet this requirement.

However, there are differences in the forecasts. Over the 20-year timeframe, the Master Plan enplaned passenger forecast is lower than the TAF due to, among other factors, local population growth is projected to be lower than national averages. Commercial aircraft operations are projected herein to be slightly higher than the TAF as intra-Alaska markets continue to be served by relatively small aircraft. Finally, total aircraft operations are forecast to be more than 14 percent above the TAF forecast as air travel continues to grow within Alaska. The comparison of the Master Plan forecast to the 2012 TAF is shown in Table 3-33.

Table 3-33 – Comparison with FAA Terminal Area Forecast FAI

Category and Year	AIAS Forecast	TAF	Percent Difference
Passenger Enplanements			
2010	458,130	431,734	**6.1%**
2015	485,645	476,418	**1.9%**
2020	509,987	530,794	**-3.9%**
2025	537,803	591,467	**-9.1%**
2030	574,734	659,179	**-12.8%**
Average Annual Growth Rate			
2010-2030	1.1%	2.1%	
Commercial Operations			
2010	48,161	48,043	**0.2%**
2015	52,837	51,031	**3.5%**
2020	56,415	54,603	**3.3%**
2025	59,822	58,436	**2.4%**
2030	63,003	62,550	**0.7%**
Average Annual Growth Rate			
2010-2030	1.4%	1.3%	
Total Operations			
2010	121,981	123,844	**-1.5%**
2015	130,123	122,025	**6.6%**
2020	136,248	126,412	**7.8%**
2025	145,486	131,068	**11.0%**
2030	156,128	136,016	**14.8%**
Average Annual Growth Rate			
2010-2030	1.2%	0.5%	

Source: AIAS Forecast, Table 10.15

3.10 FORECAST CONCLUSION

The projections contained in the Master Plan are based upon the assumptions and analysis provided in the AIAS Forecast. Further, these forecasts represent unrestrained demand for aviation activity, which is not bound by facility, capacity, or other constraints.

While believed to be the most current and as technically accurate as possible, future political, economic, technological, and/or other factors may result in material deviation. Therefore, continued review and update of Fairbanks area aviation activity is recommended.

In addition to the baseline AIAS Forecast to be analyzed in this Master Plan, two major alternative forecasts from the scenario-based activity impacts are to receive further analysis. These additional impacts to be examined in subsequent sections of the Master Plan are:

- A significant increase in all-cargo aircraft technical stops with relocation of such flights from Anchorage. These activities will likely influence requirements for aircraft ramp space, jet fuel capacity, and related facilities.
- A significant expansion of Alaskan natural resource development will influence the number of annual air passengers. Such an increase in air passengers will likely impact the passenger terminal, passenger aircraft ramp, terminal ground access, public parking areas, and related components of the Airport.

The "No-Action" or much-slower-than-anticipated growth scenario will not be further analyzed in the Master Plan. Rather, none or few of the facilities to be identified in this Master Plan for improvement or expansion will likely be necessary if no-growth of aviation activity occurs.

4 Facility Requirements

The purpose of this chapter is to translate the aviation forecasts (Chapter 3) into facility requirements. Facility requirements are determined by comparing future facility needs to the airport's existing inventory of facilities (Chapter 2), reviewing FAA design criteria to ensure the airport meets safety and operational standards, and considering the need to maintain and improve customer service. Separate requirements analyses were prepared for key elements of the airport.

The chapter presents the airfield capacity analysis, design aircraft selection, and an evaluation of the facility requirements. It is based upon the AIAS Planning Study baseline forecast, which was approved by the FAA. A total of nine other scenario-based activity estimates had been created: seven by the AIAS study and two that were included in this master plan's Aviation Forecasts chapter. These scenarios serve as a way to examine potential impacts caused by future political, economic, technological, or other factors.

The AIAS Planning Study's objective was to identify solutions to reduce potential future delay at ANC. The study conducted a capacity analysis and found that FAI could accommodate a shift in traffic from ANC without creating delay at FAI. The study then examined different types of capacity balancing strategies for the Alaska international airport system as a whole. The AIAS study concluded that tech stop cargo aircraft would be the most effective operator to balance between ANC and FAI.

The AIAS Planning Study examined a 100% and a 50% shift in tech stop cargo traffic from Anchorage to Fairbanks. As the study progressed, it became clear that diversion of more than 50% of this traffic was not necessary to reduce delay in ANC, nor was it realistic. It should be noted that this conclusion came after the FAI Master Plan forecast had been adopted and before the Facility Requirement analysis began; this is why the Forecast chapter includes only the 100% shift scenario. The AIAS Planning Study went on to recommend examining facility needs for the base forecast and the likely scenario of a 50% shift of tech stop flights from ANC to FAI. Thus, to stay consistent with the AIAS Plan and the ANC Master Plan, this chapter presents analysis of a 50% shift in tech stop cargo traffic for its impacts on the airport's facilities.

This document updates the 2004 FAI master plan. Many of the facility requirements identified in that plan remain valid. The aircraft operations forecast in 2004 have not materialized, likely due to several factors including FAI's loss of cargo tech stops and increasing fuel prices.

4.1 EMERGING TRENDS

Since the writing of the 2004 FAI Master Plan, skyrocketing prices for fuel, debt restructuring in Europe and the United States, and a global recession have caused major shocks in the airline industry. This phenomenon did not go unfelt in Alaska or at FAI. The airline industry underwent a number of changes, including the fine tuning of business practices and the initiation of new services, allowing the industry to post profits for the third year running in 2012. With these capacity changes, the FAA forecasts that the next 20 years will see modest industry-wide growth of 2.2% per year. This is somewhat higher than the 1.2% per year growth forecast for FAI.

The FAA also forecasts that the average size demanded for domestic aircraft will increase over the planning period, while demand for 50 seats or less aircraft will decrease overall.

Although general aviation is expected to remain fairly stagnant in the near term, the FAA anticipates that there will be long term overall growth in general aviation. Enplanements on regional carriers are expected to rise by 3.5%, nationally, through 2031. There is also a substantial expected growth in enplanements on business jets. The same trend of slow growth in general aviation in the short term, with long term overall growth remains true for FAI as well.

General aviation operations at FAI are expected to increase over the planning period. These operations are forecast to grow at an average of 1.2%, a good deal more slowly than the national forecast. At this rate, regional/commuter enplanements can be expected to make up 7-8% of total enplanements at FAI over the planning period.

Air taxi operations at FAI are expected to rise by an average of 1.4% per year through 2030.

4.2 AIRFIELD

This section describes the airfield facility needs, as well as the methods and planned timing upon which the facility requirements were determined. Areas examined include:

- Airfield Capacity
- Airfield Deficiencies
- Runway 2L/20R Design
- Runway 2R/20L Design
- Taxiway B
- Deicing Positions

4.2.1 CAPACITY TRIGGER POINTS

This Master Plan Update identifies the capacity trigger points at which facility improvements are needed for the cargo apron, taxiway, and runways. The analysis also indicates the timing and order of when these facilities may require upgrade. A component of this analysis was to establish the activity level at which capacity for Runway 2L/20R would be reached, at which point Runway 2R/20L would need to be upgraded to increase commercial capacity. Additionally, the number of Airplane Design Group (ADG) VI aircraft were considered to determine if and when airfield design changes would be necessary to accommodate these aircraft without operational restrictions. Finally, tech stop hardstand capacity was evaluated to determine its ability to serve expected future demand.

Runway 2L/20R Capacity

Capacity is an estimate of the total number of aircraft that can be processed through the airfield system during a specific time period without creating unacceptable delays. The yearly capacity number is specified as the annual service volume (ASV). Major factors that affect ASV include the number of runways, runway configuration, air traffic control procedures, weather conditions, and aircraft fleet mix. For example, the required separation distance between two aircraft on approach is greatly increased during inclement weather. As a result, the number of aircraft that can operate on a runway under instrument meteorological conditions is much less than during visual meteorological conditions.

Runway 2L/20R is FAI's primary runway and is currently the only runway available for commercial air carrier operations. An analysis was conducted to determine the forecasted number of operations which would use Runway 2L/20R to determine the runway's ASV. Using the Federal Aviation Administration's (FAA) computer modeling program and the methods described in Advisory Circular (AC) 150/5060-5 *Airport Capacity and Delay*, Runway 2L/20R was calculated to have an ASV of 210,000 operations.

The annual number of aircraft operations on Runway 2L/20R was estimated using data found in the Alaska International Airport System (AIAS) Forecast Technical Report (October 2012). The analysis took into consideration that all air carrier aircraft and all other types of jet aircraft exclusively use Runway 2L/20R. Additionally, a conservative approach was taken to separate smaller aircraft that could operate on Runway 2R/20L.

As illustrated in Figure 4-1, the baseline forecast indicates that Runway 2L/20R will have roughly 50,000 annual operations by the end of the planning period. If 50% of ANC cargo tech stop traffic were shifted to FAI, annual operations would increase to over 100,000 by the end of the planning period. Planning for capacity improvements should begin when operations reach 60% of a runway's ASV, which in this case, equates to around 130,000 operations for Runway 2L/20R. Capacity improvements should be built and online by the time operations reach 80% ASV, which would be nearly 170,000 operations in this case. These trigger points are not anticipated to be reached within the duration of the forecast. Both the baseline forecast scenario and the ANC 50% cargo shift scenario indicate the runway will have excess capacity throughout the planning period.

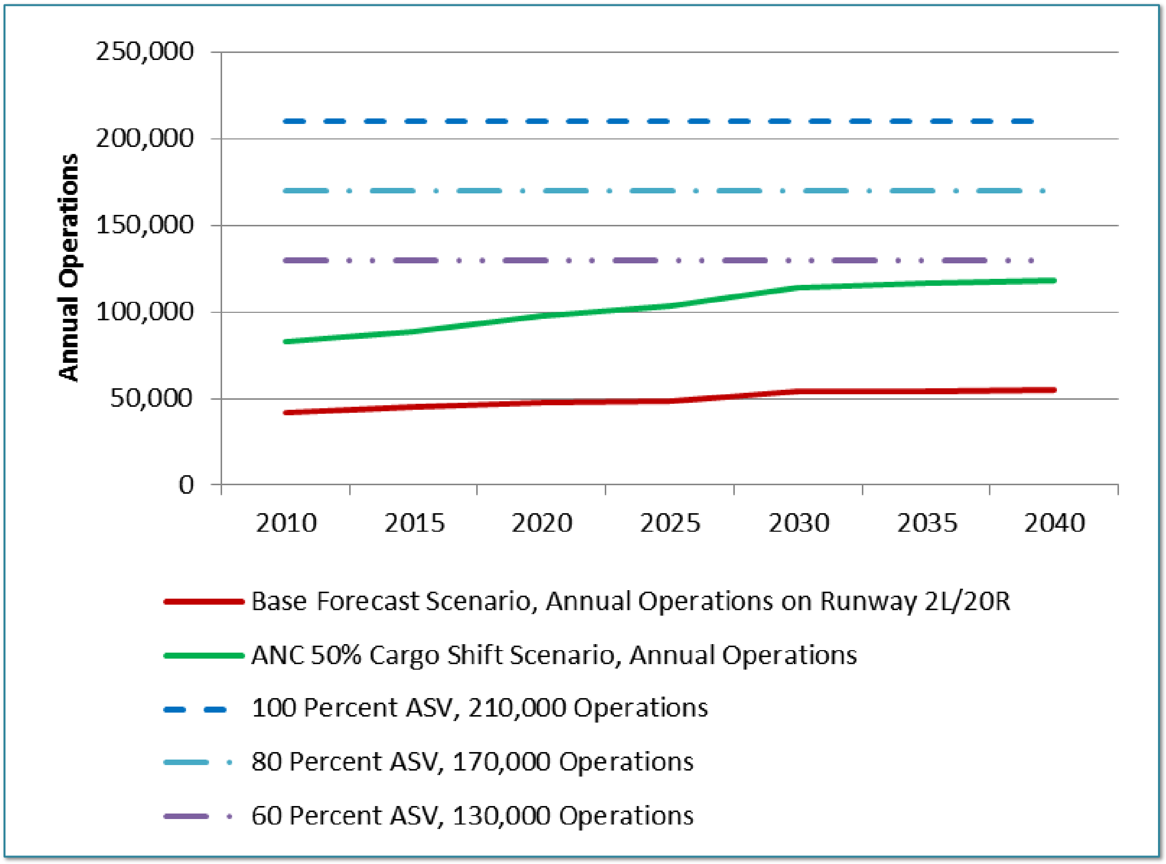

Figure 4-1 – Runway 2L/20R Capacity

Airplane Design Group (ADG) VI Upgrade

Runway 2L/20R and parallel Taxiway A accommodate all commercial air carriers and heavy cargo aircraft. Based on anticipated airport fleet mix, the Boeing 747-8 has been identified as the critical design aircraft for Runway 2L/20R and Taxiway A. The runway and taxiway are currently built to ADG V standards; however, the Boeing 747-8 is an ADG VI aircraft which requires additional separations. An analysis was performed to determine when upgrades to the airfield infrastructure might be needed to accommodate ADG VI aircraft according to the baseline forecast and the 50% ANC cargo tech stop scenario.

The AIAS Technical Report's appendices included a baseline forecast of aircraft departures by aircraft type which was used for the analysis. Using the appendices and the tables contained within, it was determined that ADG VI aircraft would only consist of "International and Other U.S All-Cargo" aircraft. The annual forecasted departures for this category of aircraft are detailed in Table E.43 of the AIAS forecast.

The number of departures was doubled to estimate total annual operations, and of those annual operations, a percentage of ADG VI aircraft was calculated. This process established that ADG VI aircraft would consist of 7% of all "International and Other U.S. All-Cargo" operations in 2015 and 18% in 2030. These percentages equate to 9 and 35 ADG VI operations, respectively. If 50% of the cargo tech stop operations at ANC were shifted to FAI, the AIAS report indicates that the airport would gain around

2,000 annual ADG VI operations in 2015, and increase to nearly 8,500 operations by 2030. It is important to note that a substantial use threshold of 500 total annual aircraft operations was used for this analysis. At this substantial use threshold, upgrades to ADG VI are justified.

As Figure 4-2 shows, the substantial use threshold of 500 total annual itinerant operations is not reached by ADG VI aircraft within the planning period baseline Master Plan forecast. The substantial use threshold is reached under the scenario where 50% of ANC cargo tech stop traffic relocates to Fairbanks. FAI accommodates multiple ADG VI aircraft that divert from ANC during inclement weather, and as a diversion airport, it should maintain current ADG VI operating procedures and make ADG VI upgrades as practicable. Potential upgrades are discussed in subsequent sections.

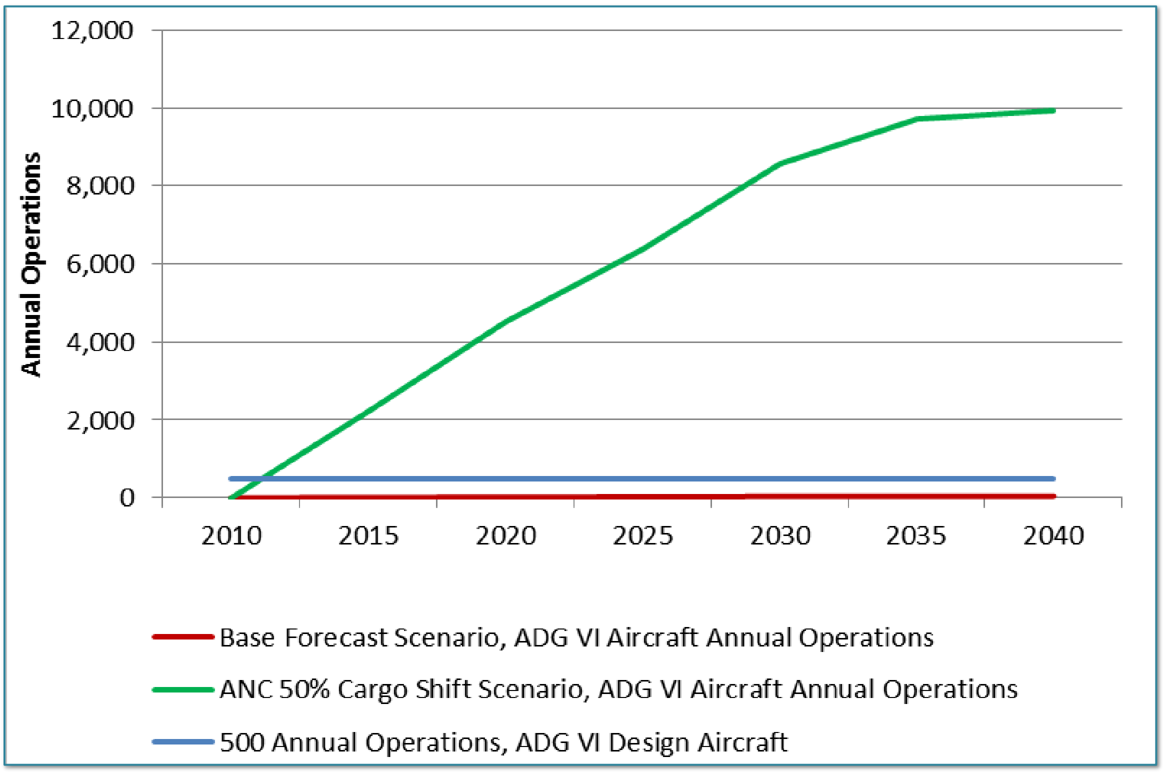

Figure 4-2 – ADG VI Aircraft Annual Operations

Cargo Apron

Fairbanks International Airport currently has six taxi-through hardstands used for cargo operations. Four are built to accommodate ADG VI aircraft and two to accommodate ADG V. According to the AIAS Planning Study of 2013, the six hardstands have capacity to serve 25-35 daily tech stop operations. The study reported that a typical fueling operation for tech stop aircraft involves two fuel trucks fueling the aircraft simultaneously with two more following to complete the fueling operation. The study stated this type of fueling operation takes roughly 60 minutes, which equates to a maximum peak hour capacity of six aircraft per hour. As illustrated in Figure 4-3, the base forecast scenario indicates that hardstand capacity will not be exceeded within the planning period.

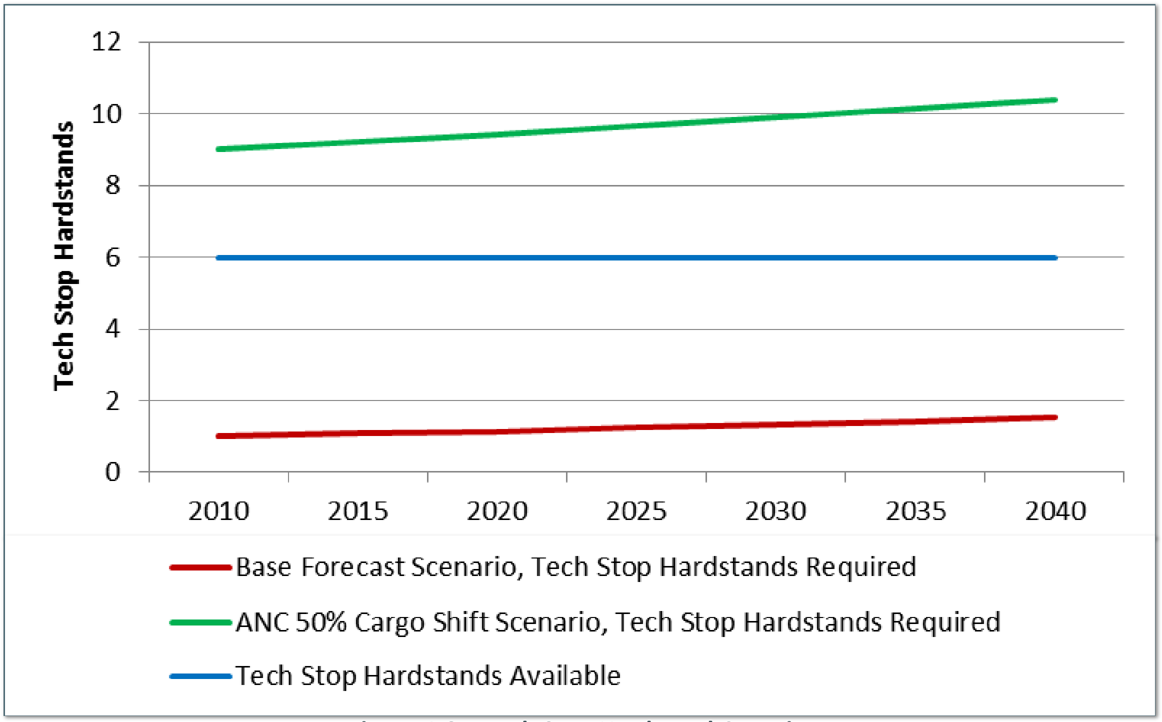

Figure 4-3 – Tech Stop Hardstand Capacity

The AIAS study evaluated the possibility of shifting 50% of all cargo tech stop traffic from Anchorage International Airport to Fairbanks International Airport. The study estimated that 9 to 10 hardstands would be required to accommodate 45 daily cargo flights, depending on flight schedules. As illustrated in Figure 4-3, an additional three hardstands would be needed to accommodate the growth in cargo activity as a result of the shift of traffic from ANC to FAI. By 2030, a total of 10 hardstands would be needed. Approximately 90,000 square yards would be needed to build four additional ADG VI hard stands including room for GSE circulation and taxilanes.

Capacity Trigger Point Summary

In summary, the analysis indicated that if international air cargo carriers do not relocate to FAI, then additional aircraft parking positions, ADG VI upgrades, and additional airfield capacity for air carrier operations would not be needed in the 20-year planning period. None of the trigger points discussed would be reached in the baseline scenario.

If international air cargo carriers do shift from ANC to FAI, additional aircraft parking positions and ADG VI upgrades will be needed. The trigger points necessitating ADG VI upgrades and additional parking would be reached and exceeded in this case. However, even with a 50% shift of ANC cargo flights, the current capacity of the runway and taxiway systems will not be exceeded within the 20-year planning period.

Given the complexity of upgrading the west airfield to ADG VI standards, and the lead time needed to do it, the airport should focus future planning and development on ADG VI upgrades. In the interim, as detailed later in this chapter, a Boeing 747-8 Modification of Standards (MoS) should be considered to allow unrestricted operations for that particular ADG VI aircraft (see Section 4.2.3). Additionally, plans to accommodate a total of 10 transient cargo aircraft, which should be implemented if the 50% cargo shift comes to pass, are detailed in this master plan update.

4.2.2 AIRFIELD DESIGN

The FAA Airport Design Advisory Circular 150/5300-13A (herein called the AC) contains the standards and recommendations for the layout of runways, taxiways, aprons, and other airport facilities. The FAA expects that every effort be made to bring existing airports up to current standards so as to ensure the highest levels of safety. One of the objectives of the Master Plan update is to identify those airport facilities that do not meet the current standards and determine how the airport can meet them in the future.

The AC was updated in 2012 and incorporated FAA Engineering Brief 75, *Incorporation of Runway Incursion Prevention into Taxiway Design,* along with multiple other new standards and technical requirements. Analysis of the airfield was conducted to determine whether current airfield compliance deficiencies existed as measured to the new standards. The current deficiencies that were found are each described below and referenced to specific paragraphs within the AC. Figure 4-4 illustrates the location of each deficiency described below. Numbered items correlate with numbers on the figure.

Taxiway Design

1 Taxiway B allows direct access from the east and west ramps to two runways which is not advisable per ¶401.b(5)(g) and ¶503. This taxiway also intersects the middle third of Runway 2L/20R, which ¶401.b(5)(d) defines as a "high energy" intersection that should be avoided.

2 Taxiway M provides direct access from the West Ramp to Runway 2L/20R and conflicts with the recommendations listed in ¶401.b(5)(g) and ¶503.

3 According to ¶401.b(5)(g) of the AC, taxiways should not lead directly from an apron to a runway because that type of configuration can lead to confusion if a pilot expects to encounter a parallel taxiway. Additionally, ¶503 recommends that taxiways force pilots to make turns to get to the runway from an apron, which promotes good situational awareness.

Taxiway N provides direct access from the Alaska Aerofuel/FedEx apron to Runway 2L/20R. Per ¶401.b(5)(g) and ¶503, this configuration is not recommended and should be avoided.

4 Taxiway R intersects the middle third of Runway 2R/20L, which should be avoided per ¶401.b(5)(d).

5 Taxiway S provides direct access from the East Ramp to Runway 2R/20L. Per ¶401.b(5)(g) and ¶503, this configuration is not recommended and should be avoided.

6 Taxiway T is an entrance taxiway to Runway 20L. The placement and design of this taxiway creates a small amount of taxiway pavement aligned with the runway, which is prohibited according to ¶416 of the AC. The taxiway's pavement section is wider than standard on its eastern portion that meets the east ramp, which should be avoided per ¶401.b(5)(b) and ¶503.a. Additionally, the taxiway provides direct access to the runway from the ramp, which should be avoided per ¶401.b(5)(g) and ¶503.

Runway Protection Zones (RPZ)

7 Airport Industrial Road is a public road within Runway 2L's runway protection zone (RPZ). According to ¶310.d(3) of the AC, public roads are not listed as generally permissible within an RPZ. Additionally, an unused railroad track runs adjacent to Airport Industrial Road. Prior to any future rail use on this section of track, coordination with the FAA should occur to determine if its use would be permitted.

8 A fire training area and target range currently sit within Runway 2R's RPZ. According to the previous ALP, both facilities were listed as a non-standard condition. The facilities' current location also contradicts ¶310.a(2) of the AC. These areas are currently slated for relocation within the airport's short term development plan.

Note that the size of the RPZs shown on the existing ALP for Runway 2R/20L is different from those shown in Figure 4-4. Current RNAV GPS approaches have lowered visibility minimums which require Runway 2R's RPZ to be 1,000 feet long with a 500-foot inner width and 700-foot outer width. Runway 20L's RPZ must now be 1,700 feet long with a 1,000-foot inner width and 1,510-foot outer width. These dimensions are necessary to accommodate approach visibility minimums of not lower than 1 mile for Runway 2R and not lower than ¾ mile for Runway 20L.

Object Free Areas

9 An interior perimeter road runs through the south end of the Runway 2L/20R Object Free Area (OFA). According to ¶309 of the AC, only objects necessary for air navigation should be placed inside the OFA. The road aids in maintenance and ARFF vehicle access, but because of its location within the OFA, it cannot be used when the runway is in use.

10 An interior perimeter road also runs through the north end of the Runway 2L/20R OFA. The road on this side of the runway serves the same functions as the road on the south end. It too cannot be used when the runway is being utilized per ¶309.

Pavement Design

11 Taxiway F is an entrance taxiway to Runway 2L. Its current configuration is excessively wide which should be avoided according to ¶401.b(5)(b). According to the AC, the wide placement of signs can create problems in low visibility and reduce sign conspicuity.

12 Taxiway fillets at Taxiways A, B, F, G, H, M, N, P, Q, and R intersections have excess pavement that should be marked as unusable according to ¶406.b of the AC.

13 Taxiway P is an entrance taxiway to Runway 20R that also has an excessively wide configuration. According to ¶401.b(5)(b), this configuration should be avoided.

SHEET TITLE:

Airfield Deficiencies

Existing Conditions

PROJECT:

FAI MASTER PLAN PROJECT

PLANS DEVELOPED BY:
PDC, INC.

CONSULTANT:

DESIGN PWC
DRAWN PWC
CHECKED RLC
DATE OCTOBER, 2013

PROJECT No.
11072FB

FIGURE NUMBER
4-4

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14 The holding bay on Taxiway B adjacent to Runway 2L/20R should be designed to allow aircraft to bypass one another, according to ¶412.b of the AC. The AC suggests that islands be placed between the parking positions to assure wingtip clearance.

15 The holding bay on Taxiway C adjacent to Runway 2R has the same deficiencies as the holding bay on Taxiway B. Islands should be placed between the parking positions to conform to the recommendations listed in ¶412.b.

16 The holding bay on Taxiway C adjacent to the Ski Strip's northern end has the same deficiencies as the holding bay on Taxiway B. Islands should be placed between the parking positions to conform to the recommendations listed in ¶412.b.

4.2.3 RUNWAY 2L/20R DESIGN

Runway 2L/20R is the primary runway at Fairbanks International Airport and is used by all commercial cargo and passenger aircraft. This section analyzes specific runway criteria based on the design aircraft identified in the forecast. At a minimum, runways must have the proper length, width, and strength to meet FAA recommended design standards to safely accommodate the design aircraft. Runway 2L/20R and supporting taxiways are currently designed to Runway Design Code (RDC) D-V, Airplane Design Group (ADG) V, and Taxiway Design Group (TDG) 6.

Elements to be examined in this section include:

- Runway length
- Runway geometric and separation standards

Runway Length

Runway length was analyzed in the previous Master Plan Update conducted in 2004. The study indicated that Runway 2L/20R had sufficient runway length for the planning period. The airport's fleet mix, usage, and operations remain nearly the same. As such, no future analysis was conducted.

Geometric and Separation Standards

This section analyzes the existing runway geometric and separation distances against the dimensional standards that arise from the critical aircraft category designated for each runway. Compliance with FAA airport geometric and separation standards is intended to meet a minimum level of airport operational safety and efficiency.

Runway 2L/20R and parallel Taxiway A are built to ADG V standards. Chapter 3 of this master plan identified the design aircraft for Runway 2L/20R as the Boeing 747-8, which is an ADG VI / TDG 6 aircraft. Currently there are operational plans in place that limit aircraft operations when ADG VI aircraft are using the runway and the taxiway. Specifically, FAI restricts the movement of Boeing 737 and larger aircraft on Taxiway A when a 747-8 (or larger aircraft) is on approach or utilizing the runway. Following each 747-8 operation, the runway is closed until a FOD inspection is completed. One 747-8 operation can take up to 20 minutes. If a MoS and/or future operational analysis deemed FOD inspections unnecessary, the effective runway closure time could be reduced. Additionally, limitations exist when ADG V and VI aircraft are operating when visibility is lower than ½ statute mile.

During the planning period, Boeing 747-8 operations are expected to increase. As ADG VI operations become more frequent, delays are likely with current configurations and operational limits. The operational limits include the need to shut the taxiway and/or runway down to all other traffic while any 747-8 aircraft are using either surface, which takes approximately 20 minutes per operation.

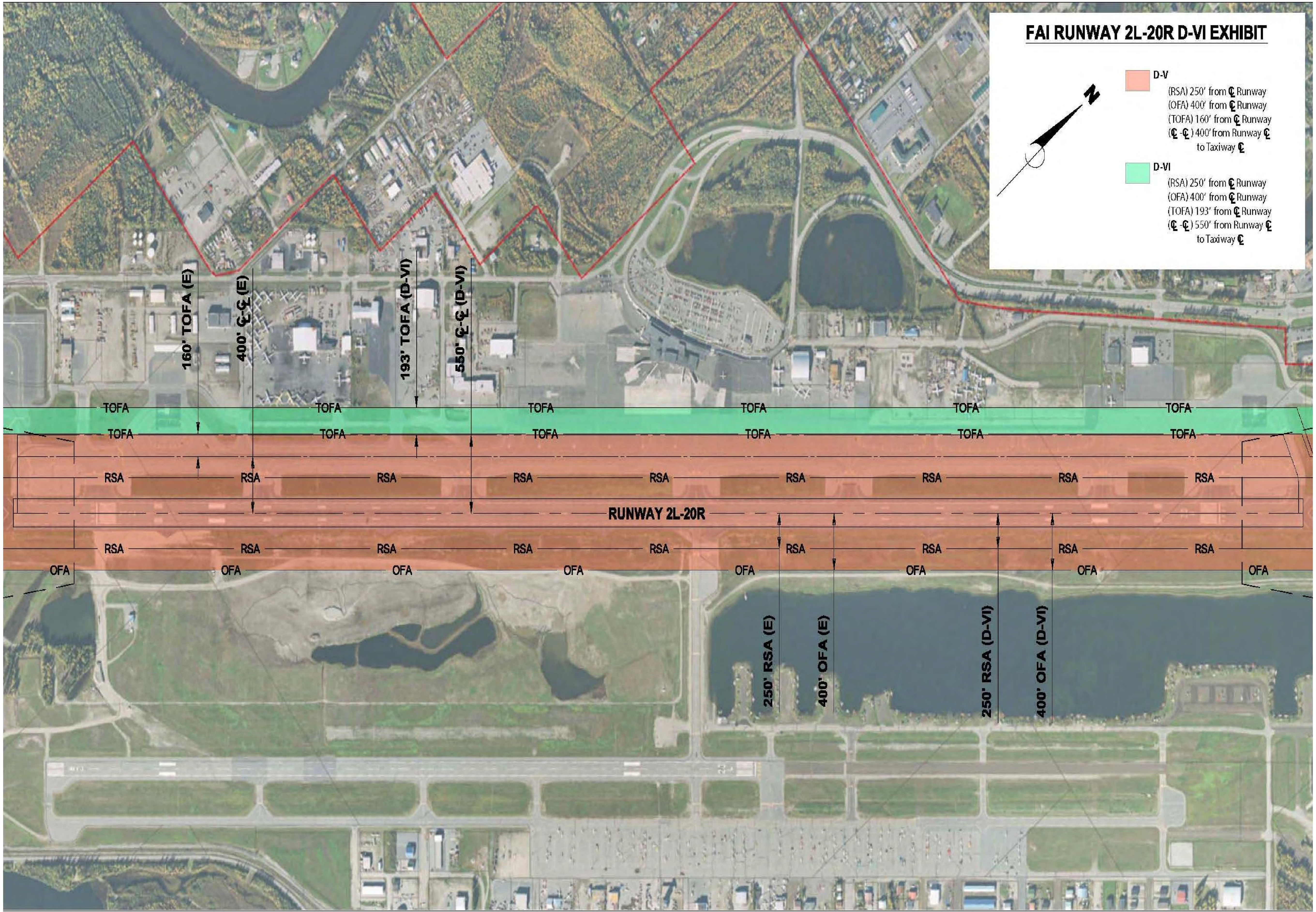
Using FAA AC 150/5300-13A: *Airport Design*, analysis was conducted to determine the disparities between the current configuration of the west side of the airfield and the configuration required to meet both the standards for an ADG VI aircraft and for an aircraft-specific Boeing 747-8. Meeting design criteria for a specific aircraft may require an MoS from the FAA. The areas on the west side that are impacted if the airfield is upgraded to ADG VI standards are shown in Table 4-1, illustrated in Figure 4-5, and listed below.

- Runway 2L/20R will need the taxiway shoulder and blast pad to be widened by 5 feet and 60 feet, respectively.
- The runway hold position markings will need to be adjusted 10 feet further away from centerline.
- The width of the Taxiway A's safety area and OFA must be widened by a total of 48 feet and 66 feet respectively.
- Taxiway A's fixed or moveable object separation must be expanded by a total of 66 feet.
- The distance between Runway 2L/20R and Taxiway A centerlines must be increased by 100 feet to accommodate approach visibility minimums down to ¾ and ½ statute mile, and/or 150 feet for minimums less than ½ statute mile.
- The deicing pads, vehicle service road, and numerous aprons interfere with design standards and will need to be relocated for full compliance.

One option being implemented at other airports is using a modification to standard to allow unrestricted Boeing 747-8 operations. Because the 747-8 is built to nearly the same dimensions of the 747-400, which is an ADG V aircraft, the FAA has issued multiple engineering briefs, including No. 73, No. 74A, No. 80, and No. 81, which provide approval authority for modifications to standards for 747-8 operations. Using the information provided in these engineering briefs, the airport could submit a MoS proposal to the FAA outlining how Boeing 747-8 operations would maintain acceptable levels of safety. Prior to submitting a proposal, discussion with the FAA is recommended to ensure a congruent effort. Examples of other airports' 747-8 MoS are listed on the FAA website at http://www.faa.gov/airports/engineering/nla_mos/.

The previously referenced FAA engineering briefs were used to determine the minimum airfield standards necessary to obtain a 747-8 MoS. The areas on the west side of the airfield that do not currently meet these standards, but would need to for the 747-8 MoS, can be found in Table 4-1 and include the following:

- The runway hold position markings will need to be adjusted 10 feet further away from centerline.
- Taxiway A's fixed or moveable object separation must be expanded by a total of 14 feet.
- Separation between Runway 2L/20R and Taxiway A must be increased by 100 feet to accommodate approach visibility minimums less than ½ statute mile.
- The deicing pads and vehicle service road interfere with design standards and may need to be relocated for full compliance.



CONSULTANT:

PLANS DEVELOPED BY:
PDC, INC.

PROJECT:
FAI MASTER PLAN PROJECT

SHEET TITLE:
Runway 2L-20R
Existing Conditions

DESIGN	PWC
DRAWN	PWC
CHECKED	RLC
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FIGURE NUMBER
4-5

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SHEET TITLE:

Runway 2L-20R

Existing Conditions

PROJECT:

FAI MASTER PLAN PROJECT

PLANS DEVELOPED BY:
PDC, INC.

CONSULTANT:

DESIGN: PWC
DRAWN: PWC
CHECKED: RLC
DATE: OCTOBER, 2013

PROJECT No. 11072FB

FIGURE NUMBER

4-6

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Table 4-1 – Runway 2L/20R Geometric and Separation Standards

Airfield Components	Existing	D-V	MOS 747-8	D-VI
Runway Design				
Runway Width (ft.)	150	150	150	200
Shoulder Width (ft.)	35	35	35	40
Blast Pad Width (ft.)	220	220	220	280
Blast Pad Length (ft.)	400	400	400	400
Crosswind Component (knots)	20	20	20	20
Runway Protection				
Runway Safety Area (RSA)				
Length beyond departure end (ft.)	1,000	1000	1,000	1000
Length prior to threshold (ft.)	600	600	600	600
Width (ft.)	500	500	500	500
Runway Object Free Area (ROFA)				
Length beyond runway end (ft.)	1,000	1,000	1,000	1,000
Length prior to threshold (ft.)	600	600	600	600
Width (ft.)	800	800	800	800
Approach Runway Protection Zone (RPZ)				
Length (ft.)	2,500	2,500	2,500	2,500
Inner Width (ft.)	1,000	1,000	1,000	1,000
Outer Width (ft.)	1,750	1,750	1,750	1,750
Acres	78.914	78.914	78.914	78.914
Departure Runway Protection Zone (RPZ)				
Length (ft.)	1,700	1,700	1,700	1,700
Inner Width (ft.)	500	500	500	500
Outer Width (ft.)	1,010	1,010	1,010	1,010
Acres	29.465	29.465	29.465	29.465
Runway Separation				
Runway Centerline to:				
Holding position (ft.)	275	285	285	285
Parallel Taxiway/Taxilane centerline (ft.)	400	500	500	550
Aircraft Parking Area (ft.)	560	500	500	500
Taxiway Protection				
TSA (ft.)	214	214	225	262
Taxiway OFA (ft.)	320	320	334	386
Taxilane OFA (ft.)	276	276	290	334
Taxiway Separation				
Taxiway Centerline to Parallel Taxiway/lane (ft.)	215-267	267	279	324
Taxiway Centerline to Fixed or Movable Object (ft.)	160	160	167	193
Taxiway Design Group	**5**	**5**	**MOS**	**6**
Taxiway Width (ft.)	75	75	75	75
Taxiway Edge Safety Margin (ft.)	15	15	15	15
Taxiway Shoulder Width (ft.)	35-40	25	25	35

The increased runway/taxiway separation requirements for ADG VI aircraft would have a large impact if implemented. A MoS for a 747-8 has the least impact and will allow for immediate unrestricted use by the 747-8 except when visibility is less than ½ statute mile. If Taxiway A and Runway 2L/20R are separated by an additional 100 feet, the Boeing 747-8 and all ADG V aircraft would be completely unrestricted, therefore decreasing the likelihood of any future operationally caused delay. Separation from the Taxiway A centerline and the Terminal Ramp would need consideration to ensure that wingtip clearances were sufficient between the largest aircraft expected to operate in that area.

Both of these options should be considered and discussed with the FAA as viable options to accommodate the design aircraft.

4.2.4 RUNWAY 2R/20L DESIGN

Capacity, maintenance costs, and safety issues necessitate a reevaluation of the configuration of Runway 2R/20L. The potential range of options includes:

- The current master plan for FAI recommends an ultimate upgrade to Runway 2R/20L to accommodate air carrier traffic. The upgrade would occur when the air carrier demand (passenger and cargo) for Runway 2L/20R exceeds the capacity of the runway. The ultimate configuration included a 6,500 foot air carrier runway. The runway has been extended to the 6,500 feet but is not currently utilized by air carrier aircraft. In this section, the runway length is reevaluated based on new forecasts and critical aircraft, the B737-800. Additional consideration in regards to runway width, pavement strength and runway/taxiway separation is necessary prior to air carrier aircraft utilizing this runway.
- As described in Section 4.2.2 Airfield Design, Taxiway B provides direct access from the east ramp to Runway 2R/20L, which needs to be addressed per new FAA guidance. One option is to reduce the length of the runway to eliminate the direct crossing and allow both Runway 2R/20L and Taxiway B to operate independent of one another. The configuration for a reduced runway length is evaluated in this section and will be based on RDC B-II. A reduced runway would also have the potential benefit of reduced maintenance costs.

Airport tenants and staff have indicated that the use of Taxiway B decreased after Runway 2R/20L was lengthened. This observation demonstrates how the runway's length is interrelated to the amount of traffic on Taxiway B. As such, both options require consideration in regards to their effects upon Taxiway B.

It is important to note that the above range is not mutually exclusive. One option available to the airport is to maintain an interim RDC B-II runway yet provide the long-term option to expand into a full air carrier runway.

Elements to be examined in this section include:

- Runway length
- Runway geometric and separation standards

Runway Length

The controlling factor in determining runway length is specific to the most demanding critical aircraft, or family of aircraft, using the runway. Section 302 in AC 150/5300-13A*, Airport Design,* states that the runway length should be long enough to accommodate landing and departures for the design aircraft. This is outlined in greater detail in *AC 150/5325-4B, Runway Length Requirements for Airport Design*, which also goes on to say that the runway length for parallel runways can be up to 100% of the primary runways dimension should certain criteria be met. Table 4-2 provides the takeoff length requirements for both the Beech 1900D and Boeing 737-800.

The following is a synopsis of the analysis conducted in regard to the runway length required if Runway 2R/20L were upgraded or downgraded accordingly.

Reduced Runway Length Scenario

The Beech 1900D is the largest aircraft used for general aviation, cargo, and passenger intrastate travel that is based on the east side of the airport. In addition, the Beech 1900D has one of the highest tail heights, which was taken into consideration to assess possible Part 77 penetrations should the runway be shifted/reduced to allow for Taxiway B to be used under the approach/departure RPZ of 20L. Therefore the runway length analysis performed for the shortening of Runway 2R/20L was established on a set of assumptions based on the Beech 1900D, which is a RDC B-II aircraft.

As indicated in Table 4-2, the Beech 1900D requires a maximum runway length of 3,737 feet to take off, and only 2,800 feet to land. If the airport wished to serve only B-II aircraft from this runway, it could realistically reduce the runway length by a large margin and still remain adequate. To retain as much runway length as necessary, the airport would need to reduce the length by 2,000 feet to remove Taxiway B's pass-through while retaining a B-II aircraft's ability to pass under the Part 77 approach surface of Runway 20L unhindered.

Discussion with airport tenants and staff indicated that if the runway was shortened to less than 5,000 feet, many aircraft operators based on the east side of the airport would transition to using only the primary runway. To ensure the minimal amount of B-II aircraft needing to utilize Taxiway B and the primary runway, Runway 2R/20L should remain at least 5,000 feet long. The required length would increase to 6,000 feet should B-II jet aircraft be introduced to the planning component.

Capacity Upgrade Scenario

If cargo traffic were shifted from ANC to FAI, as the AIAS Planning Study had examined as a possible future scenario, additional capacity could be needed to prevent commercial aircraft delays on Runway 2L/20R. Analysis was conducted to determine what length Runway 2R/20L must be to accommodate a future influx of commercial aircraft traffic.

The runway length analysis performed for the upgrade of Runway 2R/20L was established on a set of assumptions based on the Boeing 737-800 which is a D-III aircraft. This aircraft was chosen as it is a commonly used aircraft for passenger intra/interstate travel.

As indicated in Table 4-2, to accommodate the Boeing 737-800 at the allowable Maximum Takeoff Weight (MTOW), Runway 2R/20L should be 8,550 feet in length. However, considering the likely scenario of the Boeing 737-800 operating a common and established commercial stage length at Fairbanks (Fairbanks, AK, to Portland, OR), the runway's current configuration is adequate during standard dry conditions (see Table 4-3).

FAI's longest current passenger air carrier stage length is to Chicago, Illinois. As shown in Table 4-3, the runway length would need to be 8,250 feet to allow the 737-800 to fly non-stop to Chicago O'Hare (ORD) on the hottest average day. A runway length of up to 8,550 feet could be considered, depending on future conditions.

Table 4-2 – Takeoff Length Requirements

ARC CODE	Aircraft	Stage Length (NM)		Required Fuel Weight (lbs)	Stage MTOW (lbs)	Required Runway Lengths (ft)			
						Standard Day			Hottest Avg Day
		Max Pax	Min Pax			Takeoff	Landing: Dry Runway, MLW: 146,300 lbs	Landing: Wet Runway, MLW: 146,300 lbs	Takeoff: DA = 1640'ft
B-II	Beech 1900D	1,367	N/A	MAX	17,120	3,737	2,800	N/A	N/A
D-III	B737-800	3,060	5,100	66,484	174,200	7,800	6,000	6,900	8,550

Notes:

Runway lengths are adjusted for airport Density Altitude (DA) and operating weights. Density Altitude, which considers elevation, air temperature, altimeter settings, and the dew point simultaneously, provides for a more accurate analysis.

Standard Day = DA of 470 feet (Average DA @ 59°F recorded at FAI).

Hottest Avg Day = DA of 1640 feet (Hottest Avg DA @ 74°F recorded at FAI).

Controlling obstructions are not included in the analysis.

Runway length calculations are estimates based on charts provided by the specific aircraft operating manuals. More accurate runway length calculations will require further study.

N/A: Insufficient retrievable data readily available to calculate estimate.

AOPM: Aircraft Operating Planning Manual.

Source: RS&H Analysis; 2013. Boeing 737-800 Operating Manual, Fourth Edition; Beech 1900D Operating Manual

Table 4-3 – Aircraft Standard Runway Length Requirements – Four Scenarios

ARC CODE	Aircraft	Max Stage Length (NM)	Trip Scenario	Stage Length	More than One Stop Required	Required Fuel Weight (lbs)	Takeoff Weight (lbs)	Required Runway Takeoff Length (ft)	Required Dry Runway Landing Length (ft)	Required Wet Runway Landing Length (ft)
D-III	B 737 -800	3,060	FAI – SEA	1,531	No	18,049	144,500	5,700	5,800	6,700
			FAI – PDX	1,660	No	19,249	145,700	5,800	6,000	6,850
			FAI – DEN	2,103	No	49,956	171,360	8,200	6,100	7,000
			FAI – ORD	2,415	No	50,511	171,915	8,250	6,100	7,000

Notes:

Runway lengths are adjusted for airport Density Altitude (DA) and operating weights. Density Altitude, which considers elevation, air temperature, altimeter settings, and the dew point simultaneously, provides for a more accurate analysis. Controlling obstructions are not included in the analysis.

Runway length calculations are estimates based on readily available information. More accurate runway length calculations will require further study.

AOPM: Aircraft Operating Planning Manual.

Landing Lengths for FAI-DEN/ORD calculated using Maximum Landing Weight of 164,300 lbs. Scenario would require go-around landings to burn/dump fuel prior to landing.

Trip Scenario Runway Takeoff Length Requirements [Hottest Avg Day, Density Altitude 1,640 feet (74°F @ 440 MSL)]

Source: RS&H Analysis; 2013. Boeing 737-800 Operating Manual, Fourth Edition; Beech 1900D Operating Manual

Geometric and Separation Standards

Based on the two scenarios discussed above, the existing geometric and separation distances for Runway 2R/20L and Taxiway C's were analyzed against the dimensional standards required if the runway were upgraded to accommodate D-III aircraft. The runway currently meets and/or exceeds RDC B-II standards per AC 150/5300-13A*, Airport Design*, as shown in Table 4-4 and illustrated in Figure 4-7.

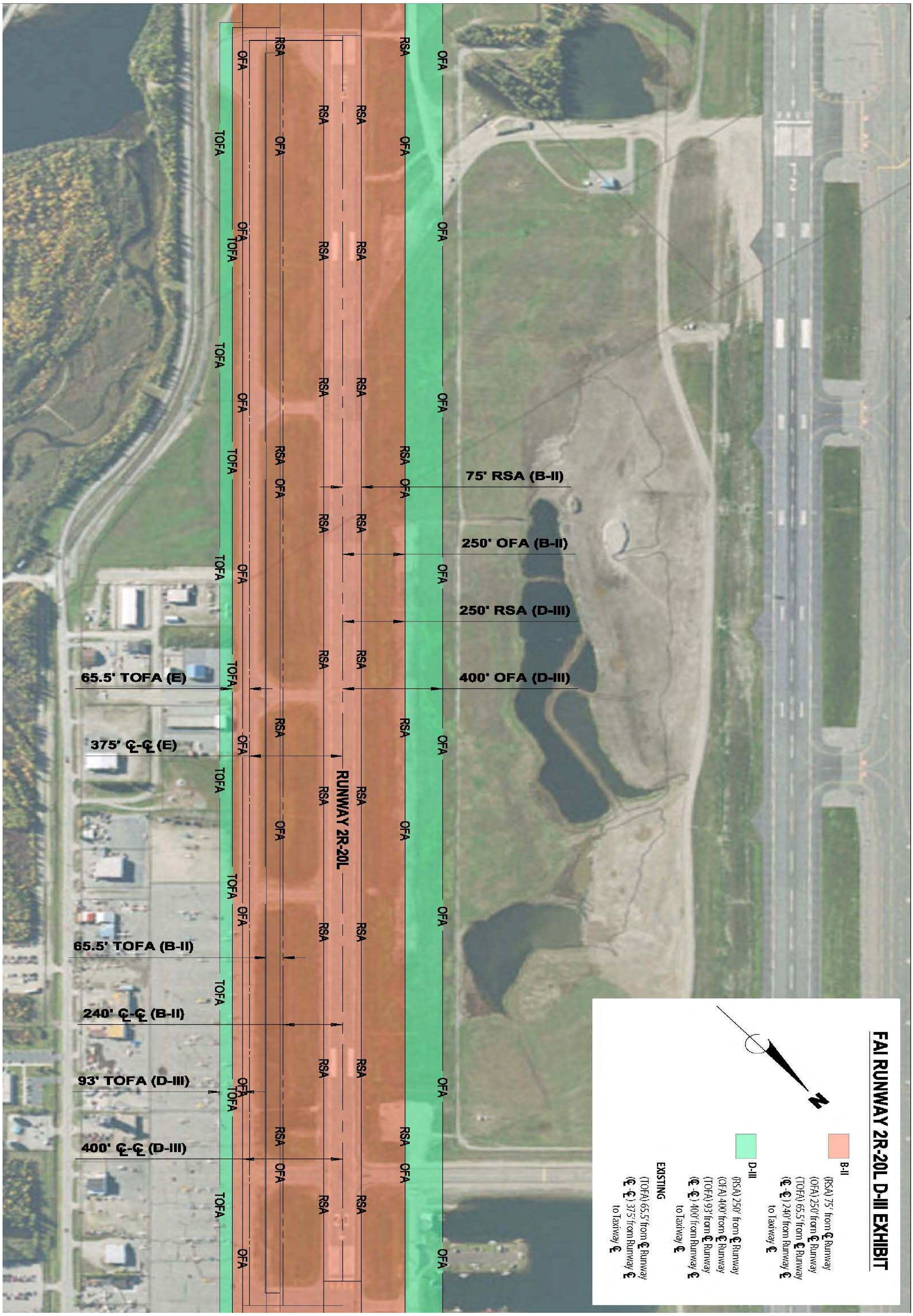
If the runway were upgraded to accommodate RDC D-III aircraft, the following disparities would exist and require the following design modifications:

- Runway 2R/20L would need to be widened by 80 feet. This would meet the standard for a 150-foot-wide runway with 25-foot shoulders.
- The blast pad would need to be widened 105 feet and lengthened 50 feet.
- The runway's safety area would need to be lengthened 700 feet on both departure ends and widened 350 feet. This increase would impact sea-plane parking areas.
- The runway's object free area would need to be lengthened 700 feet on both departure ends and widened 300 feet.
- Runway 2R's RPZ would need to be lengthened 700 feet.
- The runway centerline to taxiway centerline distance between Runway 2R/20L and Taxiway C would need to be increased by 25 feet. This would impact hangars and apron areas on east of Taxiway C.
- The runway centerline and the aircraft parking area separation would need to be increased by 80 feet. This would impact three to four rows of tie downs on the East Ramp as well as other apron areas.
- Taxiway C would require an additional 20 feet of total combined shoulder width.

As illustrated in Figure 4-7, Taxiway C is located between Runway 2R/20L and numerous hangars, roadways, and aprons. The location of Taxiway C lacks sufficient separation distances needed to upgrade the runway to D-III standards. As such, a new parallel taxiway would be needed to accommodate D-III traffic.

Table 4-4 – Runway 2R/20L Geometric and Separation Standards

Airfield Components	Existing (B-II)	B-II	D-III
Runway Design			
Runway Width (ft.)	100	75	150
Shoulder Width (ft.)	25	10	25
Blast Pad Width (ft.)	95	95	200
Blast Pad Length (ft.)	150	150	200
Crosswind Component (knots)	13	13	16
Runway Protection			
Runway Safety Area (RSA)			
Length beyond departure end (ft.)	300	300	1,000
Length prior to threshold (ft.)	300	300	600
Width (ft.)	150	150	500
Runway Object Free Area (ROFA)			
Length beyond runway end (ft.)	300	300	1,000
Length prior to threshold (ft.)	300	300	600
Width (ft.)	500	500	800
Approach Runway Protection Zone (RPZ)			
Length (ft.)	1,000/1,700	1,000/1,700	1,700
Inner Width (ft.)	500/1,000	500/1,000	500/ 1,000
Outer Width (ft.)	700/1,510	700/1,510	1,010/1,510
Acres	13.77/48.98	13.77/48.98	29.47/48.98
Departure Runway Protection Zone (RPZ)			
Length (ft.)	1,000	1,000	1,700
Inner Width (ft.)	500	500	500
Outer Width (ft.)	700	700	1,010
Acres	14	14	29
Runway Separation			
Runway centerline to:			
Holding position (ft.)	250	200	250
Parallel Taxiway/Taxilane centerline (ft.)	375	240	400
Aircraft Parking Area (ft.)	420	250	500
Helicopter touchdown pad			
Taxiway Design Group (Charlie TWY)	**2**	**2**	**3**
Taxiway Width (ft.)	50	50	50
Taxiway Edge Safety Margin (ft.)	8	8	10
Taxiway Shoulder Width (ft.)	10	10	20
Taxiway/Lane Centerline to Parallel Taxiway/Lane Centerline (ft.)	N/A	70	160



SHEET TITLE: Runway 2R-20L Existing Conditions	PROJECT: FAI MASTER PLAN PROJECT	PLANS DEVELOPED BY: PDC, INC.		CONSULTANT:

DESIGN: PWC
DRAWN: PWC
CHECKED: RLC
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PROJECT No. 11072FB
FIGURE NUMBER
4-7

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4.3 DEICING POSITIONS

The airport has two dedicated deicing pads at which all deicing operations currently take place. In the past, the area between Gate 6 and Hardstand 6 was used as an additional area for deicing aircraft. However, operators have suggested that this location was unfavorable to ensure adequate holdover times. According to the AIAS study, it takes twenty minutes to deice one large aircraft and it is assumed that if centralized deicing became mandatory, up to six aircraft per hour can be deiced.

Using the forecast’s gated schedule for 2011 and 2020, analysis was conducted to establish a design day peak hour. Taking into account only large passenger aircraft (those with 31 or more seats) and cargo aircraft, the peak hour was four and one respectively. Cargo and passenger peaks occur at different times of the day, equating to the largest existing peak hour of four aircraft. This peak is highly dependent on airline scheduling, and can currently be accommodated with existing facilities. As illustrated in Table 4-5, the large passenger aircraft peak is forecasted to grow to 6 flights per hour in 2020 which could potentially strain current deice facilities and cause delay.

The AIAS study recommended that additional capacity be provided by constructing new pads or reusing the terminal deicing area. Based on the forecast, by 2020 the airport should add one additional deicing pad. This will increase the peak hour capacity to nine aircraft, which is sufficient for the remaining portion of the planning period.

Table 4-5 – Deicing Facility Requirements

Planning Period	Large PAX Aircraft Peak Hour Operations	Existing Hourly Deicing Capacity	Hourly Deicing Demand	Required Deicing Pads
2011	4	6	4	2
2015	5	6	5	2
2020	6	6	6	2
2030	8	6	8	3

Source: AIAS Forecast Technical Report. MPU Inventory Gated Schedule.
Note: The 2030 planning period was extrapolated from the source.

4.4 FUEL STORAGE AREAS

According to the AIAS Planning Study, fuel storage at Fairbanks International Airport has adequate capacity to serve the needs of the airport through the planning period. However, if tech stops are shifted from ANC to FAI, additional storage may be necessary depending on frequency and aircraft type. Based on the AIAS study, the airport currently has 30 days of storage (not factoring tech stop operations). The average daily Jet A uplift in 2012 was 32,152 gallons, and there is currently a total of 984,000 gallons (22,000 barrels) of Jet A storage.

Assuming current consumption patterns and a conservative 2% increase in fuel consumption, by 2030 the airport will have a 28-day supply of fuel with its current storage capacity. As illustrated in Table 4-6, approximately 150,000 sf of land is currently used to store the 978,000 gallons of Jet A fuel. An additional 10,000 sf is estimated to be required for additional capacity to maintain the current 30-day supply of fuel in 2030. The current operational fuel storage area appears to have land available for additional tanks.

It should be noted that the Tesoro facility described in Chapter 2 of this Master Plan Update was not accounted for in the analysis. The tanks have been decommissioned and the site has contamination issues. If this site were remediated and made available for use, it would provide surplus capacity for future fuel storage needs.

Table 4-6 – Fuel Storage Requirements

Planning Period	Total Annual Operations	Average Daily Uplift (gal)	Existing Storage (gal)	Required Storage (gal)	Required Area (sf)
2011	121,981	32,152	978,000	978,000	150,000
2015	130,123	32,795	978,000	997,560	153,000
2020	136,248	33,451	978,000	1,017,511	156,000
2030	156,128	34,802	978,000	1,044,060	160,000

Source: AIAS Forecast Technical Report Table 10.10
Note: Analysis based on estimated 2% increase in fuel consumption

4.5 TERMINAL

4.5.1 GENERAL

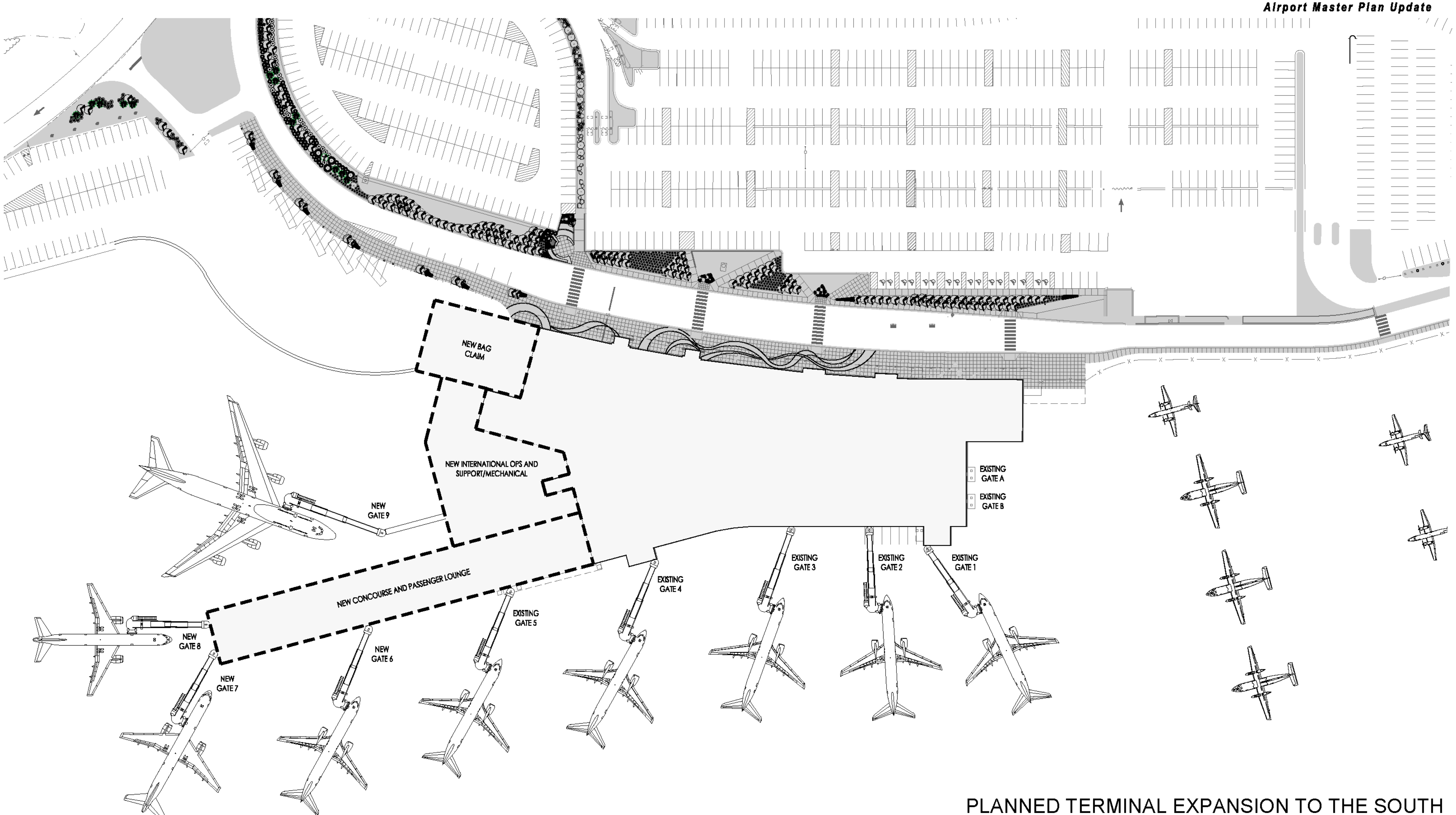
A focus of this master plan update is to determine facility requirements for the regional carriers operating at the north end of the terminal. A comprehensive renovation of the terminal building was completed in 2009. This renovation was based on a thorough planning and programming effort, which resulted in a facility that is configured to provide good service over the short term and can easily be expanded to accommodate growth over the longer term.

The terminal is currently planned to allow expansion to the south (Figure 4-8). On the airside, the east wall of the existing terminal at Gate 5 is currently located and orientated such that it would maintain the required FAR Part 77 clearances when extended. To meet future growth requirements, it was anticipated that four additional gates with associated passenger lounges, circulation, and support spaces could be added at the second floor of the terminal. The ground level of this addition would accommodate expanded baggage handling functions.

Similar to the airside, as demand increases, the existing baggage claim area could be extended to the southwest to enlarge the baggage claim area, associated airport support spaces, and rental car operations.

Chapter 2 presents the current configuration of the FAI terminal facilities.

Fairbanks International Airport
Airport Master Plan Update



PLANNED TERMINAL EXPANSION TO THE SOUTH

December 2013 ver 1.0

Facility Requirements

CONSULTANT:

PLANS DEVELOPED BY:
PDC, INC.

PROJECT:
FAI MASTER PLAN PROJECT

SHEET TITLE:
Terminal Expansion

DESIGN	PWC
DRAWN	PWC
CHECKED	RLC
DATE	JANUARY, 2012

PROJECT No.
11072FB

FIGURE NUMBER
4-8

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4.5.2 REGIONAL CARRIER OPERATIONS

Current functional deficiencies were communicated at a meeting attended by the regional carrier user group on September 10, 2013. The current configuration, use, deficiencies, and concerns of the regional carriers were discussed along with the anticipated future needs of the regional carriers for only the north end of the terminal.

Interior terminal issues include:

- Ticket Office Utilization
- Baggage Handling Area Deficiency
- Baggage Claim Slide Deficiency

Exterior airside issues include:

- Distance from Boarding Gates to Aircraft Parking Positions
- Regional Passenger Safety Concerns
- Regional Passenger Exposure to the Elements

Exterior curbside issues include:

- Passenger/Tour Operations Conflict at North Vestibule
- Curbside Vehicle/Tour Operations Conflict

Forecast Program Summary

Recently (2009) the regional carriers have moved to larger aircraft and increased the number of flights between Fairbanks and Anchorage. The principal regional carrier now uses 37-seat Dash-8 aircraft to service the Anchorage-Fairbanks route. This regional carrier continues to serve Interior Alaska with 19-seat Beech 1900-C and -D aircraft, and often all three types of aircraft are at the terminal in loading or deplaning modes.

The 2003 Terminal Redevelopment programming document projected space requirements through 2020 utilizing four 19-seat aircraft to establish a peak passenger count. This number equates to the current aircraft and passenger mix of approximately 64 passengers at peak hour (85% load factor). Utilizing a service level C guide (20.5 sf per passenger; see Figure 4-9), the space necessary to accommodate these passengers is 1,312 sf. The existing boarding lounge is 1,608 sf, meaning it could accommodate only 14 more passengers while remaining at service level C. Thus, at such time as the regional carrier adds another peak hour aircraft, the boarding lounge will not provide sufficient space for this additional load.

One other component affecting the area of the boarding lounge is the degree to which the regional carriers are affected by weather delays at scheduled destinations. Often these delays are significant, resulting in a large number of passengers waiting for flights and creating very congested conditions in the boarding lounge.

Note also that the peak passenger forecast for 2020 (17 years from 2003) has been reached in 7 years, and projecting forward, expectations are that the space required in 2020 will be more than double that currently provided.

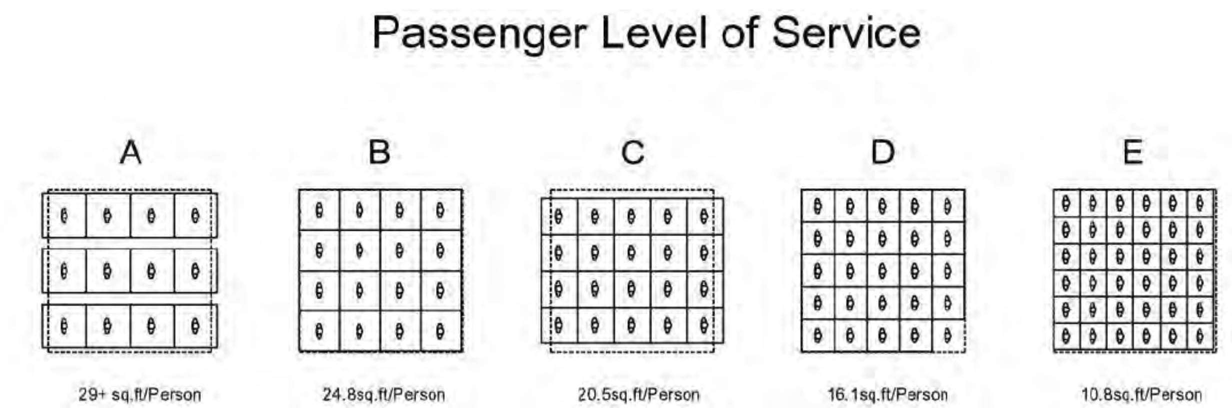


Figure 4-9 – Passenger Level of Service

Departure Lounge Utilization

The current regional departure lounges provide seating for over 80 passengers and can accommodate the seating needs for four 19-seat aircraft (Beech 1900) or two 37-seat aircraft (Bombardier Dash-8). The existing benches along the west concourse provide additional seating, if needed.

Ticket Office Utilization

All but one of the existing regional ticket counter positions and all but one ticket office are occupied by two regional carriers. At present there does not appear to be any interest from another carrier to locate in the terminal. In the foreseeable future there is no demand to increase the number of positions or offices. However, the unavailability of ticket counter and ticket office space excludes additional carriers from locating in the terminal.

The current regional ticket counter positions and ticket office space is adequate to meet the projected regional ticketing needs through 2030. However, there is not enough open space in the baggage handling area for a baggage handling operations desk space and this function is currently located in one of the Ravn Alaska ticket offices.

Baggage Handling Area Deficiency

The existing regional baggage handling area is inadequate. Additional space is required to allow space for baggage screening functions, storage, and administration of baggage handling and ramp operations. An additional 830 sf of area would accommodate the current and projected functional requirements.

The east office is utilized by the regional carrier's pilots and ramp personnel and is undersized. A new location with direct views of the regional aircraft parking areas would improve ramp operations.

The baggage handling area is undersized and needs to be enlarged to accommodate the following:

- (1) Baggage X-ray Machine
- (2) GPU's
- (2) Aircraft Heaters
- (3) Tugs
- (3) Baggage Carts
- (3) Hand Push Carts

Baggage Claim Slide Deficiency

The baggage claim area is insufficient to process current traffic. The public space at the baggage claim slide is 360 sf, less than half of the minimum 750 sf recommended in FAA AC 150/5360-9, the Advisory Circular *Planning and Design of Airports at Non-Hub Locations*. Similarly, the baggage claim device (a slide) is 12 feet long, while the peak passenger load of 64, assuming one bag per passenger, double-stacked on the slide, requires 26 lineal feet of baggage claim. Compounding the identified claim device and public area deficiency is that passengers traveling to and from rural Alaska generally have much larger baggage and checked luggage, including items such as tool boxes and cardboard boxes of personal items as well as suitcases.

The inadequate capacity of the current baggage claim slide occasionally results in passengers attempting to reach or climb over other passenger's baggage to retrieve their baggage from the top of the slide when other passengers do not pull their baggage from the bottom of the slide in a timely manner.

Due to the current location of the baggage slide, expansion would be difficult without relocating an existing sprinkler room which serves the north end of the terminal.

Exterior Airside Deficiencies

The relationship between the current regional gates and aircraft parking positions create a hazard in that it is difficult for passengers to have an obvious and safe route between the gates and the aircraft. Likewise it is difficult for boarding personnel to maintain visual contact with arriving and departing passengers between the gates and the aircraft.

Both the configuration and the distance between the regional gate doors and the current aircraft parking positions create an unsafe condition, with conflicts between pedestrian traffic and both baggage tugs and ground support equipment. From the exterior boarding gate doors, passengers are required to walk in severe cold temperatures up to several hundred feet to reach their aircraft.

A heated, enclosed walkway extending toward the regional aircraft parking positions would confine the arriving and departing passengers to controlled access routes and reduce the distance regional passengers are exposed to the elements for boarding and deplaning.

A new enclosed walkway would need to provide access to all four of the 19 seat medium commuter aircraft positions and close proximity to small commuter aircraft. A ground mounted radial boarding bridge would be provided at each of the medium commuter aircraft positions.

Additional Food Service

The regional carrier user group noted that some of their passengers departing for rural areas would appreciate having a hot food service available on the non-secure side of the terminal. During the 2006 terminal renovation, a food service area with a kitchen was not included in the design due to the economic infeasibility of providing the mechanical system to support it. Addition of a new food service area with kitchen at either the north or south end of the terminal could be provided; however, a vendor who has an acceptable business plan would need to make this request. The current food kiosk east of the main terminal baggage claim struggles to maintain even a modest coffee service. Should a vendor present an acceptable business plan, a separate mechanical system unique to the needs of a kitchen would need to be provided.

4.6 GENERAL AVIATION (GA) FACILITIES

4.6.1 AIRCRAFT PARKING REQUIREMENTS

Aircraft based at an airport that are not stored in hangars require parking positions on the apron. Aircraft tie-down requirements are calculated by examining the needs of both based aircraft and transient aircraft.

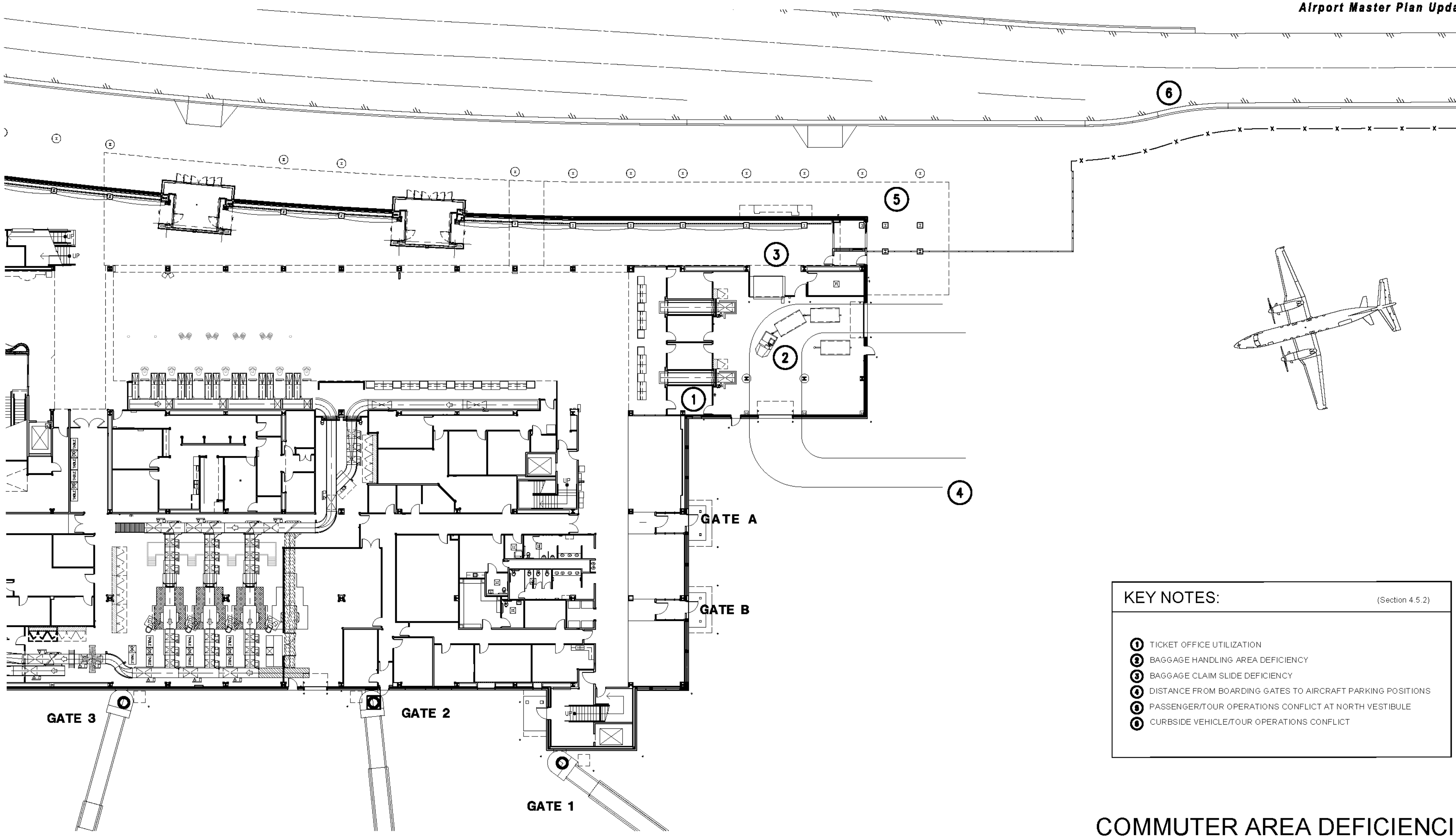
4.6.2 TIE-DOWNS

There are 281 paved tie-down spaces on the East Ramp, which serves both based and transient general aviation aircraft. An additional 19 unpaved tie-down spaces are available adjacent to the float pond. As many of the existing tie-downs already go vacant, no additional tie-downs are recommended. Among the existing tie-downs, FAI personnel reported higher demand for paved spaces with electricity. Expansion of electricity access to 20 tie-downs is recommended to meet this demand.

4.6.3 FLOAT POND

In 2011, float pond parking was measured at 97% capacity. A survey of airport tenants supports the immediate need for and development of 10 float pond slips. The high demand for float pond parking was corroborated by interviews with airport employees. It is also recommended that further surveys of tenants and airport operators be carried out throughout the planning period in order to continue accurately gauging demand. Utilizing the base forecast scenario, and assuming that GA aircraft operations will continue to comprise 8% of total operations, the airport will require 65 additional float pond parking spots, for a total of 315, by 2030 (assuming a 1.2% growth rate for both total operations and GA specific operations, as well as a continuation of the current demand for float pond parking).

Fairbanks International Airport
Airport Master Plan Update



KEY NOTES: (Section 4.5.2)

1. TICKET OFFICE UTILIZATION
2. BAGGAGE HANDLING AREA DEFICIENCY
3. BAGGAGE CLAIM SLIDE DEFICIENCY
4. DISTANCE FROM BOARDING GATES TO AIRCRAFT PARKING POSITIONS
5. PASSENGER/TOUR OPERATIONS CONFLICT AT NORTH VESTIBULE
6. CURBSIDE VEHICLE/TOUR OPERATIONS CONFLICT

COMMUTER AREA DEFICIENCIES
December 2013 ver 1.0

CONSULTANT:

PLANS DEVELOPED BY: PDC, INC.

PROJECT: FAI MASTER PLAN PROJECT

SHEET TITLE: **Commuter Area Deficiencies**

DESIGN	PWC
DRAWN	PWC
CHECKED	RLC
DATE	JANUARY, 2012
PROJECT No.	11072FB
FIGURE NUMBER	4-10

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4.6.4 HANGAR REQUIREMENTS

Factors influencing the number of hangar-stored aircraft will vary by airport and should be identified on a case-by-case basis. As identified in the 2004 master plan, airports in extreme climates often prefer to store about 80% of their based aircraft in hangars. This is not so at FAI or in Alaska in general. Only about 20% of based aircraft at FAI are currently stored in hangars. Historically the high cost of hangar construction and low market demand has dissuaded interested developers from investing in hangar storage at FAI. However, recent data show that there may be sufficient demand for the development of additional hangar space.

There are currently 28 T-hangars and 29 conventional hangars at FAI. Based on the 2012 aircraft owners' survey in the Fairbanks/North Pole area conducted as part of this master plan update, over 50% of respondents would prefer hangar storage space for their aircraft. Airport staff also commented that the demand for hangar storage was much higher than any other type of parking.

Hangars are owned and operated by private entities, and their development is not the responsibility of the airport. However the airport can make land available for the developers to meet the demand for hangar space. Specific interest in leasing property on the east side was expressed, primarily for developing private hangars, with over 30 survey respondents indicating a desire to own their own hangar space in the next five years. The development of 45,000 additional sf of hangar space—or enough to accommodate 30 aircraft—is recommended. Assuming that half of the hangars are single-bay and half are 4-bay T-hangars, a typical 90,000 square foot lease lot has the developable space for no more than 10 hangar spaces (FAA 150/5300-13A, and NFPA 409: Standard on Aircraft Hangars). Based on historical developments at FAI, it is unlikely that this density of hangars will be developed. Therefore, it is recommended that up to 10 lease lots be made available over the duration of the planning period. Land set aside for the development of these hangar facilities should be staged over the planning period, in order to appropriately gauge any changes in demand.

4.6.5 GA APRON CONDITION

Pavement in the GA apron area is at least 25 years old. In 2011, pavement conditions at the airport were surveyed, and conditions indexes were ascribed to paved features. The value of these indices ranged from 0 to 100, with 0 being the worst condition and 100 being the best. The average pavement condition index (PCI) for aprons at FAI was 72.8. Parts of the GA Apron were given a rating of less than 60. The majority of the damage on the East Ramp is in the form of block cracking and longitudinal transverse cracking from climate-related distress. The ramp would be a prime candidate for a crack repair project. Therefore, it is recommended that the GA apron pavement be rehabilitated during the planning period.

4.7 LANDSIDE ACCESS, CIRCULATION, PARKING

4.7.1 ACCESS & CIRCULATION

The terminal building curb and vehicle parking are accessed via Airport Way. A looped road provides access and egress to and from the terminal curbside and public parking.

Planning guidelines recommend that the terminal curbside road have a minimum of three lanes: one for parking, one for maneuvering into and out of parking spots, and one for through traffic. There are currently four lanes at the FAI terminal.

4.7.2 AUTOMOBILE PARKING

Terminal

Vehicle parking at the terminal was reconfigured in conjunction with the 2009 terminal construction project. Interviews with airport staff and the parking concessionaire indicate that current parking demands are being met.

Based on the previous master plan update and Advisory Circular 150/5360-13, there should be 1,600 public parking spaces per every 1 million enplaned passengers. Twenty-five% of public parking spaces should be allocated to short-term parking (less than 3 hours) and the remainder allocated to long-term parking. Table 4-7 summarizes the public parking deficiencies at FAI.

Table 4-7 – Terminal Building Public Parking Requirements

		Existing		Required		Surplus (deficit)	
Year	Enplanements	Short-Term	Long-Term	Short-Term	Long-Term	Short-Term	Long-Term
2010	458,130	155	523	183	550	(28)	(27)
2015	485,645	155	523	194	583	(39)	(60)
2020	509,987	155	523	204	612	(49)	(89)
2030	574,734	155	523	230	690	(75)	(167)

Rental car companies at FAI have reported steady growth in the rental car industry over the last 10 years and indicated a need to expand the existing 224 parking spaces currently reserved for rental cars. Utilizing the 2004 master plan update's rule-of-thumb ratio of 4:1 public parking spaces to rental car parking spaces, FAI will require six additional spaces by 2030.

East Ramp

General aviation operations at FAI have declined over the past 10 years. With 275 parking spaces available, and no reports of parking shortages, there is therefore no need for additional automobile parking areas on the east side of the airport. However, there has been interest in electrical outlets for engine block heaters.

4.7.3 TERMINAL CURBSIDE

The size of the existing covered area for tour operations is adequate, but the location conflicts with regional passengers entering and leaving the north end of the terminal.

In the summer, tour operators currently drop off their clients and baggage under the canopy at the north end of the terminal. This is also the closest exit to the regional carrier baggage claim. Congestion often results between the departing tourists and arriving regional passengers transiting through the same vestibule at the covered exterior area.

There is often not enough curbside parking for regional passenger drop-off and pick-up when tour operators' baggage trucks and buses are delivering baggage and tourists.

Creating a covered area to the north of the existing canopy equal to the area of the existing will provide adequate area for tour operations and eliminate the conflict with passenger circulation. Correspondingly, the bus drop-off parking area needs to be extended to the north in conjunction with extension of the tour operations canopy. The existing curbside used for baggage and tourist drop-off parking could be used for dropping off and picking up regional passengers.

4.8 SUPPORT FACILITIES & UTILITIES

4.8.1 UTILITIES

According to the FAI sewer and water provider, College Utilities Corporation (CUC), there is more than ample piping and capacity of potable water to accommodate even substantial development at FAI. Therefore, no development of utilities providing potable water is recommended during the planning period.

Sewer utilities are generally in good condition. However, the Karen Street lift station is already operating at or near capacity. Even with the slow development forecast over the planning period, an increase in wet well capacity is recommended. Additionally, the addition of a new lift station to accommodate new development may be necessary.

4.8.2 AIRCRAFT RESCUE AND FIREFIGHTING (ARFF)

A comprehensive assessment of the FAI ARFF building was conducted in 2010 and identified several necessary core building upgrades. Major components included a new roof, heating and ventilation system improvements, and seismic upgrades. The design of these improvements has been completed and the construction will be complete by 2015. These improvements will meet the requirements of the ARFF building during the planning period.

4.8.3 AIRCRAFT WASH RACKS

When airport tenants were surveyed on their preference for additional facilities at FAI, 25% of respondents indicated a need for an aircraft wash rack. A wash rack to accommodate ADG I aircraft is recommended for the airport. Accordingly, a 50 square foot pad is required. The wash rack must be connected to a sanitary sewer system or other treatment system, which would be provided by a private entity.

4.9 OTHER ITEMS OF CONCERN

Float Pond Dredging

During the summer when the water is low, sandbars appear in the float pond. Pilots, airport staff, and the master plan advisory board identified a need for dredging the float pond. Dredging the pond is recommended by this master plan update.

Helicopter Operations

Currently, helicopter parking is along the east ramp. With concern over operational conflicts with helicopters during run-up, taxiing, and take-off, operators would prefer separate, dedicated helicopter parking to be developed.

Compass Rose

The Master Plan advisory board identified the need for a compass rose on each side of the airport. Recent construction on the west side has resulted in the displacement of the existing west compass rose.

As a magnetic calibration instrument used to align the magnetic instruments aboard aircraft, specific design guidelines must be followed for both development and maintenance. The compass should be designed with 12 radials, starting with magnetic north (MN) and spanning 30 degrees each. No steel or magnetic paint should be used in the design or maintenance of the compass pad. The compass should be located at least 300 feet from any buildings and 600 feet from magnetic objects such as parking lots and railroad tracks. Additional standards to be followed are provided in FAA AC 150/5300-13A.

5 Alternatives

5.1 SUMMARY

This chapter of the master plan evaluates two primary alternatives:

- Taxiway B
- Regional Airline Terminal Development

These components of the master plan were analyzed in the greatest detail due to their complexity and their influence on the rest of the master plan elements. The following chapter lays out the development plan for these two alternatives, as well as the secondary airport elements identified in the Facility Requirements chapter.

5.1.1 TAXIWAY B

The Facility Requirements chapter of this master plan update identified a need to reevaluate the configuration of Taxiway B. Taxiway B does not fully comply with the design standards set within Advisory Circular (AC) 150/5300-13A *Airport Design*. Specifically, the taxiway crosses the primary runway in the center third of the runway, which the Federal Aviation Administration (FAA) defines as a "high-energy" intersection. Additionally, the taxiway's direct routing from the East Ramp to the terminal building has contributed to runway incursions involving vehicles.

To eliminate the deficiencies of Taxiway B, alternatives were developed that will fulfill the facility requirements outlined in the previous chapter, satisfy the strategic goals of the airport, and adhere to the design standards set by the FAA. The majority of the analysis for these alternatives focused on the interrelationships between Runway 2R/20L and Taxiway B; however, careful consideration was also given to the "high energy" intersection of Runway 2L/20R and Taxiway B.

Ultimately, the preferred alternative for Taxiway B in the current operating environment is to maintain it in its entirety. If ADG-IV and V aircraft operations begin to increase and change the operational flow of the airport, FAI should begin planning an end-to-end taxiway connecting Runways 2L and 2R. See Section 5.3.4 for a discussion of the preferred alternative.

5.1.2 REGIONAL AIRLINE TERMINAL DEVELOPMENT

The Facility Requirements chapter of this master plan update identified a need to examine the configuration of the north end of the airport terminal. Since this portion of the terminal was designed and built, there has been considerable growth in the number of flights operated from Fairbanks. There has also been a shift from the Beech 1900 to the Bombardier Dash-8, a larger aircraft that required a change in the aircraft parking configuration. The number of regional carrier flights to Anchorage has also increased since 2008.

The preferred alternative for development of the regional airlines terminal was to expand the building to the northeast to accommodate a larger baggage processing area and a larger passenger holding area with two distinct, separated gates. The original floor area would be reconfigured to install a baggage claim belt and a third regional airline ticketing counter. To improve passenger boarding, the preferred alternative for regional aircraft parking would provide an enclosed walkway with the capability for ground-loading passenger bridges, to be constructed out to the aircraft parking spaces in stages as demand warrants.

5.2 ALTERNATIVE DEVELOPMENT AND EVALUATION PROCESS

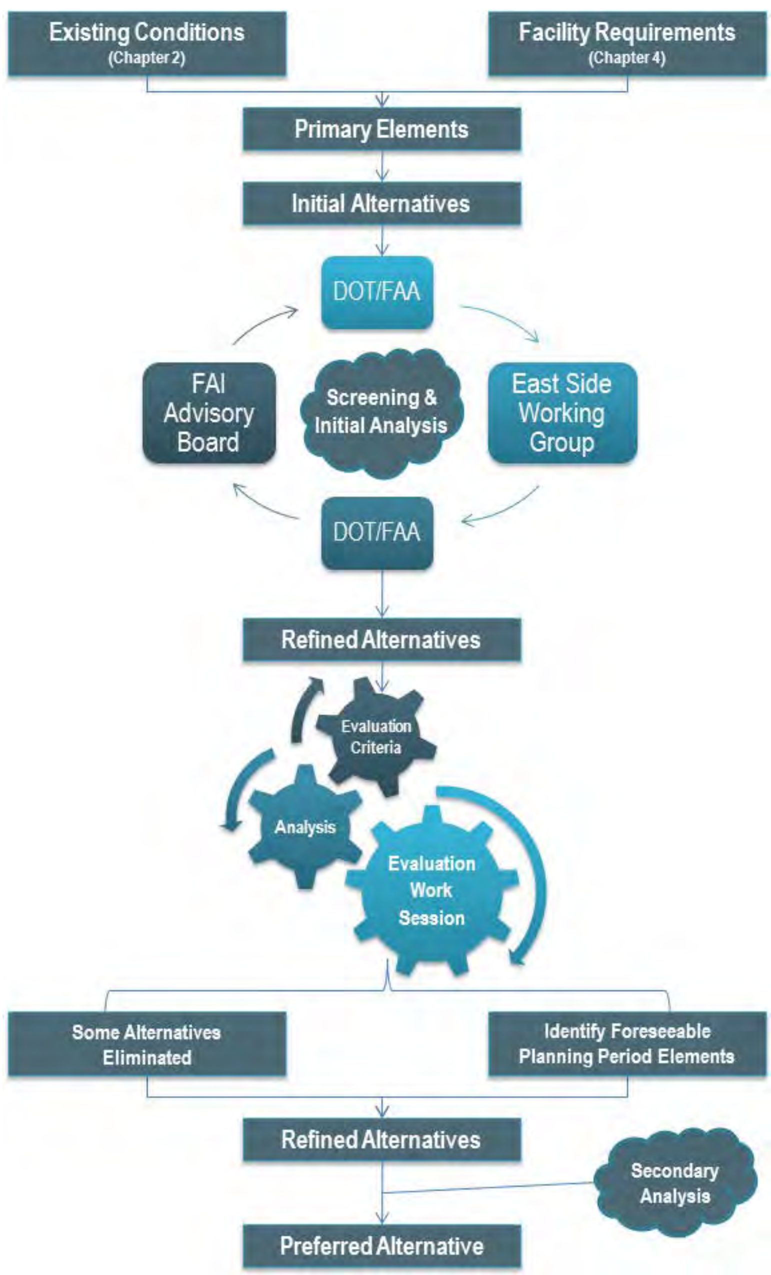

Figure 5-1 – Alternative Development Process

Development of these alternatives was a collaborative effort achieved through multiple discussions with airport staff, the FAA, terminal tenants, the FAI Master Plan Advisory Board (FAB), and the East Side Working Group (ESWG). (The ESWG is a group of general aviation community members active on the east side of the airport.) Overall development of alternatives is an iterative process, requiring numerous phases. The process and phases of the alternative development and selection process are visually depicted in Figure 5-1.

The “primary elements” phase identified the critical elements to be included in the alternatives. Those elements were combined within numerous exploratory concepts to evaluate their fit with one another. These concepts were distilled into “initial alternatives,” for presentation and discussion as described below. After each meeting, the alternatives were adjusted and revised to incorporate the input received.

The stakeholder meetings and internal discussions with airport staff drove the alternative development process and the ultimate preferred alternatives. The collaborative effort was critical to finding solutions and making necessary revisions to the alternatives throughout the process.

5.2.1 COLLABORATIVE EVALUATION OF TAXIWAY B ALTERNATIVES

November 6, 2013 – ESWG Meeting (FAI)

Airport staff and the consultant team met with the ESWG in November to discuss all the airport alternatives being developed, including those involving Taxiway B. During the "primary elements" phase, an access gate had been proposed as an incursion abatement measure and was shown within one of the options. The takeaways from the meeting included suggestions to have all alternatives keep Runway 2R/20L at least 5,000 feet and to avoid overlapping approach/departure paths for Runways 20L and 2W. Other possible locations for the access gate were also suggested.

December 10, 2013 – ESWG Meeting (FAI)

The ESWG met again in December and reviewed all the airport alternatives, including those for Taxiway B. The three Taxiway B alternatives presented were revisions that incorporated the input received in the previous meeting. Multiple potential locations for the access gate were presented and discussed. It became apparent that the placement of the gate was independent of the other proposed alterations in Taxiway B and instead would depend upon the gate's type and manufacture specifications.

The general consensus of the group was to keep Taxiway B in its current location. In addition, the group expressed that keeping a reasonable length (5,000 feet) to Runway 2R/20L was important as that would keep users on the east side from taxiing over to the west side to use Runway 2L/20R.

December 19, 2013 – FAA Meeting (Anchorage)

This meeting was held between FAA staff, ADOT&PF staff, airport staff, and the consultant team. The participants reviewed the various alternatives that had been created, including the three Taxiway B alternatives, and discussed the short- and long-term methods proposed to reduce incursions. In discussing the alternatives that included keeping portions of current Taxiway B, the FAA's representative stated that funding for a future rehabilitation of the taxiway would not be likely due to the taxiway's mid-runway intersection on 2L/20R. This statement gave rise to further consideration of whether long-term solutions would include any portion of the existing taxiway.

January 29, 2014 – Fairbanks Advisory Board Meeting (FAI)

The FAB met on January 29th to receive an update on the FAI Master Plan Update and to review and discuss development options. The two favored Taxiway B options were presented to the group. As discussed in Section 5.3.3, the two options were to install a gate on Taxiway B and remove pavement east of Runway 2R-20L, or else to remove or decommission Taxiway B and construct a new connecting taxiway to the south.

The FAB discussed both options in detail as they related to high-energy crossings, back-taxiing, gate locations, signage, and painted runway markings. There was significant interest by FAI and all stakeholders in keeping Taxiway B in the short term. A representative for FAA Western Service Area, Runway Safety Program, attended the FAB meeting via teleconference. He indicated that while Taxiway B entered Runway 2L/20R at the midpoint, it was not functionally a high-energy area due to the length of the runway and the type of aircraft currently using the runway. Therefore, he recommended keeping Taxiway B in its current location. (This recommendation was confirmed on February 21, 2014, with a letter from FAA's Alaskan Region Runway Safety Program Manager [see Appendix B]. On March 26, 2014, the lead airport planner for FAA's Alaskan Region followed up with an email supporting the Runway Safety Program's recommendation [see Appendix B]).

At the end of this meeting, a preferred Taxiway B option was crafted and carried forward as the Preferred Taxiway B Alternative (detailed in Section 5.3.4).

5.2.2 COLLABORATIVE EVALUATION OF REGIONAL TERMINAL ALTERNATIVES

September 10, 2013 – Regional Carriers Meeting (FAI)

The airport staff and consultant team met with regional carriers to gather user information on airport deficiencies. Preliminary sketches were presented in order to aid discussion. Concepts addressed were the regional terminal itself, and aircraft parking positions. During the meeting, the regional carriers indicated that the long walk from the gate to the parked aircraft is an issue. The regional terminal concepts consisted of blocking out areas where future expansion may occur. The aircraft parking positions introduced conceptual options for creating covered walkways out to the aircraft.

November 19, 2013 – Airport Operations Meeting (FAI)

The consultant team met with airport staff to present and discuss the concept options. Of the two regional terminal expansion options presented, it was determined to carry forward a single option: a modification of Option RT-2 renamed Option RT-2A. For the regional aircraft parking, the consultant team would develop four distinct options for review and discussion.

January 23, 2014 – Regional Carriers Meeting (FAI)

Airport staff and consultant team members met with regional carriers to present and discuss the options. The regional carriers clarified that they need two separate gates with greater distance and distinction between them than what was shown on the options. They would also prefer to extend the passenger holding area further north in order to provide a shorter enclosed walkway. The regional carriers strongly indicated their desire to have the capability to add ground-loading passenger bridges to the enclosed walkway at some time in the future. These requests resulted in the development of a modified Option AP-4A for the regional aircraft parking.

January 29, 2014 – Fairbanks Advisory Board Meeting (FAI)

The FAB members met on January 29th to receive an update on the FAI Master Plan Update and to review and discuss development options. For the Regional Terminal Expansion, a further developed and refined Option RT-2A was presented. This option has become the preferred alternative for the regional terminal expansion. The Regional Aircraft Parking Option AP-4A was also presented to the FAB. After minor changes taking into account possible future runway modifications, this has become the preferred alternative for regional aircraft parking.

5.3 TAXIWAY B ALTERNATIVES

5.3.1 IDENTIFICATION OF TAXIWAY B ALTERNATIVES

The final three “initial alternatives” incorporated all comments and input provided during the first three meetings. The three alternatives, now considered “refined alternatives” within the process, are described in this section. These are the three that were carried forward for further evaluation and analysis. Due to a myriad of variables, the access gate was not presented in any of these “refined alternatives.” Removing the access gate from the alternatives made it easier to establish a preferred alternative that could limit incursions without mechanical assistance.

Option TB-1 – Reduce Runway 2R/20L

Option TB-1, as presented in Figure 5-2, reduces the length of Runway 2R/20L by relocating the 20L threshold 2,001 feet from its current location. Taxiway B would no longer cross the runway or provide direct access to the runway from the apron. This would eliminate runway incursions involving vehicles entering onto Runway 2R/20L via Taxiway B, but incursions would remain a possibility on Runway 2L/20R. The relocation of the 20L threshold would place Taxiway B sufficiently below the runway’s Part 77 approach surfaces, thereby allowing the taxiway to be used by Aircraft Design Group (ADG) II and smaller aircraft while Runway 2R/20L is in use.

Reducing the runway from 6,501 feet to 4,500 feet long would leave enough length to accommodate the Beechcraft 1900, the largest aircraft requiring use of Runway 2R/20L. However, discussions with aircraft operators on the east side of the airport indicated that a runway length of less than 5,000 feet might push operators to use Runway 2L/20R, which would increase the use of Taxiway B and create new operational challenges, particularly as related to the use of 2R/20L for touch-and-go operations for pilot training. Relocating the 20L threshold to the south could also create airspace conflicts between aircraft on approach for Runway 20L and aircraft turning or drifting to the east after taking off from the float pond.

With this option, the pavement ahead of the new threshold would be marked as unusable per FAA standards. This would require the removal and adjustment of current markings; reconfiguration of taxiway, runway, and threshold lights; relocation of the 20L PAPI and other navigational aids; and updates to approach procedures. Using markings to effectively shorten the runway would allow the full length to be brought back into use without pavement reconstruction, provided the unused pavement continued to receive annual maintenance in the interim.

Estimated cost of this alternative is $4.3 million. As the alternative generally remains within the existing footprint of previous development, environmental impacts would be negligible.

Option TB-2 – Utilize Float Pond Road

Instead of shortening Runway 2R/20L, Option TB-2 removes the paved portion of Taxiway B between the East Ramp and Runway 2R/20L, thereby eliminating access from the East Ramp to the runway in that location. The remainder of Taxiway B, including the "high energy" intersection between Runway 2L/20R and Taxiway B, would remain in its current configuration.

As illustrated in Figure 5-3, the section of Float Pond Road between Taxiways T and B would be reconstructed to meet dimensional criteria for Taxiway Design Group (TDG) 2. Additionally, in order to provide a TDG 2 Safety Area and Object Free Area (OFA), a self-serve aviation fuel (avgas) station and aircraft parking areas adjacent to the road would need to be relocated. These improvements would allow the anticipated fleet mix to taxi between Taxiways B and T and maintain access between the east and west sides of the airport.

By providing only indirect routing between the east and west sides of the airport, this option would reduce runway incursions involving vehicles crossing the primary runway. However, the remaining portion of Taxiway B's connection into Float Pond Road would still be subject to incursions by lost vehicles. Additionally, creating a controlled taxiway out of a portion of Float Pond Road would require adjusting the movement area boundary. The new boundary could create additional challenges and potential for vehicle and pedestrian deviations due to the extremely close proximity of the southernmost float pond slips and Float Pond Road.

Estimated cost of this alternative is $4.8 million. As the alternative remains within the existing footprint of previous development, impacts to the natural environment would be negligible. Relocating the avgas station could cause some inconvenience to pilots and some change in aircraft traffic patterns, depending on the new location. These impacts would need to be considered under the socio-economic category, but they are expected to be minor.

Option TB-3 – Extend Taxiway Q

Option TB-3, illustrated in Figure 5-4, removes Taxiway B between Runways 2L/20R and 2R/20L while maintaining Runway 2R/20L at its full length of 6,501 feet. The taxiway would be relocated to connect Taxiway Q and Taxiway G and upgraded to TDG 2 dimensional standards. Relocating this section of the taxiway to the south would place the intersections with both parallel runways within the first third of each runway, thereby eliminating the "high-energy" midfield intersection on Runway 2L/20R.

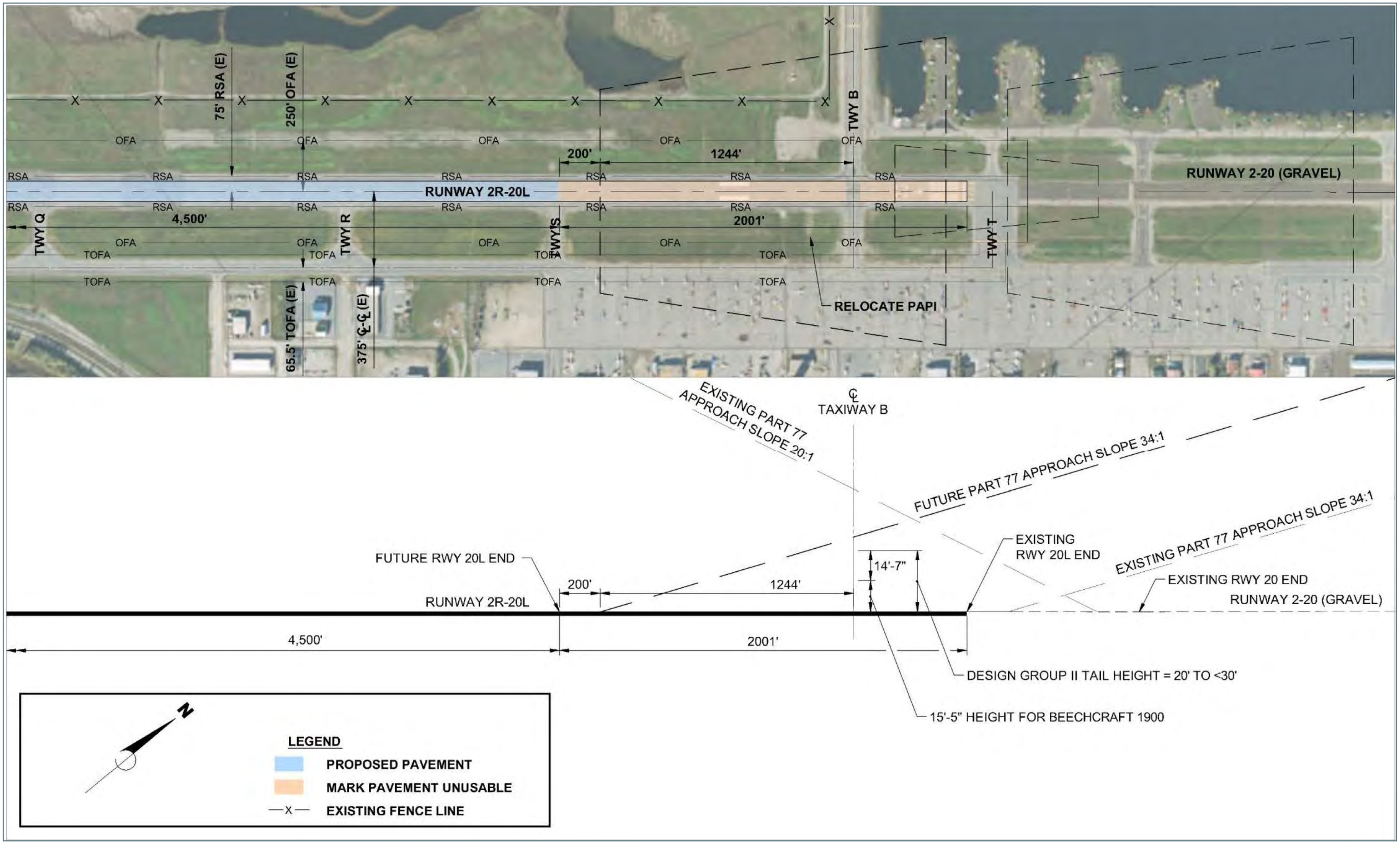

Figure 5-2 – Option TB-1 – Reduce Runway 2R/20L

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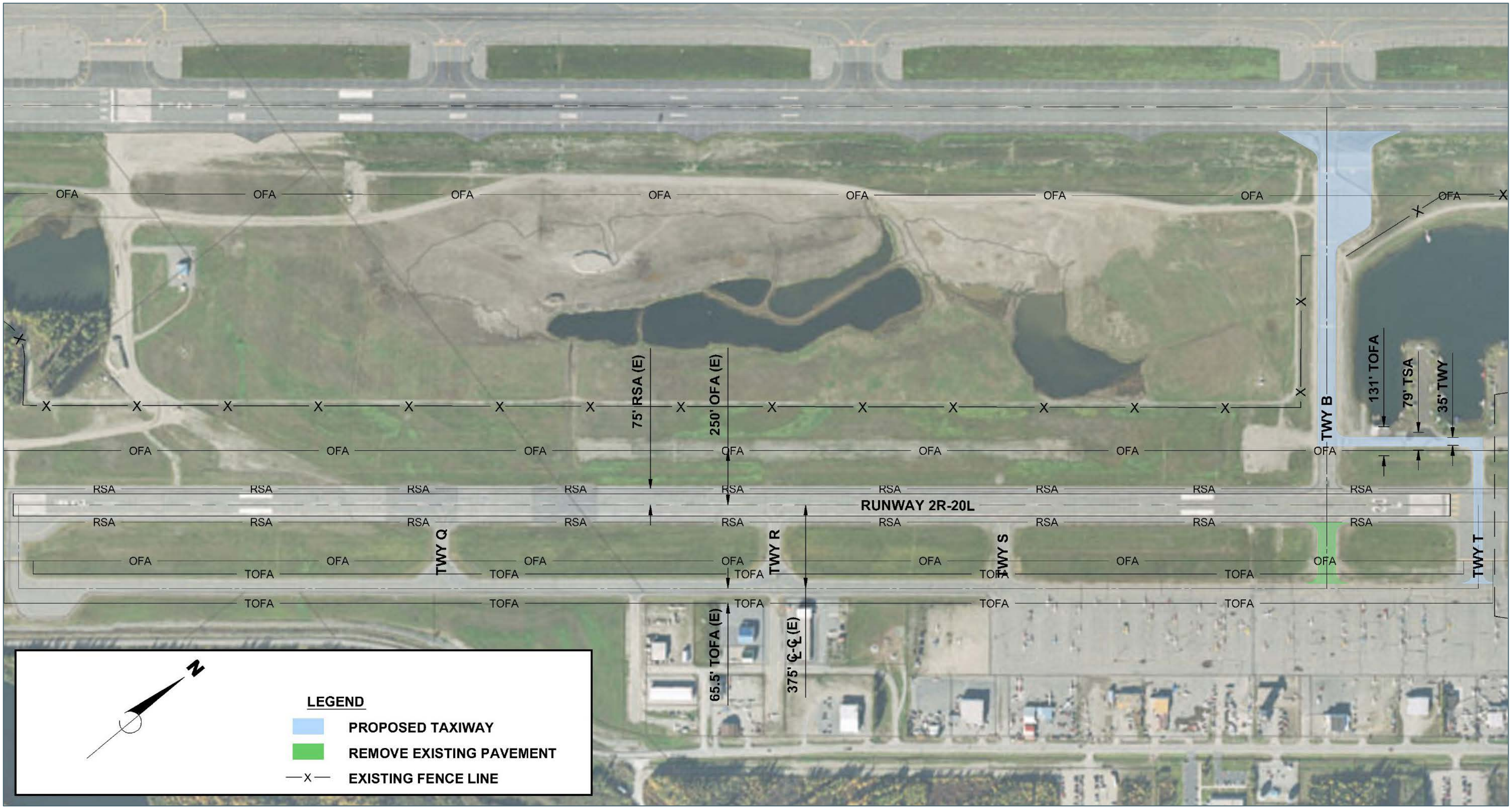

Figure 5-3 –Option TB-2 – Utilize Float Pond Road

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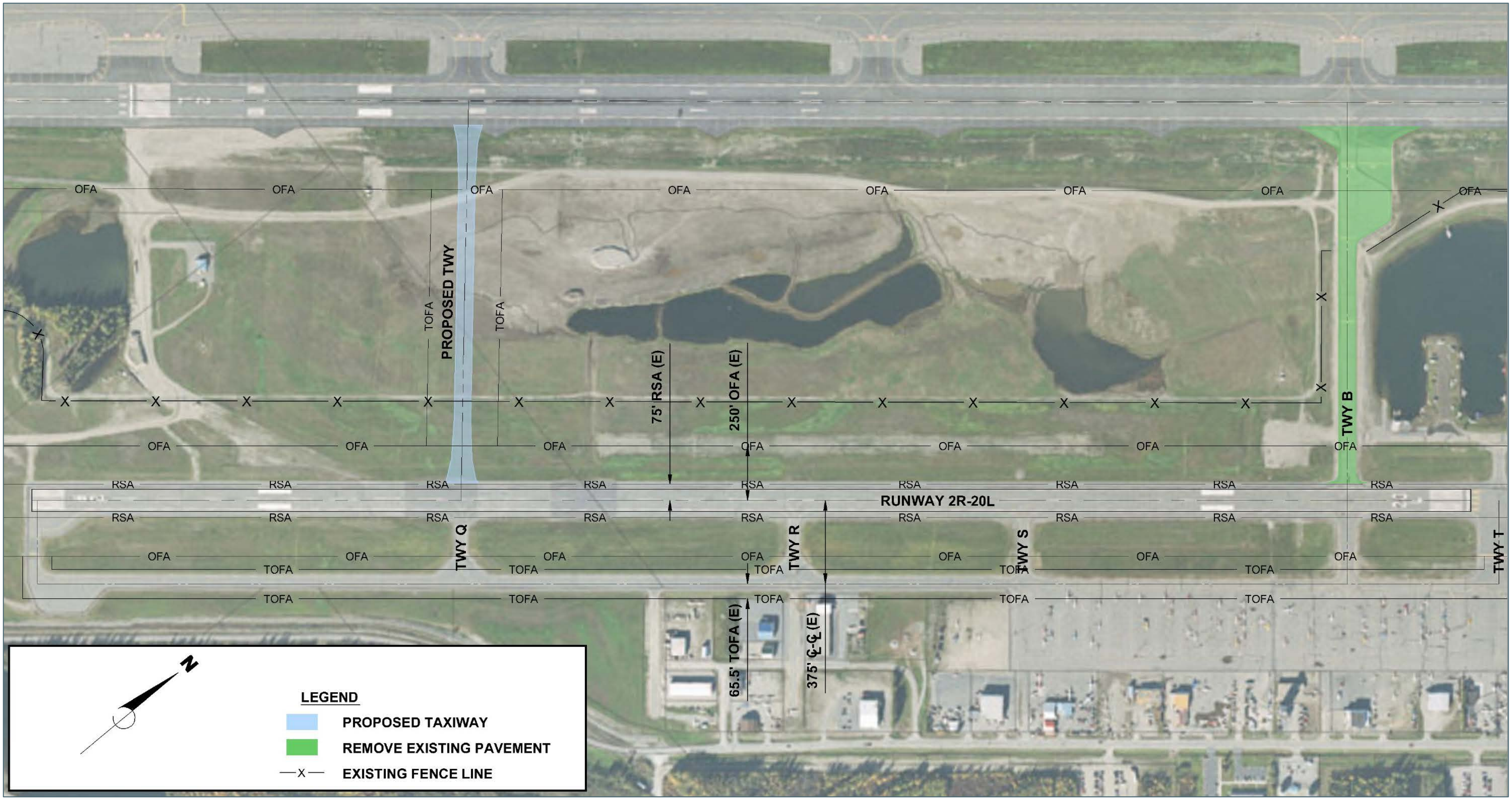

Figure 5-4 – Option TB-3 – Extend Taxiway Q

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Preventing runway incursions by vehicles crossing the airport from the East Ramp to the west side via Taxiway B has become a challenge. These types of incursions are largely attributed to the fact that Taxiway B provides a visually direct route to the terminal building. Drivers lost on the east ramp looking for the terminal building often see Taxiway B as an easy solution to get to their destination. Removing the taxiway between the parallel runways would remove the visually obvious route to the terminal as well. Thus, it is presumed that the proposed taxiway configuration in Option TB-3 would eliminate these types of incursions.

Construction considerations and phasing for Option TB-3 would have a minimal impact on airport operations. No facilities would need to be relocated, and the majority of construction would take place outside the runways' object free areas, thereby allowing both runways to remain in use during that phase of construction. Phasing could also allow continued access via Taxiway B between the east and west side until after the new taxiway was constructed.

The final configuration of the taxiway connector would increase taxi times for aircraft taxiing between the east and west sides of the airport, especially for those aircraft taxiing from the East Ramp for a midfield takeoff on Runway 20R. Aircraft landing on Runway 2L that want to park on the east side would need to back-taxi to the new connector, which would also take longer and increase the number of runway crossings. Conversely, taxi time for aircraft landing on Runway 20L and 20R wishing to taxi to the opposite side of the airport could decrease.

Estimated cost of this alternative is $5.8 million. The relocated taxiway would traverse an old concrete disposal area, which would require special consideration to ensure a stable subgrade. Environmental impacts would be negligible because the location has been previously disturbed and does not contain wetlands. There would be minor socioeconomic impacts due to increased taxiing times between the east and west sides of the airport.

5.3.2 EVALUATION OF TAXIWAY B ALTERNATIVES

To evaluate the "refined alternatives," each was subjected to a qualitative and quantitative analysis. Specific criteria used to evaluate the alternatives and their impact on the rest of the airfield included:

- **Airfield Capacity and Delay –** This criterion evaluates the ability of the alternatives to accommodate future activity levels. Consideration was given to which alternative provides the greatest capability to meet specific functional objectives, such as accommodating the design aircraft and runway length requirements.
- **Taxi Times and Cost –** This criterion is intended to assess the impacts of each alternative on the airfield system. Consideration was given to increase or decrease in taxi times and the associated operating costs for airport users.
- **Land Acquisition Requirements –** Land acquisition within or outside airport property can be expensive and sometimes cost-prohibitive. This criterion examined the amount of land to be acquired, if any, for each alternative to be actualized.

- **Environmental Impacts** – This criterion examined the potential environmental effects of each alternative. The impact categories examined are defined in FAA Order 1050.1, *Environmental Impacts: Policies and Procedures,* and FAA Order 5050.4B, *National Environmental Policy Act.*
- **Construction Considerations and Costs** – Rough (broad order of magnitude) cost estimates and overall construction considerations for each alternative were compared.
- **Phasing Considerations –** The timing and sequence of construction work can create delays, additional cost, and inconvenience in airport operations. Consideration was given to the degree of impact each alternative's phasing would have on airport operations.
- **Airspace Interactions and Efficiency –** Changes to airfield systems, as proposed in these alternatives, can affect airspace interactions and overall airspace efficiencies. Each alternative was examined to determine how it would affect airspace and whether those impacts would be positive, negative, or inconsequential.
- **User Functionality –** The intent of this criterion was to evaluate the functionality, ease of use, and convenience of each alternative's proposed taxiway and runway geometry.
- **Incursion Abatement –** A goal for every alternative was to decrease the possibility of runway incursions by vehicles crossing Runway 2R/20L on Taxiway B. This criterion evaluates the capability of each alternative to achieve this goal.

Each alternative was graded against the criteria with one of three values:

- ● A full circle was used if the alternative was the **most favorable** in meeting the criteria.
- ◐ A half-full circle was used if the alternative was **moderately favorable** in meeting the criteria.
- ○ An empty circle was used if the alternative was the **least favorable** in meeting the criteria.

	Option TB-1	Option TB-2	Option TB-3
Taxiway B Alternatives			
Airfield Capacity and Delay	◐	●	●
Taxi Times and Cost	◐	◐	○
Land Acquisition Requirements	●	●	●
Environmental Impacts	◐	◐	◐
Airspace Interactions and Efficiency	○	●	●
Construction Considerations and Costs	◐	◐	○
Phasing Considerations	○	◐	●
User Functionality	○	◐	◐
Incursion Abatement	◐	◐	◐

Figure 5-5 – Evaluation Matrix

The three alternatives presented in this chapter were created to fulfill the facility requirements outlined in the previous chapter, satisfy the strategic goals of the airport, and adhere to the design standards set by the FAA. Each alternative had distinct advantages and disadvantages. At the conclusion of the evaluation, Options TB-2 and TB-3 stood out as better meeting the criteria than Option TB-1.

As shown in the Evaluation Matrix (Figure 5-5), Option TB-2 was moderately favorable for satisfying the majority of the evaluation criteria. Option TB-3 was more variable, meeting various criteria either as least favorable or most favorable. Overall, however, the total scores for both were equal. This evaluation eliminated Option TB-1. Options TB-2 and TB-3, now considered favored alternatives, were carried forward for secondary analysis.

5.3.3 REFINED TAXIWAY B ALTERNATIVES

A secondary analysis was conducted to further evaluate the qualitative and quantitative outcomes of Options TB-2 and TB-3. This involved a detailed examination of funding considerations, factors regarding implementation, and short- and long-term plans for incursion abatement.

Incursion abatement was a leading topic during the discussions with airport staff, the ESWG, and the FAA. To protect the safety of aircraft operations, emphasis was placed on finding a solution that could be implemented quickly. The issue was especially urgent because, at the time of this report, some mobile navigational devices were routing vehicles to the terminal via Float Pond Road and Taxiway B. It was determined that an access gate should be re-introduced into the evaluation, as this could provide an immediate deterrent to runway incursions.

Option TB-2 was therefore modified to include an access gate; the modified alternative was named Option TB-2a (see 0 belowFigure 5-6). The two favored alternatives, Options 3 and 2a, were moved forward in the process to be discussed and analyzed further by airport staff, FAA, the members of the FAB, and the consultant team.

Option TB-2a – Restricted Access

Option TB-2a, illustrated in Figure 5-6, features the same pavement removal and aircraft taxi routing as Option TB-2. The primary difference is that Option TB-2a provides an access gate to limit incursions and does not reconstruct any part of Float Pond Road. Without the upgrades to Float Pond Road, ADG II and larger aircraft will be required to utilize Runway 20L when traveling between the east and west sides of the airport. This option is less costly than the original Option TB-2 and can be implemented quickly. Additionally, there is no need to relocate the self-serve avgas facility and adjacent aircraft parking areas.

Float Pond Road, which is not currently controlled by the Air Traffic Control Tower (ATCT), would remain uncontrolled. Because of this, aircraft taxiing between the east and west sides of the airport would experience multiple shifts between uncontrolled and controlled movement areas. Discussions with the ATCT would be required to determine whether special taxi procedures would be needed. Additional special procedures could be necessary depending on the specific location of the access gate.

At the time this option was presented, there were two potential locations for the access gate under consideration. Gate Location A is at the south end of Float Pond Road, and Gate Location B is on Taxiway B to the west of the taxiway's intersection with Float Pond Road. Placing the gate on Float Pond Road deters incursion by vehicles and allows unrestricted taxiing by aircraft on Taxiway B. Placing the gate on Taxiway B prevents incursions onto the primary runway, but also imposes additional operational challenges for both aircraft and air traffic controllers.

5.3.4 PREFERRED TAXIWAY B ALTERNATIVE

Option TB-3 and Option TB-2a were presented at the January 29th FAB Meeting as the two favored Taxiway B alternatives. During the meeting, the members of the FAB discussed and further analyzed the two alternatives. By the end of the meeting, the most favorable option was to maintain Taxiway B in its entirety. The pilot community represented at the FAB meeting and the ESWG meetings had concerns about Option TB-3. The group rationalized that if the taxiway were moved to the south, aircraft landing on Runway 2L would need to exit the runway, back-taxi, and then cross both parallel runways to return to the east side of the airport, thus creating two runway crossings. Additionally, the group thought the runway crossings proposed in Option TB-3 would be more dangerous than those associated with Taxiway B, even though the crossing would be in the outer third of the runway. This is because the location of Taxiway Q would prove to be a high-energy crossing.

These considerations were brought to the attention of the FAA Alaska Region Office of Runway Safety. The office responded back to the FAI Master Plan Committee in a letter on February 21, 2014. In the letter, the FAA stated that under the current operating conditions, it "endorses the proposal to leave Taxiway Bravo where it currently is constructed." The FAA provided several justifications for this recommendation, which include the following:

- **Number of Reported Surface Events:** Until recently, the number of reported surface events (which are tracked by the FAA Office of Runway Safety) was historically low. Recent events have consisted of vehicle/pedestrian deviations and have not been associated with pilots or air traffic controllers. This in effect confirms that the geometric configuration of Taxiway B does not confuse pilots or controllers. Statistically, the taxiway configuration has proven to present very few safety risks.
- **Runway 2L/20R Length**: Taxiway B intersects Runway 2L/20R at roughly the midpoint of the runway, leaving more than 4,600 feet of runway on either side of the intersection. This type of intersection is generally defined by AC 150/5300-13A, *Airport Design,* as a "high energy intersection" because it is within the middle third of the runway.

  That definition is based on the assumption that most runways are built just long enough to satisfy the aircraft utilizing the airport. At FAI, Runway 2L/20R is built to ADG V standards, which justifies its current length. However, ADG III and smaller aircraft account for the vast majority of operations at FAI, and these aircraft require much less runway length than ADG V aircraft. During typical landing and departure operations of ADG III and smaller aircraft on Runway 2L/20R, the aircraft are either already airborne after takeoff or slowed to a low-speed/low-energy landing phase by the time they reach Taxiway B. These factors change the dynamics involved in evaluating the safety of Runway 2L/20R intersections.

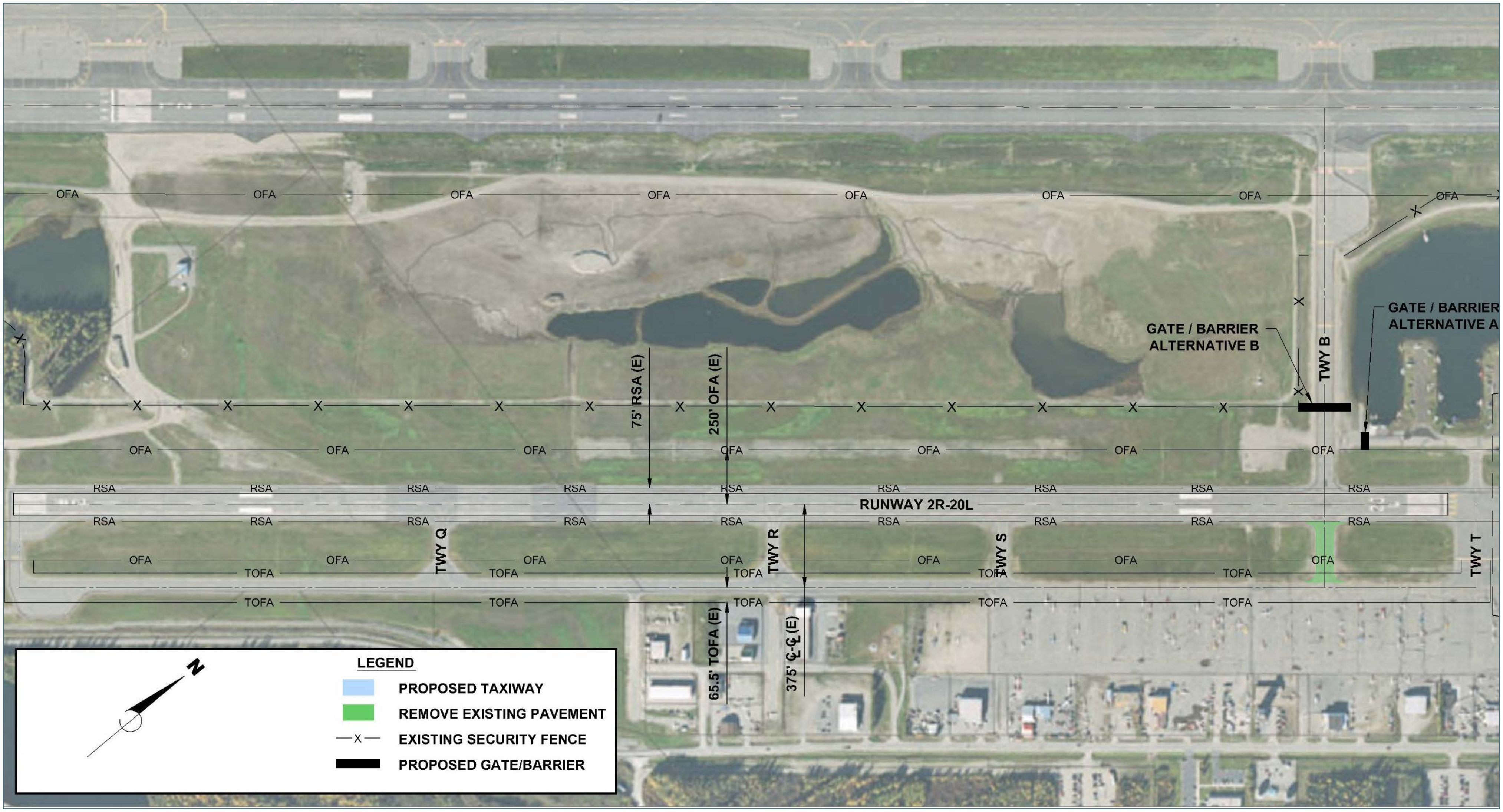

Figure 5-6 – Option TB-2A – Restricted Access

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Because the majority of aircraft operating at the airport are ADG III and smaller, it was determined that Taxiway B does not intersect Runway 2L/20R in a high-energy location. Likewise, Option TB-3 would not be favorable because Taxiway Q would prove to be a high-energy crossing, routing aircraft through the most active touchdown zones of both Runways 2L and 2R.

- **Physical Location of Taxiway B:** Today, Taxiway B is primarily used as an exit taxiway for aircraft landing Runway 2L/20R and taxiing to the west side terminal area or returning to the east side of the airport. Crossings across Runway 2L/20R are infrequent, and the taxiway's location in front of the ATCT allows for frequent checks of the area by controllers. These factors further decrease the risk of a pilot deviation on Taxiway B.

The FAA Runway Safety Program's letter also provided operational recommendations that applied to both Taxiway B and other portions of the airfield. In regard to the physical considerations of Taxiway B, Option TB-2a was refined further to include the infrastructure-related recommendations provided by the FAA as well as the ESWG, the FAB, and airport staff. This resulted in the Preferred Taxiway B Alternative, illustrated in Figure 5-7.

The FAA Runway Safety Office recommendations that were incorporated into the preferred alternative include marking and signage enhancements to Part 139 standards at every Taxiway B intersection and along the portions of aprons leading into the taxiway. Currently, only the west side, which is the commercial side of the airport, fully complies with Part 139 standards. The Part 139 enhancements needed on the east side will include surface painted hold signs, enhanced runway hold position markings, and enhanced taxiway centerline markings. Details about these markings can be found in AC 150/5340-1K, *Standards for Airport Markings*.

The enhanced runway hold position markings, surface painted hold signs, and enhanced taxiway centerline markings are all painted markings that are placed on the taxiway pavement. Elevated runway guard lights, or "wig wags," are also included in the option. These are elevated light fixtures that sit on each side of the taxiway in line with the hold position marking. The combination of these improvements at all Taxiway B intersections will increase situational awareness, give drivers of vehicles visual indications that they are nearing active runways, and enhance overall safety.

The FAA Runway Safety Office also recommended that Float Pond Road be physically blocked from any ready access to Taxiway B. Therefore, Gate Location A, which sites the access gate between the end of the road and Taxiway B, was chosen for the Preferred Alternative. This location is the least operationally intrusive option, as it permits unrestricted aircraft operations on Taxiway B.

Based on discussions with the FAB, Airport staff, and the consultant team, islands were added on both the east and west sides of Taxiway B, adjacent to the apron areas. The islands eliminate direct taxiway access from the apron to the runway, which satisfies the recommendations for taxiway design listed in paragraphs 401.b(5)(g) and 503 of AC 150/5300-13A, *Airport Design*. Additionally, islands increase situational awareness by placing an obstacle in the path of pilots and vehicle operators on the apron before they reach the runway. This will help to reduce deviations and runway incursions by disoriented drivers of vehicles on the East Ramp.

In summary, the preferred alternative meets the need for immediate incursion abatement measures, enhances overall safety on the airfield, and maintains the flow of operations that is preferred by airport stakeholders. However, it is based on the current aircraft fleet mix and operational patterns. Considering the potential for additional operations of wide-body cargo aircraft, the fleet mix should be closely monitored. If ADG IV and larger aircraft increase operations at the airport, the basis for this alternative will no longer be relevant.

Therefore, the current Taxiway B configuration is preferred until such time as Runway 2R/20L is required to accommodate commercial passenger operations or Runway 2L/20R sees approximately 500 annual operations of ADG VI aircraft. When either of these occurs, the operational flow of the airport will substantially change. At that time, further study should be conducted to evaluate the addition of a new runway end-to-end connection and the removal of the midfield crossing at Taxiway B.

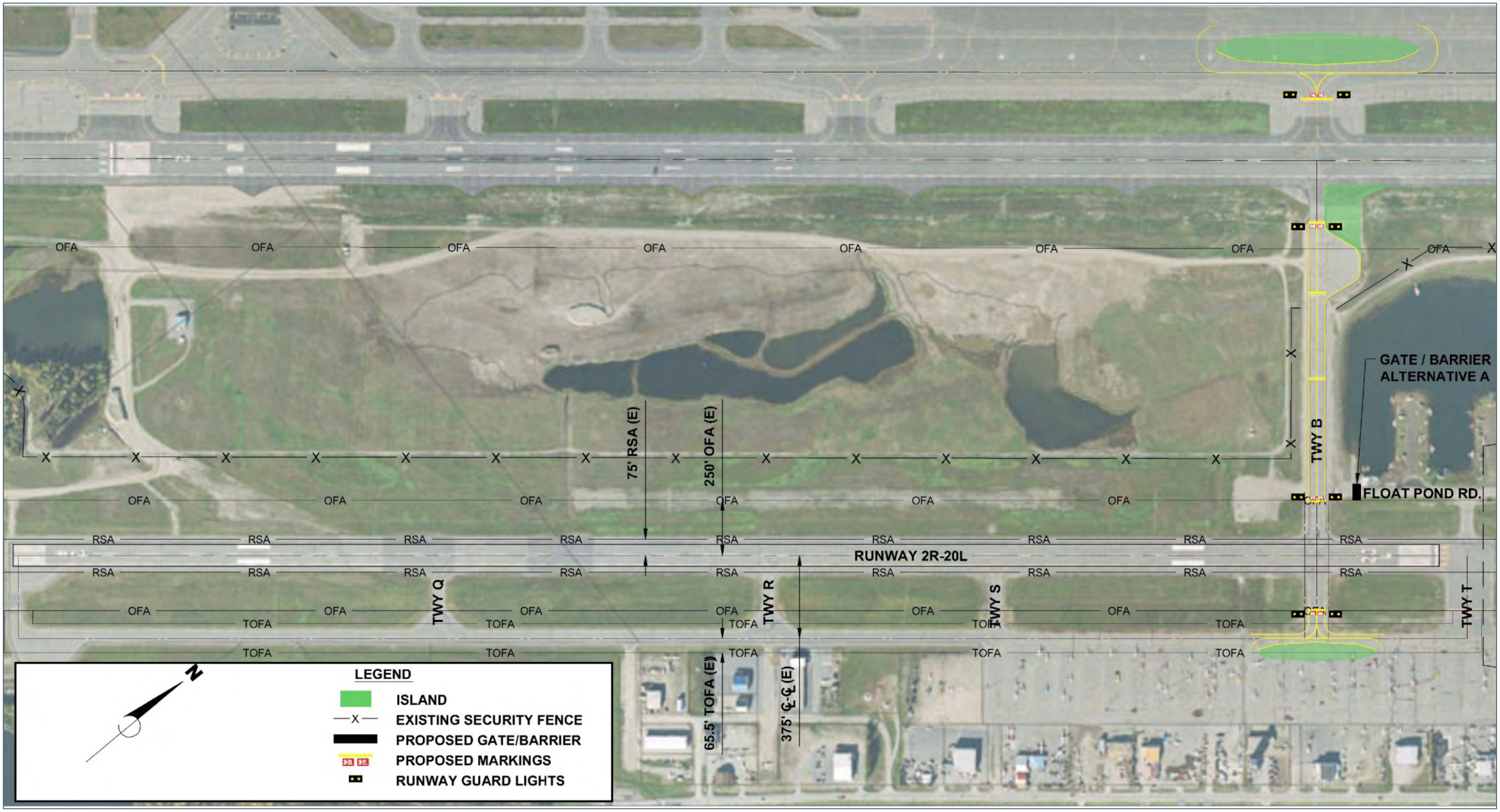

Figure 5-7 – Preferred Taxiway B Alternative

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5.4 REGIONAL AIRLINE TERMINAL ALTERNATIVES

5.4.1 IDENTIFICATION OF REGIONAL TERMINAL ALTERNATIVES

The Regional Terminal alternatives discussion is categorized into two sections: 1) the regional terminal building (discussed in this section) and 2) the aircraft parking positions and associated passenger boarding access routes (discussed in Section 5.5 below). Preliminary analysis identified two options for expanding the regional terminal. With the input of users, regional carriers, and FAI staff, alternatives were created and refined, leading to a preferred alternative.

Option RT-1 – Northwest Expansion

Option RT-1, illustrated in Figure 5-8, modifies the northwest portion of the terminal and expands the vestibule, baggage claim, and baggage handling area to the north. The exterior canopy would be modified to accommodate the expansion, and a new section of exterior canopy would be constructed north of the vestibule. A second baggage claim/slide would be added in the building expansion, with the existing baggage claim/slide and oversize bag claim area remaining unchanged. The baggage handling area on the operations side would increase in size. The addition would also include an area for a ground operations office with windows that look out to the aircraft parking area.

Option RT-1 does not propose any changes to the ticketing counter and offices. Capacity of the passenger holding areas and gates would remain unchanged.

Figure 5-8 shows a covered walkway leading out to the aircraft parking positions. However, this aspect of Option RT-1 could be adapted to tie in with any of the aircraft parking position options presented later in this chapter. The degree of enclosure of the walkway and how or whether it is heated would be determined at the time of the expansion. If heating is provided, it would only be used during short periods of time when the walkway is being used by passengers.

Option RT-2 – East Expansion

Option RT-2, illustrated in Figure 5-9, modifies the passenger holding area and expands the baggage handling area to the east. The fence line under the exterior canopy would be modified to create additional sidewalk area so that all vestibules and doors would be accessible to arriving and departing travelers. The baggage claim and slide would be slightly enlarged to alleviate the cross-circulation of people trying to claim their bags with those entering and exiting the north vestibules. The baggage handling area on the operations side would expand via an addition to the east. This addition would include an office for ground operations with windows that look out to the aircraft parking area.

Expanding the baggage handling area provides space for a third regional carrier ticketing counter and office. The new ticketing counter will displace a portion of the existing passenger holding area; the holding area will instead shift and expand eastward into the addition, with a net gain of seats for passengers.

Gates A and B are placed closer together than in Option RT-1 and configured so that a heated and enclosed space, acting as a vestibule, extends slightly outward towards the aircraft parking positions.

Figure 5-9 shows a covered walkway leading out to the aircraft parking positions. However, this aspect of Option RT-2 could be adapted to tie in with any of the aircraft parking position options presented later in this chapter. The degree of enclosure of the walkway and how or whether it is heated would be determined at the time of the expansion. If heating is provided, it would only be used during short periods of time when the walkway is being used by passengers.

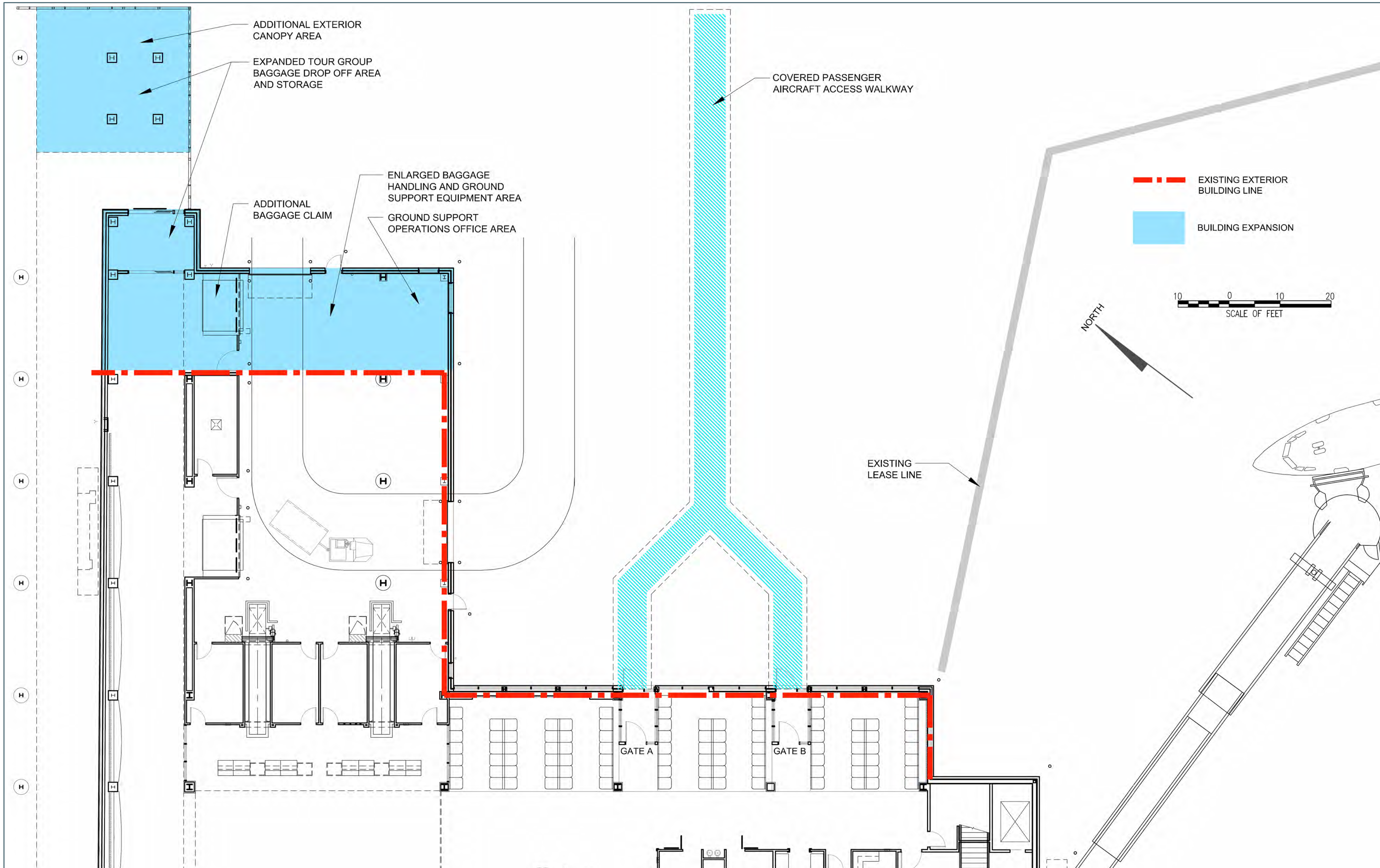

Figure 5-8 – Option RT-1 – Northwest Expansion

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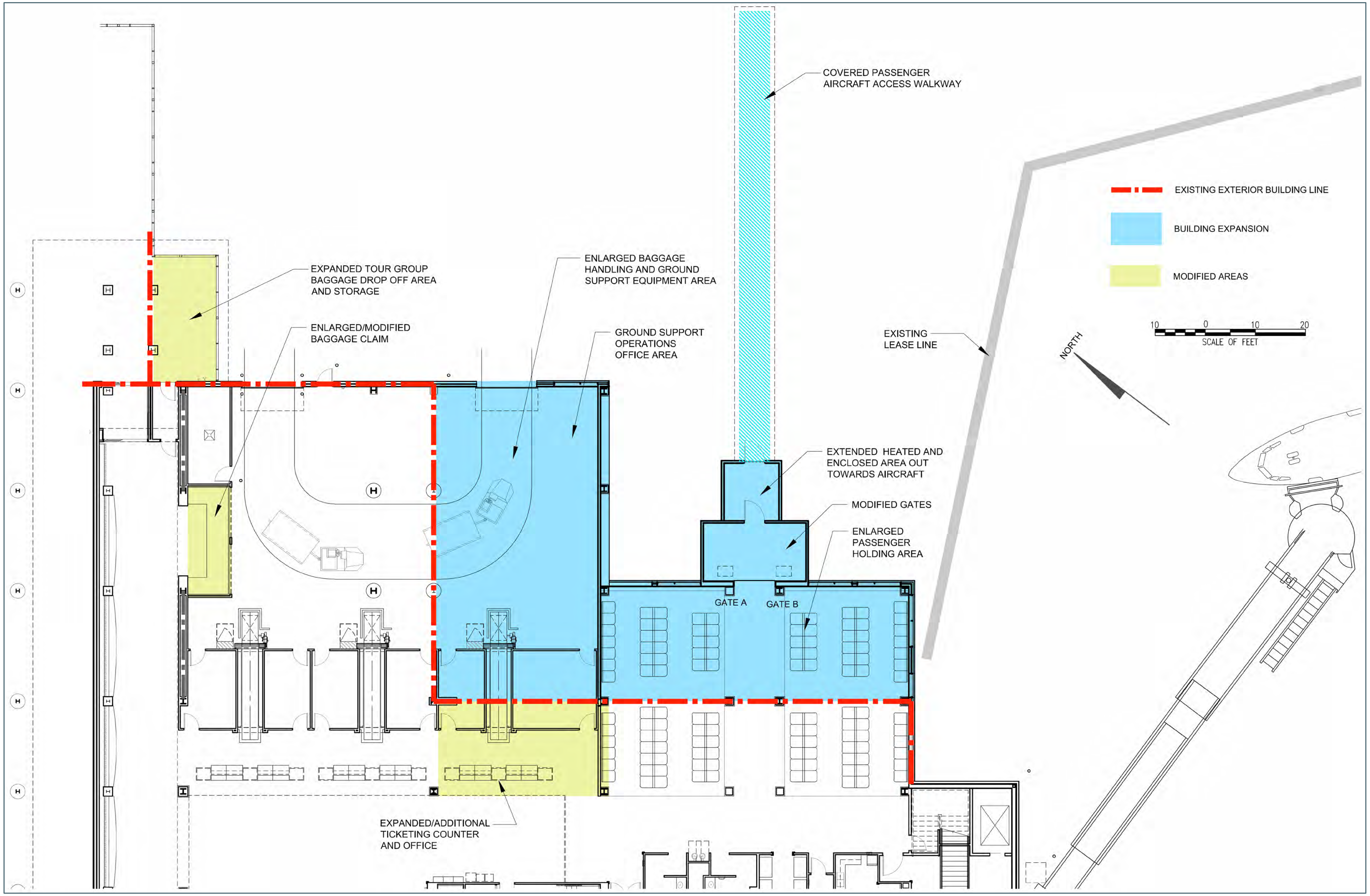

Figure 5-9 – Option RT-2 – East Expansion

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5.4.2 REVISED ALTERNATIVES

Option RT-2A – East Expansion with Larger Passenger Holding Area

Option RT-2A, illustrated in Figure 5-10, is a modified version of Option RT-2 – East Expansion.

Option RT-1 was eliminated from consideration, primarily because Option RT-2 not only benefited the regional terminal building but also facilitated passenger boarding by extending the building itself out toward the aircraft parking area. The passenger boarding service level is one of the top concerns of the regional carriers. Option RT-2 also provides for future growth and increased usage of the regional terminal, whereas Option RT-1 does not.

Both Options RT-1 and RT-2 were compatible with the existing design aesthetics of the FAI terminal overall and specifically with the region terminal design. Option RT-1 would have most likely cost less to construct because it is a slightly smaller expansion. However, unlike Option RT-2, Option RT-1 would involve more demolition of the existing structure at the north vestibule and canopies, followed by construction of new exterior canopy areas. Option RT-2 does not require any structural modifications to the north vestibule and canopy area, although there would be coordination issues involving temporary configurations during the modification and relocation of the passenger holding area and regional gates.

The major advantage in Option RT-2A is the use of the terminal expansion to minimize the distance to the aircraft parking positions and to better accommodate future growth of regional carrier operations by expanding and rearranging the passenger holding area into four leasable spaces. The building expansion would efficiently extend existing structural grid lines toward the aircraft parking positions. An area for future expansion of the baggage claim is also identified. Option RT-2A also introduces a space for a small food/beverage concession, such as a coffee cart.

5.4.3 FAI ADVISORY BOARD REVIEW

Preferred Alternative – Regional Terminal Improvements

The Preferred Alternative, illustrated in Figure 5-11, is a further developed version of Option RT-2A. The north vestibule is consolidated into one larger vestibule to create a larger open area for circulation of incoming and outgoing patrons. This will help alleviate the tour group and regional airline passenger bottleneck. A baggage belt is proposed as a solution to the deficiencies in the baggage claim area. Use of a baggage belt will improve both service to passengers and the baggage handling operations for the regional carriers. Open area in front of the baggage belt will improve circulation patterns for people claiming their bags and for those passing through. The area designated for concessions is in a more visible location and allotted more floor space to accommodate different options for vending machines and/or coffee carts. The passenger holding area is still designated and sized for four leasable areas, but access to the gates and boarding areas is improved. The gates themselves are better arranged than in Option RT-2A in that they are distinctly two separate gates with circulation space provided to accommodate arriving and departing passenger traffic at the same time.

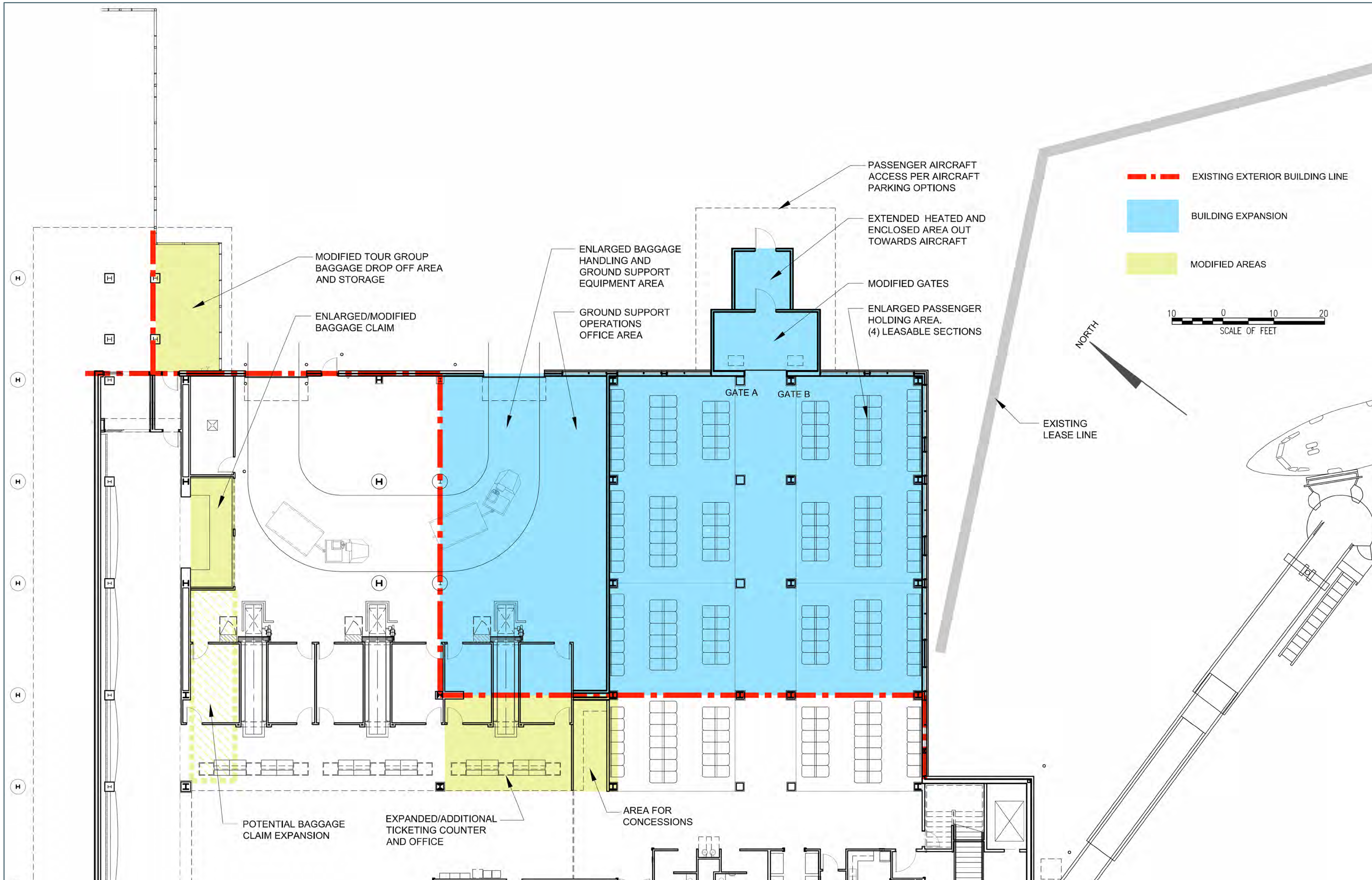

Figure 5-10 – Option RT-2A – East Expansion with Larger Passenger Holding Area

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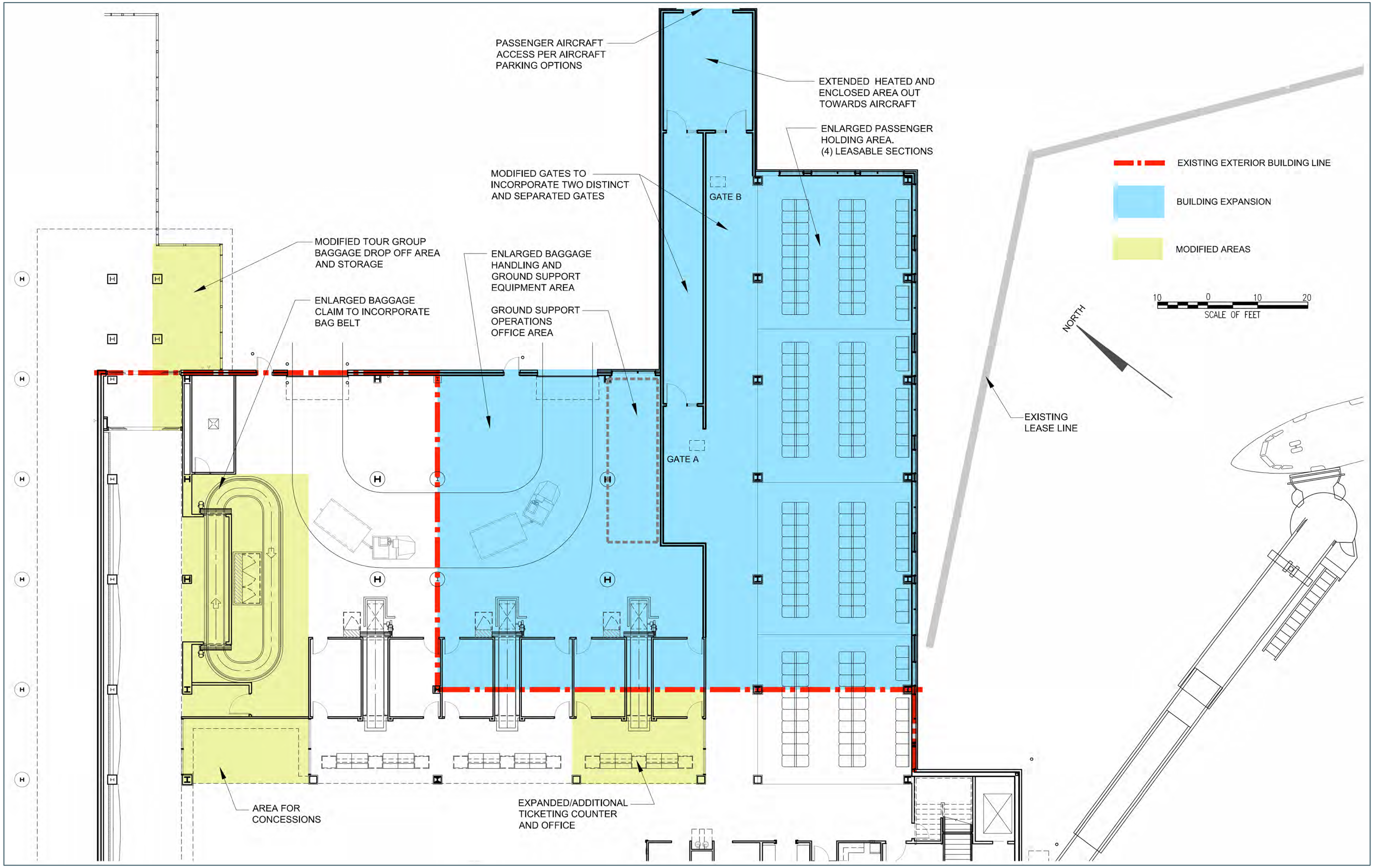

Figure 5-11 – Preferred Alternative – Regional Terminal Improvements

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5.5 REGIONAL AIRLINE PARKING ALTERNATIVES

All regional carriers at FAI currently ground-load passengers. The distance from the gate to the aircraft has been noted as excessive, especially in extremely cold weather. Additionally, the lack of a clear path from gate to aircraft causes passenger safety issues, particularly when several aircraft are loading simultaneously.

5.5.1 IDENTIFICATION OF REGIONAL AIRLINE PARKING ALTERNATIVES

The Facility Requirements chapter of this master plan update indicates the regional passenger service level is hindered by the walking distance from the regional gates out to the aircraft parking positions. Preliminary analysis identified four options directed at improving the aircraft parking positions and associated passenger boarding access routes. With the input of users, regional carriers, and FAI staff, alternatives were created and refined, leading to a preferred alternative.

Option AP-1 – One Aircraft Directly at the Gate

Option AP-1, illustrated in Figure 5-12, explores the option of parking one aircraft as close as possible to the gates, thus reducing the distance passengers need to walk exposed to the winter elements when boarding or deplaning. Although the most convenient walking distance is only to that one aircraft, the walking distance to all parking positions is slightly reduced by the extension of the terminal towards the aircraft parking positions. Under Option AP-1, all aircraft would park in pull-in/pull-out positions.

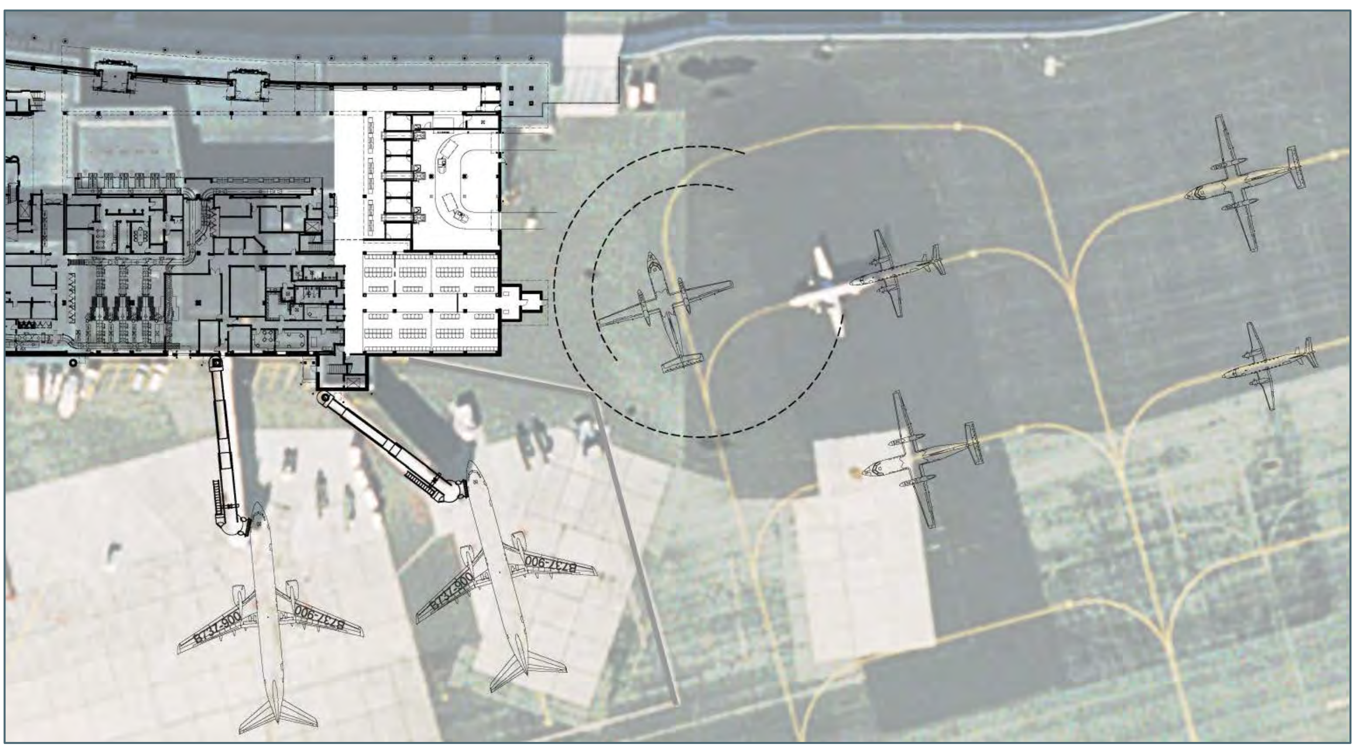

Figure 5-12 – Option AP 1 – One Aircraft Directly at the Gate

Option AP-2 – Covered Walkway with Pull-In/Pull-Out Aircraft Parking

Option AP-2, illustrated in Figure 5-13, provides a covered walkway to the aircraft parking positions. All aircraft would park in a pull-in/pull-out position.

The degree of enclosure of the walkway and how or whether it is heated would be determined at the time of the expansion. If heating is provided, it would only be used during short periods of time when the walkway is being used by passengers.

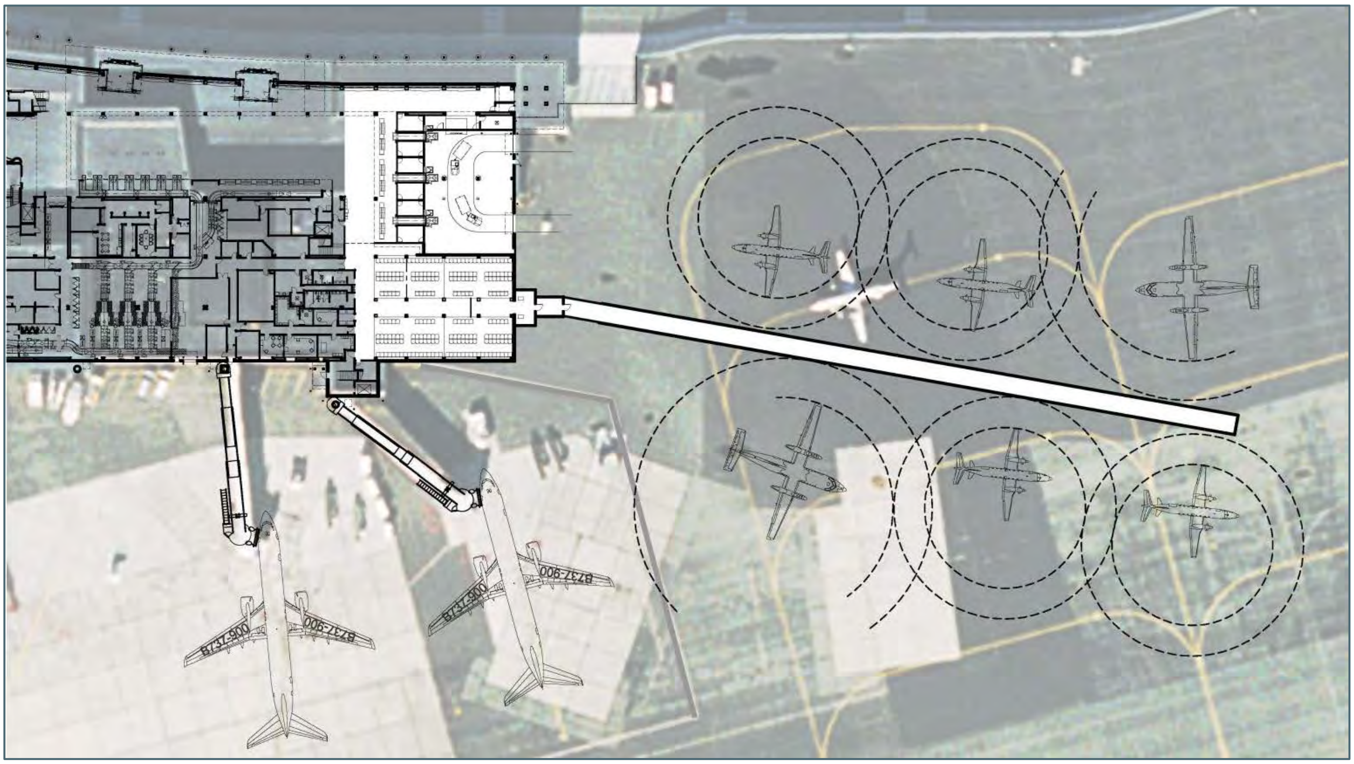

Figure 5-13 – Option AP-2 – Covered Walkway with Pull-In/Pull-Out Aircraft Parking

Option AP-3 – Covered Walkway with Pull-In/Push-Back Aircraft Parking

Option AP-3, illustrated in Figure 5-14, reduces the covered walk distance as compared to Option AP-2. In order to bring all the aircraft closer to the terminal, the aircraft would need to park in a pull-in/push-back position. Regional tugs would be needed to push the aircraft back from the gates during departure.

The degree of enclosure of the walkway and how or whether it is heated would be determined at the time of the expansion. If heating is provided, it would only be used during short periods of time when the walkway is being used by passengers.

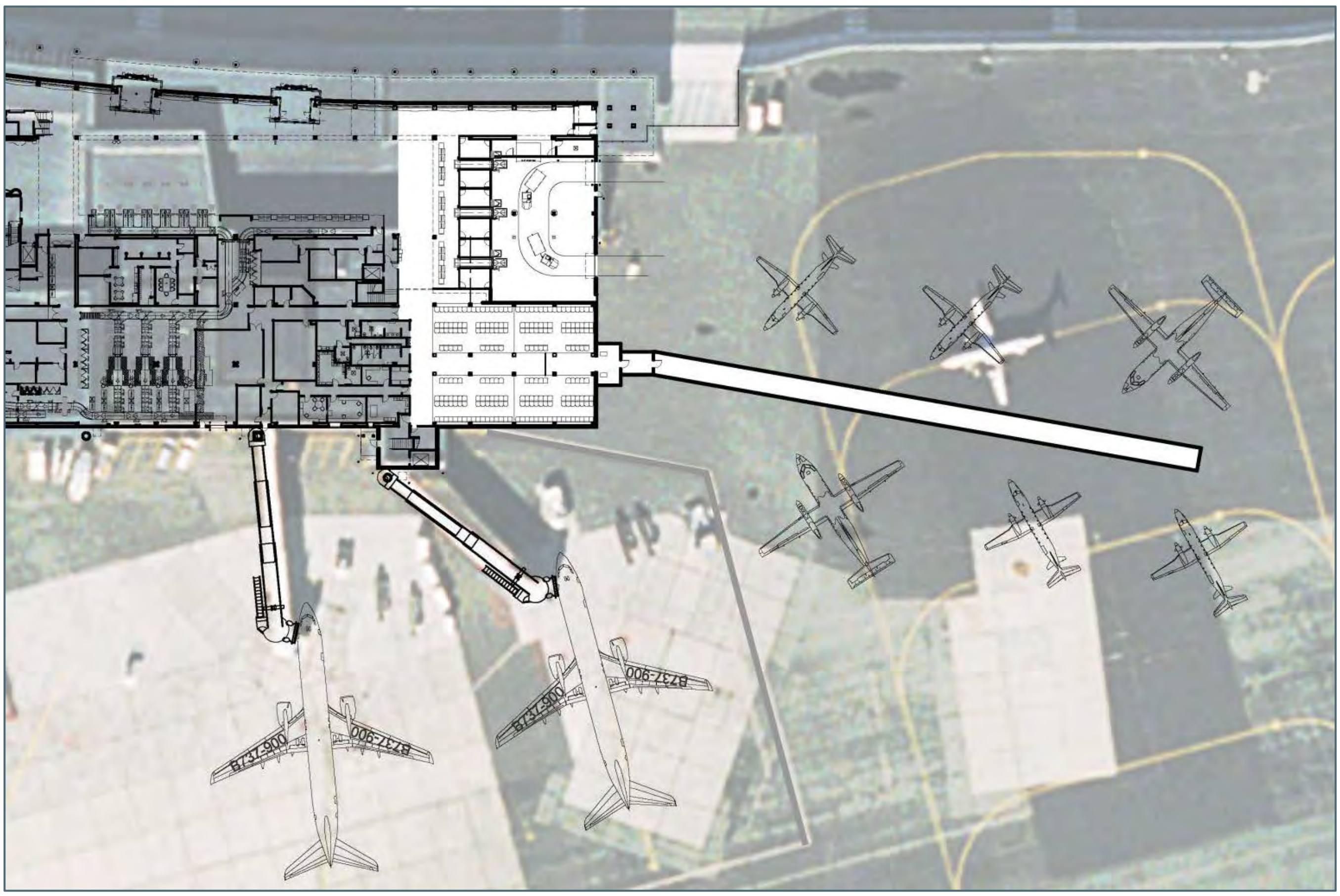

Figure 5-14 – Option AP-3 – Covered Walkway with Pull-In/Push-Back Aircraft Parking

Option AP-4 – Ground-Loading Passenger Bridges

Option AP-4, illustrated in Figure 5-13, provides ground-loading passenger bridges. This configuration would provide a fully enclosed and temporarily heated walkway structure to passenger loading bridges into the aircraft. Use of the bridges would not only improve the comfort of all passengers by keeping them out of the extreme cold of winter conditions but would also make boarding easier for passengers needing assistance and greatly improve the boarding of passengers in wheelchairs.

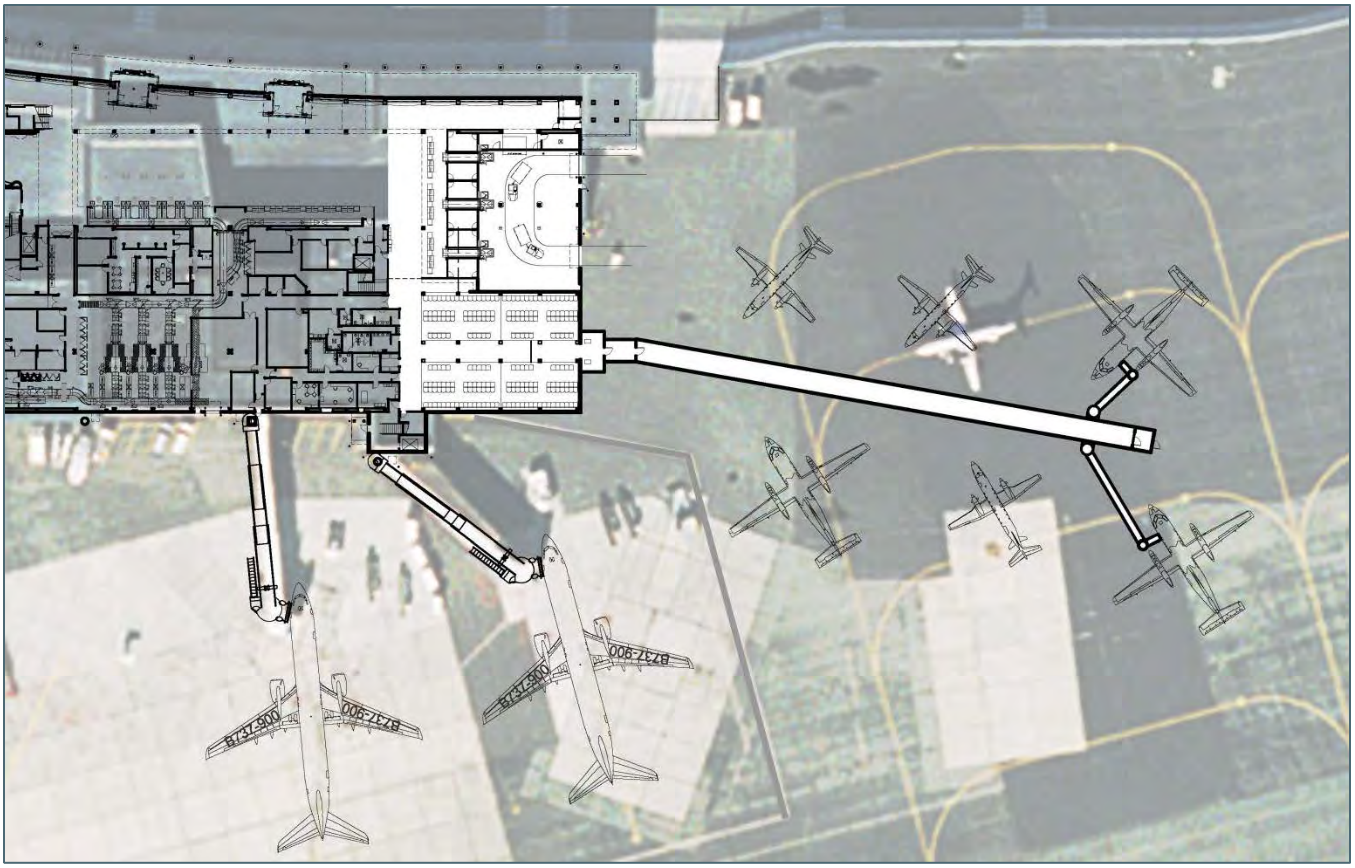

Figure 5-15 – Option AP-4 – Ground-Loading Passenger Bridge with Pull-In/Push-Back Aircraft Parking

5.5.2 REVISED ALTERNATIVES

Option AP-4A – Ground-Loading Passenger Bridges with Incremental Extension of Enclosed Walkway

Option AP-4A, illustrated in Figure 5-16, is a modified version of Option AP-4 – Ground-Loading Passenger Bridges. Option AP-4A directly addresses one of the top concerns of the regional aircraft carriers: the service level for passengers is reduced inversely to the distance they must walk in extreme cold conditions to board aircraft. Even in the summer, although the weather is of less concern, the walking distance to aircraft is significant.

Option AP-4A brings the ground-loading passenger bridges to serve the first aircraft parking positions very close to the terminal. In contrast to Option AP-4, the long enclosed walkway would be constructed incrementally. This allows for extension of the enclosed walkway and installation of additional ground-loading passenger bridges (as represented with dashed lines on Figure 5-16) to occur in phases as needed to meet demand and as funding is available. The initial stage of Option AP-4A includes two passenger loading bridges, which meets current demands. Passengers traveling to and from other aircraft parking positions beyond the passenger loading bridges would still be exposed to the elements similar to existing conditions until future segments of enclosed walkway and passenger loading bridges are added.

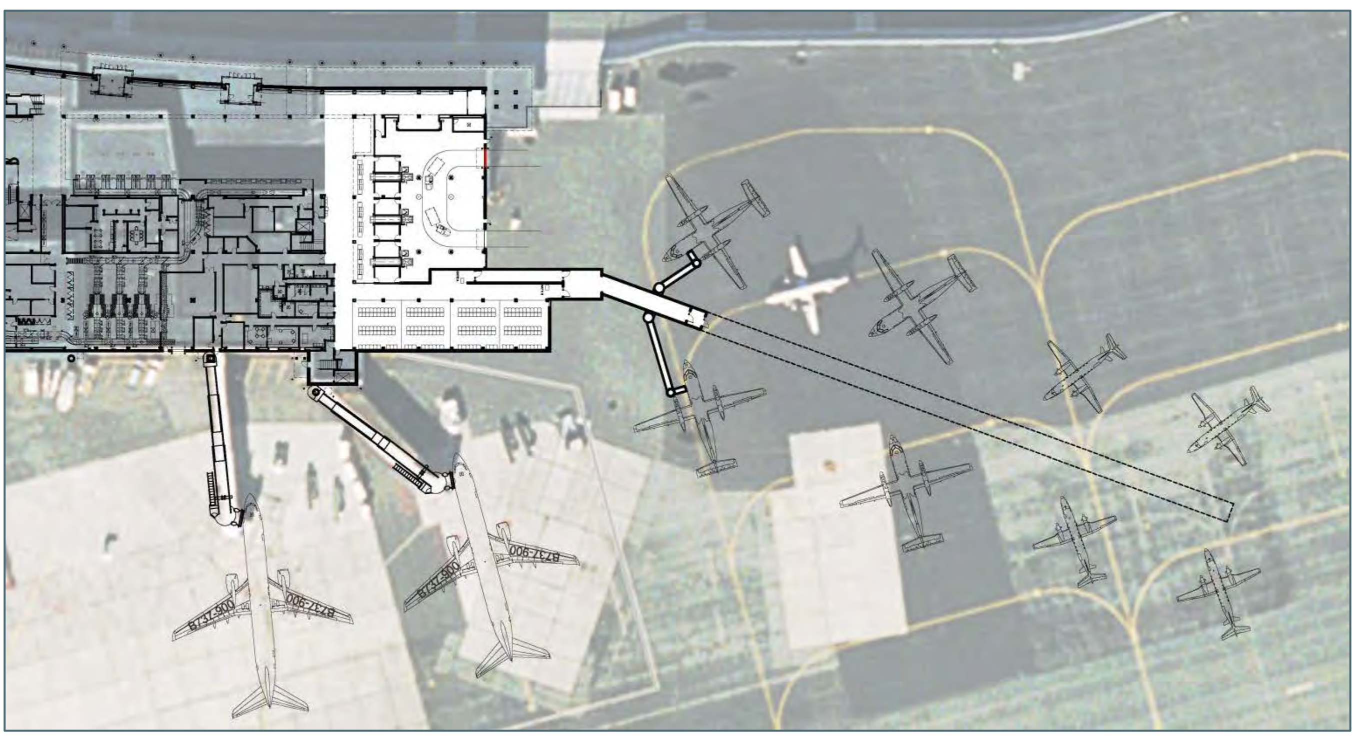

Figure 5-16 – Option AP-4A –Ground-Loading Passenger Bridges with Incremental Extension of Enclosed Walkway, with Pull-In/Push-Back Aircraft Parking at PLB Positions

5.5.3 FAI ADVISORY BOARD REVIEW

Preferred Alternative – Regional Aircraft Parking

The Preferred Alternative for regional aircraft parking, illustrated in Figure 5-17, is a slightly modified version of Option AP-4A. Any future addition or modification to the regional aircraft parking positions and associated enclosed walkways and passenger loading bridges must take into account possible conflicts associated with future modifications and upgrades to the runway and maintain all clearance distances that may be required. For this reason, the Regional Aircraft Parking Preferred Alternative is shown with future phases angling in a more northern direction.

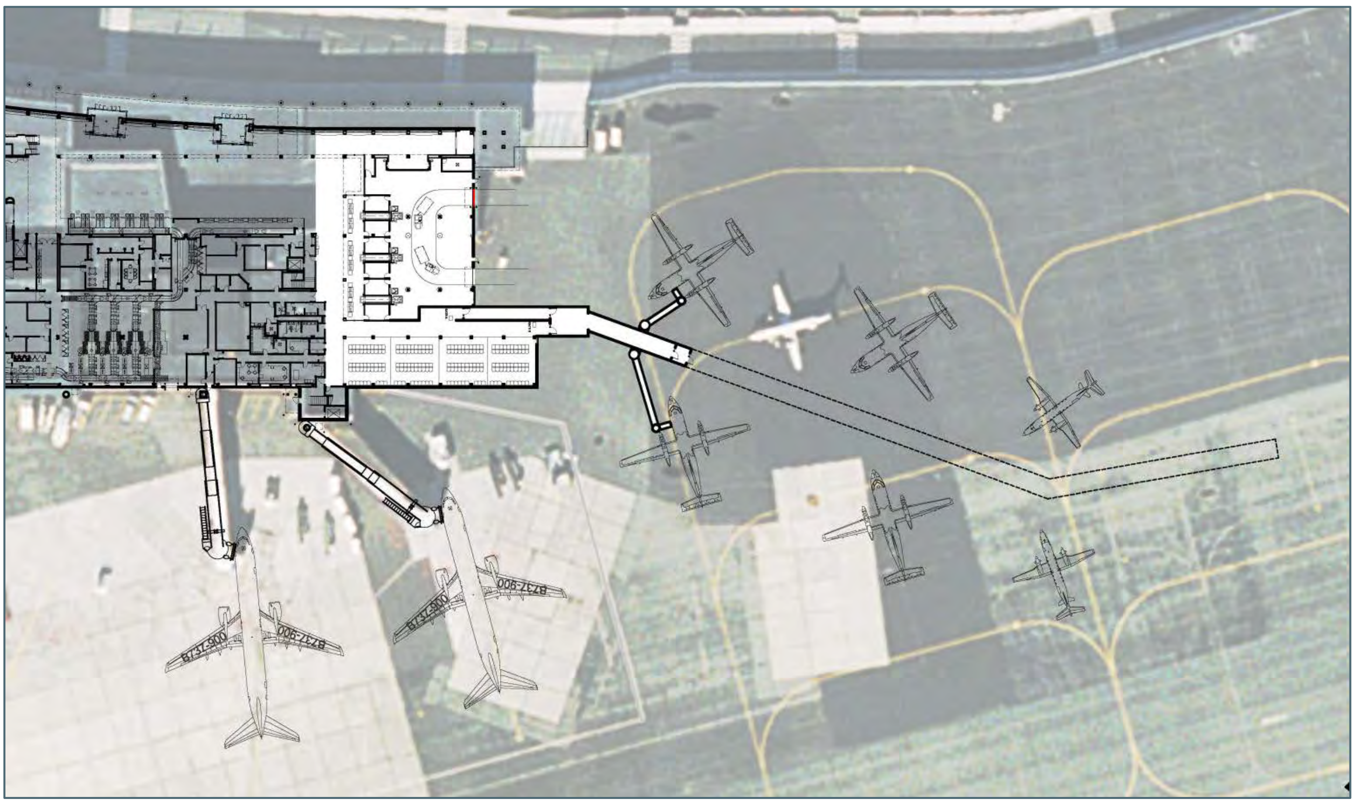

Figure 5-17 – Preferred Alternative – Regional Aircraft Parking with Pull-In/Push-Back Aircraft Parking at PLB Positions

6 Area-Wide Development Plan

This section provides a description of each airfield element recommended for implementation. The development of these elements was driven by operational considerations, FAA design standards, and airport needs. Each element was created to fulfill the facility requirements identified for the Airport within the scope of the master plan project. The following facilities are addressed: Taxiway B, west side ADG V upgrades, cargo tech stop hardstands, aircraft deicing positions, aircraft fueling areas, and the general aviation (GA) apron.

This development plan included a highly collaborative effort which pulled together the analysis conducted in this master plan update and previous planning efforts.

6.1 TAXIWAY B ENHANCEMENTS

Taxiway B, the taxiway that connects the east and the west sides of the airport, was a key issue from the onset of this master plan update. The facility requirements analysis (Chapter 4) indicated the need to reevaluate Taxiway B's configuration, as it was determined that the taxiway does not fully comply with current Federal Aviation Administration (FAA) airport design standards. Additionally, the taxiway's direct routing from the East Ramp and Float Pond Road to the terminal building has contributed to recent problems with runway incursions involving vehicles. Any revisions to Taxiway B thus need to reinforce the airport's ongoing program of installing signage, gates, and other indicators to direct drivers and pedestrians onto routes that do not include controlled surfaces.

To address the remaining safety concerns and design deficiencies of Taxiway B, numerous alternatives were developed. The alternative development and analysis process was driven by discussions with airport staff, the East Side Working Group (ESWG), and the FAA. Because of Fairbanks International Airport's unique layout and fleet mix, special consideration was required in regards to the dynamics involved in evaluating safety regarding Taxiway B's intersection with Runway 2L/20R. Details about each of the alternatives and the evaluation process can be found in Chapter 5, Alternatives.

The preferred alternative, illustrated in Figure 6-1, retains Taxiway B as the preferred location under the airport's current configuration for a taxiway that connects the east and west sides of the airfield. The alternative adds numerous safety enhancements, including islands to separate apron areas from the taxiway, enhanced runway hold position markings, surface painted hold signs, enhanced taxiway centerline markings, and elevated runway guard lights. In addition, the preferred alternative provides an access gate installed at the southern end of Float Pond Road.

6.2 WEST SIDE FULL AIRCRAFT DESIGN GROUP V UPGRADE

Aircraft operations at FAI are divided between the east and west sides of the airfield. The west side accommodates all commercial operations and includes Runway 2L/20R and Taxiway A. In the Facility Requirements analysis, Runway 2L/20R and Taxiway A were determined to be satisfactory in regards to capacity within the planning period. However, the separation between Runway 2L/20R and Taxiway A was identified as an obstacle to future growth that may need to be addressed within the planning period.

The issue stems from the airport's position and role within the Alaska International Airport System (AIAS). As discussed previously in this master plan update, the 2013 *AIAS Planning Study* explored the possibility and implications of a shift in international all-cargo traffic from ANC to FAI. Shifting cargo traffic to FAI was presented by the AIAS Planning Study and the recent ANC Master Plan Update, as a method to prevent future delay at ANC.

The international cargo operators using the Alaska airport system primarily operate Boeing 747-400 aircraft, as well as 747-8 aircraft. These are Design Group (ADG) V and VI aircraft, respectively. The Boeing 747-8 currently operates at FAI during diversions from ANC and was identified as the design aircraft for Runway 2L/20R in Chapter 3 of this master plan update.

Through an informal agreement between the FAA and the airport, the Boeing 747-8 is treated as an ADG V aircraft at Fairbanks. The FAA has issued engineering briefs providing approval authority for formal modifications to standards (MoS) for the Boeing 747-8 to operate as an ADG V aircraft. However, no formal MoS for the 747-8 is currently in place at FAI.

Runway 2L/20R is designed to accommodate ADG V aircraft, but the separation between the runway and taxiway is not enough to allow unrestricted ADG V operations when visibility is less than ½ mile. The separation requirement between the runway and taxiway centerline for unrestricted operations is: 400 feet and 500 feet when visibility is below ½ mile for ADG V aircraft; and 500 feet and 550 feet when visibility is below ½ mile for ADG VI aircraft. The existing separation is 400 feet.

Table 6-1 depicts the restrictions currently in place on Taxiway A during various weather conditions. The existing operating environment does not offer the full capability of the runway and navigational aids to pilots, and has the potential to create capacity issues in the future.

Table 6-1 – Taxiway A Status: 400-Foot Separation Between Runway and Taxiway

	VFR	IFR- Visibility greater 1/2 mile	IFR - Visibility less 1/2 mile
Design Group I to IV	OPEN	OPEN	OPEN
Design Group V	OPEN	OPEN	RESTRICTED
Boeing 747-8	OPEN	OPEN	RESTRICTED
Design Group VI	CLOSED	CLOSED	CLOSED

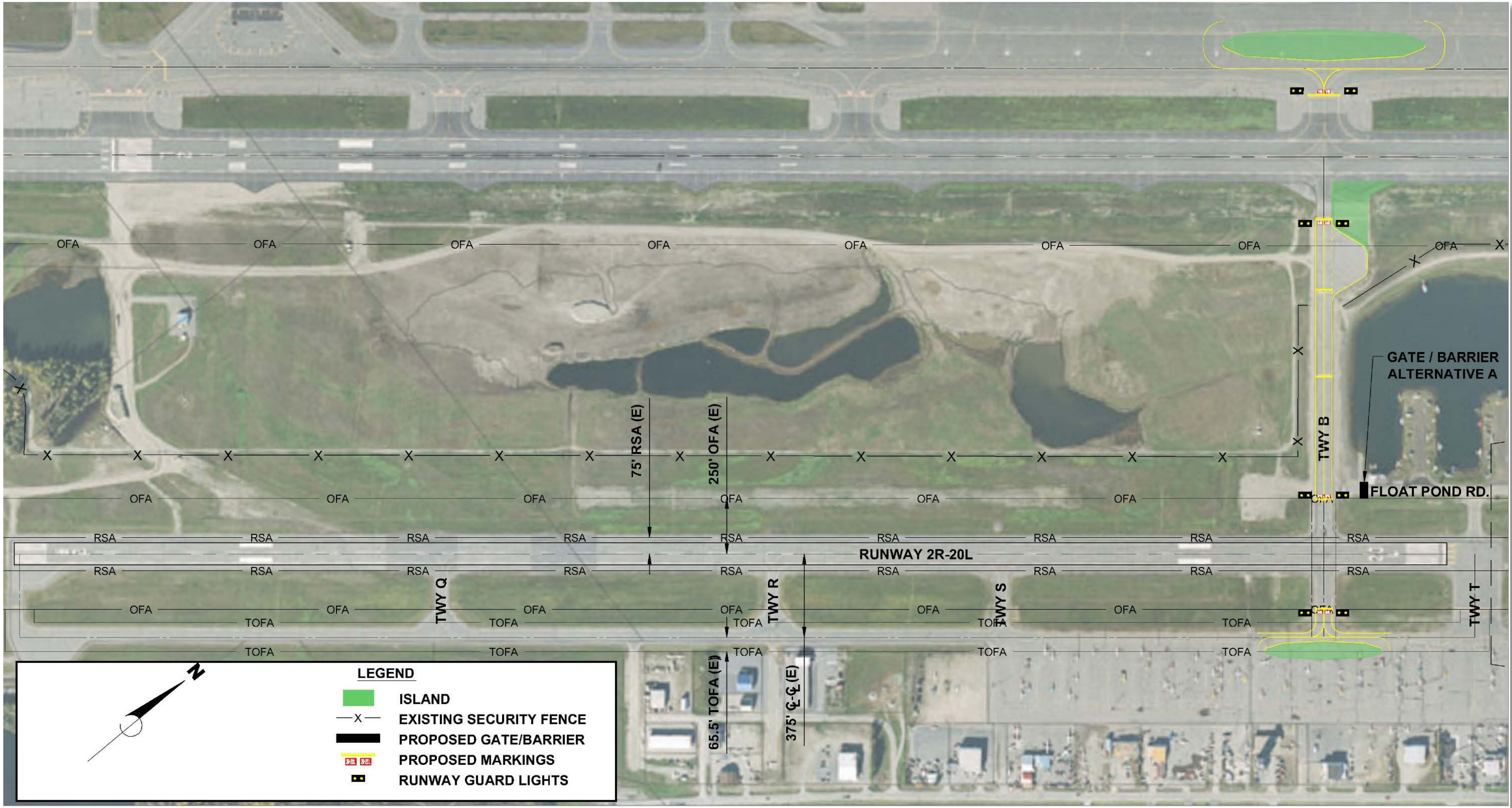

Figure 6-1 – Preferred Taxiway B Alternative

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The two airports within the Alaska International Airport System, FAI and ANC, serve as Alaska's primary links to the rest of the world, both physically and economically. According to the AIAS, "both airports serve as alternates for one another; equipped to handle any size and type aircraft, anytime, with state-of-art landing systems and terminal facilities." Taking these facts into consideration, it is important that Runway 2L/20R be able to accommodate ADG-V aircraft.

In determining the future needs of Runway 2L/20R, the number and type of ADG V and ADG VI aircraft forecast to operate at FAI was evaluated. It was noted that when excluding the 747-8, the number of ADG VI aircraft forecast to operate at FAI in the future is extremely small. The reason for this is that cargo carriers have not shown interest in, and Airbus has not produced a cargo version of, the A380.

The analysis led to a preferred alternative that recommends an increase of the runway to taxiway centerline to 500 feet, as illustrated in Figure 6-2.

The 500-foot separation is sufficient to accommodate the forecast number of ADG V aircraft. As shown in Table 6-2, it will also allow for unrestricted operations of these aircraft as well as the airport's design aircraft. It is assumed the 747-8 will continue to be treated as an ADG V aircraft.

Table 6-2 – Taxiway A Status: 500-Foot Separation Between Runway and Taxiway

	VFR	IFR- Visibility greater 1/2 mile	IFR - Visibility less 1/2 mile
Design Group I to IV	OPEN	OPEN	OPEN
Design Group V	OPEN	OPEN	OPEN
Boeing 747-8	OPEN	OPEN	OPEN
Design Group VI	OPEN	OPEN	RESTRICTED

Moving Taxiway A to the west to provide the 500-foot separation would impact the vehicle service road (VSR) and deicing pads. The VSR could be moved outside of the Taxiway A object free area, but property lease lines would also need to be shifted. If the taxiway is shifted in the future, additional study will be required to fully analyze the impact.

The need to implement the 500-foot separation is dependent on the future of air cargo in Alaska. The shift of air cargo traffic from ANC to FAI is not a decision of the State, but a choice to be made by the cargo operators themselves. The carriers' decisions will likely be based on cost, policy, demand, incentives, and services. Service is the factor that the 500-foot separation is linked to; specifically, providing the same service in Fairbanks as currently available in Anchorage.

In summary, ANC and AIAS future plans include preparation for a shift of cargo traffic to FAI. To remain in sync with these plans, FAI must also prepare for this scenario. Thus, FAI should plan for future implementation of the 500-foot separation within the planning period. Planning should include reevaluating lease lots adjacent to the VSR to allow the VSR to be moved to the west. Additionally, it is recommended that the airport maintain current 747-8 operations and continue to coordinate with the FAA in regard to obtaining a formal MoS for the 747-8.

It should be noted that the analysis for the 500-foot separation was based on the current and forecasted fleet mix. If ADG VI aircraft, such as the Airbus A380, become common aircraft used by the air cargo industry, additional upgrades to Runway 2L/20R may be necessary.

6.3 CARGO TECH STOP HARDSTANDS

The AIAS *Forecast Technical Report* of October 2012 (AIAS Study) indicated that FAI's six existing cargo tech stop hardstands will provide adequate capacity throughout the planning period. Under the 50% cargo shift scenario, however, it is recommended that FAI preserve the option to add four more cargo tech stop hardstands. Various potential locations for the new hardstands were examined. Land use, infrastructure, and taxiway configurations were the driving elements behind each option brought forth for discussion and evaluation. Development options consisted of 1) a midfield location in between the parallel runways in-line with Taxiway Q and G; 2) an expansion of the current hardstand facility to the west; and 3) an expansion to the south.

The preferred development, illustrated in Figure 6-3, proposes to add four hardstands to the south of the existing hardstands. Development at this location offers several advantages:

- It requires no land acquisition
- It maintains a consolidated cargo facility
- Realignment of Airport Industrial Road and the parallel railroad track to accommodate the new hardstands will also allow for future aeronautical development next to the cargo area
- Additional deicing positions can be installed as needed

Anticipated environmental considerations include wetlands impacts associated with relocating Airport Industrial Road and constructing the new hardstands. The preliminary noise analysis conducted for this plan (discussed in Section 2.4.6) recommends a more detailed noise model for the cargo apron expansion project. Finally, environmental permitting and documentation should address the floodplain impacts for the expansion. Chapter 2 identifies the cargo apron expansion area as existing in FEMA-mapped Zone AE, an area subject to inundation by the 1%-annual-chance flood event. Floodplain management standards would apply.

Expansion of the cargo area to the west was determined to be an inefficient layout for both cargo operations and snow removal operations, and was dismissed. Development between the runways was dismissed as well, as separating the cargo facilities would create undue inconvenience for cargo carriers needing to operate at both facilities.

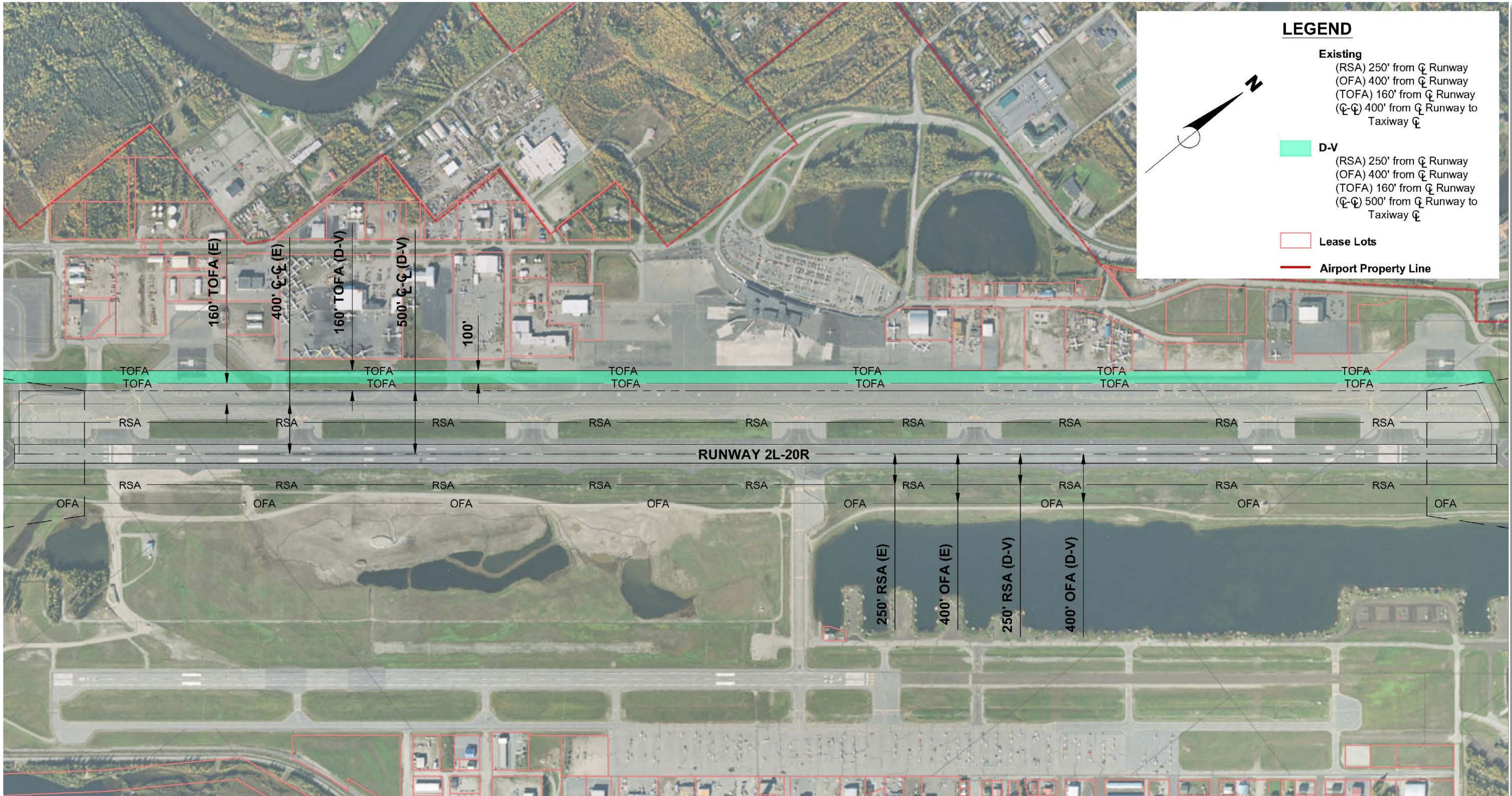

Figure 6-2 – Preferred West Side Alternative – Full ADG V Upgrade

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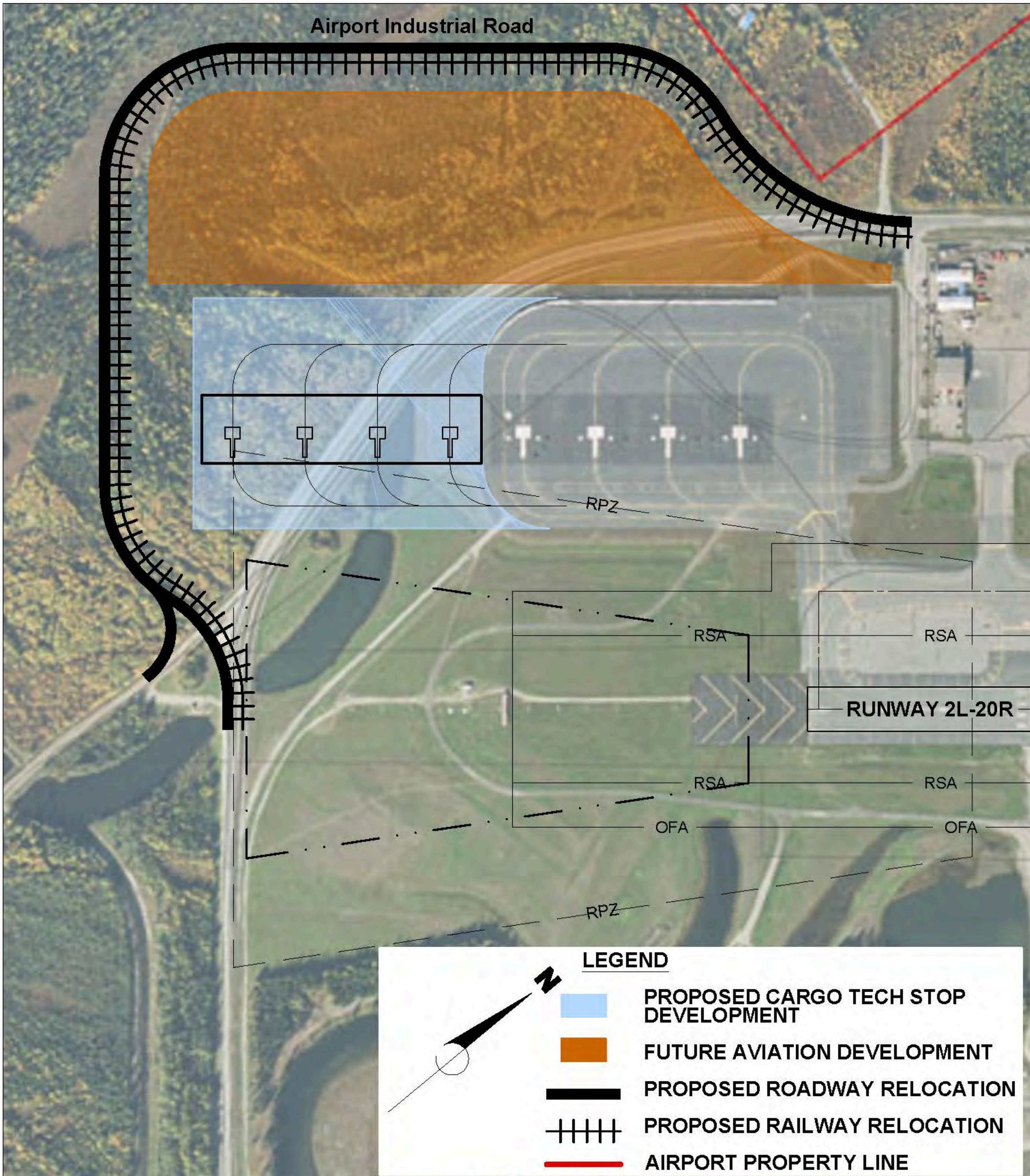

Figure 6-3 – Preferred Cargo Tech Stop Hardstands Alternative

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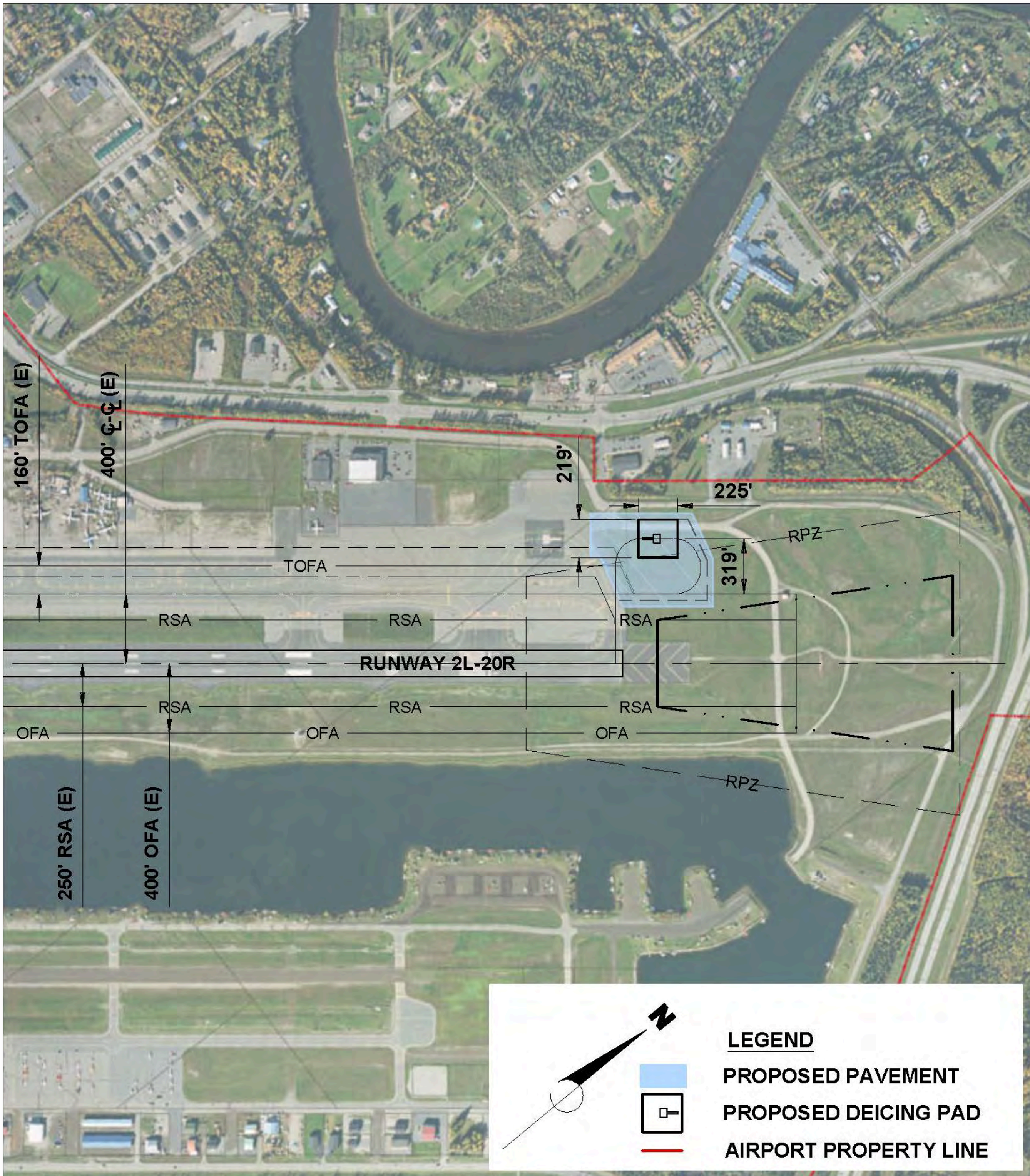

Figure 6-4 – Preferred Aircraft Deicing Positions Alternative

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6.4 AIRCRAFT DEICING POSITIONS

The airport currently has two deicing pads, one adjacent to the threshold of Runway 2L and one adjacent to the threshold of Runway 20R. Based on current operations, the AIAS Study recommended that additional deicing capacity be provided by constructing a new pad. According to the analysis of the facility's current capacity in Chapter 3 of this master plan update, it was determined that the airport will need one additional deicing pad by 2020 under the base forecast.

The preferred alternative carried forward for implementation is shown in Figure 6-4. It features a new deicing pad constructed adjacent to the threshold of Runway 20R, in line with the existing pad. This location was chosen based upon current noise abatement procedures, which include the preference that aircraft depart to the south during morning and evening hours if the winds allow. Early morning deicing operations for aircraft that have been parked overnight commonly take place on the north pad. In addition, no wetlands permit would be required for this location because no mapped wetlands exist in this area.

Under the ANC 50% cargo shift scenario, an additional deicing pad will be necessary. For this deicing facility, a location more convenient to the cargo hardstand area was examined. The recommendation is to convert one or two of the current cargo positions to accommodate deicing operations and continue to serve as a parking positions. To dispose of deicing fluid runoff, either the cargo area's current grading could be used in conjunction with a deicing collection system, or else slotted drains could be constructed within the existing hardstands. When the four new hardstands are constructed, an integrated deicing collection system should be included. Key environmental considerations for this project include potential impacts to water quality and wetlands permitting. Construction of the south pad will be based on the needs of the commercial cargo carriers in the future.

6.5 FUEL STORAGE FACILITIES

Based on the forecast, FAI has adequate capacity for fuel storage through the planning period. With the potential for more international cargo activity shifting over from ANC, however, additional storage may be necessary depending on flight frequency and aircraft type.

Currently, there are two fuel storage facilities at the airport. The inactive southern facility has been decommissioned, and that site has contamination issues. (For additional details, see Chapter 4, Facility Requirements.) The north facility is active, with storage for 978,000 gallons of Jet A fuel contained within 150,000 square feet of land. The facility requirements analysis determined that an additional 10,000 square feet of land will be needed for additional fuel storage tanks by 2030 if the 50% cargo shift scenario occurs. This amount of land is currently available within the premises of the north facility. Should the south facility be remediated, it would provide further storage capacity and land.

Fuel storage is a vital component for successful airport operations in Fairbanks. If the process by which fuel is refined, moved, and stored in the Fairbanks region changes in the future, this could result in the need for additional fuel storage at the airport. To accommodate all future scenarios, additional land should be reserved adjacent to both the north and south fuel facilities, as illustrated in Figure 6-6 on page 6-15.

6.6 GENERAL AVIATION / OTHER ITEMS OF CONCERN

The following items were identified during the previous master plan update or this master plan's Facility Requirements analysis as deficient or needing to be updated.

- Lease lot expansion
- Float pond slip expansion
- Electrification of float pond
- Miscellaneous other development items

6.6.1 LEASE LOT EXPANSION

The need for additional leasing opportunities on the east side of the airport was identified early in the master planning process. It is recommended that new lease lots be made available in phases to promote orderly development on the east side (see Figure 6-5 on page 6-14). While development of the lease lots is the responsibility of the lease holder, the airport can improve the business climate and attract new tenants by developing the common use facilities such as roads, taxiways, and utilities.

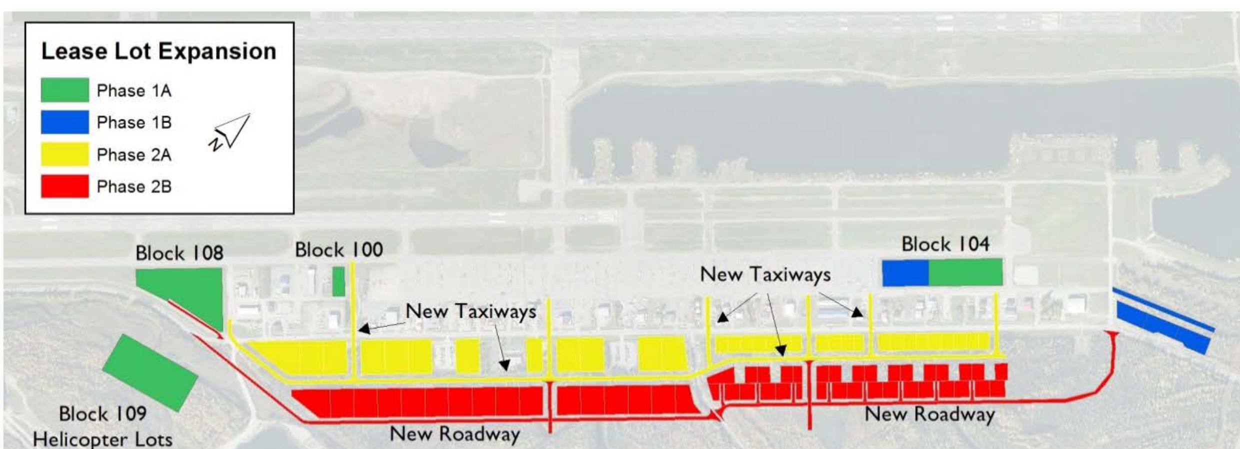

Figure 6-5 – Lease Lot Expansion

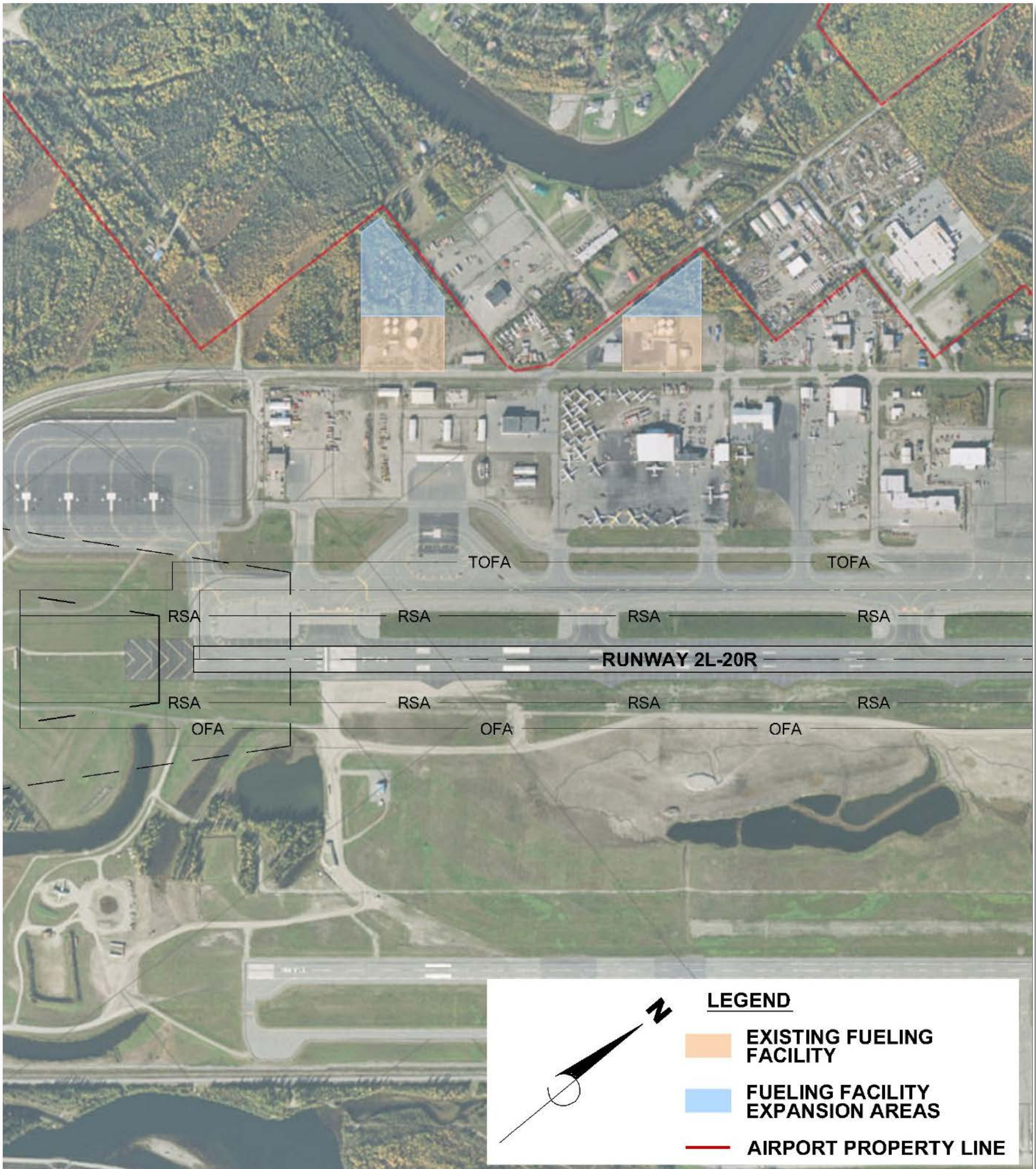

Figure 6-6 – Preferred Fuel Storage Facilities Alternative

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Phase 1A is the most detailed phase. It includes the following:

- Block 104, Lots 1-4: General Aviation Development: A vacant parcel of land adjacent to the northeast end of the ski strip is now designated as Block 104. Lots 1 and 2 are available for high-density (i.e., T-hangar) development; Lots 3 and 4 are available for private aircraft hangar development.
- Block 109, Lots 1-3: Helicopter Lease Lots: Lots 1-3 of Block 109 are reserved for helicopter hangars. These lots are located on the southern- and easternmost side of University Avenue South, running parallel to Drainage Channel "A," and southeast of Block 108, Lots 1A-D, 3, 4, 5, 6, and 7.
- Block 108, Lot 8: Reconfiguration: Block 108, Lot 8, has been reconfigured to include six lots of varied dimensions and sizes for general aviation development. Lots 8-13 are located directly west of the existing developed Block 108 leased lots.
- Block 103, B Lots: Change in Authorized Use: Current authorized uses for Block 103 B Lots will be revised to include construction of hangars/structures for aviation use.
- Block 100, Lot 6: Reconfiguration: Block 100, Lot 6A should be reconfigured to be compatible with future expansion plans.

Phase 1B recommendations include:

- Three new lease lots at the north end of the east side, adjacent to the existing air park. These lots should be sized for ADG I and ADG II aircraft.
- Four new lease lots on the south end of Block 104.

Subsequent phases should be implemented when demand warrants.

Phase 2A recommendations include:

- Designation of 32 new lease lots on the east side of University Avenue. Gates should be installed at all road crossings.

Phase 2B recommendations include:

- Designation of 49 new lots east of the Phase 2A lots, including taxiways and road relocations. Development of these lots requires the relocation of University Avenue. Gates should be installed at all road crossings.

Substantial environmental impacts, to categories including wetlands, noise, and water quality, are anticipated for Phases 2A and 2B. Further study will be required before implementation of this phase.

6.6.2 FLOAT POND SLIP EXPANSION

Areas for adding new float pond slips are limited by the location and configuration of the float pond.

Construction of new "fingers" on the east side of the float pond is the preferred alternative to accommodate the demand. Construction will require additional study of impacts to wetlands, water quality, wildlife hazards, and stormwater.

6.6.3 FLOAT POND ELECTRIFICATION

In addition to the need for new float pond slips, earlier phases of the master plan update identified a demand for electricity at 40 slips. Electricity can be provided by extending existing power lines from the GA apron to the float pond. Electrical connections could be added during the construction of the fingers discussed above.

6.6.4 OTHER ITEMS

An aircraft wash rack and deicing facilities on the east side are also needed. These facilities do not typically fall under the responsibility of the airport, but rather private development. Therefore, identifying sites for these facilities in the master plan is not warranted. However, the airport can facilitate development of these facilities by reserving land and providing common use infrastructure such as roads and utilities. Considerations for approving private development of these facilities include:

- Connection to utilities, particularly water collection and treatment systems
- Easy access by aircraft
- Proximity to the runway to reduce holdover times (deicing)

7 Implementation Plan

The implementation plan incorporates airport improvements identified in the facility requirements analysis (Chapter 4) with the preferred alternatives identified in the alternatives evaluation (Chapter 5) and the overall development plan (Chapter 6) to produce a blueprint for future project development. The plan balances funding constraints, project sequencing limitations, environmental processing requirements, agency approvals, and sponsor preferences. This chapter of the master plan is intended to become one of the primary references for decision makers responsible for implementing the plan's recommendations.

Within this implementation plan, recommended projects are presented in four groups based on their anticipated implementation timeframe, as follows:

- Phase I – Near term (0 – 5 years)
- Phase II – Medium term (6 – 10 years)
- Phase III – Long term (11 – 20 years)
- Demand-driven/50% Cargo Shift scenario

Because conditions change from year to year, each phase represents a period rather than a calendar date, and in the case of demand-driven recommendations, implementation will be determined by trigger points. The first phase of the plan contains more detail than subsequent phases. Airport management should periodically review the appropriate time for development and adjust as needed to account for changing circumstances such as funding availability and actual demand for facilities and improvements. The 20-year development program totals $95.8 million (in 2014 dollars, not considering inflation).

Each project in the implementation plan satisfies one of three purposes:

- Safety/Security
- Demand
- 50% Cargo Scenario

Safety/Security projects are those that address airfield safety or security issues as identified in the Facility Requirements (Chapter 4) section of this plan. These projects generally fall in the near- and mid-term. They are identified with an "S" in this implementation plan.

Demand-based projects are those that will be implemented contingent upon a certain trigger occurring, such as passenger enplanements or aircraft operations. Demand-based projects can occur at any time during or beyond the planning period. Identifying their scope and respective trigger points now allows the airport to prepare for them while still providing flexibility in the timing of implementation. These projects are identified with a "D."

The **50% Cargo Shift Scenario** was developed for this master plan update as part of the coordination with the concurrent AIAS plan and ANC master plan. As described in Chapter 6, this scenario calls for certain projects be implemented to accommodate an increase in cargo traffic at FAI. Because neither the airport nor the AIAS can direct cargo carriers to come to FAI, the recommendations for this scenario are contingent upon business decisions by major cargo airlines. They are included in this master plan to help the airport prepare for a potential increase in cargo traffic by identifying trigger points, prerequisites, and environmental requirements. They are labeled with a "C" on the following pages.

Looking beyond the 20-year planning period, the airport has identified an ultimate development plan (see Figure 7-1). Due to the uncertainties of forecasting facility needs beyond the 20-year planning period, the development associated with the ultimate plan is highly conceptual. The recommendations in this implementation plan are compatible with the conceptual vision of future development at the airport and the AIAS.

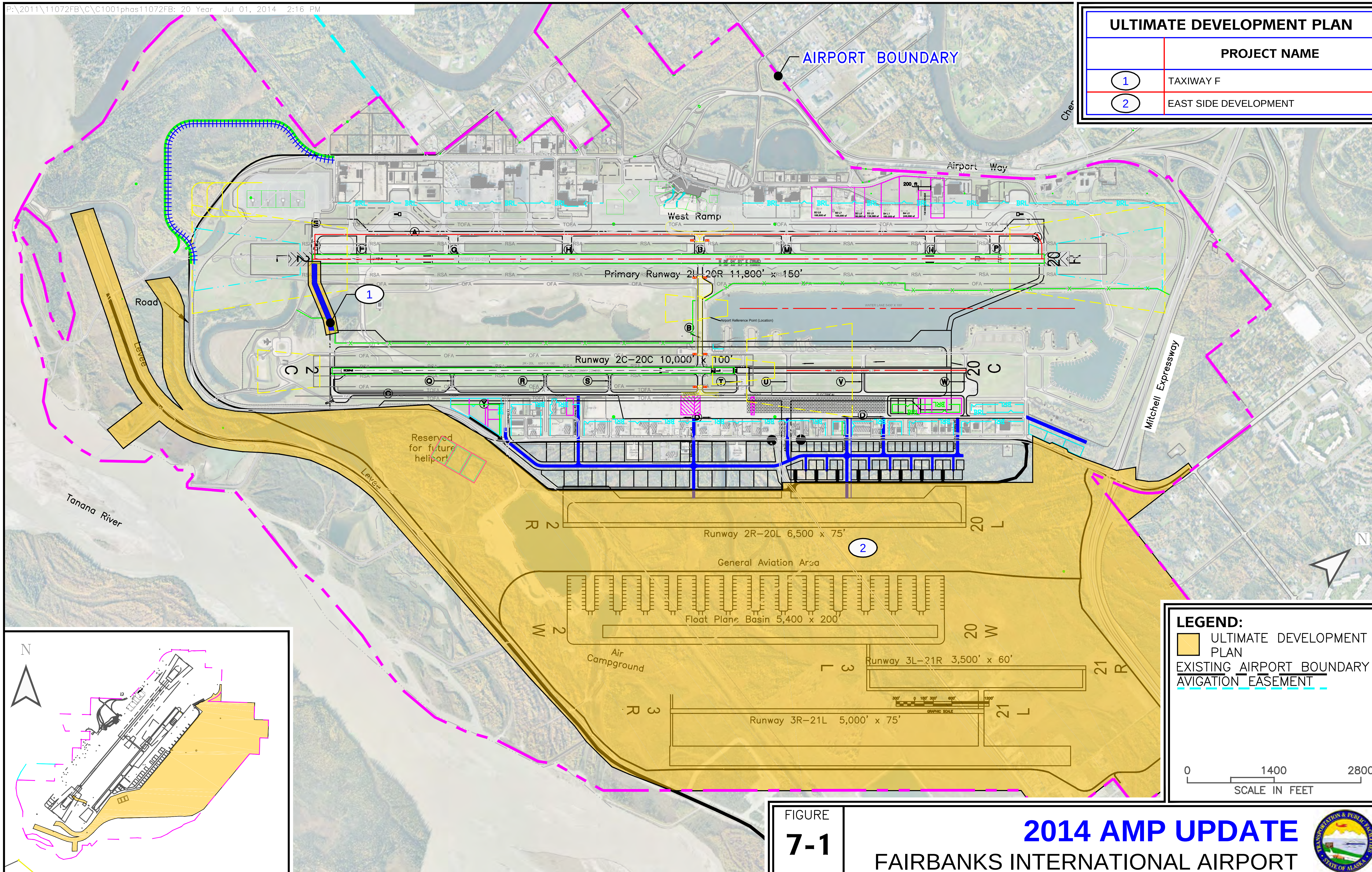
The short-term projects in a master plan typically make up the 5-year capital improvements plan (CIP) and represent the highest priority airport needs. Medium- and long-term development comprise a speculative range of projects beyond the CIP. These projects are less detailed to reflect the imprecise nature of long-range facility planning. Demand-driven projects may occur at any time during or beyond the planning period. Changes in conditions such as traffic levels, demand patterns, aircraft design changes, unstable foundation soils, or unexpected changes in funding priorities require modifications to the implementation plan and should be verified with an updated master plan.

The preliminary project costs outlined in this chapter are order-of-magnitude "planning level" costs. Actual costs will differ based on the final project scope and design. The following planning level cost estimates, all in 2014 dollars and not considering inflation in future years, include:

- Engineering design
- Construction (earthwork, paving, lighting)
- Construction administration
- Mobilization/de-mobilization
- Contingency costs

7.1 OVERVIEW OF THE RECOMMENDATIONS

The development recommendations for FAI are based on the facility requirements and alternatives developed in this master plan update. The recommendations also include projects that may be needed to help realize strategic initiatives that FAI is currently pursuing (shift of cargo tech stops from ANC) or those that will be needed to accommodate ultimate development beyond the planning horizon. Although these projects will be depicted on the Airport Layout Plan (ALP), they will not be included in the CIP. See Figure 7-1.



ULTIMATE DEVELOPMENT PLAN	
	PROJECT NAME
1	TAXIWAY F
2	EAST SIDE DEVELOPMENT

LEGEND:

- ULTIMATE DEVELOPMENT PLAN
- EXISTING AIRPORT BOUNDARY
- AVIGATION EASEMENT

0 1400 2800
SCALE IN FEET

FIGURE **7-1**

2014 AMP UPDATE

FAIRBANKS INTERNATIONAL AIRPORT

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Near-term recommendations focus on improving security on the east side of the airport and rectifying recent vehicle/pedestrian deviations (VPDs). These projects complement the existing gates, arches, and educational signage on the east side that were installed to improve situational awareness for vehicles, pilots, and pedestrians (see Chapter 2 for a history of the east side security improvements). Additional opportunities for leasing airport property on the east side are also included in the near-term.

During the intermediate time period, the airport master plan and ALP will need to be updated and some areas of pavement will need to be rehabilitated.

The long-term recommendations emphasize expansion of cargo facilities and an incremental move towards ADG VI compliance should a shift in cargo operations occur. As part of the Alaska International Airport System (AIAS), both ANC and FAI are positioned to accept additional international cargo flights. Capacity at FAI is not expected to be an issue during the planning period (see Chapter 3). However, expanding cargo facilities will aid in accommodating additional cargo flights at Fairbanks and improve the overall operating environment of the airport when cargo operations increase. FAI also serves as a diversion for ANC, which is currently the fifth busiest cargo airport in the world.

7.2 IMPLEMENTATION PROCESS

In general, each project implemented by the airport must follow specific steps. In some cases, preparing for a facility improvement may start as many as five years before that facility is actually needed in order to coordinate the funding, environmental documentation, design, and finally construction. Below is the sequence of events necessary to complete a complex airport project.

Four years prior to construction:

- Identify the project in the approved ALP
- Verify the project has or is expected to reach the implementation trigger point
- Validate project justification and funding eligibility
- Determine the level of environmental review
- Identify if flight procedures modification will be required
- Coordinate with local officials and airport users

Three years prior to construction:

- Identify funding sources
- Determine in a benefit/cost analysis is necessary
- Determine if reimbursable agreement is necessary for affected navaids

Two years prior to construction:

- Refine project scope and cost estimates
- Initiate reimbursable agreements and coordinate any navaid requirements with FAA
- Submit requests for new/modified flight procedures to the FAA

- Submit a request for airspace review of projects under non-rulemaking authority
- Begin benefit/cost analysis if necessary
- Submit EA or CatEx documentation for FAA review and funding
- Coordinate with local officials and airport users on refined project scope and schedule
- Assemble all necessary land for the project

One year prior to construction:

- Complete airspace study
- Complete significant environmental documentation
- Complete 90% design, plans, and specs after FAA environmental findings are made
- Execute reimbursable agreements to support navaids, if relevant
- Prepare and coordinate Construction Safety Phasing Plan
- Secure all necessary local funding
- Secure environmental and other necessary permits
- Submit benefit/cost analysis
- Coordinate Safety Risk Management Panel with the FAA Air Traffic Organization (ATO) or FAA Associate Administrator for Airports, as necessary
- Finalize construction bidding, grant application, and acceptance schedules

Year of construction:

- Complete 100% design, plans, and specs
- Advertise and secure bids according to acceptance schedules
- Accept federal grants
- Coordinate with local officials and airport users on the progress and schedule
- Issue notice to proceed
- Monitor environmental mitigation requirement during construction

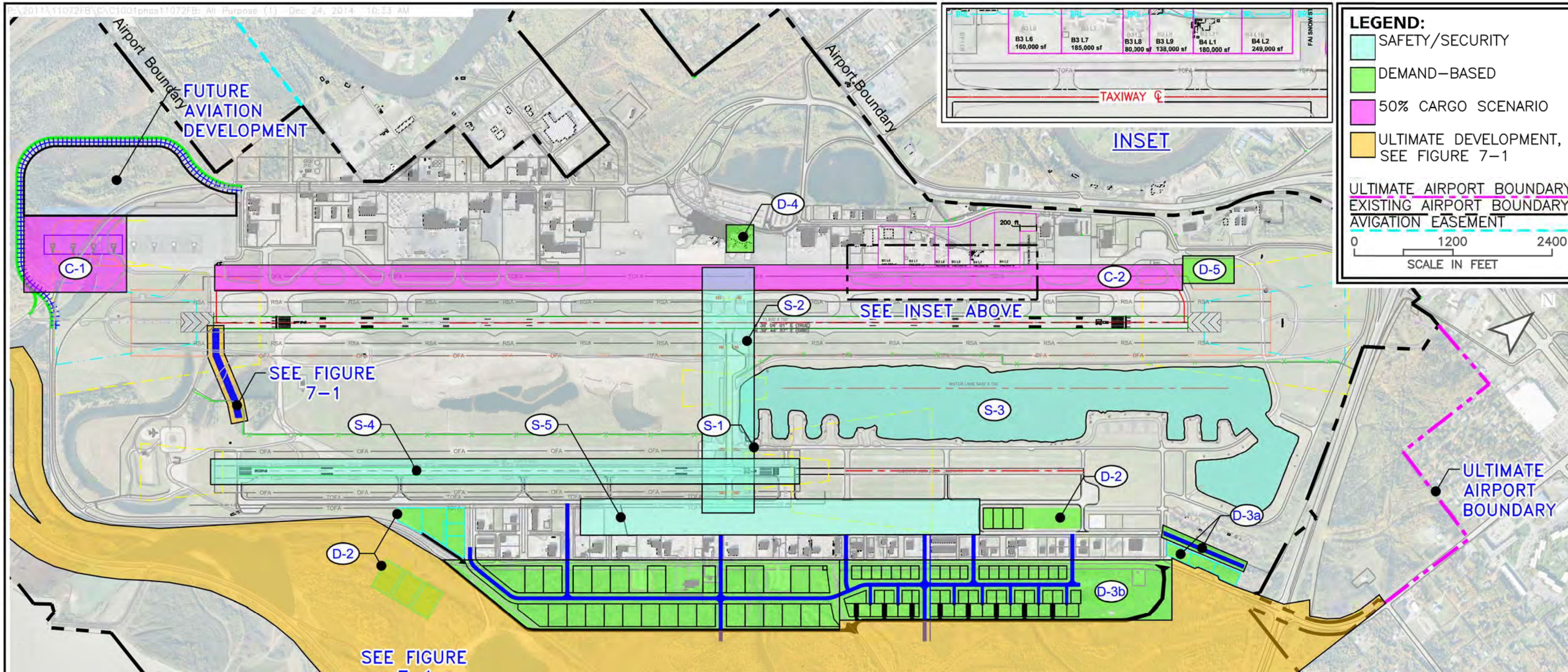
After construction:

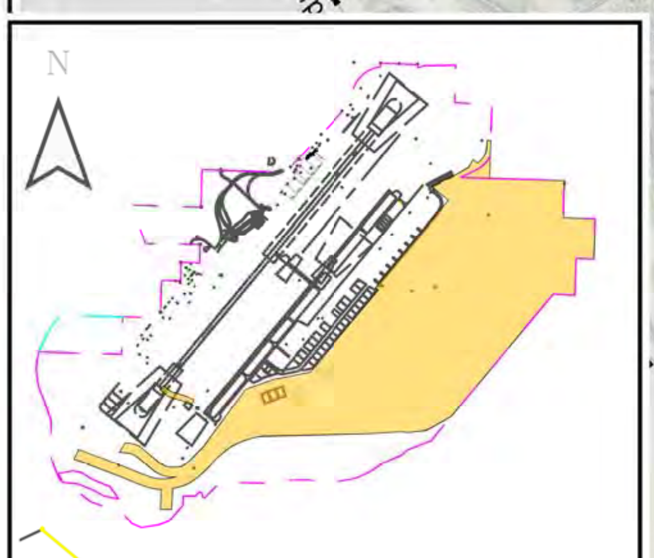
- Submit final report and close any accepted federal grants
- Monitor environmental mitigation measures

7.3 PROJECT PHASING

7.3.1 NEAR-TERM PROJECTS (0-5 YEARS)

Projects recommended for the near term (shown on Figure 7-2) include safety enhancements to Taxiway B and lease lot expansion.





	PLAN SHEET		
	PROJECT NAME	PHASE	ESTIMATED COST
S-1	FLOAT POND ROAD GATE	I	$ 900,000
S-2	TW B RESURF & SAFETY ENHANCEMENTS	I	$ 4,900,000
S-3	FLOAT POND STUDY	II	$ 350,000
S-4	RUNWAY 2R/20L RESURFACING	II	$ 13,000,000
S-5	GA TAXIWAY & APRON REPAVING	III	$ 15,000,000
D-1	AIRPORT MASTER PLAN & ALP UPDATE	II	$ 1,500,000
D-2	LEASE LOT EXPANSION - PHASE 1	N/A	COMPLETE

	PLAN SHEET		
	PROJECT NAME	PHASE	ESTIMATED COST
D-3a	TW D & LEASE LOT EXPANSION - PHASE 2	N/A	$ 1,200,000
D-3b	LEASE EXPANSION - PHASE 3	N/A	TO BE DETERMINED
D-4	TERMINAL EXPANSION	N/A	$ 8,300,000
D-5	NORTH DEICING EXPANSION	N/A	$ 10,400,000
III-1	WETLANDS MANAGEMENT PLAN	III	$ 100,000
C-1	CARGO APRON EXPANSION	N/A	$ 25,900,000
C-2	FULL DESIGN GROUP V COMPLIANCE	N/A	$ 27,200,000

FIGURE
7-2

2014 AMP UPDATE

FAIRBANKS INTERNATIONAL AIRPORT

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S-1 – Float Pond Road Gate.. $900,000

Purpose

This project is part of ongoing efforts to improve situational awareness for pilots, vehicles, and pedestrians on the east side of the airport. A gate on Float Pond Road will prevent vehicles from accidently driving onto Taxiway B.

Scope

Install an 80-foot-long, frequency-controlled gate on the south end of Float Pond Road.

Trigger

(Already met) This area has had VPDs in the past and was recently listed as a "hot spot" by FAA.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

S-2 – Taxiway B Resurfacing & Safety Enhancements......... $4.9 million

Purpose

This project is part of ongoing efforts to improve situational awareness for pilots, vehicles, and pedestrians on the east side of the airport. Additionally, the pavement on Taxiway B is at the end of its useful life and needs to be repaired. The pavement on Taxiway B is over 30 years old and its condition has deteriorated to the point that it needs resurfacing. Pavement condition index (PCI) values recorded during the last pavement inspection (2011) were in the low 60s and 50s, indicating a need for rehabilitation.

Scope

Rehabilitate Taxiway B surface and construct islands at the eastern and western entrances to Taxiway B. Add enhanced markings to Taxiway B and reconfigure taxiway fillets to current design guidance.

Trigger

Planning should begin when PCI values fall below 60; construction should begin when PCI values are below 39.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

S-3 – Float Pond Study...$350,000

Purpose

Float pond users have indicated that there are shallow spots in the float pond, particularly during dry summers. No long-term monitoring or systematic mapping of the pond has been conducted. This study will provide quantitative data to determine which areas of the float pond may need future dredging.

Scope

Conduct bathymetric survey of the float pond to determine shallow areas and monitor these areas for changes. Conduct drilling of the pond subsurface to determine substrate. Evaluate hydrologic characteristics to determine areas of sedimentation.

Trigger

When low water trends begin to impact float pond operations

Prerequisites

N/A

Anticipated Environmental Document

N/A

7.3.2 MEDIUM-TERM PROJECTS (6-10 YEARS)

The medium term includes projects that are anticipated to begin within the second five-year planning period.

S-4 – Runway 2R/20L Rehabilitation.................................... $13.5 million

Purpose

The 2011 pavement condition assessment for Runway 2R/20L indicated PCI values below 70. The target PCI value for runways is 70 or greater. Therefore, the runway will require repaving during the planning period. This is also an opportunity to bring connecting taxiway geometry in line with the latest FAA guidance.

Scope

Repave the entire length of runway 2R/20L; repaint runway markings; bring connecting taxiway fillets up to current design standards.

Trigger

Rehabilitation should begin when PCI values fall below 70.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

7.3.3 LONG-TERM PROJECTS (11-20 YEARS)

The long-term projects are a bit more speculative, but represent a reasonable prediction of which projects will be needed to meet the strategic goals of the airport.

III-1 – Wetlands Management Plan $100,000

Purpose

In anticipation of long-term projects that will impact wetlands, a wetlands management plan (WMP) will enable those projects to progress more efficiently through the permitting process by proactively identifying high value wetlands and mitigation opportunities.

Scope

Develop a comprehensive wetlands management plan for airport property.

Trigger

Funding for the WMP should be sought when cargo operations trend towards 300 per year.

Prerequisites

None

Anticipated Environmental Document

N/A

S-5 – GA Taxiway and Apron Reconstruction .... $15.0 million

Purpose

The pavement on the east ramp is in poor condition, particularly Taxiways D and uncontrolled C, and requires repaving. The majority of the apron is over 25 years old. The latest pavement condition inspection recorded PCI values on the apron between 55 and 59 and PCI values for Taxiways D and C were below 50.

This project is also an opportunity to relocate Taxiway S to the south so that it does not connect Runway 2R/20L directly to an apron. Repaving would offer a cost-effective opportunity to provide electricity to additional tie-downs that could generate additional leasing revenue.

Scope

Repave 1.4 million sf and bring taxiway fillets up to current design standards; relocate Taxiway S 150 feet south; extend electrical outlets to 20 tie-downs on the east ramp pending results of cost-benefit analysis.

Trigger

Planning should begin when PCI of the east ramp falls below 59; construction should begin when PCI falls below 39

Prerequisites

Pavement condition assessment; cost-benefit analysis of expanding electricity to additional tie-down spaces

Anticipated Environmental Document

Categorical Exclusion

7.3.4 DEMAND-TRIGGERED PROJECTS

The following projects are subject to certain triggers that will indicate when they need to be implemented. Therefore, they do not fall within any of the implementation phases identified above.

D-1 – Airport Master Plan & ALP Update............................... $1.5 million

Purpose

An update to the airport master plan will be necessary to confirm or update project priorities, cost estimates, and forecasts of aviation demand. The airport would like to include a comprehensive assessment of airport pavement at this time.

Scope

Update the airport master plan and ALP, including an airport-wide pavement assessment.

Trigger

When the existing airport master plan is 10 years old, or if there is a significant change in air traffic.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion (FAA)

D-2 – Lease Lot Expansion – Phase 1.. Complete

Purpose

Increase the number of available lease lots to accommodate demand for private and T-hangar development as well as helicopter operations. This project was completed during the master planning process.

Scope

Designate new lease lots as follows:

- Block 104, Lots 1-4: A vacant parcel of land adjacent to the northeast end of the ski strip is now designated as Block 104. Lots 1 and 2 are available for high-density (i.e., T-hangar) development; Lots 3 and 4 are available for private aircraft hangar development.
- Block 109, Lots 1-3: Reserve three lots for helicopter hangars. These lots are located on the southern- and easternmost side of University Avenue South, running parallel to Drainage Channel “A,” and southeast of Block 108, Lots 1A-D, 3, 4, 5, 6, and 7.
- Block 108, Lot 8: Subdivide into six lots (Lots 8-13) of varied dimensions and sizes for general aviation development. Lots 8-13 are located directly west of the existing developed Block 108 leased lots.

Reconfigure the existing lot at Block 100, Lot 6A, to be compatible with future expansion plans.

Trigger

Demand for private and T-hangar development on the east side of the airport. Greater than 95% of east side lease lots were occupied in early 2014.

Prerequisites

Public notice

Anticipated Environmental Document

N/A

D-3A – Taxiway D & Lease Expansion – Phase 2 .... $1.2 million

Purpose

Increase the number of available lease lots to accommodate demand for private and T-hangar development, as well as Part 135 operators. Extension of Taxiway D will allow the airport to designate new lease lots to the east of the air park. A cost-benefit analysis will be conducted prior to undertaking the project.

Scope

Extend Taxiway D 1,200 feet to the north. Designate new lease lots as follows:

- Block 104, Lots 5-8: Designate Lots 5-8 in Block 104 and make available for private hangar development
- Designate three new lease lots east of the air park, adjacent to Taxiway D, and make these available for Part 135 development

Trigger

When 75% of the lease lots in any one category under Project D-2 are leased

Prerequisites

Public notice

Anticipated Environmental Document

Categorical Exclusion

D-3B – Lease Expansion – Phase 3 .... $TBD

Purpose

Increase the number of available lease lots to accommodate demand for private and T-hangar development as well as helicopter operations. Releasing the lots in phases will promote orderly development. Construction costs for infrastructure such as roads, taxiways, and utilities will be determined based on the phased implementation of the lease lots. A cost-benefit analysis will be conducted prior to undertaking the project.

Scope

Designate new lease lots as follows:

- 32 new lease lots on the east side of University Avenue. Gates will be installed at all road crossings.

- 49 additional lots on the east side of University Avenue, including taxiways and road relocations. Development of these lots requires the relocation of University Avenue. Gates will be installed at all road crossings.

Realign University Avenue to bypass the East Ramp; provide three access points to the East Ramp – at the north and south ends and at Van Horn Road

Trigger

When 75% of the lease lots released under Phase 2 (Project D-3A) are leased, the airport should begin the process of releasing new lease lots.

Prerequisites

Public notice

Anticipated Environmental Document

Environmental Assessment

D-4 – Terminal Expansion .... $8.3 million

Purpose

Increasing demand on regional carriers requires an expansion of the north end of the terminal.

Scope

Enlarge the baggage claim area to include a bag belt; expand the tour group baggage drop-off area; add one additional ticketing counter and office; enlarge the baggage handling and ground support area; extend the passenger holding area to the north; extend a heated, enclosed passenger gate towards the aircraft parking positions; consider additional concessions.

Trigger

When the peak hour commuter enplanements reach 78 passengers per hour, terminal expansion planning should begin.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

D-5 – Deicing Expansion .... $10.4 million

Purpose

This project will add a second deicing pad to the north end of the primary runway to accommodate projected demand.

Scope

Construct a 330,000 sf deicing pad adjacent to the existing pad on the north end of Runway 2L/20R.

Trigger

When deicing demand reaches six aircraft per hour, development of the deicing pad should begin.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

7.3.5 50% CARGO SHIFT SCENARIO PROJECTS

The following projects are based on the 50% cargo shift scenario and do not fall within any of the implementation phases identified above.

C-1 – Cargo Apron Expansion ....$25.9 million

Purpose

As cargo traffic to FAI increases, additional hardstands for wide-body aircraft will be needed. This project will add four hardstands and 800,000 sf of cargo apron to the existing cargo apron. One of the existing hardstands will be retrofitted to serve as a deicing pad. Rerouting of Airport Industrial Road and the railroad tracks will provide space for future cargo facility development.

Scope

Expand the cargo apron 800,000 sf to accommodate four new hardstands; convert one of the existing hardstands to a deicing pad; reroute Airport Industrial Road and the railroad tracks.

Trigger

Development of additional hardstands is dependent on the 50% cargo shift scenario (see Chapter 3). Planning should begin when 10 to 15 daily cargo tech stops occur or when 2 to 3 tech stop operations occur within the same hour. Design and construction should begin prior to 25 daily tech stops (or 4 to 5 operations per hour).

Prerequisites

Wetlands management plan (Project III-1)

Anticipated Environmental Document

Environmental Assessment

C-2 – Full Aircraft Design Group V Compliance ....$27.2 million

Purpose

This master plan recommends moving towards full ADG V compliance to accommodate increasing air cargo traffic. If cargo tech stop operations begin to shift from ANC to FAI, the AIAS report indicates that the airport would gain around 2,000 annual cargo tech stop operations in 2015, and increase to nearly 8,500 operations by 2030.

Scope

Move Taxiway A 100 feet to the west; reconstruct pavement section to accommodate aircraft loads; bring taxiway fillets up to current standards.

Trigger

Advanced planning should begin as cargo operations begin to trend towards 300 annual operations. Design and construction should occur prior to 500 annual ADG V operations.

Prerequisites

Wetlands management plan (Project III-1); additional study of vehicle service road relocation options

Anticipated Environmental Document

Environmental Assessment

7.3.6 SUMMARY OF IMPLEMENTATION PROJECTS

Table 7-1 summarizes the projects outlined in this implementation plan. The potential implementation phase presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand. The purpose for each project is included and defined broadly as follows (see individual project descriptions for details):

- **Safety/Security** – Satisfies a safety or security deficiency
- **Demand** – Satisfies a forecasted deficiency and is based on a trigger point
- **50% Cargo Scenario** – Complements the AIAS strategy of fully utilizing AIAS capacity

Table 7-1 – Summary of Implementation Projects

Project	Purpose	Trigger	Likely Phase	Estimated Cost
Float Pond Road Gate	Safety/Security	VPDs and "hot spot" designation by FAA	I	$ 900,000
Taxiway B Resurfacing & Safety Enhancements	Safety/Security	Planning: PCI value below 60 Construction: PCI value below 40	I	$ 4,900,000
Lease Lot Expansion – Phase 1	Demand	Demand for private and T-hangar development[1]	I	COMPLETE
Float Pond Study	Safety/Security	Trend showing low water levels	II	$ 350,000
Runway 2R/20L Rehabilitation	Safety/Security	Planning: PCI value 100-70 Construction: PCI value below 70	II	$13,500,000
Airport Master Plan & ALP Update	Demand	When the AMP is 10 years old or there is significant change in air traffic	II	$ 1,500,000
GA Taxiway and Apron Repaving	Safety/Security	Planning: PCI value below 60 Construction: PCI value below 40	III	$15,000,000
Wetlands Management Plan	Demand	Funding should be sought when cargo operations trend towards 300/year	III	$ 100,000
Taxiway D & Lease Lot Expansion – Phase 2	Demand	When 75% of lots in Project D-2 are leased	N/A	$ 1,200,000
Terminal Expansion	Demand	Planning should begin when peak hour passenger volume reaches 78/hour	N/A	$ 8,300,000
Lease Expansion – Phase 3	Demand	When 75% of lots under Phase 1 are leased[1]	N/A	$ TBD
North Deicing Expansion	Demand	When deicing demand reaches 6 aircraft/hour	N/A	$10,400,000
Cargo Apron Expansion	50% Cargo Scenario	Planning should begin when 10 to 15 daily cargo tech stops or 2 to 3 tech stops/hour begin	N/A	$25,900,000
Full ADG V Compliance	50% Cargo Scenario	Planning should begin when cargo operations trend towards 300/year Design and construction should occur prior to 500 annual ADG V operations	N/A	$27,200,000

8 Environmental Overview

This chapter summarizes the environmental impacts of the development alternatives for the Fairbanks International Airport (FAI). The purpose of considering environmental factors in the airport master planning stage is to thoroughly evaluate airport development alternatives per Federal Aviation Administration [FAA] Order 5050.4B 504(d)(1) and to provide information that will help expedite subsequent National Environmental Policy Act (NEPA) processing. This environmental overview was used to assist with the development, evaluation, and refinement of the airport development alternatives by qualitatively and/or quantitatively comparing how each alternative might affect environmental resources.

The overview considered the resource impact categories identified in the FAA Order 5050.4A, Airport Environmental Handbook. References to the 2004 FAI Master Plan are included as appropriate.

8.1 ALTERNATIVES AND FACILITY IMPROVEMENTS

Chapters 5 and 6 outline the specific alternatives for the 20-year master plan. For analysis, the implementation plan (Chapter 7) has been divided into three phases: **Phase I** (0-5 years**), Phase II** (6-10 years), and **Phase III** (11-20 years). Projects that are demand-triggered and do not fall within the three phases are also included. When necessary, the **Ultimate Development** phase (beyond 20 years) was also considered. The following preferred alternatives and facility improvements were evaluated.

8.1.1 TAXIWAY B

The current Taxiway B configuration is preferred. Added enhancements to address the current safety hazards and design deficiencies include:

- Constructing islands to separate apron areas form the taxiway
- Enhancing markings and signage
- Providing elevated runway guard lights
- Installing an access gate at the southern end of Float Pond Road

8.1.2 RUNWAY 2L/20R

Runway 2L/20R, the primary runway at FAI used by all commercial cargo and passenger aircraft, is built to ADG V standards. This was determined to meet capacity requirements within the planning period. The long-range plan (beyond 20 years) to accommodate Design Group VI aircraft requires an increase in the distance separating the runway and taxiway centerlines.

8.1.3 REGIONAL TERMINAL IMPROVEMENTS

The preferred alternative for the terminal improvements includes the following components:

- Construction of a building addition
- Expansion of the baggage claim areas
- Addition of space for small concessions
- Aircraft parking upgrades

8.1.4 CARGO APRON EXPANSION

This facility improvement would add four cargo tech stop hardstands to the south of the existing hardstands.

8.1.5 DEICING

Additional capability to deice aircraft is needed. Planned improvements include two new deicing pads:

- One at the threshold of Runway 20R, in line with the existing pad near the terminal.
- One in the cargo apron expansion area, to support the long-range strategy to attract cargo aircraft to FAI. This pad should include an integrated deicing runoff collection system.

8.1.6 FUELING

To accommodate an increase in cargo aircraft at FAI, additional fuel storage may be necessary depending on the aircraft type(s) and volume of traffic. The airport currently has enough storage capacity to support 30 days of operations (not including tech stops by heavy cargo aircraft). An additional 10,000 sf of land needs to be reserved for installation of additional fuel tanks in order to maintain this 30 days of storage for the projected 2030 use.

8.2 ENVIRONMENTAL ANALYSIS

This section analyzes the environmental consequences (per FAA Orders 1050.1E and 5050.4B) for the preferred alternatives and the development plan (Chapters 5, 6, and 7). The affected environment and existing conditions at the airport are explained in detail in Section 2.4. The purpose of the analysis is to determine whether the alternatives would have a significant impact on any of the resources. The severities of impacts are measured against the significance thresholds established in the FAA guidance.

8.2.1 NON-ISSUES

The following list of resource categories have been determined to be non-issues.

- Farmland
- Coastal Resources
- Wild and Scenic Rivers

Farmland

No prime or unique farmlands of local importance are located in the project area (Natural Resources Conservation Service, 2008, *Prime and Unique Farmlands* website: http://www.ak.nrcs.usda.gov/technical/soils/soilslocal.html).

Coastal Resources

The Alaska Coastal Management Program (ACMP) expired on June 30, 2011, by operation of Alaska Statutes (AS) 44.66.020 and 44.66.030. As a result, the ACMP was withdrawn from the National Coastal Management Program on July 1, 2011, and Alaska no longer has a Coastal Zone Management Act program. Further, FAI is within interior Alaska and not within a coastal zone.

Wild and Scenic Rivers

No Wild and Scenic Rivers are located near the project area (National Park Service [NPS] website, http://www.rivers.gov/wildriverslist.html, 2013).

8.2.2 COMPATIBLE LAND USE

The existing land use conditions are explained in detail in Section 2.3; the background for noise considerations is addressed in Section 2.4.6.

Noise

The 2004 *Master Plan Update* identified the primary land use concern associated with airports as noise compatibility. The FAA defines a significant change in noise exposure as a difference of 1.5 Day Night Average Sound Level (DNL) over noise-sensitive land uses within an area exposed to aircraft noise of 65 DNL or higher.

Chapter 2 outlines the Airport Noise-Sensitive Area Zone on airport property. Chapter 2 also identifies the need for further study for the long-range plan of expanding FAI's ability to accommodate large cargo aircraft. The environmental document created for that project will need to address the potential change in noise exposure with a qualitative noise analysis.

For the long-range plan of Lease Lot Expansion, Phase 2B, a slight change in noise exposure is expected. Because the traffic expected to use the expanded eastern part of the airport will primarily be small, piston-engine aircraft, which produce less noise than large jet aircraft, this is likely to be insignificant and less than 1.5 DNL.

For the planned near-term improvements, there does not appear to be an immediate need to update the existing FAR Part 150 study.

Compatible Land Use

Existing land uses are explained in detail in Section 2.3.3 of Chapter 2. The Fairbanks North Star Borough (FNSB) 2005 Comprehensive Plan outlines the FNSB's plans to continue promotion of the airport and of compatible industrial land use while supporting efforts to expand domestic and international cargo and passenger operations.

For the planned improvements, no business relocations would be necessary. Community disruptions are also anticipated to be minimal. For the long-term plans to expand the east side through lease lot expansion and to install additional fuel storage, land acquisition will be required. This will result in a change in land use, and further study will be required to evaluate the impacts.

8.2.3 FISH, WILDLIFE, AND PLANTS

Existing conditions for fish and wildlife are explained in detail in Section 2.4.2 and in the *Fairbanks International Airport Biological Conditions Report* (see the Resource Documents binder). For planning purposes, the current Wildlife Hazard Management Plan should be consulted for individual construction projects.

Sandhill Cranes (*Grus Canadensis*) are a bird species of particular concern at FAI. ADOT&PF works with several state and federal resource management agencies (the Alaska Department of Fish & Game, the University of Alaska Fairbanks, the U.S. Army Corps of Engineers, and the U.S. Fish & Wildlife Service) under a cooperative agreement established in 1988. One of the objectives of the agreement is to keep migratory birds away from FAI by developing replacement habitat at the Creamer's Field Migratory Waterfowl Refuge. Efforts to ensure this objective are ongoing. For example, FAI employees plow the fields at the refuge each season as part of the cooperative management agreement.

A further objective of this agreement is to develop acceptable compensatory mitigation options for wetland development and to address bird attractant concerns. Eliminating attractive habitat for cranes at the airport will greatly reduce the risk of wildlife strikes.

8.2.4 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

Solid Waste

Existing conditions for hazardous materials and solid waste are described in detail in Section 2.4.4.

For the preferred alternative and the facility improvements projects, solid waste generation is anticipated but is not expected to trigger a significant amount. It is anticipated that the FNSB landfill can accommodate the generated waste resulting from the individual construction projects.

Hazardous Materials

The risk of encountering hazardous materials should be evaluated for each individual project.

The 2004 Master Plan indicated that the presence of lead and asbestos should be further evaluated. A 1992 study indicated that the old terminal was free of asbestos-containing material; all originally contaminated material had either been abated or stabilized.

The original terminal has since been completely demolished. Given the date of the new structures, it is unlikely that lead or asbestos exist in the building.

The preferred alternatives and the facility improvements are not anticipated to encroach on land for the Don Bennett shooting range, where contamination is known to be present. Planning for projects within the western portion of the airport, including Taxiway F (ultimate development), should include consideration of the contamination within the shooting range. See Chapter 2 for a description of the existing conditions.

The ultimate airport development plan will require land acquisition. Environmental site investigations for due diligence should be carried out during the land acquisition phase in order to determine the presence of pre-existing land uses and possible contamination.

8.2.5 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Existing conditions for cultural resources are explained in detail in Section 2.4.5.

There are no Section 4(f) lands defined for FAI. No impacts to parks or recreational properties are anticipated. Although Section 4(f) applies to all historic sites of national, state, or local significance, it only protects those properties on or eligible for inclusion on the National Register of Historic Places (NRHP). The original airport terminal building was constructed in the early 1950s and exceeded the 50-year threshold for consideration as potentially eligible for inclusion on the NRHP. However, the structure was modified to the extent that it no longer contained historical integrity or context sufficient for eligibility. Since the modifications, the original airport terminal building has been demolished.

8.2.6 LIGHT EMISSIONS AND VISUAL IMPACTS

No adverse impacts are expected to result from light emissions under the preferred alternative. According to FAA's *Airport Environmental Handbook,* the impact of light emissions is hardly ever considered sufficient to warrant special study or significant enough to warrant an Environmental Impact Statement (EIS). In any case, there are no residential areas located in the vicinity of the preferred alternatives and facility improvements, so no perceptible increase in light emissions is anticipated.

8.2.7 NATURAL RESOURCES, ENERGY SUPPLY, AND SUSTAINABLE DESIGN

Natural Resources

It is anticipated that most material (including gravel and soil) for construction will be made available from existing sources on FAI property. Gravel pits and material from the float pond provide ample building materials for future FAI projects.

Fuel

FAI has adequate fuel storage capacity through the planning period. During the 20-year master plan period, projects may require shifting of fuel storage containers, but the demand is not expected to dramatically increase. For example, the Phase I Heliport Expansion project in the western lease lot development area is expected to increase fuel demand. Although the increase would not be substantial or unmanageable, tank installations may be required to provide convenient access to the fuel.

If cargo carriers choose to shift heavy cargo aircraft tech stops to FAI, fuel demand would likely increase. If additional fuel capacity is needed, the options of opening closed systems or constructing a new fuel storage facility will need to be examined.

There are currently two fuel storage facilities at FAI, but the Tesoro fuel storage facility (total capacity of 60,000 barrels) is closed. The tanks have been decommissioned, and the site has contamination issues. If this site was made available for use, it would provide surplus capacity for future fuel storage needs. However, remediation of the contamination would be needed.

Expansion of the active fuel facility, which does not have contamination problems, is the preferred option. Land adjacent to the existing tank farm has been reserved for the expansion.

Fuel hydrant piping to the heavy cargo apron was installed under the heavy cargo apron expansion project, but the pipes are not live or active. When cargo apron users require fuel, it must be delivered by fuel truck. Providing a plumbed fuel system for the cargo apron would reduce the risk of transfer spills and increase efficiency.

The process by which fuel is moved, refined, and stored in Fairbanks is undergoing changes. The Flint Hills Refinery (FHR) in North Pole closed in June 2014. Although FHR still serves as a fuel storage facility, it will no longer refine fuel for FAI. This could result in a need for the air carriers to secure a new fuel supplier. Additional storage capacity may also be desirable in order to offset increased fuel transport costs.

Energy Supply

Golden Valley Electric Association (GVEA) provides FAI with electricity services. At this time, there are no foreseeable issues with GVEA providing the additional services needed. However, the environmental impact of excavating ground to lay new power lines should be considered during the planning stages of future projects.

8.2.8 SECONDARY (INDUCED) AND CUMULATIVE IMPACTS

Float Pond Study

A study of the float pond may recommend new fingers be installed for additional float pond slips. Material from dredging the float pond may be used to build up the land along the shoreline, pending an engineering analysis.

Gate

Construction of the proposed gate/barrier to be installed along Float Pond Road as part of the Taxiway B preferred alternative will create a secondary, induced, positive impact by eliminating the risk of runway incursions.

East Side Lease Area Development

East side development may provide positive socioeconomic growth beyond the construction phase. Additional induced benefits include an economic boost from new business opportunities.

8.2.9 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Socioeconomic Impacts

Potential socioeconomic impacts associated with the preferred alternative and facility improvements include transportation pattern changes, and potential changes to air service. The regional terminal improvements (Phases I & II) may alter surface transportation patterns and land use. Overall, however, the socioeconomic rewards will include increased traffic flow and better accommodation of the future growth of additional regional carriers.

Near-term projects associated with Taxiway B and facility improvements will not likely have major socioeconomic impacts. However, the long-range plan to support more transient cargo aircraft at FAI has a number of socioeconomic impacts associated with it. For example, enhancing aviation-related business through lease lot development will provide economic benefits to both the community of Fairbanks and the aviation users of FAI. Additional impacts associated with the cargo shift scenario include additional international air cargo and corporate aviation operations. These activities may generate higher demand for fuel sales, hotel accommodations, rental cars, taxis, and concessions.

Environmental Justice and Children's Environmental Health and Safety Risks

No environmental health and safety risks associated with the preferred alternatives and the facility improvements would disproportionately affect children as per Executive Order 13045. Access to airport property is restricted to authorized personnel, with a security fence presenting a physical barrier to unauthorized access.

8.2.10 WATER QUALITY

Existing conditions for water quality are explained in detail in Section 2.4.7. Tenants of FAI that will discharge under the Multi-Sector General Permit for Storm Water Discharges from Industrial Activities (MSGP) must develop their own Storm Water Pollution Prevention Plan (SWPPP) and apply for their own separate permit coverage.

Development of a wash rack also has the potential to impact water quality. Although this project would be independent from FAI and solely the responsibility of the owner and operator, it is in the best interest of FAI to ensure the new facility has an approved oil/water/grit separator and effective stormwater controls for pollution prevention.

Stormwater runoff from industrial areas flows to ponds, open waters, and wetlands. In general, operational growth results in cumulative added risk to water quality. The preferred alternatives and proposed facility improvements will likely add to the risk of water quality degradation. Best Management Practices (BMPs) and permanent controls for stormwater should be considered during project design. During future construction planning, the issue of water quality impacts should be considered in detail.

8.2.11 WETLANDS

Existing conditions for wetlands are explained in detail in Section 2.4.8. Most projects resulting from the preferred alternative and facility improvements will require a USACE Section 404 wetlands permit for the placement of fill in water of the United States (including wetlands).

Compensatory Mitigation

The number of projects to result from this master plan leads to the recommendation that FAI and the ADOT&PF work closely with the U.S. Army Corps of Engineers (USACE) to consider large-scale mitigation options that cover multiple projects. The cooperative agreement for the enhancement of the Creamer's Field Wildlife Refuge is a good example of a larger-scaled mitigation bank. However, that bank alone likely will not cover the amount of mitigation needed for the upcoming projects and their unavoidable wetlands impacts. Options for additional mitigation banking include expanding the existing agreement and/or adopting new options. It is recommended that FAI draft and administer a Wetlands Management Plan (WMP). The purpose of the WMP would be to identify watershed credit opportunities. It would allow FAI to be financially responsible and prepared for the upcoming mitigation costs. In addition, it would outline the steps needed to address wetland impacts anticipated for the ultimate development plan.

In-Lieu Fees

A second option for addressing wetlands mitigation is for ADOT&PF to pay an in-lieu fee for each individual project. Recently, the standard cost has greatly increased. In 2003, The Conservation Fund (TCF) signed an agreement with ADOT&PF that established a fund for TCF to receive mitigation funds (in-lieu fees) related to the construction or expansion of airports. Although the fund was terminated in 2008, approximately $800,000 was contributed. These funds were used to purchase and preserve 38 properties totaling 37,000 acres.

In May 2013, TCF published a new document, *Alaska In-Lieu Fee Compensatory Mitigation Program Instrument.* This document provides a process for a permit applicant to purchase mitigation credits form the in-lieu fee program sponsor (TCF) to compensate for wetland loss. The 2013 rates are substantially higher than previous mitigation rates.

For FAI, in-lieu fees for wetlands mitigation will be determined from the amount of credits and the associated mitigation ratio. These parameters are determined by the USACE during the permitting process. The average range of wetlands mitigation costs per acre presented in Table 8-1 assumes that one credit equals one acre and that for every acre of wetlands impacted, mitigation will be required for 1.5 acres.

Table 8-1 – FAI Estimated Wetlands Mitigation Fees

Interior Alaska Service Area	Slope/Flat/Depressional Wetlands	Riverine/Lacustrine Wetlands	Estuarine/Marine Wetlands
Urban	$22,000	$33,000	$44,000
Rural	$11,000	$22,000	$33,000
Remote	$5,500	$11,000	$22,000

Source: *AKILF Fee Program Instrument* (TCF 2013).
Fee schedule for Interior Alaska based on typical cost per credit.

As the example below shows, if an FAI project is anticipated to impact 4.5 acres of high-value wetlands within a lake, and the USACE sets a mitigation ratio of 1.5:1, a good estimate of mitigation costs would exceed $220,000. It is beneficial for ADOT&PF to further analyze the benefits of long-term mitigation planning. To initiate this process, it is recommended that a WMP be implemented.

Example Project for Wetlands Mitigation Calculations

High-value wetlands at FAI to be permitted................................ Area = 4.5 acres
USACE mitigation ratio .... 1.5:1 acre
Acreage required for ADOT&PF compensatory mitigation (4.5 X 1.5) .... 6.75 acres
Mitigation cost (6.75 acres X $33,000) **$222,750**

When considering the long-term alternatives in Phase III (10-20 years), including the east side lease area development, the financial and administrative advantages to early planning are clear. The Finding of No Significant Impact of the 2005 *FAI Near-Term Improvements Environmental Assessment* identifies an ADOT&PF commitment to further discuss mitigation for wetland impacts east of the University Avenue. The WMP is one means to reach this goal.

8.2.12 CONSTRUCTION IMPACTS

Wetlands and Wildlife

Several individual projects will require a USACE Section 404 wetlands permit. Project design should incorporate avoidance, minimization, and mitigation of wetland impacts.

Individual construction projects may need to include vegetation clearing limits to mitigate the risk of wildlife impacts. Any project within waterfowl habitat may require agency consultation prior to construction.

Noise

A temporary increase in noise is expected during construction of the preferred alternatives and the facility improvements project. The greatest nuisance impact from construction is generally from the noise of heavy equipment operating throughout the day. Construction equipment should have sound control devices in good condition. No equipment may have an unmuffled exhaust.

Social Impacts

Construction of individual projects should have relatively minor impacts on the public. During the terminal expansion project, increased travel time and short-term delays to access airport facilities are likely. Frequent, short-term changes in travel patterns through the airport are also likely. However, the long-term benefits from the improved regional terminal will far outweigh the minor inconveniences associated with construction.

Construction of the planned improvements is anticipated to provide short-term economic growth by providing jobs to local residents.

Construction of the long-term plan for east side expansion will require further study of social impacts. To mitigate potential social impacts, construction phasing and sequencing should be considered.

Cultural Resources

No known cultural resource, archaeological, or anthropological sites are known to exist on FAI property. However, there is always a risk of inadvertent discovery during construction. Construction documents should include procedures to follow if suspected resources are encountered during construction. For example, a clause for inadvertent discovery should stipulate that ADOT&PF will contact the State Historical Preservation Office (SHPO) if resources of cultural significance are suspected. In addition, any future projects for the preferred alternative and facility improvements that require an environmental NEPA document will require SHPO consultation.

Hazardous Materials

Several known active contaminated sites are present within the FAI property boundary. Contractors will be required to develop a Hazardous Material and Control Plan (HMCP) for individual construction projects. The HCMP should address potential contaminants and cleanup and disposal of all construction-related discharges of fuels, oils, and other hazardous substances in accordance with all federal, state, and local laws, regulations, and ordinances. No hazardous materials may be stored within 100 feet of a wetland or water source.

Contaminated soils or water encountered during construction activities must be handled and/or disposed of in accordance with Alaska Department of Environmental Conservation (ADEC) requirements.

If hazardous material is discovered, a disposal and abatement plan will need to be developed in coordination with ADEC.

Water Quality

An ADEC Water Quality Certification under Section 401 of the Clean Water Act would be acquired as part of the Section 404 permit process for projects impacting wetlands. Minor, short-term impacts to water quality may occur during construction activities. Construction contractors would be required to prepare and comply with the Alaska Pollutant Discharge Elimination System (APDES) Construction General Permit. Individual contractors would need to develop a SWPPP prior to construction. An Erosion and Sediment Control Plan (ESCP) incorporating BMPs to prevent potential erosion and sedimentation would be prepared during final design for each construction project. The contractor would be expected to use the ESCP to prepare the SWPPP.

8.2.13 FLOODPLAINS

Existing conditions for floodplains are explained in detail in Section 2.4.3. Chapter 2 identifies the cargo apron expansion area as existing in FEMA-mapped Zone AE, an area subject to inundation by the 1-percent-annual-chance flood event. Floodplain management standards would apply for all construction in this area.

A potential area of concern for floodplains is petroleum fuel handling. Fuel is currently hauled by truck, but a piped system for future use (and not yet active) has been constructed to the cargo apron. The handling of fuel and fuel containers within a flood hazard area requires special care. FNSB Ordinance 85-124-3 (1985) stipulates that fuel storage containers and pipes must be:

- Elevated to 1 foot above the base flood elevation
- Adequately flood-proofed to prevent floatation or leakage due to aging or damage
- Installed with anti-backflow valves to prevent contamination during flooding

Design and mitigation planning should consider grading containment features for fuel storage areas.

8.2.14 AIR QUALITY

Existing conditions for air quality and operating permits are explained in detail in Section 2.4.1. Aside from temporary impacts to air quality resulting from construction, no foreseen impacts are anticipated. Construction is the dominant source of emissions for all pollutants.

In 2005, Sierra Research, Inc., completed an Air Quality Conformity Assessment and Applicability Determination. Full conformity was not triggered because future projects did not exceed CO thresholds and were not regionally significant. Conformity applicability for future FAI projects will be evaluated as required.

8.2.15 PERMITS AND APPROVALS

Projects resulting from this master plan will fall into one of three categories of environmental evaluation. The minimal level of review will be a Categorical Exclusion (with no anticipated cumulative effect on resources). The next level of documentation is an Environmental Assessment (EA), which addresses whether environmental impacts will be significant. Projects that affect wetlands will require an EA. If the finding of an EA is that there would be significant impact to a resource, an Environmental Impact Statement (EIS) will be required. All environmental documents will require state and federal agency scoping.

The level of environmental documentation for the individual projects recommended in this master plan is outlined in Chapter 7.

The approval of all necessary federal, state, borough, and city permits must be obtained prior to construction. The following permits and approvals may be required for the proposed facility improvements.

Federal

- EPA NPDES General Permit for Construction Activities associated with the build permit (SWPPP and Notice of Intent to be filed by the Contractor)
- USACE Section 404 wetlands permit for the placement of fill material into wetlands

State

- ADEC Section 401 Certificate of Reasonable Assurance (associated with wetland fill)
- ADEC Non-Domestic Wastewater Plan Review
- ADEC Approval of Abatement Plan for hazardous materials
- SHPO Section 106 concurrence with a Finding of No Historic Properties Affected

Local

- FNSB Floodplain Permit (for any construction or substantial improvement to a structure in the flood hazard zone)

Permitting Costs

In order to thoroughly evaluate the environmental impact of the entire 20-year master plan, FAI and the State of Alaska should consider regional, area-wide wetlands impacts. Addressing the larger scale of wetlands impacts will be more cost-effective than considering wetlands mitigation costs for each individual project.

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9 Land Use

Revised land use classifications for Fairbanks International Airport (Figure 9-1) were prepared to enhance the management of airport land assets, maximize property availability for aviation development through efficient and compatible planning, and allow for appropriate strategic decision-making to accommodate future demand. It is important for the airport's land use classifications to comply with FAA's definitions of "aeronautical" and "non-aeronautical" uses, since FAA grant assurances predicate the appropriate use and enforcement of land use classifications. Ultimately, the goal is to ensure adequate land is available to support air transportation requirements for the 20-year planning horizon and beyond. On-airport land areas are therefore allocated for a specific use to promote safe and efficient aviation activities. Compatibility with off-airport land uses and noise impacts to the community are also considered.

These designated land use classifications represent the highest and best use to promote a safe and efficient airport. As such, the land use classifications define the primary, or preferred, land use for airport property. However, in some cases secondary, or non-preferred, land uses may be allowed for an interim duration. Additionally, tenant or subtenant operations may encompass multiple land use classifications which differ from that of the primary land use classification. Applications for use of airport land that differ from the primary land use classification require the approval of airport management, in consultation with the FAA.

The airport land use classifications are intended to provide adequate specificity to be applied to future tenants and land use. The land use classifications are presented below with the above-mentioned considerations in mind. Off-airport lands that are deemed areas of high value that are not currently under the direct control of the airport are also depicted as "Land Acquisition" on Figure 9-1.

9.1 INTERNATIONAL CARGO

The International Cargo land use classification includes airport lands related to the accommodation of facilities for the handling and processing of international air cargo and air mail including apron areas for the loading, unloading, maintaining and servicing of international cargo aircraft with direct airfield access.

Example facilities and activities include, but are not limited to, international cargo processing, transitional warehousing, hangar facilities, apron space, and remote overnight (RON) cargo aircraft parking positions for air carriers operating through Anchorage between the contiguous United States and international destinations.

Tenants and facilities in this classification are differentiated from Domestic Cargo in that the aircraft and cargo operations associated with this classification originate or terminate outside of the United States. Also, International Cargo operations typically utilize larger aircraft (e.g., wide-body jets) and occupy larger cargo processing and transitional warehouse facilities.

Uses in this classification are deemed compliant with the FAA's definition of aeronautical use.

9.2 DOMESTIC CARGO

The Domestic Cargo land use classification includes airport lands related to the accommodation of facilities for the handling and processing of domestic air cargo and air mail, including apron areas for the loading, unloading, maintaining and servicing of domestic cargo aircraft with direct airfield access.

Example facilities and activities include, but are not limited to, domestic cargo processing, transitional warehousing, hangar facilities, and apron space for air carriers operating within Alaska or between Fairbanks and the contiguous United States.

Tenants and facilities in this classification are differentiated from International Cargo in that the aircraft and cargo operations associated with this classification typically originate and terminate within Alaska and the contiguous United States. Also, Domestic Cargo operations typically utilize smaller aircraft (e.g., turboprops and narrow-body jets) and occupy smaller cargo processing and transitional warehouse facilities.

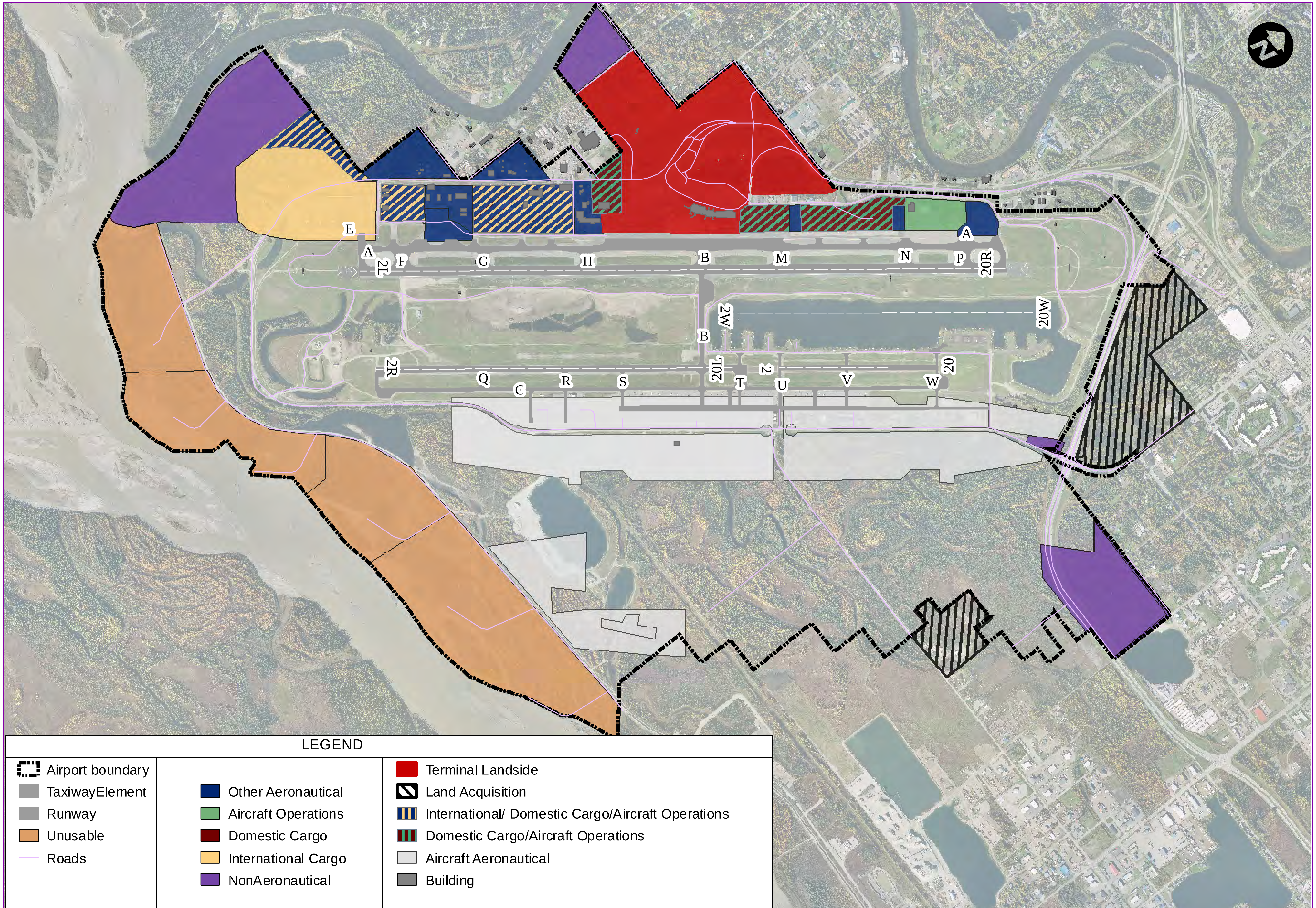
Uses in this classification are deemed compliant with the FAA's definition of aeronautical use.

9.3 AIRCRAFT AERONAUTICAL

The Aircraft Aeronautical land use classification includes aeronautical activities other than International Cargo and Domestic Cargo that require direct aircraft access to the airfield. This land use classification includes airport lands related to facilities for maintenance and storage of aircraft, aircraft parking, and flight operations.

Example facilities and activities include, but are not limited to, full service fixed-base operators (FBOs), aircraft fuel services, condo-style aircraft hangars, air ambulance operations, and small commercial or private aircraft operations.

Uses in this classification are deemed compliant with the FAA's definition of aeronautical use.



CONSULTANT:

PLANS DEVELOPED BY:
PDC, INC.

PROJECT:
FAI MASTER PLAN PROJECT

SHEET TITLE:
Land Use Classifications

Existing Conditions

DESIGN	PWC
DRAWN	PWC
CHECKED	RLC
DATE	JUNE, 2014

PROJECT No.
11072FB

FIGURE NUMBER
9-1

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9.4 OTHER AERONAUTICAL

The Other Aeronautical land use classification includes airport lands used to accommodate facilities that support the maintenance and operations of aircraft and the airport but do not require direct aircraft access to the airfield and.

Example facilities and activities include ground handling services, air freight forwarding that receives and sends 100% of its freight to and from the airport via aircraft, aircraft parts sales, bulk fuel storage serving the hydrant fueling system, and mobile fueling services fueling operations. This classification also includes facilities required to operate the airport such as Aircraft Rescue and Fire Fighting, air traffic control tower, airfield maintenance, airport facility maintenance, airport maintenance equipment yards, airport material storage, and airport snow storage.

Uses in this classification are deemed compliant with the FAA's definition of aeronautical use.

9.5 DOMESTIC CARGO / AIRCRAFT AERONAUTICAL

This classification allows both Domestic Cargo and Aircraft Aeronautical development as previously defined.

9.6 INTERNATIONAL CARGO / DOMESTIC CARGO

This classification allows both International Cargo and Domestic Cargo development as previously defined.

9.7 INTERNATIONAL CARGO / DOMESTIC CARGO / OTHER AERONAUTICAL

This classification allows International Cargo, Domestic Cargo, and Other Aeronautical development as previously defined.

9.8 AIRFIELD

The Airfield land use classification includes the area used for the runway and taxiway system and other pavement areas within the area where aircraft may taxi, takeoff, or land as well as apron areas where aircraft may park. It also includes land areas where airfield lighting and navigational aids (navaids) may be located. Note that this includes areas that may become necessary for airfield operations. As such, the Airfield land use classification is designated for the largest FAA-defined RPZ areas off of each runway end where low visibility minimum approaches may be implemented in the future.

9.9 NON-AERONAUTICAL

The Non-Aeronautical land use classification includes all uses of the airport that are not used for Aeronautical purposes as previously defined. The land uses in this classification are Non-aeronautical commercial uses that are not required to be located on an airport for the business to operate. The maximum lease term for Non-Aeronautical development is 35 years.

Areas designated as Non-Aeronautical do not exclude Aeronautical use activities; Aeronautical users may lease within any area designated as Non-aeronautical. An Aeronautical user takes priority over a Non-aeronautical user in consideration of a lease.

Example facilities and activities include freight forwarding (any forwarder that does not receive or send 100% of its freight via aircraft), car rental facilities, in-flight catering kitchens, restaurants, retail establishments, vehicle storage, manufacturing/testing/assembly, warehousing, United States Postal Service offices, and administrative and corporate offices. Utility facilities are also Non-aeronautical.

9.10 OTHER AERONAUTICAL / NON-AERONAUTICAL

This classification allows both Other Aeronautical and Non-Aeronautical development as previously defined. Applications for Aeronautical Support developments are prioritized over Non-Aeronautical.

9.11 PASSENGER TERMINAL AND LANDSIDE

The Passenger Terminal and Landside land use classification includes the area that is necessary for the main passenger terminal and related activities that is located within the passenger terminal envelope generally comprising the passenger terminal building and the airport loop road. It also includes associated passenger terminal landside facilities including public and employee parking, access and circulation roadways, passenger terminal curbside, ground transportation and commercial vehicle, rental car, and other transit/rail facilities. Portions of the passenger terminal and landside area may be considered Aeronautical or Non-aeronautical based on tenant use.

Passenger carriers include air carriers that transport passengers on a commercial basis. These passenger carriers 1) hold an Air Carrier Certificate or Operating Certificate issued by the FAA or 2) hold the appropriate permits for foreign air carrier operation issued by the United States Department of Transportation. These passenger air carriers also may operate on a scheduled, chartered, or on-demand basis. See Part 121, Part 129, and Part 135 of Chapter 14 of the Code of Federal Regulations for more information.

9.12 FUTURE AIRPORT DEVELOPMENT

The Future airport Development land use classification includes airport land areas that are vacant or have not yet been categorized as another land use but are reserved for potential airport development.

9.13 LAND ACQUISITION

Areas not currently owned by the airport which may need to be acquired to support the safe and efficient operation of the airport. Land acquired by the airport would be classified as a specific use at the time of acquisition.

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10 Public Participation

10.1 INTRODUCTION

This chapter summarizes the public involvement process conducted for the Fairbanks International Airport (FAI) Master Plan Update. At the onset of the project, the team developed a Public Involvement Plan (PIP) to guide stakeholder outreach and engagement throughout the master planning process. The goals and activities included in the PIP are outlined in this chapter.

Effective public involvement was important to ensure the FAI Master Plan Update reflected the goals and plans of the diverse stakeholder community and served them well into the future. The public, Alaska DOT&PF, FAI leadership, airport staff, airlines and other tenants, general aviation, community leaders, travelers and elected officials were integrated into the planning process to provide guidance and input to the PDC/RS&H project team for future airport operations and development.

Outreach and communications methods were used to limit risk and build good relationships inside the project team, within the Fairbanks/North Pole project area and statewide. The process provided stakeholders with an early invitation to comment, adequate notice of participation opportunities, access to the planning team, and the ongoing status of the project. Guiding principles for effective communications included:

- ***Credibility.*** Announce what you will do. Do what you say. Report what you did.
- ***Good information.*** Establish a common accessible base of information.
- ***Fair process.*** Shape the process to support real conversations; to be legal and appropriate; and to build relationships and trust.
- ***Consistent messages.*** Deliver the same message throughout the system of community stakeholders.
- ***Clarity and creativity***. Present information in a readable and accessible format.

10.2 PUBLIC INVOLVEMENT GOALS

At the project kickoff, the project team established the following requirements for the FAI Master Plan Update:

- Align with FAI Master Plan milestones
- Align with FAI schedule/budget process
- Align with AIAS system planning through DOWL/HKM
- Provide access to good information electronically and in community presentations
- Appoint one point of contact for public (website and printed materials)
- Support development of long-term FAI guidance for the community
- Clearly document process and expectations
- Engage diverse stakeholder interests with multiple formats including an Advisory Board, with policy, technical and special interest committees; public meetings and consistent electronic updates

10.3 STAKEHOLDERS: INTERESTS AND ISSUES

There was a diverse stakeholder group interested and/or affected by the outcomes of this FAI Master Plan project. The table below summarizes the stakeholders, their related interests and issues and how the project team reached out to each of them throughout the master plan process including review of the Draft FAI Airport Master Plan Update.

Table 10-1 – Stakeholder Issues and Engagement Approach

Stakeholder Group	Interest/Issues	Approach to Engagement
Fairbanks International Airport (staff, air carriers, lessees and tenants, tour buses, cabs, cargo, tie-down holders, TSA, other)	Airport facility planning (landside and airside), scope, timeline, budget/funding, coordination with other airport projects, staff time	FAI MP Advisory Board representation, *FAI Flight Lines* newsletter, website
FAI Master Plan Advisory Board	Overall updates and policy direction.	Regular meetings with project team
General Aviation Association	General Aviation operations, project scope and timing, financial ramifications, coordination with related projects	FAI MP Advisory Board representation, *FAI Flight Lines* newsletter, website
Federal Aviation Administration	Regulations/policies, security, safety	FAI MP Advisory Board representation, interviews and website, presentation by Airport Director
Environmental Agencies	Wetlands, streams, floodplain, birds and wildlife, contaminated areas, surface and subsurface, other	Project team interviews

Stakeholder Group	Interest/Issues	Approach to Engagement
Fairbanks North Star Borough and City of Fairbanks	Regulations/policies, land use, environmental considerations	Project team interviews, FAI MP Advisory Board representation
Fairbanks Assembly	Regulations/policies, land use, environmental considerations	Presentation by Airport Director at Assembly meeting (when FAI MP draft is available), website, interviews
Airport Visitors	General interest	Project website, printed *FAI Flight Lines* newsletter
Community/Civic Groups (Rotary Club of Fairbanks, Greater Fairbanks Chamber of Commerce Transportation Committee, Fairbanks Economic Development Council, FCVB, University of Alaska Fairbanks, 168th Alaska Air National Guard, Alaska Airman's Association, Alaska Civil Air Patrol, Fort Wainwright, AOPA, Doyon, TCC)	Impact to local businesses, community, local economy, tourism, traffic patterns	FAI MP Advisory Board representation, Public meetings, project website
Adjacent Neighbors, Residents	Noise, traffic, parking, project timeline, impact from development/construction on surrounding area	Public meetings, website, project team interviews
AIAS Planning Team	Compatibility and coordination with AIAS planning effort	Project team coordination with DOWL/HKM
FMATS Committees (policy and technical committees)	Long range transportation planning projects, coordination with landside infrastructure, traffic	FAI MP Advisory Board representation and interviews
General Public	General awareness of airport function, facilities, travel issues, traffic and access, support to development	Open House public meetings, Aviation Day booth, project website, *FAI Flight Lines* newsletter, local newspaper notices

10.4 FAI MASTER PLAN ADVISORY BOARD

An FAI Master Plan Advisory Board (FAB) with technical representatives from key airport/aviation stakeholder groups was formed to provide input, test assumptions, and guide the FAI Master Plan project, in terms of policy, technical issues and community goals, values and needs. Below are the representatives who served on the advisory board during the master plan development process.

FAI Master Plan Advisory Board Members:

Cory Christian - Alaska Airlines
***Matt Shaw* -** Alaska Airlines
Jon Cook - FEDC and Alaska Railroad Corporation
Harry Cook - Alaska Airman's Association
***Ron Dearborn* -** FAI General Aviation Association
***Matt Divens* -** Fairbanks Convention and Visitors Bureau and Holland America
Rob Everts - Everts Air Cargo
***Terry French* -** Era Aviation/Frontier Flying Service
Tom George - AOPA, Aviation Advisory Board, General Aviation Administration
Jim Hajdukovich - Frontier Flying Service
***Bob Hawkin* -** FBO, Corporate Aviation
***Richard Heieren* -** Fairbanks Chamber of Commerce
***Jae Hill* -** Fairbanks North Star Borough
***Lt. Col. Robert Mackelprang* -** Air National Guard
Jon McIntrye – Ace Fuels, LLC
***Alex Moss* –** Alaska International Airports System
***Kottayam Natarajan* –** AvAirPros, Airline Technical Representative
Patricia Oien – Federal Aviation Administration
Duke Prewitt – FTWW Airport Operations Manager
Bob Rieth – Northern Air Maintenance Services
Joe Reynolds – FAI/FAA-Air Traffic Control
Arvid Weflen – University of Alaska Fairbanks
Jeremy Worrall – Northern Region DOT&PF
***Darren Young* -** Warbelow's/Air Arctic

DOT&PF Working Team Members:

Jesse VanderZanden – FAI Airport Director
Steve Henry – FAI Engineering
R.J. Stumpf – ADOT&PF Design
Ryan Anderson – ADOT&PF Northern Region
Melissa Osborn – FAI Operations/ADOT&PF Northern Region
Angie Spear – FAI Operations

10.4.1 ADVISORY BOARD MEETINGS

The FAI Master Plan Advisory Board (FAB) met with the project team five times throughout the planning process to provide timely input aligned with key project milestones. All Advisory Board meetings were well documented and meeting summaries were published on the project website. Summaries, handouts and presentations from each meeting are included in Appendix C. Agenda topics from each meeting are noted below.

- **FAB Meeting 1 – November 16, 2011**
  Agenda included: Kickoff Meeting, Project goals, Review of 2005 Master Plan, 2014 Master Plan Process, and Key Issues
- **FAB Meeting 2 – March 15, 2012**
  Agenda included: AIAS Forecast and Capacity Analysis, Master Plan Progress, Revised Issues List, External Issues (military, oil/gas, cargo), Identification of Other Potential Working Groups
- **FAB Meeting 3 – November 15, 2012**
  Agenda included: Master Plan Progress, AIAS Master Plan Forecast, AIAS Capacity Analysis & System Scenarios, Fairbanks-based Aircraft Forecast and Critical Aircraft, Scenarios Worksession, and AGIS Project Update
- **FAB Meeting 4 – January 29, 2014**
  Agenda included: Overview and FAI Master Plan Update, AIAS Forecast, Capacity Analysis & Facility Requirements, Layout Requirements, East Side Development, Regional Terminal, Next Steps
- **FAB Meeting 5 – July 15, 2014**
  Agenda included: Review Final Draft Master Plan Update, Public Open House Comments, and Provide Final Draft Comments

10.4.2 EAST SIDE WORKING GROUP

Due to the specialized interests of the general aviation stakeholders, an East Side Working Group was established. This working group specifically reviewed the development options for Runway 2R/20L and Taxiway B and provided valuable user feedback to the project team and ADOT&PF. In addition to one-on-one stakeholder interviews, meetings were held with the East Side Working Group on November 6, 2013, and December 10, 2013.

East Side Working Group Members

Harry Cook - AK Airmen's Association
Ron Dearborn - FAI General Aviation Association
Tom George - AOPA, Aviation Advisory Board, General Aviation Administration
Clark Klimaschesky - FAI/SOA Maintenance
Brett Lystad - FAI ATCT NATCA
Chris Matthews - Wright Air Service
Jon McIntrye - Ace Fuels, LLC
Joe Reynolds - FAI ATCT ATM
***Pete Vandehei* -** FAI Operations
Darren Young - Warbelow's / Air Arctic

10.5 PUBLIC OUTREACH ACTIVITIES

Multiple strategies were used to effectively engage the airport stakeholders and general public throughout the FAI Airport Master Plan process.

10.5.1 PUBLIC OPEN HOUSE MEETINGS

Four public meetings/events were held to brief stakeholders and the general public and to gather input at key Master Plan milestones. Meeting notices, enlarged charts/aerial graphics, agendas, and presentations were developed to aid in communicating the project and collecting public input. Meeting summaries were prepared to identify key outcomes, issues, decisions, and next steps for all meetings. The summaries are included in Appendix C.

Public Open House #1 – November 16, 2011, Noel Wien Library

This initial public open house meeting served as an introductory project kickoff. The purpose was to inform stakeholders the FAI Master Plan update was underway, identify the Advisory Board and stakeholder engagement process, introduce the technical studies and intended outcomes, and seek input on potential airport/aviation related issues. Attendance was limited due to the extremely cold temperatures/harsh weather conditions in Fairbanks that evening.

Large-scale 32x44 aerial photos of the FAI campus and surrounding land were printed for ease of discussion and review by the community. FAI Master Plan project team members were stationed by each poster to facilitate discussion, questions and comments from the public. The community was invited to contribute additional issues for the project team to consider during the FAI Master Plan process. Sticky notes were provided and people posted them on the large-scale posters.

Notice of this public meeting was emailed to FAI's contact list, posted on the project website, included in the *FAI Flight Lines Spring/Fall 2011 Newsletter*, and advertised in the *Fairbanks Daily News-Miner*.

Figure 10-1 – Jesse VanderZanden, FAI Airport Director, points out key features on an aerial of FAI

Figure 10-2 – Sarah Barton, facilitator, discusses the project with a young stakeholder

Fairbanks Aviation Days – May 19, 2012, and May 17, 2014

The Airport Operators Council at Fairbanks International Airport hosts a “Fairbanks Aviation Day” to invite the public to get a “behind the scenes” look at what goes on in the airport. Event activities include a pancake breakfast, hands-on activities, aircraft on display, mini-seminars, airport tours and more. In 2012 and 2014, the PDC project team sponsored an exhibit booth at this event to update the general public about the Master Plan progress and development plan options being considered. For both events, PDC team members were available to answer questions and explain the master plan project scope and process and listen to key issues. Graphics and handouts included large project display boards, project fact sheet, schedule/timeline, comment cards and FAQs. The team produced balsa wood airplanes with the project logo to attract booth interest and advertise the project.

Figure 10-3 – Royce Conlon of PDC reviews master plan development at Aviation Day

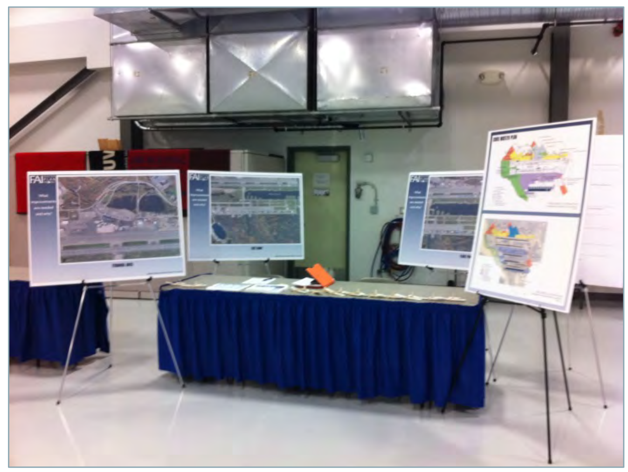

Figure 10-4 – Aviation Day boards and event booth

Figure 10-5 – Young aviators enjoy assembling the FAI MP balsa wood airplane kits

Figure 10-6 – One of several display aircraft at the Aviation Day event

Public Open House #2 – July 14, 2014, Pioneer Park Exhibit Hall

A second public open house was held on July 14, 2014, to review the draft Master Plan Update document and receive public comments. The Project Team provided a 20-minute overview of the FAI Master Plan and a summary of the implementation plan and key development recommendations. Large-scale 24x36 aerial boards of the FAI airport and master plan development recommendations were put on display for ease of discussion and review by the public. Representatives from the project team and the airport were stationed by each board to facilitate one-on-one discussion, questions and comments from the public. Three copies of the printed Master Plan were laid out on a table for review.

10.5.2 PROJECT WEBSITE

Figure 10-7 – FAI Master Plan Project Website

A project website (http://pdcprojects.info/FAIMasterPlan/index.html) for the Fairbanks International Airport Master Plan Update was developed to keep stakeholders informed of project status and provide general project information. Website features included: project overview, project updates, photos, project team/Advisory Board, schedule/timeline, public meeting dates/information, relevant reports/project documentation, meeting summaries, FAQs, useful links and project team contact information. The site was updated regularly and served as the primary documentation access for all parties.

The draft Master Plan Update was made available for public review and comment from July 2, 2014, through August 31, 2014. The chapters were posted on the project website for stakeholders to review and download. Hard copies of the draft Master Plan Update were made available at the Noel Wien Library, FAI Airport Administration office, and PDC offices. The public was encouraged to email all input/comments directly to the project team via the website.

10.5.3 ALASKA STATE LEGISLATURE INFORMATION PACKETS

In February 2013, the FAI Master Plan project team collaborated with the Anchorage International Airport Master Plan team to provide comprehensive Legislative Information Packets to each Senator and Representative in the Alaska State Legislature during the FY2014 session. Materials included: a cover letter with information on FAI Master Plan project scope and progress, a project fact sheet, schedule and Frequently Asked Questions. These materials are included in Appendix C.

10.5.4 FAI *FLIGHT LINES* NEWSLETTER

Information about the FAI Master Plan project and notice of upcoming public meetings were included in FAI's existing *Flight Lines* newsletter to keep stakeholders informed of project status and opportunities to provide input throughout the planning process. Text, photos and graphics were sent by the project team for inclusion in this quarterly newsletter. *FAI Flight Lines* is distributed electronically, with hard copies printed and made available in the FAI terminal. Samples of this newsletter are included in Appendix C.

10.5.5 FAIRBANKS/NORTH POLE PILOT SURVEY

As part of the FAI Master Plan update, a questionnaire was mailed to approximately 1,000 aircraft owners in the Fairbanks/North Pole area. The intent of the survey was to gather information regarding the needs of local pilots and understand their impressions of FAI. The project team received over an 18% response rate with a total of 184 responses. Of these responses, 58.5 percent were pilots currently based at FAI. Survey respondents commented that desired new facilities at FAI are more hangar space, additional float pond slips, electricity at more slips, and an aircraft wash facility. Results from this survey are detailed in Chapter 3 of this Master Plan.

10.5.6 E-MAIL UPDATES

FAI Master Plan project communications, updates and meeting notices were transmitted electronically via the project website, and the project team emailed periodic news updates to the Advisory Board and the Eastside Working group. Notices of key public open house events/meeting opportunities were distributed using the FAI's email distribution list that includes airport tenants, employees, users, general aviation, leaseholders, float pond, and other interested stakeholders.

10.5.7 COMMUNITY PRESENTATIONS DURING DRAFT MASTER PLAN COMMENT PERIOD

During the public comment period (July 2-August 31, 2014), Jesse VanderZanden, Airport Director, made presentations to key stakeholder groups such as the FAA, Rotary Club of Fairbanks, Greater Fairbanks Chamber of Commerce Transportation Committee, and the Fairbanks Economic Development Council and at the joint GAA/AOPA/Alaska Airmen's Association Summer Solstice Picnic. A PowerPoint presentation (included in Appendix C) summarizing the Draft FAI Airport Master Plan was developed by the project team. The goal of these presentations was to inform the Fairbanks/North Pole community about the airport master plan efforts, encourage community members to review the Draft Master Plan, and solicit input and comments.

10.5.8 ADVERTISEMENT / PRESS ACTIVITIES ANNOUNCING DRAFT MASTER PLAN RELEASE

In addition to community and stakeholder presentations, the project team engaged in the following outreach/advertising activities to ensure airport stakeholders and local public were aware of opportunities to participate in and comment on the Draft Airport Master Plan Update process.

- Draft Master Plan chapters were posted on the project website, along with simple instructions for how to submit comments to the project team.
- Paid advertisements were published in the *Fairbanks Daily News-Miner*.
- Open House notices were emailed to the Advisory Board, the East Side Working Group, airport users, ADOT&PF/FAI employees, airport stakeholders, the general aviation community, and FAI tenants.
- A large Open House poster was displayed in multiple locations in the FAI terminal for two weeks leading up to the July 14, 2014, Open House. The poster advertised the project website link to the draft Master Plan Update and the Open House date.
- A press release was sent to local print media, television, and radio regarding the public draft release of the Master Plan Update, the Open House, and the opportunity to review/comment.
- An update was included in the *FAI FlightLines Newsle*tter, July/August 2014 edition.

Figure 10-8 – Open House Notice

10.6 PUBLIC COMMENTS SUMMARY

A summary of key comments raised by the public, the advisory board, and key stakeholders regarding the FAI Airport development planning efforts is provided below. The majority of comments were addressed on the spot at the meetings by the project team or noted for further consideration and discussion.

10.6.1 PUBLIC OPEN HOUSE COMMENTS

November 2011 Open House

During the November 2011 Open House, community members noted the following issues to consider during the master plan update process.

Operational Comments

- NE Lease Lot Expansion
- Float Pond Parking Lots
- Float Pond Electricity
- Other local general aviation competition is an issue in upgrading facilities and costs
- Helipad - Security issues
- Build new shooting range that is open to the public
- Relocate the Float Pond
- End-around taxiways
- Taxiway B is a hot spot for runway incursion

Environmental Comments

- Large numbers of sandhill cranes used to congregate near South Pond. Development of
- Creamer's Field encouraged them to go there instead of airport.
- Propane cannons used to scare away birds from airport are not effective.
- While there aren't a lot of ducks that use the Float Pond due to depth, some mallards live/nest there.

July 2014 Open House

The July 2014 public open house was held to review and collect public/stakeholder comments on the Draft FAI Airport Master Plan Advisory Update. Below are some key stakeholder comments.

Public Comments

- Support for proposed Taxiway B alternative as defined in the Master Plan. Collaboration with the FAA, users, and airport resulted in an acceptable solution.
- Electric power is desired for the Float Pond.
- Concerned with building in the Runway Protection Zone.
- Float pond ramp needs maintenance.
- Proposed float pond road gate should be located close to Taxiway B on the west side of the gas station.
- Taxiway B should be relocated to address issues and hot spots.
- An accurate count of traffic should be recorded for Taxiway B.
- Excavated material should be used to create more "fingers" in the float pond.
- Airport retailer noted they were interested in the terminal expansion as it may relate to their future operations.
- The Master Plan was very easy to access via the project website and the information was well organized for the public to understand the project and submit comments. "This team is doing it right."
- FNSB discussed height restrictions zoning for airport cell towers.

10.6.2 FAI MASTER PLAN ADVISORY BOARD COMMENTS

The Advisory Board was formed to provide input and insight on technical issues related to aviation and airport operations, as well as represent major airport stakeholders. The board met five times during the FAI master plan update process to discuss key issues and review the final draft Master Plan. All comments and technical issues raised and discussed with the Project Team during these meetings were documented in the meeting summaries included in Appendix C.

Below is a summary of key comments raised by the Advisory Board:

- ***FAI Capacity to Meet Increased Future Demand:*** Various scenarios were discussed with the project team (increased cargo tech stops from Anchorage, natural resource development, natural gas pipeline, military BRAC impacts)
- ***Taxiway B Non-Standard Conditions and Incursion Reduction****:* There was considerable discussion with both the Advisory Board and Eastside Working Group related to the development alternatives that would best meet the FAA Advisory Circular standards, FAI operations needs and resolve the incursion and apron connectivity issues. The preferred development alternative is reviewed in Chapter 5 of this master plan.

- ***Aircraft Design Group (ADG) VI Upgrade:*** The project team and Advisory Board discussed trigger points for when FAI will need to install additional cargo hardstands or upgrade Runway 2R/20L to accommodate ADG VI cargo aircraft. Both the Baseline and the ANC 50% Cargo Shift forecasts showed FAI can support additional capacity through the planning period and an upgrade to ADG VI would only be needed under the ANC 50% Cargo Shift scenario. The group discussed that 500 landings a year is the "trigger event" to implement the 747-8 Modification of Standard or full ADG VI upgrade.
- ***Regional Terminal Expansion:*** Terminal expansion would address seven key issues: ticket office utilization, baggage handling area addition, baggage claim slide modifications, gate relationship to aircraft parking (via an enclosed heated walkway), passenger/tour operations at north vestibule, passenger holding area expansion and concessions/vending machines. When time comes to expand the terminal, expansion would be planned north to south to get passengers closer to the aircraft in an enclosed, heated environment. Terminal improvements would be demand driven.
- ***Additional Cargo Tech Stops:*** There is excess capacity under the base case scenario, but four more hardstands would be needed under the ANC 50% Cargo Shift forecast. A southern extension of the existing heavy cargo apron was considered the best option for additional hardstands.
- ***Deicing Expansion:*** The team reviewed potential locations to the northwest and southwest areas of the airport property. Under the base forecast, one (1) additional deicing pad will be needed, and one (1) more would be needed under the ANC 50% Cargo Shift forecast.
- ***Fuel Storage:*** There is sufficient land to expand the existing FAI fuel farm should additional fuel storage capacity be needed.
- ***East Side Lease Lot Development:*** DOT&PF reviewed the airport's development plans for the East Side Lease lots to increase the leasable area and promote private investment. Lot development was structured so it will work in the next 20-30 years when FAI builds a new runway. Public comments on lease lots were accepted until February 12, 2014 and applications were accepted starting March 3, 2014. Advertisement of additional lots is planned for December 2014.
- ***Helicopter/Fixed Wing Operational Conflicts***: A better structured plan for arrivals and departures, due to the ground impacts of helicopter air currents.
- ***Float Pond:*** The Float Pond is at or near capacity. Fingers could be added with gravel for a short term solution. Long term, relocation will be needed for greater separation. The team discussed Float Pond dredging, electrification of pond slips and GA tie downs, and additional float pond slips.
- ***Railroad Relocation***: The Railroad spur is an obstacle, but provides a means for bulk fuel delivery to the airport that may be a critical element in the future. The Railroad needs to be addressed with a plan for the future.
- ***Aircraft Wash Hangar:*** This issue was raised during the Pilot Survey as a desired amenity by General Aviation stakeholders. FAI discussed this could be private development/business opportunity on the East side of Airport.
- ***Snow Management*****:** Discussion occurred on defining snow management policies and procedures to improve the business environment on the east side.

10.6.3 FEDERAL AVIATION ADMINISTRATION COMMENTS

The project team and ADOT&PF staff met with the FAA on October 22, 2014, to review the FAI Master Plan Update and address any concerns. The following issues were discussed during the meeting. A resolution was discussed/identified for each issue. A meeting summary is included in Appendix C.

- More access control on east side; relocation of University Avenue to the east
- Support for proposed Taxiway B reconstruction and enhancement option (Figures 5-7) and further discuss islands during design process
- Keep future Taxiway Q on the ALP
- Clarification on ALP and Long-Term Plan
- Airspace and interaction with other airports to be considered in upcoming ALP update
- Vacant land between Mitchell Expressway and University Avenue

10.7 ATTACHMENTS (APPENDIX C)

- FAI Master Plan Advisory Board Meeting Summaries
- East Side Working Group Meeting Summaries
- Issues List
- FAI Flight Lines Newsletter, Summer/Fall 2011
- Public Open House Meeting Summary, November 2011
- FAI Pilot Survey
- Alaska State Legislature Cover Letter, February 2013
- Frequently Asked Questions, February 2013
- FAI Project Timeline
- Project Fact Sheet/Process
- Aviation Day Boards, May 2014
- Public Open House Invitation, July 2014
- FAI Master Plan Update PowerPoint Presentation, July 2014

11 Conclusion

An airport master plan is a long-range planning document used to review existing conditions and prepare forecasts that will define future aviation and non-aviation needs of the airport and the community. These needs guide the master plan process and are the basis for determining the appropriate direction for the airport.

This master plan update shows that FAI needs some near-term improvements to improve safety and security and potentially long-term improvements to accommodate increases in air cargo traffic. Airfield projects will incrementally bring the airport closer to compliance with the latest FAA design criteria.

Changes in federal policies regarding environmental issues, funding priorities, and industry regulations, as well as changes in air carrier fleets and aviation technologies, must be monitored to ensure improvements identified in this master plan remain relevant. The international air cargo industry's use of FAI will have impacts on the timing of airport development projects. Uncertainty in forecasting when and to what extent this will occur requires careful monitoring by FAI and ADOT&PF to ensure the airport can meet this demand.

Fairbanks International Airport is well positioned to meet future aviation demands, from international air cargo to local general aviation, and will continue to serve as Interior Alaska's connection to the world.

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APPENDIX A

FLIGHT SCHEDULES

August 2011 (Actual)

August 2020 (Forecast)

August 2011 (Actual)

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2011

Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
			Arrivals												Departures											
1	PAX	1		D	SEA	0:05	AS	127	B738	157	82%	87%	129	113	TOW			0:35	AS		B738					
2	PAX	1		D	SEA	1:41	AS	125	B738	157	82%	87%	129	113		D	SEA	6:15	AS	126	B738	157	0.800	0.578		
3	PAX	1	TOW			8:15	AS		B738							D	SEA	8:45	AS	124	B738	157	0.800	0.578		
4	PAX	1		D	ANC	10:57	AS	183	B734	144	59%	90%	84	76		D	ANC	11:40	AS	184	B734	144	0.568	0.9046		
5	PAX	1		D	ANC	14:30	AS	187	B738	157	59%	90%	92	83		D	ANC	15:10	AS	188	B738	157	0.568	0.9046		
6	PAX	1		D	ANC	16:20	AS	189	B738	157	59%	90%	92	83		D	ANC	17:00	AS	190	B738	157	0.568	0.9046		
7	PAX	1		D	ANC	17:28	AS	51	B73C	72	59%	90%	42	38		D	ANC	18:08	AS	51	B73C	72	0.568	0.9046		
8	PAX	1		D	ANC	20:15	AS	191	B734	144	59%	90%	84	76		D	ANC	20:55	AS	192	B734	144	0.568	0.9046		
9	PAX	1		D	SEA	22:32	AS	129	B739	172	82%	87%	142	124	TOW			23:02	AS		B739					
10	PAX	2				0:40	AS		B739							D	SEA	1:10	AS	128	B739	172	0.800	0.3511		
11	PAX	2	TOW			5:30	AS		B734							D	ANC	6:00	AS	62	B734	144	0.568	0.9046		
12	PAX	2		D	ANC	6:58	AS	55	B73C	72	59%	68%	42	29		D	SCC	7:45	AS	55	B73C	72	0.914	0.0757		
13	PAX	2		D	ANC	7:56	AS	181	B734	144	59%	68%	84	58		D	ANC	8:45	AS	124	B734	144	0.568	0.9046		
14	PAX	2		D	SEA	16:35	AS	123	B734	144	82%	58%	119	69		D	SEA	17:25	AS	122	B734	144	0.800	0.3511		
15	PAX	2		D	BRW	21:38	AS	52	B73C	72	65%	57%	47	27		D	ANC	22:20	AS	52	B73C	72	0.568	0.9046		
16	PAX	2		D	ANC	23:56	AS	195	B734	144	59%	68%	84	58	TOW			0:26	AS		B734					
17	AT	4		D	ANC	8:42	CON		B737	111	24%	100%	27	27		D	SCC	9:15	CON		B737	111	0.2342	1.000		
18	AT	4		D	SCC	12:59	CON		B737	111	24%	100%	27	27		D	ANC	13:35	CON		B737	111	0.2342	1.000		
19	PAX	5		D	DEN	21:37	F9	641	A319	138	100%	94%	138	129		D	DEN	22:35	F9	642	A319	138	0.969	0.9012		
20	PAX	6		D	MSP	0:37	DL	1241	B752	184	81%	94%	149	140		D	MSP	6:00	DL	1242	B752	184	0.788	0.900		
21	PAX	6		D	MSP	20:12	DL	1243	B752	184	81%	94%	149	140		D	MSP	21:20	DL	1243	B752	184	0.788	0.900		
22	PAX	A1	TOW			8:00	7H		BE99							D	OTZ	8:30	7H	732	BE99	19	0.546	0.899		
23	PAX	A1		D	FYU	10:00	7H	3471	P31A	6	58%	90%	3	3	TOW			10:30	7H		P31A					
24	PAX	A1		D	ANC	13:10	7H	710	BE99	19	55%	90%	10	9		D	ANC	13:30	7H	711	BE99	19	0.530	0.899		
25	PAX	A1		D	OTZ	15:15	7H	733	BE99	19	56%	90%	11	10		D	GAL	16:15	7H	736	BE99	19	0.712	0.899		
26	PAX	A1		D	BTI	17:05	7H	3503	BE99	19	58%	90%	11	10	TOW			17:35	7H		BE99					
27	PAX	A1		D	ANC	18:40	7H	706	DH8A	37	55%	90%	20	18		D	ANC	19:15	7H	707	DH8A	37	0.530	0.899		
28	PAX	A2				0:00	7H		BE99							D	GAL	8:00	7H	734	BE99	19	0.712	0.899		
29	PAX	A2	TOW			8:30	7H		BE99							D	BTI	9:00	7H	3500	BE99	19	0.561	0.899		
30	PAX	A2		D	ANC	10:30	7H	780	DH8A	37	55%	90%	20	18		D	ANC	15:55	7H	781	DH8A	37	0.530	0.899		
31	PAX	A2		D	FYU	18:15	7H	3473	P31A	6	58%	90%	3	3	TOW			18:45	7H		P31A					
32	PAX	A2		D	GAL	18:55	7H	737	BE99	19	73%	90%	14	13				0:00	7H		BE99					
33	PAX	AT1				0:00	3Z		P32R							D	EAA	9:00	3Z	40	P32R	3	0.364	0.899		
34	PAX	AT1	TOW			9:00	3Z		P32R							D	WBQ	9:30	3Z	50	P32R	3	0.506	0.899		
35	PAX	AT1		D	EAA	12:15	3Z	41	P32R	3	37%	90%	1	1		D	BTT	13:00	3Z	52	P32R	3	0.506	0.899		
36	PAX	AT1		D	WBQ	14:30	3Z	50	P32R	3	52%	90%	2	1	TOW			15:00	3Z		P32R					
37	PAX	AT1		D	AET	17:30	3Z	52	P32R	3	52%	90%	2	1				0:00	3Z		P32R					
38	PAX	AT10				0:00	4W		BE99							D	GAL	7:53	4W	401	BE99	19	0.554	0.899		
39	PAX	AT10		D	KYU	11:55	4W	400	BE99	19	62%	90%	12	11				0:00	4W		BE99					
40	PAX	AT11				0:00	8V		C208							D	BTT	8:00	8V	310	C208	9	0.333	0.899		
41	PAX	AT11	TOW			8:30	8V		C208							D	FYU	9:00	8V	330	C208	9	0.440	0.899		
42	PAX	AT11	TOW			9:30	8V		C208							D	TAL	10:00	8V	430	C208	9	0.423	0.899		
43	PAX	AT11		D	BTT	11:25	8V	311	C208	9	34%	90%	3	3		D	BTT	13:15	8V	380	C208	9	0.333	0.899		
44	PAX	AT11		D	FYU	13:30	8V	331	C208	9	45%	90%	4	4	TOW			14:00	8V		C208					
45	PAX	AT11		D	RBY	16:00	8V	350	C208	9	62%	90%	6	5	TOW			16:30	8V		C208					
46	PAX	AT11		D	KBC	17:05	8V	341	C208	9	63%	90%	6	5				0:00	8V		C208					
47	PAX	AT12				0:00	8V		C208							D	GAL	10:30	8V	350	C208	9	0.667	0.899		
48	PAX	AT12		D	AKP	11:45	8V	301	PA31	9	49%	90%	4	4		D	AKP	13:00	8V	320	PA31	9	0.476	0.899		
49	PAX	AT12		D	TAL	13:35	8V	431	C208	9	44%	90%	4	4		D	KBC	14:00	8V	340	C208	9	0.611	0.899		
50	PAX	AT12		D	BTT	16:30	8V	381	C208	9	34%	90%	3	3				0:00	8V		C208					
51	PAX	AT13				0:00	8V		PA31							D	AKP	8:15	8V	300	PA31	9	0.476	0.899		
52	PAX	AT13		D	AKP	16:20	8V	321	PA31	9	49%	90%	4	4				0:00	8V		PA31					
53	PAX	AT14				0:00	H6		BE19							D	FYU	8:00	H6		BE19	19	0.429	0.899		
54	PAX	AT14		D	FYU	9:37	H6		BE19	19	44%	90%	8	8		D	BTI	10:20	H6		BE19	19	0.309	0.899		
55	PAX	AT14	TOW			15:40	H6		BE19							D	FYU	16:10	H6		BE19	19	0.429	0.899		
56	PAX	AT14		D	BTI	17:05	H6		BE19	19	32%	90%	6	5	TOW			17:35	H6		BE19					
57	PAX	AT14		D	FYU	18:01	H6		BE19	19	44%	90%	8	8				0:00	H6		BE19					
58	PAX	AT15	TOW			7:35	2F		PA31							D	FYU	8:05	2F		PA31	8	0.5614	0.899		
59	PAX	AT15	TOW			8:10	2F		PA31							D	OTZ	8:40	2F		PA31	8	0.5455	0.899		
60	PAX	AT16				0:00	2F		PA31							D	GAL	8:40	2F		PA31	8	0.7123	0.899		
61	PAX	AT16		D	FYU	9:56	2F		PA31	8	58%	35%	5	2				0:00	2F		PA31					
62	PAX	AT2				0:00	4W		BE99							D	GAL	7:30	4W	400	BE99	19	0.554	0.899		
63	PAX	AT2		D	FYU	10:00	4W	601	P31A	9	83%	90%	7	7		D	WBQ	13:45	4W	314	P31A	9	0.357	0.899		
64	PAX	AT2		D	IRC	14:15	4W	280	P31A	9	13%	90%	1	1		D	RBY	16:30	4W	794	P31A	9	0.428	0.899		
65	PAX	AT2		D	VEE	16:45	4W	314	P31A	9	43%	90%	4	3	TOW			17:15	4W		P31A					
66	PAX	AT2		D	HSL	21:20	4W	420	BE99	19	63%	90%	12	11				0:00	4W		BE99					
67	PAX	AT3	TOW			8:15	4W		P31A							D	TAL	8:45	4W	752	P31A	9	0.435	0.899		
68	PAX	AT3		D	GAL	10:15	4W	2795	P31A	9	57%	90%	5	5		D	AKP	13:00	4W	502	P31A	9	0.358	0.899		
69	PAX	AT3		D	TAL	15:15	4W	741	P31A	9	45%	90%	4	4		D	RBY	16:45	4W	2794	P31A	9	0.428	0.899		
70	PAX	AT4				0:00	4W		P31A							D	AET	8:00	4W	500	P31A	9	0.325	0.899		
71	PAX	AT4		D	FYU	9:55	4W	411	P31A	9	83%	90%	7	7		D	CEM	12:00	4W	280	P31A	9	0.436	0.899		
72	PAX	AT4		D	HUS	16:20	4W	780	P31A	9	33%	90%	3	3		D	TAL	17:00	4W	758	P31A	9	0.435	0.899		
73	PAX	AT4		D	TAL	18:50	4W	759	P31A	9	45%	90%	4	4				0:00	4W		P31A					
74	PAX	AT5				0:00	4W		P31A							D	FYU	8:00	4W	410	P31A	9	0.801	0.899		
75	PAX	AT5		D	RBY	10:45	4W	795	P31A	9	44%	90%	4	4		D	FYU	13:30	4W	604	P31A	9	0.801	0.899		
76	PAX	AT5		D	BTT	16:30	4W	502	P31A	9	52%	90%	5	4		D	FYU	17:30	4W	260	P31A	9	0.801	0.899		
77	PAX	AT5		D	FYU	19:35	4W	261	P31A	9	83%	90%	7	7				0:00	4W		P31A					
78	PAX	AT6				0:00	4W		P31A							D	MLY	9:45	4W	320	P31A	9	0.436	0.899		
79	PAX	AT6		D	TAL	10:55	4W	753	P31A	9	45%	90%	4	4		D	TAL	11:45	4W	740	P31A	9	0.435	0.899		
80	PAX	AT6		D	GAL	11:55	4W	401	BE99	19	57%	90%	11	10		D	GAL	18:00	4W	420	BE99	19	0.554	0.899		

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2011

Ref. Num.	Category	Gate	Arrivals TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	Departures TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
81	PAX	AT6		D	FYU	22:50	4W	100	P31A	9	83%	90%	7	7				0:00	4W		P31A					
82	PAX	AT7				0:00	4W		C207							D	RMP	9:45	4W	330	C207	5	0.250	0.899		
83	PAX	AT7		D	MNT	11:25	4W	320	C207	5	45%	90%	2	2		D	SVS	12:45	4W	310	C207	5	0.333	0.899		
84	PAX	AT7		D	SVS	14:30	4W	310	C207	5	34%	90%	2	2				0:00	4W		C207					
85	PAX	AT8		D	BTT	11:35	4W	500	P31A	9	52%	90%	5	4		D	AET	13:30	4W	780	P31A	9	0.325	0.899		
86	PAX	AT8		D	FYU	16:31	4W	605	P31A	9	83%	90%	7	7		D	FYU	19:00	4W	100	P31A	9	0.801	0.899		
87	PAX	AT9				0:00	4W		C207							D	HUS	8:30	4W	732	C207	5	0.324	0.899		
88	PAX	AT9		D	HSL	11:40	4W	732	C207	5	63%	90%	3	3				0:00	4W		C207					
89	PAX	B1		D	ANC	7:35	7H	700	DH8A	37	55%	90%	20	18		D	ANC	7:55	7H	701	DH8A	37	0.530	0.899		
90	PAX	B1		D	GAL	11:00	7H	735	BE99	19	73%	90%	14	13	TOW			11:30	7H		BE99					
1005	CGO	CGO	TOW			11:09	VTS		DC6							D	VEE	11:39	VTS	25	DC6					
1006	CGO	CGO		D	EAA	7:37	VTS		C208							D	EAA	8:46	VTS		C208					
1007	CGO	CGO		D	VEE	19:25	8V		C208							D	VEE	21:46	8V		C208					
2001	MIL	MIL		D	ANC	18:42	MIL		SH33									0:00	MIL		SH33					
2002	MIL	MIL		D	EIL	10:35	MIL		SH33									0:00	MIL		SH33					
2003	MIL	MIL		D	ELM	0:03	MIL		SH33									0:00	MIL		SH33					
2004	MIL	MIL		D	EIL	8:29	MIL		BE20									0:00	MIL		BE20					
2005	MIL	MIL		D	ELM	0:05	MIL		TEX2									0:00	MIL		TEX2					
2006	MIL	MIL		D	FBK	10:05	MIL		H60									0:00	MIL		H60					
2007	MIL	MIL				0:00	MIL		SH33							D	ANC	0:12	MIL		SH33					
2008	MIL	MIL				0:00	MIL		SH33							D	EIL	11:25	MIL		SH33					
2009	MIL	MIL				0:00	MIL		SH33							D	ELM	0:43	MIL		SH33					
2010	MIL	MIL				0:00	MIL		BE20							D	EIL	14:38	MIL		BE20					
2011	MIL	MIL				0:00	MIL		TEX2							D	ELM	0:33	MIL		TEX2					
2012	MIL	MIL				0:00	MIL		H60							D	FBK	11:45	MIL		H60					
3001	AT	GA		D	AKP	20:16	AT	LN767D	P31A									0:00	AT		P31A					
3002	AT	GA		D	ANC	4:20	AT	LN25KA	BE18									0:00	AT		BE18					
3003	AT	GA		D	ANC	11:38	AT	LN543LI	LJ35									0:00	AT		LJ35					
3004	AT	GA		D	ANC	17:28	AT	LN81MF	LJ35									0:00	AT		LJ35					
3005	AT	GA		D	RBY	21:52	AT	LN6728I	BE18									0:00	AT		BE18					
3006	AT	GA		D	ANC	22:14	AT		C208									0:00	AT		C208					
3007	AT	GA		D	KSM	23:06	AT		PAY2									0:00	AT		PAY2					
3008	AT	GA		D	GAL	20:19	AT		BE20									0:00	AT		BE20					
3009	AT	GA		D	LHD	19:13	AT		Float									0:00	AT		Float					
3010	AT	GA		D	FYU	6:08	AT		MEP									0:00	AT		MEP					
3011	AT	GA		D	ANC	15:26	AT		MEP									0:00	AT		MEP					
3012	AT	GA		D	ADQ	16:02	AT		MEP									0:00	AT		MEP					
3013	AT	GA		D	HLA	20:58	AT		MEP									0:00	AT		MEP					
3014	AT	GA		D	BTT	7:18	AT		SEP									0:00	AT		SEP					
3015	AT	GA		D	ANC	15:28	AT		SEP									0:00	AT		SEP					
3016	AT	GA		D	TAL	13:17	AT		SEP									0:00	AT		SEP					
3017	AT	GA		D	GAL	14:48	AT		SEP									0:00	AT		SEP					
3018	AT	GA		D	AQT	16:32	AT		SEP									0:00	AT		SEP					
3019	AT	GA		D	ANC	20:12	AT		SEP									0:00	AT		SEP					
3020	AT	GA		D	ANC	19:31	AT		SEP									0:00	AT		SEP					
3021	AT	GA				0:00	AT		BE18							D	SCC	5:06	AT	LN25KA	BE18					
3022	AT	GA				0:00	AT		LJ35							D	BET	22:51	AT	LN543LI	LJ35					
3023	AT	GA				0:00	AT		LJ35							D	ANC	5:13	AT	LN81MF	LJ35					
3024	AT	GA				0:00	AT		BE18							D	RBY	18:50	AT	LN6728I	BE18					
3025	AT	GA				0:00	AT		C208							D	ANC	22:50	AT		C208					
3026	AT	GA				0:00	AT		PAY2							D	KSM	23:58	AT		PAY2					
3027	AT	GA				0:00	AT		BE20							D	GAL	21:26	AT		BE20					
3028	AT	GA				0:00	AT		Float							D	LHD	20:06	AT		Float					
3029	AT	GA				0:00	AT		MEP							D	FYU	11:16	AT		MEP					
3030	AT	GA				0:00	AT		MEP							D	ADQ	14:22	AT		MEP					
3031	AT	GA				0:00	AT		MEP							D	HLA	21:18	AT		MEP					
3032	AT	GA				0:00	AT		SEP							D	BTT	11:40	AT		SEP					
3033	AT	GA				0:00	AT		SEP							D	ANC	11:50	AT		SEP					
3034	AT	GA				0:00	AT		SEP							D	TAL	17:27	AT		SEP					
3035	AT	GA				0:00	AT		SEP							D	GAL	22:03	AT		SEP					
3036	AT	GA				0:00	AT		SEP							D	AQT	19:43	AT		SEP					
3037	AT	GA				0:00	AT		SEP							D	ANC	18:01	AT		SEP					
4001	GA	GA		D	ANC	11:43	GA	N6531N	BE18									0:00	GA		BE18					
4002	GA	GA		D	ANC	18:29	GA	N6728H	BE18									0:00	GA		BE18					
4003	GA	GA		D	ANC	16:47	GA	N767DM	PA2									0:00	GA		PA2					
4004	GA	GA		D	ANC	21:57	GA	N9680T	PA2									0:00	GA		PA2					
4005	GA	GA		D	ANC	12:32	GA		C560									0:00	GA		C560					
4006	GA	GA		D	RBY	0:46	GA		PA31									0:00	GA		PA31					
4007	GA	GA		D	AKP	3:48	GA		PA31									0:00	GA		PA31					
4008	GA	GA		D	OTZ	10:23	GA		BE20									0:00	GA		BE20					
4009	GA	GA		D	ANC	12:48	GA		PC12									0:00	GA		PC12					
4010	GA	GA		D	GAL	19:49	GA		DC6									0:00	GA		DC6					
4011	GA	GA		D	N	0:28	GA		float									0:00	GA		float					
4012	GA	GA		D	NE	0:48	GA		float									0:00	GA		float					
4013	GA	GA		D	E	0:08	GA		float									0:00	GA		float					
4014	GA	GA		D	SE	1:54	GA		float									0:00	GA		float					
4015	GA	GA		D	S	1:00	GA		float									0:00	GA		float					
4016	GA	GA		D	SW	1:02	GA		float									0:00	GA		float					
4017	GA	GA		D	W	1:37	GA		float									0:00	GA		float					
4018	GA	GA		D	NW	1:28	GA		float									0:00	GA		float					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2011

			Arrivals												Departures											
Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4023	GA	GA		D	S	7:10	GA		float									0:00	GA		float					
4024	GA	GA		D	SW	7:58	GA		float									0:00	GA		float					
4025	GA	GA		D	W	8:34	GA		float									0:00	GA		float					
4026	GA	GA		D	NW	8:28	GA		float									0:00	GA		float					
4027	GA	GA		D	N	10:18	GA		float									0:00	GA		float					
4028	GA	GA		D	NE	10:34	GA		float									0:00	GA		float					
4029	GA	GA		D	E	12:37	GA		float									0:00	GA		float					
4030	GA	GA		D	SE	12:01	GA		float									0:00	GA		float					
4031	GA	GA		D	S	12:30	GA		float									0:00	GA		float					
4032	GA	GA		D	SW	12:54	GA		float									0:00	GA		float					
4033	GA	GA		D	W	12:17	GA		float									0:00	GA		float					
4034	GA	GA		D	NW	12:29	GA		float									0:00	GA		float					
4035	GA	GA		D	N	13:00	GA		float									0:00	GA		float					
4036	GA	GA		D	NE	13:49	GA		float									0:00	GA		float					
4037	GA	GA		D	E	13:40	GA		float									0:00	GA		float					
4038	GA	GA		D	SE	14:12	GA		float									0:00	GA		float					
4039	GA	GA		D	S	14:39	GA		float									0:00	GA		float					
4040	GA	GA		D	SW	15:06	GA		float									0:00	GA		float					
4041	GA	GA		D	W	15:35	GA		float									0:00	GA		float					
4042	GA	GA		D	NW	15:35	GA		float									0:00	GA		float					
4043	GA	GA		D	N	15:18	GA		float									0:00	GA		float					
4044	GA	GA		D	NE	15:51	GA		float									0:00	GA		float					
4045	GA	GA		D	E	15:59	GA		float									0:00	GA		float					
4046	GA	GA		D	SE	15:37	GA		float									0:00	GA		float					
4047	GA	GA		D	S	15:31	GA		float									0:00	GA		float					
4048	GA	GA		D	SW	16:02	GA		float									0:00	GA		float					
4049	GA	GA		D	W	16:08	GA		float									0:00	GA		float					
4050	GA	GA		D	NW	17:11	GA		float									0:00	GA		float					
4051	GA	GA		D	N	17:53	GA		float									0:00	GA		float					
4052	GA	GA		D	NE	17:20	GA		float									0:00	GA		float					
4053	GA	GA		D	E	17:41	GA		float									0:00	GA		float					
4054	GA	GA		D	SE	17:31	GA		float									0:00	GA		float					
4055	GA	GA		D	S	17:31	GA		float									0:00	GA		float					
4056	GA	GA		D	SW	18:20	GA		float									0:00	GA		float					
4057	GA	GA		D	W	18:29	GA		float									0:00	GA		float					
4058	GA	GA		D	NW	18:33	GA		float									0:00	GA		float					
4059	GA	GA		D	N	18:03	GA		float									0:00	GA		float					
4060	GA	GA		D	NE	19:20	GA		float									0:00	GA		float					
4061	GA	GA		D	E	19:00	GA		float									0:00	GA		float					
4062	GA	GA		D	SE	19:16	GA		float									0:00	GA		float					
4063	GA	GA		D	S	19:05	GA		float									0:00	GA		float					
4064	GA	GA		D	SW	19:57	GA		float									0:00	GA		float					
4065	GA	GA		D	W	20:49	GA		float									0:00	GA		float					
4066	GA	GA		D	NW	20:15	GA		float									0:00	GA		float					
4067	GA	GA		D	N	20:12	GA		float									0:00	GA		float					
4068	GA	GA		D	NE	21:28	GA		float									0:00	GA		float					
4069	GA	GA		D	E	21:20	GA		float									0:00	GA		float					
4070	GA	GA		D	SE	22:58	GA		float									0:00	GA		float					
4071	GA	GA		D	S	22:14	GA		float									0:00	GA		float					
4072	GA	GA		D	SW	23:31	GA		float									0:00	GA		float					
4073	GA	GA		D	W	23:36	GA		float									0:00	GA		float					
4074	GA	GA		D	NW	23:49	GA		float									0:00	GA		float					
4075	GA	GA		D	OTZ	0:53	GA		SEP									0:00	GA		SEP					
4076	GA	GA		D	ADQ	0:42	GA		SEP									0:00	GA		SEP					
4077	GA	GA		D	ANC	0:39	GA		SEP									0:00	GA		SEP					
4078	GA	GA		D	TAL	1:13	GA		SEP									0:00	GA		SEP					
4079	GA	GA		D	GAL	1:58	GA		SEP									0:00	GA		SEP					
4080	GA	GA		D	BTI	1:44	GA		SEP									0:00	GA		SEP					
4081	GA	GA		D	ANC	1:33	GA		SEP									0:00	GA		SEP					
4082	GA	GA		D	KSM	1:32	GA		SEP									0:00	GA		SEP					
4083	GA	GA		D	BTT	1:28	GA		SEP									0:00	GA		SEP					
4084	GA	GA		D	AKP	1:40	GA		SEP									0:00	GA		SEP					
4085	GA	GA		D	ANC	2:52	GA		SEP									0:00	GA		SEP					
4086	GA	GA		D	OTZ	2:50	GA		SEP									0:00	GA		SEP					
4087	GA	GA		D	SCC	5:23	GA		SEP									0:00	GA		SEP					
4088	GA	GA		D	GAL	5:58	GA		SEP									0:00	GA		SEP					
4089	GA	GA		D	ANC	5:30	GA		SEP									0:00	GA		SEP					
4090	GA	GA		D	ADQ	5:37	GA		SEP									0:00	GA		SEP					
4091	GA	GA		D	BIG	6:16	GA		SEP									0:00	GA		SEP					
4092	GA	GA		D	FYU	6:40	GA		SEP									0:00	GA		SEP					
4093	GA	GA		D	ANC	7:10	GA		SEP									0:00	GA		SEP					
4094	GA	GA		D	RBY	8:59	GA		SEP									0:00	GA		SEP					
4095	GA	GA		D	GAL	8:57	GA		SEP									0:00	GA		SEP					
4096	GA	GA		D	OTZ	10:24	GA		SEP									0:00	GA		SEP					
4097	GA	GA		D	ANC	10:14	GA		SEP									0:00	GA		SEP					
4098	GA	GA		D	TAL	12:28	GA		SEP									0:00	GA		SEP					
4099	GA	GA		D	HLA	12:21	GA		SEP									0:00	GA		SEP					
4100	GA	GA		D	GAL	12:19	GA		SEP									0:00	GA		SEP					

FAIRBANKS INTERNATIONAL AIRPORT
Gated Flight Schedule - Average Weekday August 2011

Ref. Num.	Category	Gate	Arrivals TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	Departures TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4107	GA	GA		D	RBY	12:44	GA		SEP									0:00	GA		SEP					
4108	GA	GA		D	OTZ	13:13	GA		SEP									0:00	GA		SEP					
4109	GA	GA		D	ANC	13:01	GA		SEP									0:00	GA		SEP					
4110	GA	GA		D	AQT	13:29	GA		SEP									0:00	GA		SEP					
4111	GA	GA		D	GAL	13:40	GA		SEP									0:00	GA		SEP					
4112	GA	GA		D	HLA	13:03	GA		SEP									0:00	GA		SEP					
4113	GA	GA		D	ANC	13:38	GA		SEP									0:00	GA		SEP					
4114	GA	GA		D	GAL	14:38	GA		SEP									0:00	GA		SEP					
4115	GA	GA		D	FYU	14:00	GA		SEP									0:00	GA		SEP					
4116	GA	GA		D	TAL	14:36	GA		SEP									0:00	GA		SEP					
4117	GA	GA		D	ANC	15:17	GA		SEP									0:00	GA		SEP					
4118	GA	GA		D	AKP	15:54	GA		SEP									0:00	GA		SEP					
4119	GA	GA		D	FYU	15:34	GA		SEP									0:00	GA		SEP					
4120	GA	GA		D	BTT	15:42	GA		SEP									0:00	GA		SEP					
4121	GA	GA		D	ANC	15:22	GA		SEP									0:00	GA		SEP					
4122	GA	GA		D	ANC	15:59	GA		SEP									0:00	GA		SEP					
4123	GA	GA		D	ADQ	15:02	GA		SEP									0:00	GA		SEP					
4124	GA	GA		D	GAL	15:34	GA		SEP									0:00	GA		SEP					
4125	GA	GA		D	ANC	15:16	GA		SEP									0:00	GA		SEP					
4126	GA	GA		D	OTZ	15:09	GA		SEP									0:00	GA		SEP					
4127	GA	GA		D	SCC	15:02	GA		SEP									0:00	GA		SEP					
4128	GA	GA		D	CIK	15:21	GA		SEP									0:00	GA		SEP					
4129	GA	GA		D	ANC	16:57	GA		SEP									0:00	GA		SEP					
4130	GA	GA		D	GAL	16:16	GA		SEP									0:00	GA		SEP					
4131	GA	GA		D	BIG	16:43	GA		SEP									0:00	GA		SEP					
4132	GA	GA		D	TAL	17:15	GA		SEP									0:00	GA		SEP					
4133	GA	GA		D	ANC	17:18	GA		SEP									0:00	GA		SEP					
4134	GA	GA		D	RBY	17:35	GA		SEP									0:00	GA		SEP					
4135	GA	GA		D	BTT	17:52	GA		SEP									0:00	GA		SEP					
4136	GA	GA		D	BIG	17:28	GA		SEP									0:00	GA		SEP					
4137	GA	GA		D	ANC	17:39	GA		SEP									0:00	GA		SEP					
4138	GA	GA		D	KSM	17:46	GA		SEP									0:00	GA		SEP					
4139	GA	GA		D	GAL	17:43	GA		SEP									0:00	GA		SEP					
4140	GA	GA		D	OTZ	18:04	GA		SEP									0:00	GA		SEP					
4141	GA	GA		D	ANC	18:30	GA		SEP									0:00	GA		SEP					
4142	GA	GA		D	ANC	18:23	GA		SEP									0:00	GA		SEP					
4143	GA	GA		D	BIG	18:04	GA		SEP									0:00	GA		SEP					
4144	GA	GA		D	GAL	18:20	GA		SEP									0:00	GA		SEP					
4145	GA	GA		D	ANC	18:33	GA		SEP									0:00	GA		SEP					
4146	GA	GA		D	GAL	19:58	GA		SEP									0:00	GA		SEP					
4147	GA	GA		D	TAL	19:53	GA		SEP									0:00	GA		SEP					
4148	GA	GA		D	HLA	19:51	GA		SEP									0:00	GA		SEP					
4149	GA	GA		D	ANC	19:09	GA		SEP									0:00	GA		SEP					
4150	GA	GA		D	SCC	19:59	GA		SEP									0:00	GA		SEP					
4151	GA	GA		D	ADQ	19:35	GA		SEP									0:00	GA		SEP					
4152	GA	GA		D	OTZ	19:06	GA		SEP									0:00	GA		SEP					
4153	GA	GA		D	ANC	19:29	GA		SEP									0:00	GA		SEP					
4154	GA	GA		D	GAL	20:42	GA		SEP									0:00	GA		SEP					
4155	GA	GA		D	RBY	20:55	GA		SEP									0:00	GA		SEP					
4156	GA	GA		D	AKP	20:45	GA		SEP									0:00	GA		SEP					
4157	GA	GA		D	ANC	20:57	GA		SEP									0:00	GA		SEP					
4158	GA	GA		D	FYU	21:56	GA		SEP									0:00	GA		SEP					
4159	GA	GA		D	CIK	21:48	GA		SEP									0:00	GA		SEP					
4160	GA	GA		D	GAL	22:17	GA		SEP									0:00	GA		SEP					
4161	GA	GA		D	ANC	22:56	GA		SEP									0:00	GA		SEP					
4162	GA	GA		D	AQT	23:07	GA		SEP									0:00	GA		SEP					
4163	GA	GA		D	BTT	23:56	GA		SEP									0:00	GA		SEP					
4164	GA	GA		D	TAL	23:05	GA		SEP									0:00	GA		SEP					
4165	GA	GA		D	ANC	0:56	GA		SEP									0:00	GA		SEP					
4166	GA	GA		D	RBY	0:21	GA		MEP									0:00	GA		MEP					
4167	GA	GA		D	KSM	15:14	GA		MEP									0:00	GA		MEP					
4168	GA	GA				0:00	GA		BE18							D	ANC	15:40	GA	N6531N	BE18					
4169	GA	GA				0:00	GA		BE18							D	ANC	5:41	GA	LN6728I	BE18					
4170	GA	GA				0:00	GA		PA2							D	ANC	17:43	GA	LN767D	PA2					
4171	GA	GA				0:00	GA		PA2							D	ANC	15:37	GA	N9680T	PA2					
4172	GA	GA				0:00	GA		BE18							D	RBY	3:32	GA	LN145L(	BE18					
4173	GA	GA				0:00	GA		C560							D	ANC	15:50	GA		C560					
4174	GA	GA				0:00	GA		PA31							D	RBY	7:19	GA		PA31					
4175	GA	GA				0:00	GA		PA31							D	AKP	11:46	GA		PA31					
4176	GA	GA				0:00	GA		BE20							D	OTZ	12:00	GA		BE20					
4177	GA	GA				0:00	GA		PC12							D	ANC	14:34	GA		PC12					
4178	GA	GA				0:00	GA		DC6							D	GAL	19:19	GA		DC6					
4179	GA	GA				0:00	GA		float							D	N	4:53	GA		float					
4180	GA	GA				0:00	GA		float							D	NE	6:10	GA		float					
4181	GA	GA				0:00	GA		float							D	E	6:23	GA		float					
4182	GA	GA				0:00	GA		float							D	SE	7:52	GA		float					
4183	GA	GA				0:00	GA		float							D	S	7:31	GA		float					
4184	GA	GA				0:00	GA		float							D	SW	7:24	GA		float					
4185	GA	GA				0:00	GA		float							D	W	7:40	GA		float					
4186	GA	GA				0:00	GA		float							D	NW	7:09	GA		float					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2011

			Arrivals												Departures											
Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4194	GA	GA				0:00	GA		float							D	NW	9:46	GA		float					
4195	GA	GA				0:00	GA		float							D	N	9:48	GA		float					
4196	GA	GA				0:00	GA		float							D	NE	9:09	GA		float					
4197	GA	GA				0:00	GA		float							D	E	9:02	GA		float					
4198	GA	GA				0:00	GA		float							D	SE	9:43	GA		float					
4199	GA	GA				0:00	GA		float							D	S	9:00	GA		float					
4200	GA	GA				0:00	GA		float							D	SW	10:15	GA		float					
4201	GA	GA				0:00	GA		float							D	W	10:11	GA		float					
4202	GA	GA				0:00	GA		float							D	NW	10:35	GA		float					
4203	GA	GA				0:00	GA		float							D	N	11:49	GA		float					
4204	GA	GA				0:00	GA		float							D	NE	11:10	GA		float					
4205	GA	GA				0:00	GA		float							D	E	11:18	GA		float					
4206	GA	GA				0:00	GA		float							D	SE	11:19	GA		float					
4207	GA	GA				0:00	GA		float							D	S	11:28	GA		float					
4208	GA	GA				0:00	GA		float							D	SW	11:57	GA		float					
4209	GA	GA				0:00	GA		float							D	W	11:28	GA		float					
4210	GA	GA				0:00	GA		float							D	NW	12:50	GA		float					
4211	GA	GA				0:00	GA		float							D	N	12:06	GA		float					
4212	GA	GA				0:00	GA		float							D	NE	12:54	GA		float					
4213	GA	GA				0:00	GA		float							D	E	12:27	GA		float					
4214	GA	GA				0:00	GA		float							D	SE	12:44	GA		float					
4215	GA	GA				0:00	GA		float							D	S	12:30	GA		float					
4216	GA	GA				0:00	GA		float							D	SW	12:40	GA		float					
4217	GA	GA				0:00	GA		float							D	W	13:41	GA		float					
4218	GA	GA				0:00	GA		float							D	NW	13:23	GA		float					
4219	GA	GA				0:00	GA		float							D	N	14:25	GA		float					
4220	GA	GA				0:00	GA		float							D	NE	14:56	GA		float					
4221	GA	GA				0:00	GA		float							D	E	14:06	GA		float					
4222	GA	GA				0:00	GA		float							D	SE	14:10	GA		float					
4223	GA	GA				0:00	GA		float							D	S	15:20	GA		float					
4224	GA	GA				0:00	GA		float							D	SW	15:21	GA		float					
4225	GA	GA				0:00	GA		float							D	W	16:01	GA		float					
4226	GA	GA				0:00	GA		float							D	NW	16:00	GA		float					
4227	GA	GA				0:00	GA		float							D	N	16:01	GA		float					
4228	GA	GA				0:00	GA		float							D	NE	17:59	GA		float					
4229	GA	GA				0:00	GA		float							D	E	17:52	GA		float					
4230	GA	GA				0:00	GA		float							D	SE	17:09	GA		float					
4231	GA	GA				0:00	GA		float							D	S	18:59	GA		float					
4232	GA	GA				0:00	GA		float							D	SW	19:09	GA		float					
4233	GA	GA				0:00	GA		float							D	W	19:33	GA		float					
4234	GA	GA				0:00	GA		float							D	NW	19:37	GA		float					
4235	GA	GA				0:00	GA		float							D	N	19:57	GA		float					
4236	GA	GA				0:00	GA		float							D	NE	20:54	GA		float					
4237	GA	GA				0:00	GA		float							D	E	20:14	GA		float					
4238	GA	GA				0:00	GA		float							D	SE	20:09	GA		float					
4239	GA	GA				0:00	GA		float							D	S	20:46	GA		float					
4240	GA	GA				0:00	GA		float							D	SW	20:19	GA		float					
4241	GA	GA				0:00	GA		float							D	W	21:53	GA		float					
4242	GA	GA				0:00	GA		SEP							D	OTZ	1:59	GA		SEP					
4243	GA	GA				0:00	GA		SEP							D	ADQ	3:23	GA		SEP					
4244	GA	GA				0:00	GA		SEP							D	ANC	6:20	GA		SEP					
4245	GA	GA				0:00	GA		SEP							D	TAL	6:47	GA		SEP					
4246	GA	GA				0:00	GA		SEP							D	GAL	6:50	GA		SEP					
4247	GA	GA				0:00	GA		SEP							D	BTI	6:19	GA		SEP					
4248	GA	GA				0:00	GA		SEP							D	ANC	7:33	GA		SEP					
4249	GA	GA				0:00	GA		SEP							D	KSM	7:07	GA		SEP					
4250	GA	GA				0:00	GA		SEP							D	BTT	7:35	GA		SEP					
4251	GA	GA				0:00	GA		SEP							D	AKP	7:03	GA		SEP					
4252	GA	GA				0:00	GA		SEP							D	ANC	7:46	GA		SEP					
4253	GA	GA				0:00	GA		SEP							D	OTZ	7:02	GA		SEP					
4254	GA	GA				0:00	GA		SEP							D	SCC	7:34	GA		SEP					
4255	GA	GA				0:00	GA		SEP							D	GAL	7:33	GA		SEP					
4256	GA	GA				0:00	GA		SEP							D	ANC	8:35	GA		SEP					
4257	GA	GA				0:00	GA		SEP							D	ADQ	8:23	GA		SEP					
4258	GA	GA				0:00	GA		SEP							D	BIG	8:22	GA		SEP					
4259	GA	GA				0:00	GA		SEP							D	FYU	8:03	GA		SEP					
4260	GA	GA				0:00	GA		SEP							D	ANC	8:59	GA		SEP					
4261	GA	GA				0:00	GA		SEP							D	RBY	8:42	GA		SEP					
4262	GA	GA				0:00	GA		SEP							D	GAL	8:36	GA		SEP					
4263	GA	GA				0:00	GA		SEP							D	OTZ	8:06	GA		SEP					
4264	GA	GA				0:00	GA		SEP							D	ANC	8:45	GA		SEP					
4265	GA	GA				0:00	GA		SEP							D	TAL	9:32	GA		SEP					
4266	GA	GA				0:00	GA		SEP							D	HLA	9:39	GA		SEP					
4267	GA	GA				0:00	GA		SEP							D	GAL	9:31	GA		SEP					
4268	GA	GA				0:00	GA		SEP							D	ANC	9:33	GA		SEP					
4269	GA	GA				0:00	GA		SEP							D	ADQ	9:33	GA		SEP					
4270	GA	GA				0:00	GA		SEP							D	BIG	9:42	GA		SEP					
4271	GA	GA				0:00	GA		SEP							D	GAL	9:20	GA		SEP					
4272	GA	GA				0:00	GA		SEP							D	ANC	9:59	GA		SEP					
4273	GA	GA				0:00	GA		SEP							D	BTI	10:58	GA		SEP					
4274	GA	GA				0:00	GA		SEP							D	RBY	10:55	GA		SEP					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2011

			Arrivals												Departures											
Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4282	GA	GA				0:00	GA		SEP							D	FYU	11:52	GA		SEP					
4283	GA	GA				0:00	GA		SEP							D	TAL	11:54	GA		SEP					
4284	GA	GA				0:00	GA		SEP							D	ANC	11:21	GA		SEP					
4285	GA	GA				0:00	GA		SEP							D	AKP	11:56	GA		SEP					
4286	GA	GA				0:00	GA		SEP							D	FYU	11:19	GA		SEP					
4287	GA	GA				0:00	GA		SEP							D	BTT	11:42	GA		SEP					
4288	GA	GA				0:00	GA		SEP							D	ANC	12:12	GA		SEP					
4289	GA	GA				0:00	GA		SEP							D	ANC	12:47	GA		SEP					
4290	GA	GA				0:00	GA		SEP							D	ADQ	12:30	GA		SEP					
4291	GA	GA				0:00	GA		SEP							D	GAL	12:27	GA		SEP					
4292	GA	GA				0:00	GA		SEP							D	ANC	12:54	GA		SEP					
4293	GA	GA				0:00	GA		SEP							D	OTZ	12:33	GA		SEP					
4294	GA	GA				0:00	GA		SEP							D	SCC	12:40	GA		SEP					
4295	GA	GA				0:00	GA		SEP							D	CIK	12:01	GA		SEP					
4296	GA	GA				0:00	GA		SEP							D	ANC	12:14	GA		SEP					
4297	GA	GA				0:00	GA		SEP							D	GAL	12:32	GA		SEP					
4298	GA	GA				0:00	GA		SEP							D	BIG	12:57	GA		SEP					
4299	GA	GA				0:00	GA		SEP							D	TAL	13:59	GA		SEP					
4300	GA	GA				0:00	GA		SEP							D	ANC	13:19	GA		SEP					
4301	GA	GA				0:00	GA		SEP							D	RBY	13:59	GA		SEP					
4302	GA	GA				0:00	GA		SEP							D	BTT	13:41	GA		SEP					
4303	GA	GA				0:00	GA		SEP							D	BIG	14:10	GA		SEP					
4304	GA	GA				0:00	GA		SEP							D	ANC	14:27	GA		SEP					
4305	GA	GA				0:00	GA		SEP							D	KSM	14:41	GA		SEP					
4306	GA	GA				0:00	GA		SEP							D	GAL	14:39	GA		SEP					
4307	GA	GA				0:00	GA		SEP							D	OTZ	14:12	GA		SEP					
4308	GA	GA				0:00	GA		SEP							D	ANC	14:01	GA		SEP					
4309	GA	GA				0:00	GA		SEP							D	ANC	15:30	GA		SEP					
4310	GA	GA				0:00	GA		SEP							D	BIG	15:21	GA		SEP					
4311	GA	GA				0:00	GA		SEP							D	GAL	15:37	GA		SEP					
4312	GA	GA				0:00	GA		SEP							D	ANC	15:29	GA		SEP					
4313	GA	GA				0:00	GA		SEP							D	GAL	16:27	GA		SEP					
4314	GA	GA				0:00	GA		SEP							D	TAL	16:39	GA		SEP					
4315	GA	GA				0:00	GA		SEP							D	HLA	16:31	GA		SEP					
4316	GA	GA				0:00	GA		SEP							D	ANC	16:42	GA		SEP					
4317	GA	GA				0:00	GA		SEP							D	SCC	16:10	GA		SEP					
4318	GA	GA				0:00	GA		SEP							D	ADQ	17:47	GA		SEP					
4319	GA	GA				0:00	GA		SEP							D	OTZ	17:24	GA		SEP					
4320	GA	GA				0:00	GA		SEP							D	ANC	17:00	GA		SEP					
4321	GA	GA				0:00	GA		SEP							D	GAL	17:50	GA		SEP					
4322	GA	GA				0:00	GA		SEP							D	RBY	18:11	GA		SEP					
4323	GA	GA				0:00	GA		SEP							D	AKP	18:01	GA		SEP					
4324	GA	GA				0:00	GA		SEP							D	ANC	19:17	GA		SEP					
4325	GA	GA				0:00	GA		SEP							D	FYU	19:07	GA		SEP					
4326	GA	GA				0:00	GA		SEP							D	CIK	19:53	GA		SEP					
4327	GA	GA				0:00	GA		SEP							D	GAL	19:44	GA		SEP					
4328	GA	GA				0:00	GA		SEP							D	ANC	19:55	GA		SEP					
4329	GA	GA				0:00	GA		SEP							D	AQT	20:51	GA		SEP					
4330	GA	GA				0:00	GA		SEP							D	BTT	20:59	GA		SEP					
4331	GA	GA				0:00	GA		SEP							D	TAL	20:24	GA		SEP					
4332	GA	GA				0:00	GA		SEP							D	ANC	20:24	GA		SEP					
4333	GA	GA				0:00	GA		MEP							D	RBY	9:18	GA		MEP					
4334	GA	GA				0:00	GA		MEP							D	KSM	12:06	GA		MEP					

Sources: HNTB analysis.

August 2020 (Forecast)

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

Ref. Num.	Category	Gate	Arrivals TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	Departures TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
109	PAX	B2		D	SCC	14:30	2F	NEW	BE99	19	49%	89%	9	8		D	SCC	15:00	2F	NEW	BE99	19	49%	89%	9	8
41	PAX	AT01		D	BTT	13:30	3Z	NEW	P32R	3	45%	89%	1	1	TOW			15:00	3Z		P32R					
43	PAX	AT01		D	EAA	17:15	3Z	NEW	C208	9	33%	89%	3	3	TOW			18:00	3Z		C208					
40	PAX	AT01		D	EAA	12:15	3Z	41	P32R	3	33%	89%	1	1		D	BTT	13:00	3Z	52	P32R	3	45%	89%	1	1
39	PAX	AT01		D	FYU	10:50	3Z	NEW	P32R	3	45%	89%	1	1				11:20	3Z		P32R					
42	PAX	AT01	TOW			15:30	3Z		C208							D	EAA	16:20	3Z	NEW	C208	9	33%	89%	3	3
37	PAX	AT01	TOW			0:00	3Z		P32R							D	EAA	9:00	3Z	40	P32R	3	33%	89%	1	1
38	PAX	AT01	TOW			9:20	3Z		P32R							D	FYU	9:40	3Z	NEW	P32R	3	45%	89%	1	1
45	PAX	AT02		D	AET	7:50	4W	NEW	P31A	9	29%	89%	3	2	TOW			8:30	4W		P31A					
71	PAX	AT07		D	AET	18:30	4W	NEW	P31A	9	29%	89%	3	2	GATE			23:59	4W		P31A					
58	PAX	AT05		D	AKP	9:30	4W	NEW	BE99	11	32%	89%	4	3		D	AKP	10:00	4W	NEW	BE99	11	32%	89%	4	3
73	PAX	AT08		D	AKP	13:40	4W	NEW	BE99	11	32%	89%	4	3		D	TAL	14:10	4W	NEW	BE99	11	39%	89%	4	4
54	PAX	AT04		D	CEM	12:30	4W	NEW	P31A	9	39%	89%	4	3	TOW			13:00	4W		P31A					
66	PAX	AT06		D	FYU	22:50	4W	100	C208	9	72%	89%	6	6	TOW			23:30	4W		C208					
46	PAX	AT02		D	FYU	10:00	4W	601	P31A	9	72%	89%	6	6		D	WBQ	13:45	4W	314	P31A	9	32%	89%	3	3
53	PAX	AT04		D	FYU	9:55	4W	411	P31A	9	72%	89%	6	6		D	CEM	12:00	4W	280	P31A	9	39%	89%	4	3
63	PAX	AT05		D	FYU	19:35	4W	261	P31A	9	72%	89%	6	6	GATE			23:59	4W		P31A					
75	PAX	AT08		D	FYU	16:31	4W	605	P31A	9	72%	89%	6	6		D	FYU	19:00	4W	100	P31A	9	72%	89%	6	6
69	PAX	AT07		D	GAL	11:55	4W	401	BE99	11	50%	89%	5	5	TOW			12:20	4W		BE99					
50	PAX	AT03		D	GAL	10:15	4W	2795	P31A	9	50%	89%	4	4		D	AET	13:30	4W	780	P31A	9	29%	89%	3	2
48	PAX	AT02		D	HSL	21:20	4W	420	BE99	11	55%	89%	6	5	GATE			23:00	4W		BE99					
76	PAX	AT09		D	HSL	11:40	4W	732	C208	9	55%	89%	5	4		D	HSL	18:10	4W	NEW	C208	9	55%	89%	5	4
55	PAX	AT04		D	HUS	16:20	4W	780	P31A	9	29%	89%	3	2		D	TAL	17:00	4W	758	P31A	9	39%	89%	4	3
47	PAX	AT02		D	IRC	14:15	4W	280	P31A	9	11%	89%	1	1		D	IRC	14:40	4W	NEW	P31A	9	11%	89%	1	1
59	PAX	AT05		D	RBY	10:45	4W	795	P31A	9	38%	89%	3	3	TOW			11:15	4W		P31A					
70	PAX	AT07		D	SVS	14:30	4W	310	P31A	9	30%	89%	3	2	TOW			15:00	4W		P31A					
72	PAX	AT08		D	TAL	11:00	4W	NEW	BE99	11	39%	89%	4	4		D	AKP	13:00	4W	502	BE99	11	32%	89%	4	3
51	PAX	AT03		D	TAL	15:15	4W	741	P31A	9	39%	89%	4	3		D	RBY	16:30	4W	794	P31A	9	38%	89%	3	3
56	PAX	AT04		D	TAL	18:50	4W	759	P31A	9	39%	89%	4	3	GATE			19:30	4W		P31A					
65	PAX	AT06		D	TAL	10:55	4W	753	P31A	9	39%	89%	4	3		D	TAL	11:45	4W	740	P31A	9	39%	89%	4	3
74	PAX	AT08		D	WBQ	14:40	4W	NEW	P31A	9	32%	89%	3	3	TOW			15:10	4W		P31A					
44	PAX	AT02	GATE			0:00	4W		BE99							D	GAL	7:30	4W	400	BE99	11	50%	89%	5	5
77	PAX	AT10	TOW			0:00	4W		BE99							D	HSL	8:10	4W	NEW	BE99	11	55%	89%	6	5
68	PAX	AT07	TOW			10:40	4W		C208							D	FYU	11:10	4W	NEW	C208	9	72%	89%	6	6
49	PAX	AT03	TOW			8:15	4W		P31A							D	TAL	8:45	4W	752	P31A	9	39%	89%	4	3
52	PAX	AT04	GATE			0:00	4W		P31A							D	AET	8:00	4W	500	P31A	9	29%	89%	3	2
57	PAX	AT05	GATE			0:00	4W		P31A							D	FYU	8:00	4W	410	P31A	9	72%	89%	6	6
60	PAX	AT05	TOW			12:00	4W		P31A							D	SVS	12:45	4W	310	P31A	9	30%	89%	3	2
61	PAX	AT05	TOW			13:05	4W		P31A							D	FYU	13:30	4W	604	P31A	9	72%	89%	6	6
62	PAX	AT05	TOW			16:30	4W		P31A							D	FYU	17:30	4W	260	P31A	9	72%	89%	6	6
64	PAX	AT06	TOW			8:00	4W		P31A							D	HUS	8:30	4W	732	P31A	9	29%	89%	3	2
67	PAX	AT07	GATE			0:00	4W		P31A							D	GAL	7:53	4W	401	P31A	9	50%	89%	4	4
28	PAX	A1		D	ANC	13:10	7H	710	BE99	18	47%	89%	9	8		D	ANC	13:30	7H	711	BE99	18	47%	89%	9	8
33	PAX	A2		D	ANC	9:00	7H		BE99	18	47%	89%	9	8	TOW			10:00	7H		BE99					
31	PAX	A1		D	ANC	18:40	7H	706	DH8A	37	47%	89%	18	16		D	ANC	19:15	7H	707	DH8A	37	47%	89%	18	16
34	PAX	A2		D	ANC	10:30	7H	780	DH8A	37	47%	89%	18	16		D	ANC	11:00	7H	781	DH8A	37	47%	89%	18	16
105	PAX	B1		D	ANC	7:35	7H	700	DH8A	37	47%	89%	18	16		D	ANC	7:55	7H	701	DH8A	37	47%	89%	18	16
29	PAX	A1		D	GAL	14:00	7H	NEW	BE99	18	64%	89%	11	10		D	GAL	14:30	7H	NEW	BE99	18	64%	89%	11	10
36	PAX	A2		D	GAL	18:55	7H	737	BE99	18	64%	89%	11	10	GATE			23:00	7H		BE99					
106	PAX	B1		D	GAL	11:00	7H	735	BE99	18	64%	89%	11	10	TOW			11:30	7H		BE99					
30	PAX	A1		D	OTZ	15:15	7H	733	BE99	18	49%	89%	9	8		D	ANC	15:55	7H	781	BE99	18	47%	89%	9	8
107	PAX	B1		D	SCC	15:25	7H	781	DH8A	37	49%	89%	18	16	TOW			17:35	7H		DH8A					
26	PAX	A1	TOW			8:00	7H		BE99							D	OTZ	8:30	7H	732	BE99	18	49%	89%	9	8
32	PAX	A2	GATE			0:00	7H		BE99							D	GAL	8:00	7H	734	BE99	18	64%	89%	11	10
35	PAX	A2	TOW			16:07	7H		BE99							D	GAL	16:15	7H	736	BE99	18	64%	89%	11	10
27	PAX	A1	TOW			9:00	7H		DH8A							D	SCC	9:30	7H	NEW	DH8A	37	49%	89%	18	16
89	PAX	AT13		D	AET	7:45	8V	NEW	C208	9	70%	89%	6	6		D	AKP	8:15	8V	300	C208	9	43%	89%	4	3
93	PAX	AT13		D	AET	15:20	8V	NEW	C208	9	70%	89%	6	6		D	FYU	15:50	8V	NEW	C208	9	39%	89%	4	3
86	PAX	AT12		D	AKP	11:45	8V	301	C208	9	43%	89%	4	3		D	AKP	13:00	8V	320	C208	9	43%	89%	4	3
94	PAX	AT13		D	AKP	16:20	8V	321	C208	9	43%	89%	4	3	TOW			16:45	8V		C208					
90	PAX	AT13		D	ARC	8:40	8V	NEW	C208	9	23%	89%	2	2		D	VEE	9:00	8V	NEW	C208	9	41%	89%	4	3
88	PAX	AT12		D	BTT	16:30	8V	381	C208	9	50%	89%	4	4	GATE			23:59	8V		C208					
80	PAX	AT11		D	FYU	11:20	8V	NEW	C208	9	39%	89%	4	3	TOW			12:00	8V		C208					
82	PAX	AT11		D	FYU	13:30	8V	331	C208	9	39%	89%	4	3	TOW			14:00	8V		C208					
91	PAX	AT13		D	FYU	9:20	8V	NEW	C208	9	39%	89%	4	3		D	AET	9:40	8V	NEW	C208	9	70%	89%	6	6
92	PAX	AT13		D	GAL	10:00	8V	NEW	C208	9	60%	89%	5	5		D	FYU	12:00	8V	NEW	C208	9	39%	89%	4	3
84	PAX	AT11		D	KBC	17:05	8V	341	C208	9	55%	89%	5	4	GATE			23:00	8V		C208					
87	PAX	AT12		D	TAL	13:35	8V	431	C208	9	38%	89%	3	3		D	KBC	14:00	8V	340	C208	9	55%	89%	5	4
95	PAX	AT13		D	VEE	17:10	8V	NEW	C208	9	41%	89%	4	3		D	AET	17:40	8V	NEW	C208	9	70%	89%	6	6
78	PAX	AT11	GATE			0:00	8V		C208							D	FYU	9:00	8V	330	C208	9	39%	89%	4	3
79	PAX	AT11	TOW			9:30	8V		C208							D	TAL	10:00	8V	430	C208	9	38%	89%	3	3
81	PAX	AT11	TOW			12:40	8V		C208							D	BTT	13:15	8V	380	C208	9	50%	89%	4	4
83	PAX	AT11	TOW			14:30	8V		C208							D	ARC	15:00	8V	NEW	C208	9	23%	89%	2	2
85	PAX	AT12	GATE			0:00	8V		C208							D	GAL	10:30	8V	350	C208	9	60%	89%	5	5
19	PAX	2		D	ANC	23:56	AS	195	B734C	72	51%	82%	37	30	TOW			23:59	AS		B734C					
8	PAX	1		D	ANC	14:30	AS	187	B738	157	51%	82%	80	66		D	ANC	15:10	AS	188	B738	157	51%	82%	80	66
9	PAX	1		D	ANC	16:20	AS	189	B738	157	51%	82%	80	66		D	ANC	17:00	AS	190	B738	157	51%	82%	80	66
10	PAX	1		D	ANC	17:28	AS	51	B738	157	51%	82%	80	66		D	ANC	18:08	AS	51	B738	157	51%	82%	80	66
15	PAX	2		D	ANC	6:58	AS	55	B738	157	51%	82%	80	66		D	SCC	7:45	AS	55	B738	157	82%	33%	128	42
17	PAX	2		D	SEA	16:35	AS	123	B737	124	72%	76%	89	68		D	SEA	17:25	AS	122	B737	124	72%	76%	89	68

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

Ref. Num.	Category	Gate	Arrivals TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	Departures TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
13	PAX	2		D	SEA	0:05	AS	127	B738	157	72%	76%	112	86	TOW			1:00	AS		B738					
2	PAX	1		D	SEA	1:41	AS	125	B739	172	72%	76%	123	94	TOW			2:20	AS		B739					
12	PAX	1		D	SEA	22:32	AS	129	B739	172	72%	76%	123	94	GATE			23:59	AS		B739					
4	PAX	1	TOW			7:05	AS		B734C							D	SCC	7:35	AS	NEW	B734C	72	82%	33%	59	19
16	PAX	2	TOW			8:15	AS		B734C							D	ANC	8:45	AS	124	B734C	72	51%	82%	37	30
3	PAX	1	TOW			5:45	AS		B738							D	SEA	6:15	AS	126	B738	157	72%	76%	112	86
1	PAX	1	GATE			0:00	AS		B739							D	SEA	1:10	AS	128	B739	172	72%	76%	123	94
5	PAX	1	TOW			8:15	AS		B739							D	SEA	8:45	AS	124	B739	172	72%	76%	123	94
14	PAX	2	TOW			6:00	AS		B739							D	PDX	6:30	AS	NEW	B739	172	72%	76%	123	94
23	PAX	6		I	FRA	11:25	DE	NEW	B763	270	84%	96%	227	219		I	FRA	15:10	DE	NEW	B763	270	84%	96%	227	219
24	PAX	6		D	MSP	20:12	DL	1243	B739	180	71%	93%	127	118		D	MSP	21:20	DL	1243	B739	180	71%	93%	127	118
22	PAX	6		D	SLC	0:55	DL	NEW	B738	157	71%	93%	111	103		D	SLC	7:30	DL	NEW	B738	157	71%	93%	111	103
21	PAX	5		D	DEN	21:37	F9	641	A319	138	87%	93%	120	111		D	DEN	22:35	F9	642	A319	138	87%	93%	120	111
101	PAX	AT14		D	AKP	14:00	H6	NEW	BE99	12	35%	89%	4	4		D	AKP	15:00	H6	NEW	BE99	12	35%	89%	4	4
103	PAX	AT14		D	BTI	17:05	H6		BE99	12	28%	89%	3	3	TOW			17:35	H6		BE99					
96	PAX	AT14		D	FYU	7:30	H6		BE99	12	38%	89%	5	4		D	FYU	8:00	H6		BE99	12	38%	89%	5	4
104	PAX	AT14		D	FYU	18:01	H6		BE99	12	38%	89%	5	4	GATE			19:00	H6		BE99					
98	PAX	AT14		D	FYU	9:37	H6		BE99	12	38%	89%	5	4		D	BTI	10:20	H6		BE99	12	28%	89%	3	3
100	PAX	AT14		D	FYU	11:30	H6	NEW	P31A	8	38%	89%	3	3		D	FYU	13:10	H6	NEW	P31A	8	38%	89%	3	3
97	PAX	AT14		D	RBY	8:40	H6	NEW	C208	9	35%	89%	3	3		D	RBY	9:10	H6	NEW	C208	9	35%	89%	3	3
99	PAX	AT14	TOW			10:40	H6		BE99							D	FYU	11:00	H6	NEW	BE99	12	38%	89%	5	4
102	PAX	AT14	TOW			15:40	H6		BE99							D	FYU	16:10	H6		BE99	12	38%	89%	5	4
108	PAX	B2		D	TKJ	10:30	Q5	521	C207	5	22%	89%	1	1		D	TKJ	14:00	Q5	520	C207	5	22%	89%	1	1
1000	CGO	CGO		D	VEE	19:25	8V		C208							D	VEE	21:46	8V		C208					
1001	CGO	CGO		D	ANC	10:45	EM	663	AT72							D	ANC	12:38	EM	663	AT72					
1002	CGO	CGO	GATE			0:00	FX		AT42							D	ANC	6:15	FX		AT42					
1003	CGO	CGO		D	ANC	17:35	FX		AT42							D	ANC	18:55	FX		AT42					
1004	CGO	CGO		D	ANC	22:35	FX		AT42						GATE			0:00	FX		AT42					
1005	CGO	CGO		D	ANC	9:46	KO	11	BE99							D	ANC	11:03	KO	11	BE99					
1006	CGO	CGO		D	ANC	16:46	KO	NEW	BE99							D	ANC	18:03	KO	NEW	BE99					
1007	CGO	CGO	GATE			0:00	VTS		PA31							D	WBQ	11:39	VTS	NEW	PA31					
1008	CGO	CGO		D	EAA	7:37	VTS		C208							D	EAA	8:46	VTS		C208					
1009	CGO	CGO		D	WBQ	15:39	VTS	NEW	PA31						GATE			0:00	VTS		PA31					
2000	MIL	MIL		D	ANC	18:42	MIL		GLF5									0:00	MIL		GLF5					
2001	MIL	MIL		D	ELM	0:03	MIL		SH33									0:00	MIL		SH33					
2002	MIL	MIL		D	EIL	8:29	MIL		GLF4									0:00	MIL		GLF4					
2003	MIL	MIL		D	ELM	0:05	MIL		TEX2									0:00	MIL		TEX2					
2004	MIL	MIL				0:00	MIL		GLF5							D	ANC	0:12	MIL		GLF5					
2005	MIL	MIL				0:00	MIL		SH33							D	ELM	0:43	MIL		SH33					
2006	MIL	MIL				0:00	MIL		GLF4							D	EIL	14:38	MIL		GLF4					
2007	MIL	MIL				0:00	MIL		TEX2							D	ELM	0:33	MIL		TEX2					
3000	AT	GA		D	ANC	22:14	AT		C208									0:00	AT		C208					
3001	AT	GA		D	KSM	23:06	AT		PAY2									0:00	AT		PAY2					
3002	AT	GA		D	GAL	20:19	AT		BE20									0:00	AT		BE20					
3003	AT	GA				0:00	AT		C208							D	ANC	22:50	AT		C208					
3004	AT	GA				0:00	AT		PAY2							D	KSM	23:58	AT		PAY2					
3005	AT	GA				0:00	AT		BE20							D	GAL	21:26	AT		BE20					
3006	AT	GA		D	ANC	4:20	AT		BE18									0:00	AT		BE18					
3007	AT	GA		D	FYU	6:08	AT		MEP									0:00	AT		MEP					
3008	AT	GA		D	ANC	15:26	AT		MEP									0:00	AT		MEP					
3009	AT	GA		D	HLA	20:58	AT		MEP									0:00	AT		MEP					
3010	AT	GA				0:00	AT		BE18							D	SCC	5:06	AT		BE18					
3011	AT	GA				0:00	AT		MEP							D	FYU	11:16	AT		MEP					
3012	AT	GA				0:00	AT		MEP							D	ADQ	14:22	AT		MEP					
3013	AT	GA				0:00	AT		MEP							D	HLA	21:18	AT		MEP					
3014	AT	4		D	ANC	8:42	CON		B737	111	24%	100%	27	27		D	SCC	9:15	CON		B737	111	24%	100%	27	27
3015	AT	4		D	SCC	12:59	CON		B737	111	24%	100%	27	27		D	ANC	13:35	CON		B737	111	24%	100%	27	27
3016	AT	GA		D	ANC	11:38	AT		LJ35									0:00	AT		LJ35					
3017	AT	GA		D	ANC	17:28	AT		LJ35									0:00	AT		LJ35					
3018	AT	GA				0:00	AT		LJ35							D	BET	22:51	AT		LJ35					
3019	AT	GA				0:00	AT		LJ35							D	ANC	5:13	AT		LJ35					
3020	AT	GA		D	AKP	20:16	AT		GLF4									0:00	AT		GLF4					
3021	AT	GA				0:00	AT		GLF4							D	RBY	18:50	AT		GLF4					
3022	AT	GA		D	BTT	7:18	AT		SEP									0:00	AT		SEP					
3023	AT	GA		D	ANC	15:28	AT		SEP									0:00	AT		SEP					
3024	AT	GA		D	TAL	13:17	AT		SEP									0:00	AT		SEP					
3025	AT	GA		D	GAL	14:48	AT		SEP									0:00	AT		SEP					
3026	AT	GA		D	AQT	16:32	AT		SEP									0:00	AT		SEP					
3027	AT	GA		D	ANC	20:12	AT		SEP									0:00	AT		SEP					
3028	AT	GA		D	ANC	19:31	AT		SEP									0:00	AT		SEP					
3029	AT	GA				0:00	AT		SEP							D	BTT	11:40	AT		SEP					
3030	AT	GA				0:00	AT		SEP							D	ANC	11:50	AT		SEP					
3031	AT	GA				0:00	AT		SEP							D	TAL	17:27	AT		SEP					
3032	AT	GA				0:00	AT		SEP							D	GAL	22:03	AT		SEP					
3033	AT	GA				0:00	AT		SEP							D	AQT	19:43	AT		SEP					
3034	AT	GA				0:00	AT		SEP							D	ANC	18:01	AT		SEP					
3035	AT	GA				0:00	AT	NEW	SEP							D	FYU	17:00	AT		SEP					
3036	AT	GA		D	LHD	19:13	AT		Float									0:00	AT		Float					
3037	AT	GA				0:00	AT		Float							D	LHD	20:06	AT		Float					
4000	GA	GA		D	OTZ	10:23	GA		BE20									0:00	GA		BE20					
4001	GA	GA		D	ANC	12:32	GA		C560									0:00	GA		C560					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

Ref. Num.	Category	Gate	Arrivals TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	Departures TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4008	GA	GA		D	ANC	11:43	GA		MEP									0:00	GA		BE18					
4009	GA	GA		D	ANC	18:29	GA		MEP									0:00	GA		BE18					
4010	GA	GA		D	FYU	21:00	GA	NEW	MEP									0:00	GA		MEP					
4011	GA	GA				0:00	GA		MEP							D	RBY	9:18	GA		MEP					
4012	GA	GA				0:00	GA		MEP							D	KSM	12:06	GA		MEP					
4013	GA	GA				0:00	GA		BE18							D	ANC	15:40	GA		BE18					
4014	GA	GA				0:00	GA		BE18							D	ANC	5:41	GA		BE18					
4015	GA	GA				0:00	GA		BE18							D	RBY	3:32	GA		BE18					
4016	GA	GA		D	ANC	16:47	GA		LBJ									0:00	GA		PA2					
4017	GA	GA		D	ANC	21:57	GA		GLF4									0:00	GA		PA2					
4018	GA	GA		D	RBY	0:46	GA		GLF5									0:00	GA		P31A					
4019	GA	GA		D	AKP	3:48	GA		GLF4									0:00	GA		P31A					
4020	GA	GA		D	ANC	2:10	GA	NEW	GLF4									0:00	GA		GLF4					
4021	GA	GA		D	GAL	17:05	GA	NEW	LBJ									0:00	GA		LBJ					
4022	GA	GA				0:00	GA		PA2							D	ANC	17:43	GA		GLF4					
4023	GA	GA				0:00	GA		PA2							D	ANC	15:37	GA		GLF4					
4024	GA	GA				0:00	GA		P31A							D	RBY	7:19	GA		GLF5					
4025	GA	GA				0:00	GA		P31A							D	AKP	11:46	GA		LBJ					
4026	GA	GA				0:00	GA	NEW	GLF4							D	RBY	13:50	GA		GLF4					
4027	GA	GA				0:00	GA	NEW	LBJ							D	KSM	17:00	GA		LBJ					
4028	GA	GA		D	N	0:28	GA		float									0:00	GA		float					
4029	GA	GA		D	NE	0:48	GA		float									0:00	GA		float					
4030	GA	GA		D	E	0:08	GA		float									0:00	GA		float					
4031	GA	GA		D	SE	1:54	GA		float									0:00	GA		float					
4032	GA	GA		D	S	1:00	GA		float									0:00	GA		float					
4033	GA	GA		D	SW	1:02	GA		float									0:00	GA		float					
4034	GA	GA		D	W	1:37	GA		float									0:00	GA		float					
4035	GA	GA		D	NW	1:28	GA		float									0:00	GA		float					
4036	GA	GA		D	N	2:00	GA		float									0:00	GA		float					
4037	GA	GA		D	NE	5:08	GA		float									0:00	GA		float					
4038	GA	GA		D	E	5:34	GA		float									0:00	GA		float					
4039	GA	GA		D	SE	6:14	GA		float									0:00	GA		float					
4040	GA	GA		D	S	7:10	GA		float									0:00	GA		float					
4041	GA	GA		D	SW	7:58	GA		float									0:00	GA		float					
4042	GA	GA		D	W	8:34	GA		float									0:00	GA		float					
4043	GA	GA		D	NW	8:28	GA		float									0:00	GA		float					
4044	GA	GA		D	N	10:18	GA		float									0:00	GA		float					
4045	GA	GA		D	NE	10:34	GA		float									0:00	GA		float					
4046	GA	GA		D	E	12:37	GA		float									0:00	GA		float					
4047	GA	GA		D	SE	12:01	GA		float									0:00	GA		float					
4048	GA	GA		D	S	12:30	GA		float									0:00	GA		float					
4049	GA	GA		D	SW	12:54	GA		float									0:00	GA		float					
4050	GA	GA		D	W	12:17	GA		float									0:00	GA		float					
4051	GA	GA		D	NW	12:29	GA		float									0:00	GA		float					
4052	GA	GA		D	N	13:00	GA		float									0:00	GA		float					
4053	GA	GA		D	NE	13:49	GA		float									0:00	GA		float					
4054	GA	GA		D	E	13:40	GA		float									0:00	GA		float					
4055	GA	GA		D	SE	14:12	GA		float									0:00	GA		float					
4056	GA	GA		D	S	14:39	GA		float									0:00	GA		float					
4057	GA	GA		D	SW	15:06	GA		float									0:00	GA		float					
4058	GA	GA		D	W	15:35	GA		float									0:00	GA		float					
4059	GA	GA		D	NW	15:35	GA		float									0:00	GA		float					
4060	GA	GA		D	N	15:18	GA		float									0:00	GA		float					
4061	GA	GA		D	NE	15:51	GA		float									0:00	GA		float					
4062	GA	GA		D	E	15:59	GA		float									0:00	GA		float					
4063	GA	GA		D	SE	15:37	GA		float									0:00	GA		float					
4064	GA	GA		D	S	15:31	GA		float									0:00	GA		float					
4065	GA	GA		D	SW	16:02	GA		float									0:00	GA		float					
4066	GA	GA		D	W	16:08	GA		float									0:00	GA		float					
4067	GA	GA		D	NW	17:11	GA		float									0:00	GA		float					
4068	GA	GA		D	N	17:53	GA		float									0:00	GA		float					
4069	GA	GA		D	NE	17:20	GA		float									0:00	GA		float					
4070	GA	GA		D	E	17:41	GA		float									0:00	GA		float					
4071	GA	GA		D	SE	17:31	GA		float									0:00	GA		float					
4072	GA	GA		D	S	17:31	GA		float									0:00	GA		float					
4073	GA	GA		D	SW	18:20	GA		float									0:00	GA		float					
4074	GA	GA		D	W	18:29	GA		float									0:00	GA		float					
4075	GA	GA		D	NW	18:33	GA		float									0:00	GA		float					
4076	GA	GA		D	N	18:03	GA		float									0:00	GA		float					
4077	GA	GA		D	NE	19:20	GA		float									0:00	GA		float					
4078	GA	GA		D	E	19:00	GA		float									0:00	GA		float					
4079	GA	GA		D	SE	19:16	GA		float									0:00	GA		float					
4080	GA	GA		D	S	19:05	GA		float									0:00	GA		float					
4081	GA	GA		D	SW	19:57	GA		float									0:00	GA		float					
4082	GA	GA		D	W	20:49	GA		float									0:00	GA		float					
4083	GA	GA		D	NW	20:15	GA		float									0:00	GA		float					
4084	GA	GA		D	N	20:12	GA		float									0:00	GA		float					
4085	GA	GA		D	NE	21:28	GA		float									0:00	GA		float					
4086	GA	GA		D	E	21:20	GA		float									0:00	GA		float					
4087	GA	GA		D	SE	22:58	GA		float									0:00	GA		float					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

Ref.			Arrivals												Departures											
Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4095	GA	GA		D	W	17:20	GA	NEW	float									0:00	GA		float					
4096	GA	GA		D	NW	19:00	GA	NEW	float									0:00	GA		float					
4097	GA	GA		D	SW	13:50	GA	NEW	float									0:00	GA		float					
4098	GA	GA		D	SE	20:10	GA	NEW	float									0:00	GA		float					
4099	GA	GA		D	NE	23:25	GA	NEW	float									0:00	GA		float					
4100	GA	GA		D	S	1:30	GA	NEW	float									0:00	GA		float					
4101	GA	GA				0:00	GA		float							D	N	4:53	GA		float					
4102	GA	GA				0:00	GA		float							D	NE	6:10	GA		float					
4103	GA	GA				0:00	GA		float							D	E	6:23	GA		float					
4104	GA	GA				0:00	GA		float							D	SE	7:52	GA		float					
4105	GA	GA				0:00	GA		float							D	S	7:31	GA		float					
4106	GA	GA				0:00	GA		float							D	SW	7:24	GA		float					
4107	GA	GA				0:00	GA		float							D	W	7:40	GA		float					
4108	GA	GA				0:00	GA		float							D	NW	7:09	GA		float					
4109	GA	GA				0:00	GA		float							D	N	7:34	GA		float					
4110	GA	GA				0:00	GA		float							D	NE	8:18	GA		float					
4111	GA	GA				0:00	GA		float							D	E	8:13	GA		float					
4112	GA	GA				0:00	GA		float							D	SE	8:43	GA		float					
4113	GA	GA				0:00	GA		float							D	S	8:45	GA		float					
4114	GA	GA				0:00	GA		float							D	SW	8:48	GA		float					
4115	GA	GA				0:00	GA		float							D	W	8:39	GA		float					
4116	GA	GA				0:00	GA		float							D	NW	9:46	GA		float					
4117	GA	GA				0:00	GA		float							D	N	9:48	GA		float					
4118	GA	GA				0:00	GA		float							D	NE	9:09	GA		float					
4119	GA	GA				0:00	GA		float							D	E	9:02	GA		float					
4120	GA	GA				0:00	GA		float							D	SE	9:43	GA		float					
4121	GA	GA				0:00	GA		float							D	S	9:00	GA		float					
4122	GA	GA				0:00	GA		float							D	SW	10:15	GA		float					
4123	GA	GA				0:00	GA		float							D	W	10:11	GA		float					
4124	GA	GA				0:00	GA		float							D	NW	10:35	GA		float					
4125	GA	GA				0:00	GA		float							D	N	11:49	GA		float					
4126	GA	GA				0:00	GA		float							D	NE	11:10	GA		float					
4127	GA	GA				0:00	GA		float							D	E	11:18	GA		float					
4128	GA	GA				0:00	GA		float							D	SE	11:19	GA		float					
4129	GA	GA				0:00	GA		float							D	S	11:28	GA		float					
4130	GA	GA				0:00	GA		float							D	SW	11:57	GA		float					
4131	GA	GA				0:00	GA		float							D	W	11:28	GA		float					
4132	GA	GA				0:00	GA		float							D	NW	12:50	GA		float					
4133	GA	GA				0:00	GA		float							D	N	12:06	GA		float					
4134	GA	GA				0:00	GA		float							D	NE	12:54	GA		float					
4135	GA	GA				0:00	GA		float							D	E	12:27	GA		float					
4136	GA	GA				0:00	GA		float							D	SE	12:44	GA		float					
4137	GA	GA				0:00	GA		float							D	S	12:30	GA		float					
4138	GA	GA				0:00	GA		float							D	SW	12:40	GA		float					
4139	GA	GA				0:00	GA		float							D	W	13:41	GA		float					
4140	GA	GA				0:00	GA		float							D	NW	13:23	GA		float					
4141	GA	GA				0:00	GA		float							D	N	14:25	GA		float					
4142	GA	GA				0:00	GA		float							D	NE	14:56	GA		float					
4143	GA	GA				0:00	GA		float							D	E	14:06	GA		float					
4144	GA	GA				0:00	GA		float							D	SE	14:10	GA		float					
4145	GA	GA				0:00	GA		float							D	S	15:20	GA		float					
4146	GA	GA				0:00	GA		float							D	SW	15:21	GA		float					
4147	GA	GA				0:00	GA		float							D	W	16:01	GA		float					
4148	GA	GA				0:00	GA		float							D	NW	16:00	GA		float					
4149	GA	GA				0:00	GA		float							D	N	16:01	GA		float					
4150	GA	GA				0:00	GA		float							D	NE	17:59	GA		float					
4151	GA	GA				0:00	GA		float							D	E	17:52	GA		float					
4152	GA	GA				0:00	GA		float							D	SE	17:09	GA		float					
4153	GA	GA				0:00	GA		float							D	S	18:59	GA		float					
4154	GA	GA				0:00	GA		float							D	SW	19:09	GA		float					
4155	GA	GA				0:00	GA		float							D	W	19:33	GA		float					
4156	GA	GA				0:00	GA		float							D	NW	19:37	GA		float					
4157	GA	GA				0:00	GA		float							D	N	19:57	GA		float					
4158	GA	GA				0:00	GA		float							D	NE	20:54	GA		float					
4159	GA	GA				0:00	GA		float							D	E	20:14	GA		float					
4160	GA	GA				0:00	GA		float							D	SE	20:09	GA		float					
4161	GA	GA				0:00	GA		float							D	S	20:46	GA		float					
4162	GA	GA				0:00	GA		float							D	SW	20:19	GA		float					
4163	GA	GA				0:00	GA		float							D	W	21:53	GA		float					
4164	GA	GA				0:00	GA		float							D	N	7:00	GA		float					
4165	GA	GA				0:00	GA		float							D	E	8:30	GA		float					
4166	GA	GA				0:00	GA		float							D	S	9:00	GA		float					
4167	GA	GA				0:00	GA		float							D	W	11:50	GA		float					
4168	GA	GA				0:00	GA		float							D	NE	12:20	GA		float					
4169	GA	GA				0:00	GA		float							D	NW	19:00	GA		float					
4170	GA	GA				0:00	GA		float							D	SE	20:50	GA		float					
4171	GA	GA				0:00	GA		float							D	SW	14:00	GA		float					
4172	GA	GA				0:00	GA		float							D	N	16:00	GA		float					
4173	GA	GA				0:00	GA		float							D	NW	17:30	GA		float					
4174	GA	GA		D	ANC	12:48	GA		PC12									0:00	GA		PC12					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

			Arrivals												Departures											
Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4182	GA	GA		D	KSM	1:32	GA		SEP									0:00	GA		SEP					
4183	GA	GA		D	BTT	1:28	GA		SEP									0:00	GA		SEP					
4184	GA	GA		D	AKP	1:40	GA		SEP									0:00	GA		SEP					
4185	GA	GA		D	ANC	2:52	GA		SEP									0:00	GA		SEP					
4186	GA	GA		D	OTZ	2:50	GA		SEP									0:00	GA		SEP					
4187	GA	GA		D	SCC	5:23	GA		SEP									0:00	GA		SEP					
4188	GA	GA		D	GAL	5:58	GA		SEP									0:00	GA		SEP					
4189	GA	GA		D	ANC	5:30	GA		SEP									0:00	GA		SEP					
4190	GA	GA		D	ADQ	5:37	GA		SEP									0:00	GA		SEP					
4191	GA	GA		D	BIG	6:16	GA		SEP									0:00	GA		SEP					
4192	GA	GA		D	FYU	6:40	GA		SEP									0:00	GA		SEP					
4193	GA	GA		D	ANC	7:10	GA		SEP									0:00	GA		SEP					
4194	GA	GA		D	RBY	8:59	GA		SEP									0:00	GA		SEP					
4195	GA	GA		D	GAL	8:57	GA		SEP									0:00	GA		SEP					
4196	GA	GA		D	OTZ	10:24	GA		SEP									0:00	GA		SEP					
4197	GA	GA		D	ANC	10:14	GA		SEP									0:00	GA		SEP					
4198	GA	GA		D	TAL	12:28	GA		SEP									0:00	GA		SEP					
4199	GA	GA		D	HLA	12:21	GA		SEP									0:00	GA		SEP					
4200	GA	GA		D	GAL	12:19	GA		SEP									0:00	GA		SEP					
4201	GA	GA		D	ANC	12:33	GA		SEP									0:00	GA		SEP					
4202	GA	GA		D	ADQ	12:16	GA		SEP									0:00	GA		SEP					
4203	GA	GA		D	BIG	12:53	GA		SEP									0:00	GA		SEP					
4204	GA	GA		D	GAL	12:10	GA		SEP									0:00	GA		SEP					
4205	GA	GA		D	ANC	12:06	GA		SEP									0:00	GA		SEP					
4206	GA	GA		D	BTI	12:08	GA		SEP									0:00	GA		SEP					
4207	GA	GA		D	RBY	12:44	GA		SEP									0:00	GA		SEP					
4208	GA	GA		D	OTZ	13:13	GA		SEP									0:00	GA		SEP					
4209	GA	GA		D	ANC	13:01	GA		SEP									0:00	GA		SEP					
4210	GA	GA		D	AQT	13:29	GA		SEP									0:00	GA		SEP					
4211	GA	GA		D	GAL	13:40	GA		SEP									0:00	GA		SEP					
4212	GA	GA		D	HLA	13:03	GA		SEP									0:00	GA		SEP					
4213	GA	GA		D	ANC	13:38	GA		SEP									0:00	GA		SEP					
4214	GA	GA		D	GAL	14:38	GA		SEP									0:00	GA		SEP					
4215	GA	GA		D	FYU	14:00	GA		SEP									0:00	GA		SEP					
4216	GA	GA		D	TAL	14:36	GA		SEP									0:00	GA		SEP					
4217	GA	GA		D	ANC	15:17	GA		SEP									0:00	GA		SEP					
4218	GA	GA		D	AKP	15:54	GA		SEP									0:00	GA		SEP					
4219	GA	GA		D	FYU	15:34	GA		SEP									0:00	GA		SEP					
4220	GA	GA		D	BTT	15:42	GA		SEP									0:00	GA		SEP					
4221	GA	GA		D	ANC	15:22	GA		SEP									0:00	GA		SEP					
4222	GA	GA		D	ANC	15:59	GA		SEP									0:00	GA		SEP					
4223	GA	GA		D	ADQ	15:02	GA		SEP									0:00	GA		SEP					
4224	GA	GA		D	GAL	15:34	GA		SEP									0:00	GA		SEP					
4225	GA	GA		D	ANC	15:16	GA		SEP									0:00	GA		SEP					
4226	GA	GA		D	OTZ	15:09	GA		SEP									0:00	GA		SEP					
4227	GA	GA		D	SCC	15:02	GA		SEP									0:00	GA		SEP					
4228	GA	GA		D	CIK	15:21	GA		SEP									0:00	GA		SEP					
4229	GA	GA		D	ANC	16:57	GA		SEP									0:00	GA		SEP					
4230	GA	GA		D	GAL	16:16	GA		SEP									0:00	GA		SEP					
4231	GA	GA		D	BIG	16:43	GA		SEP									0:00	GA		SEP					
4232	GA	GA		D	TAL	17:15	GA		SEP									0:00	GA		SEP					
4233	GA	GA		D	ANC	17:18	GA		SEP									0:00	GA		SEP					
4234	GA	GA		D	RBY	17:35	GA		SEP									0:00	GA		SEP					
4235	GA	GA		D	BTT	17:52	GA		SEP									0:00	GA		SEP					
4236	GA	GA		D	BIG	17:28	GA		SEP									0:00	GA		SEP					
4237	GA	GA		D	ANC	17:39	GA		SEP									0:00	GA		SEP					
4238	GA	GA		D	KSM	17:46	GA		SEP									0:00	GA		SEP					
4239	GA	GA		D	GAL	17:43	GA		SEP									0:00	GA		SEP					
4240	GA	GA		D	OTZ	18:04	GA		SEP									0:00	GA		SEP					
4241	GA	GA		D	ANC	18:30	GA		SEP									0:00	GA		SEP					
4242	GA	GA		D	ANC	18:23	GA		SEP									0:00	GA		SEP					
4243	GA	GA		D	BIG	18:04	GA		SEP									0:00	GA		SEP					
4244	GA	GA		D	GAL	18:20	GA		SEP									0:00	GA		SEP					
4245	GA	GA		D	ANC	18:33	GA		SEP									0:00	GA		SEP					
4246	GA	GA		D	GAL	19:58	GA		SEP									0:00	GA		SEP					
4247	GA	GA		D	TAL	19:53	GA		SEP									0:00	GA		SEP					
4248	GA	GA		D	HLA	19:51	GA		SEP									0:00	GA		SEP					
4249	GA	GA		D	ANC	19:09	GA		SEP									0:00	GA		SEP					
4250	GA	GA		D	SCC	19:59	GA		SEP									0:00	GA		SEP					
4251	GA	GA		D	ADQ	19:35	GA		SEP									0:00	GA		SEP					
4252	GA	GA		D	OTZ	19:06	GA		SEP									0:00	GA		SEP					
4253	GA	GA		D	ANC	19:29	GA		SEP									0:00	GA		SEP					
4254	GA	GA		D	GAL	20:42	GA		SEP									0:00	GA		SEP					
4255	GA	GA		D	RBY	20:55	GA		SEP									0:00	GA		SEP					
4256	GA	GA		D	AKP	20:45	GA		SEP									0:00	GA		SEP					
4257	GA	GA		D	ANC	20:57	GA		SEP									0:00	GA		SEP					
4258	GA	GA		D	FYU	21:56	GA		SEP									0:00	GA		SEP					
4259	GA	GA		D	CIK	21:48	GA		SEP									0:00	GA		SEP					
4260	GA	GA		D	GAL	22:17	GA		SEP									0:00	GA		SEP					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

			Arrivals												Departures											
Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4268	GA	GA		D	OTZ	15:30	GA	NEW	SEP									0:00	GA		SEP					
4269	GA	GA		D	ANC	17:45	GA	NEW	SEP									0:00	GA		SEP					
4270	GA	GA		D	RBY	18:50	GA	NEW	SEP									0:00	GA		SEP					
4271	GA	GA		D	GAL	13:00	GA	NEW	SEP									0:00	GA		SEP					
4272	GA	GA		D	ADQ	0:20	GA	NEW	SEP									0:00	GA		SEP					
4273	GA	GA		D	TAL	4:50	GA	NEW	SEP									0:00	GA		SEP					
4274	GA	GA		D	ANC	20:30	GA	NEW	SEP									0:00	GA		SEP					
4275	GA	GA		D	GAL	23:50	GA	NEW	SEP									0:00	GA		SEP					
4276	GA	GA		D	FYU	14:10	GA	NEW	SEP									0:00	GA		SEP					
4277	GA	GA		D	ANC	16:40	GA	NEW	SEP									0:00	GA		SEP					
4278	GA	GA				0:00	GA		PC12							D	ANC	14:34	GA		PC12					
4279	GA	GA				0:00	GA		SEP							D	OTZ	1:59	GA		SEP					
4280	GA	GA				0:00	GA		SEP							D	ADQ	3:23	GA		SEP					
4281	GA	GA				0:00	GA		SEP							D	ANC	6:20	GA		SEP					
4282	GA	GA				0:00	GA		SEP							D	TAL	6:47	GA		SEP					
4283	GA	GA				0:00	GA		SEP							D	GAL	6:50	GA		SEP					
4284	GA	GA				0:00	GA		SEP							D	BTI	6:19	GA		SEP					
4285	GA	GA				0:00	GA		SEP							D	ANC	7:33	GA		SEP					
4286	GA	GA				0:00	GA		SEP							D	KSM	7:07	GA		SEP					
4287	GA	GA				0:00	GA		SEP							D	BTT	7:35	GA		SEP					
4288	GA	GA				0:00	GA		SEP							D	AKP	7:03	GA		SEP					
4289	GA	GA				0:00	GA		SEP							D	ANC	7:46	GA		SEP					
4290	GA	GA				0:00	GA		SEP							D	OTZ	7:02	GA		SEP					
4291	GA	GA				0:00	GA		SEP							D	SCC	7:34	GA		SEP					
4292	GA	GA				0:00	GA		SEP							D	GAL	7:33	GA		SEP					
4293	GA	GA				0:00	GA		SEP							D	ANC	8:35	GA		SEP					
4294	GA	GA				0:00	GA		SEP							D	ADQ	8:23	GA		SEP					
4295	GA	GA				0:00	GA		SEP							D	BIG	8:22	GA		SEP					
4296	GA	GA				0:00	GA		SEP							D	FYU	8:03	GA		SEP					
4297	GA	GA				0:00	GA		SEP							D	ANC	8:59	GA		SEP					
4298	GA	GA				0:00	GA		SEP							D	RBY	8:42	GA		SEP					
4299	GA	GA				0:00	GA		SEP							D	GAL	8:36	GA		SEP					
4300	GA	GA				0:00	GA		SEP							D	OTZ	8:06	GA		SEP					
4301	GA	GA				0:00	GA		SEP							D	ANC	8:45	GA		SEP					
4302	GA	GA				0:00	GA		SEP							D	TAL	9:32	GA		SEP					
4303	GA	GA				0:00	GA		SEP							D	HLA	9:39	GA		SEP					
4304	GA	GA				0:00	GA		SEP							D	GAL	9:31	GA		SEP					
4305	GA	GA				0:00	GA		SEP							D	ANC	9:33	GA		SEP					
4306	GA	GA				0:00	GA		SEP							D	ADQ	9:33	GA		SEP					
4307	GA	GA				0:00	GA		SEP							D	BIG	9:42	GA		SEP					
4308	GA	GA				0:00	GA		SEP							D	GAL	9:20	GA		SEP					
4309	GA	GA				0:00	GA		SEP							D	ANC	9:59	GA		SEP					
4310	GA	GA				0:00	GA		SEP							D	BTI	10:58	GA		SEP					
4311	GA	GA				0:00	GA		SEP							D	RBY	10:55	GA		SEP					
4312	GA	GA				0:00	GA		SEP							D	OTZ	10:18	GA		SEP					
4313	GA	GA				0:00	GA		SEP							D	ANC	10:15	GA		SEP					
4314	GA	GA				0:00	GA		SEP							D	AQT	11:29	GA		SEP					
4315	GA	GA				0:00	GA		SEP							D	GAL	11:41	GA		SEP					
4316	GA	GA				0:00	GA		SEP							D	HLA	11:30	GA		SEP					
4317	GA	GA				0:00	GA		SEP							D	ANC	11:24	GA		SEP					
4318	GA	GA				0:00	GA		SEP							D	GAL	11:03	GA		SEP					
4319	GA	GA				0:00	GA		SEP							D	FYU	11:52	GA		SEP					
4320	GA	GA				0:00	GA		SEP							D	TAL	11:54	GA		SEP					
4321	GA	GA				0:00	GA		SEP							D	ANC	11:21	GA		SEP					
4322	GA	GA				0:00	GA		SEP							D	AKP	11:56	GA		SEP					
4323	GA	GA				0:00	GA		SEP							D	FYU	11:19	GA		SEP					
4324	GA	GA				0:00	GA		SEP							D	BTT	11:42	GA		SEP					
4325	GA	GA				0:00	GA		SEP							D	ANC	12:12	GA		SEP					
4326	GA	GA				0:00	GA		SEP							D	ANC	12:47	GA		SEP					
4327	GA	GA				0:00	GA		SEP							D	ADQ	12:30	GA		SEP					
4328	GA	GA				0:00	GA		SEP							D	GAL	12:27	GA		SEP					
4329	GA	GA				0:00	GA		SEP							D	ANC	12:54	GA		SEP					
4330	GA	GA				0:00	GA		SEP							D	OTZ	12:33	GA		SEP					
4331	GA	GA				0:00	GA		SEP							D	SCC	12:40	GA		SEP					
4332	GA	GA				0:00	GA		SEP							D	CIK	12:01	GA		SEP					
4333	GA	GA				0:00	GA		SEP							D	ANC	12:14	GA		SEP					
4334	GA	GA				0:00	GA		SEP							D	GAL	12:32	GA		SEP					
4335	GA	GA				0:00	GA		SEP							D	BIG	12:57	GA		SEP					
4336	GA	GA				0:00	GA		SEP							D	TAL	13:59	GA		SEP					
4337	GA	GA				0:00	GA		SEP							D	ANC	13:19	GA		SEP					
4338	GA	GA				0:00	GA		SEP							D	RBY	13:59	GA		SEP					
4339	GA	GA				0:00	GA		SEP							D	BTT	13:41	GA		SEP					
4340	GA	GA				0:00	GA		SEP							D	BIG	14:10	GA		SEP					
4341	GA	GA				0:00	GA		SEP							D	ANC	14:27	GA		SEP					
4342	GA	GA				0:00	GA		SEP							D	KSM	14:41	GA		SEP					
4343	GA	GA				0:00	GA		SEP							D	GAL	14:39	GA		SEP					
4344	GA	GA				0:00	GA		SEP							D	OTZ	14:12	GA		SEP					
4345	GA	GA				0:00	GA		SEP							D	ANC	14:01	GA		SEP					
4346	GA	GA				0:00	GA		SEP							D	ANC	15:30	GA		SEP					
4347	GA	GA				0:00	GA		SEP							D	BIG	15:21	GA		SEP					

FAIRBANKS INTERNATIONAL AIRPORT

Gated Flight Schedule - Average Weekday August 2020

			Arrivals												Departures											
Ref. Num.	Category	Gate	TOW	Type D/I	Origin	Arr. Time	PC	Flt. No.	Equip-ment	Seats	Arr. L.F.	Arr. OD %	Depl	Term	TOW	Type D/I	Dest.	Dept. Time	PC	Flt. No.	Equip-ment	Seats	Dept. L.F.	Dept. OD %	Enp	Orig
4355	GA	GA				0:00	GA		SEP							D	ADQ	17:47	GA		SEP					
4356	GA	GA				0:00	GA		SEP							D	OTZ	17:24	GA		SEP					
4357	GA	GA				0:00	GA		SEP							D	ANC	17:00	GA		SEP					
4358	GA	GA				0:00	GA		SEP							D	GAL	17:50	GA		SEP					
4359	GA	GA				0:00	GA		SEP							D	RBY	18:11	GA		SEP					
4360	GA	GA				0:00	GA		SEP							D	AKP	18:01	GA		SEP					
4361	GA	GA				0:00	GA		SEP							D	ANC	19:17	GA		SEP					
4362	GA	GA				0:00	GA		SEP							D	FYU	19:07	GA		SEP					
4363	GA	GA				0:00	GA		SEP							D	CIK	19:53	GA		SEP					
4364	GA	GA				0:00	GA		SEP							D	GAL	19:44	GA		SEP					
4365	GA	GA				0:00	GA		SEP							D	ANC	19:55	GA		SEP					
4366	GA	GA				0:00	GA		SEP							D	AQT	20:51	GA		SEP					
4367	GA	GA				0:00	GA		SEP							D	BTT	20:59	GA		SEP					
4368	GA	GA				0:00	GA		SEP							D	TAL	20:24	GA		SEP					
4369	GA	GA				0:00	GA		SEP							D	ANC	20:24	GA		SEP					
4370	GA	GA				0:00	GA		SEP							D	BTT	7:10	GA	NEW	SEP					
4371	GA	GA				0:00	GA		SEP							D	HLA	8:30	GA	NEW	SEP					
4372	GA	GA				0:00	GA		SEP							D	OTZ	9:30	GA	NEW	SEP					
4373	GA	GA				0:00	GA		SEP							D	ANC	12:50	GA	NEW	SEP					
4374	GA	GA				0:00	GA		SEP							D	RBY	11:50	GA	NEW	SEP					
4375	GA	GA				0:00	GA		SEP							D	GAL	14:50	GA	NEW	SEP					
4376	GA	GA				0:00	GA		SEP							D	ADQ	20:00	GA	NEW	SEP					
4377	GA	GA				0:00	GA		SEP							D	TAL	16:50	GA	NEW	SEP					
4378	GA	GA				0:00	GA		SEP							D	ANC	21:40	GA	NEW	SEP					
4379	GA	GA				0:00	GA		SEP							D	GAL	13:20	GA	NEW	SEP					
4380	GA	GA				0:00	GA		SEP							D	FYU	10:20	GA	NEW	SEP					
4381	GA	GA				0:00	GA		SEP							D	ANC	15:10	GA	NEW	SEP					

Sources: HNTB analysis.

APPENDIX B

FAA Taxiway B Support

U.S. Department of Transportation
Federal Aviation Administration

Alaskan Region
Office of Runway Safety

222 West 7th Avenue, #14
Anchorage, Alaska 99513
Phone: (907) 271-1591
Dan.Brady@FAA.GOV

February 21, 2014

Fairbanks International Airport (FAI) Master Plan Committee

Reference: Proposed Geometry Changes at Fairbanks International Airport

Dear Committee Members,

I was unable to attend the Fairbanks International Airport (FAI) users group meeting on January 29, 2014. Graciously, Mr. Kurt O. Haukohl (CTR), FAA Western Service Area, Runway Safety Program-Senior Aviation Analyst represented the Alaskan Region Runway Safety Program Office in my absence. Specific concerns surrounding the Fairbanks International Airport (FAI) Master Plan were expressed during this meeting. This letter is in response.

Observations

Fairbanks International Airport (FAA: FAI, ICAO: PAFA) is a state-owned public-use airport located in the Fairbanks North Star Borough of the U.S. State of Alaska. Aviation service in the Fairbanks area was initiated in 1923 at an airfield known as Weeks Field, or Weeks Ball Park. This multi-use facility gained importance in the community and throughout the Alaska aviation system from the time that Carl Ben Eielson first flew into Fairbanks in 1923 to start Alaskan Airways.

The location of the present facility is a few miles removed from Weeks Field, which today is occupied by the public library. Fairbanks International Airport opened in 1951. It assumed operations of existing scheduled airline traffic to Fairbanks. Previously Fairbanks Air Base was used, this was renamed Ladd Field in December of 1939 and during WWII it became Ladd Army Airfield.

A notable surge in passenger and enplaned cargo volumes and corresponding aircraft operations occurred in the years 1974 through 1977, the time when the Trans-Alaska Pipeline System was under construction. Todays' FAA Form 5010 notes 540 aircraft based at FAI, including 1 helicopter and 6 based jets. The airport serves as a 'hub' for several Part 135 air-taxi operators serving many of interior Alaska's village communities. Alaska Airlines provides daily service direct Anchorage as well as direct Seattle. Other passenger airlines provide service to FAI on a seasonal basis. Only available to Japanese Nationals, Japan Airlines provides six or more charter flights from Tokyo direct FAI during the winter months for the opportunity to observe the Aurora Borealis. This is quite a boom to the Fairbank's economy to have tourists during the 'off-season'.

FAI also serves as the primary alternate airport for flights destined to Ted Stevens Anchorage International Airport (ANC). Usually a couple of times throughout the year every available space on FAI ramps are occupied with B747s, B777s, MD11s, and other jets due to unfavorable conditions at ANC.

Eielson Air Force Base (EIL), located 20 miles east of FAI, also utilizes FAI as their alternate airport. During past major flying exercises, there have been upwards of 40 fighter jets at one time parked at FAI due to an aircraft situation at EIL rendering their single runway inoperative.

FAI also provides service to hundreds of local Part 91 General Aviation (GA) pilots. Most of Alaska is only accessible by air, river boat, or 'dog-team' - be it the real thing, or the modern version, which has a combustion engine in it! Alaska has more GA pilots per capita than any other State in the U.S., at 1.313 per 100 people. Montana is a distant second at 0.407 per 100 people.

The airport is a Commercial Part 139 airport. However, practically speaking it is physically divided with one east/west taxiway connecting the two 'sides'. The east side primarily serves GA and Part 135 operators.

According to the Alaska Department of Transportation & Public Facilities, there are over 700 registered airports in Alaska. The Alaska Department of Transportation & Public Facilities owns 252 rural airports. The State of Alaska is also the owner, operator, and sponsor of FAI.

FAI occupies an area of 3,470 acres at an elevation of 439 feet above mean sea level. It has four runways:

Runway 2L/20R: 11,800 by 150 feet, Surface: Grooved Asphalt, Precision Approaches
Runway 2R/20L: 6,500 by 100 feet, Surface: Asphalt, Non-Precision Approaches
Runway SKI 2/20: 2,900 by 75 feet, Surface: Gravel
Runway 2W/20W: 5,400 by 100 feet, Surface: Water

The airport has several precision instrument approaches to Runway 2L/20R with 600 foot Runway Visual Range (RVR) Approach minimums, High Intensity Perimeter Edge lighting, High Intensity Approach Lighting System with Sequenced Flashing Lights (ALSF2) to Runway 2L, and Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) to Runway 20R. Category II approaches are published to both Runway 2L/20R and Category III approaches are only published to Runway 2L. All Category II/III approaches require special aircraft equipment and crew certification. Runway 2R/20L has Non-Precision Approaches to a Decision Height (DH) of 250 feet requiring a ¾ mile visibility with vertical guidance. At FAI the Commercial Service Runway 2L/20R has a Runway Reference Code (RRC) of D-V, for aircraft in Aircraft Design Group (ADG) D-V having approach speeds of less than 166 knots, wingspans less than 214 feet, and tail heights less than 66 feet. Runway 20L/20R publishes and utilizes Declared Distances with Clearways and with 750 foot displaced thresholds on each end. All of the remaining RRC(s) for Runway(s) 2W/20W (Water), 2/20 Ski (Gravel), and 2R/20L are listed as B-II and intended for aircraft with approach speeds less than 121 knots, wingspans less than 79 feet, and tail heights less than 30 feet in height.

The ALP does not designate a specific design aircraft, however meeting ADG D-VI specifically for “occasional operations” of Super Aircraft, such as the Boeing 747-800 and the Airbus A380, is a goal under discussion by the airport. An established heliport listed on the ALP with a 150 x 150 foot Final Approach and Liftoff Area (FATO) and Touchdown and Liftoff Area (TLOF) of 80 x 80 feet is also listed as lighted and marked, although it is not published on Form 5010.

Functionally Divided Airport

In January 1999 Russia opened its’ airspace providing Air Traffic Control service to international air travel. With the resulting new and shorter routes available, as well as technological advancement of aircraft engines, heavy jet cargo flights no longer needed to make refueling stops at FAI. In 2002 the GA runway was relocated and lengthened from 3,200 feet to 6,500 feet. These two events have significantly altered the pattern flow of surface traffic at FAI.

As a result, special operational consideration and procedures have divided airport functions, development, and to some degree Part 139 Certification into two ‘separate facilities’ both operated somewhat differently. The single connecting taxiway, Taxiway Bravo, joins the two airport halves, West side Commercial (Part 139) to East side General Aviation (GA) and Part 135. Taxiway Bravo now primarily functions as an exit taxiway for all aircraft landing on Runway 2L/20R, whether they may be commercial jets exiting to the West side terminal, or GA and Part135 aircraft exiting to the East ramp area.

During instrument and night conditions higher utilization of Runway 2L/20R occurs by all types of aircraft, due to the availability of precision instrument approach equipment and lighting. For the most part, Taxiway Bravo east of Runway 2L/20R is utilized almost exclusively by GA and Part 135 aircraft returning to the East ramp.

Surface Events, tracked by the FAA Office of Runway Safety, show that events occurring on Taxiway Bravo at Runway 2L/20R have been infrequent up until recently, and those events have been generated by Vehicle/Pedestrian Deviations, not Pilots or Controllers. Looking forward with a special focus on protecting the airport’s main Runway 2L/20R from potential
Runway Incursions, the FAA Office of Runway Safety notes the following unique airport conditions:

1. Reported Surface Events at FAI indicate that Taxiway Bravo, in and of itself, is not generating pilot or controller confusion and does not present geometric confusion. For several years now, the number of aircraft operations on Taxiway Bravo has been relatively low.

2. For ADG IV through ADG VI aircraft (these are mostly B757/Heavy or Super aircraft) departing Runway 2L/20R, the fact that Taxiway Bravo intersects Runway 2L/20R at practically the midpoint of the runway would geometrically present itself as a potential high-speed/high energy crossing area. However, the current and foreseeable amount of operations by ADG IV through ADG VI aircraft is such that this is considered an infrequent occurrence.

Note: The Runway Safety definition of high energy crossing, which is typically identified as being in the middle 1/3 of the runway segment, does not directly apply to this FAI runway-taxiway configuration. This is because Taxiway Bravo is located more than 4,600 feet from each touchdown point. Typically this rule of thumb is applied to average runways that just meet ADGs for those aircraft utilizing the airfield. Runway 2L/20R far exceeds length requirements for current operations at FAI.

3. Because Taxiway Bravo is basically at midpoint of the runway and it is the main entrance to the terminal ramp, arriving aircraft inclusive of ADG III are in a low speed/low energy phase of operation by the time they reach it. When departing full length from either end, they are airborne prior to it. Recent shifts in aircraft utilization by passenger airline operators serving FAI are such that even more frequent use of ADG III aircraft is planned and underway. In fact one operator, the primary air carrier serving Fairbanks, is moving away from aircraft like the B737 in favor of the Dash 8 Class of aircraft. In essence, Taxiway Bravo has become the 'end' of the runway for most arrivals and departures at FAI.

4. The physical location, being immediately in front of the control tower with the entire length of Taxiway Bravo (1,800 feet) is such that it is an area which is well surveyed by the controllers. This orientation makes it highly unlikely that a pilot could, or would choose to, inadvertently taxi its' entire distance while being confused or disoriented from their destination objective.

5. A marked approach hold surface protecting Water Runway 2W/20W, (locally known as Float Pond 2/20) is an area protected by Air Traffic Control on Taxiway Bravo. Movement in this area requires additional scanning by ATC for arriving and departing aircraft in order to protect them from surface traffic transitioning eastbound or westbound in what is essentially, the center of Taxiway Bravo.

Recommendations

1. Until such time that development of the proposed new FAI eastern complex is completed, or there becomes a significant increase in the amount of ADG IV through ADG VI aircraft operations at FAI, Runway Safety endorses the proposal to leave Taxiway Bravo where it currently is constructed. Primarily because it exists now and statistically it has proven to contribute very few risks related to its' geometric location. Ultimately, proposals to connect FAI runways end-to-end is highly recommended and preferable.

Any project proposal(s) connecting Taxiway Quebec to Taxiway Golf are less desirable than the current status quo due to the fact that Quebec and Golf cross both Runways 2L/20R and 2R/20L and both are in the typical aircraft touch down zones. Taxiways Quebec and Golf would potentially be at the highest energy runway crossing points for both arrivals and departures, for Runways 2L and 2R operations.

That said, Runway Safety **caveats to this recommendation** follow.

a. Additional risk mitigation should be undertaken to include marking and signage enhancements to Part 139 standards on Taxiway Bravo intersections, east and west, of Runway 2L/20R to further reduce any opportunity for runway incursions.

b. Taxiway intersection improvements should include enhanced taxiway centerline markings, large format lighted signs, in-pavement runway guard lights, elevated runway guard lights (ERGLS), enhanced Pattern A (Holding Position Line Markings), and white on red mandatory surface painted signs.

c. The existing Pattern A marking on Taxiway Bravo east of Runway 2L/20R is about 230 feet long. Intersection markings exceeding 150 feet should normally be double signed and marked. Preferably, the width should be permanently reduced.

d. Intersection departures from Taxiway Bravo, as a matter of airport or air traffic policy, should not be recommended. They should be avoided and discouraged. The unwanted events documented in the NAS with this type of operation (where there is sufficient length to depart in either direction from an intersection) involve the pilot entering the runway and departing in the wrong direction, thereby creating a head-on traffic conflict. At a minimum, aircraft originating from the West ramp should utilize Taxiways Hotel or Mike when a near mid-field intersection departure is requested, or appropriate.

e. Float Plane Road should be physically isolated (blocked) from any ready access to Taxiway Bravo.

f. All ATC references to "Float Plane Road" should be included in published airport diagrams accordingly, this to accommodate standard phraseology and surface orientation. Float Plane Road essentially needs a designation of its' own, and it needs to be easily and quickly identifiable. The roadway, where feasible, should be clearly marked as a roadway and not include any taxiway markings.

g. Further study to remove the Approach Holding Position established on Taxiway Bravo for Water Runway 2W/20W is recommended due to the potential for pilot or controller confusion. Approach Holding Positions nationally have proven to be problematic in the NAS. Higher workloads for both pilots and controllers using optional holding positions, as well as additional communications required in these areas have also been a concern. That said, it is conceded that historically, float planes arriving Water Runway 2W have been known to ‘drag it’ across Taxiway Bravo. Regardless of where the Water Runway safety area and the 20:1 transition area is plotted out, overly cautious procedures demonstrated by ATC is understandable.

h. FAA Runway Safety strongly recommends pursuing development of the new eastern complex, including relocation of the Water Runway, and Ski/Gravel Runway to further alleviate the complexity of airport geometry and problematic taxiway configurations.

2. Taxiway Yankee was plugged in as a designation at the wrong end of the taxiway complex for pilot orientation. For cadence and logical flow, taxiway Yankee should be somewhere adjacent to Whiskey, not at the opposite end of the airport. This was probably an installation afterthought.

3. Duplicate references to "Ski Strips" on “AeroNav” diagrams might lead to pilot or controller misunderstandings. Runway designation changes might be in order for several

reasons, principally stemming from the fact that there are four distinct Runway 2/20 combinations on the airfield for basic phraseology.

4. Based on surface event observations over a 2-years period, the area surrounding Taxiway Tango, Bravo, and the ends of Runway 20L and Ski/Gravel Runway 2 should have a detailed expanded view, as well as a HOT SOPT, published on the Airport Diagram. Currently, Jeppesen publications have selected the north De-Ice pad for detail, where very few surface events have occurred.

a. The area surrounding the Runway 20L approach end, Taxiway Tango, and Bravo (east) area is where a high percentage of the surface events and runway incursions have occurred at FAI.

b. Complex and closely spaced taxiway-runway intersections, with two distinct runway 'ends' located in a high-activity crossing area can be confusing for pilots.

c. The airport should consider focusing on reconfiguration of this area with regard to the current known problematic taxiway configurations.

d. Until construction takes place to address these geometry issues, current Jeppesen charts, and others, should display this HOT SPOT area in an expanded view, as they currently do for Taxiway Alpha, Papa, and the North De-ice pad.

Sincerely,

Daniel O. Brady

Dan Brady
Federal Aviation Administration
Alaskan Region
Runway Safety Program Manager

If you have any questions please contact:

Dan Brady at (907) 271- 1591, Dan.Brady@FAA.GOV

Or

Kurt O. Haukohl at (425) 917-6740, Kurt.CTR.Haukohl@FAA.GOV

From:	Royce Conlon
To:	Patrick Cotter
Subject:	FW: Bravo and other MP topics
Date:	Thursday, April 24, 2014 3:13:39 PM

From: pat.oien@faa.gov [mailto:pat.oien@faa.gov]
Sent: Wednesday, March 26, 2014 3:25 PM
To: Henry, Stephen D (DOT)
Cc: Vanderzanden, Michael J (DOT); jim.lomen@faa.gov; eric.helms@faa.gov
Subject: Bravo and other MP topics

Hi Steve,

Reference our earlier discussion today which is summarized below:

FAA recognizes that Bravo will likely need to be reconstructed within the next 3-5 years. We support reconstructing in its current location based on the rationale that FAA Runway Safety provided (Bravo location is essentially end of runway for most aircraft operating at FAI today given current length of 2L/20R).
(We do want the airport to document the types of aircraft operating at FAI (include operations/year) and runway length requirements for those aircraft to support this decision)

Other topics:
The airport needs to pursue gate on Bravo for 2015

East Side unauthorized access issue needs to be addressed in the MP

Ultimate ALP should show new location for Bravo outside the high energy area of the runway because of the future design aircraft length requirements (Bravo would no longer be end of runway for this aircraft). This will certainly be reevaluated over time and may never be required if the fleet mix doesn't change.

Let me know if you have any questions regarding my previous comments on the draft MP chapters

Pat Oien, P.E.
Alaskan Region Airports Div
Lead Airport Planner
(907)271-5445

APPENDIX C

PUBLIC PARTICIPATION

FAI ADVISORY BOARD MEETING MINUTES

November 16, 2011 ● Fairbanks, Alaska

MEETING ATTENDANCE

FAI Advisory Board (FAB) Members:
Cory Christian, Harry Cook, Jon Cook, Rebecca Cronkhite, Ron Dearborn, Matt Divens, Tom George, Bob Hawkins, Richard Heieren, Melissa Kellner, Melissa Osborn, Duke Prewitt and Judy Trotter

FAI and DOT Staff:
Jesse VanderZanden, Steve Henry, Angie Spear, John Kirkendall and RJ Stumpf

Project Team:
Royce Conlon, Dave Nafie, Patrick Cotter, Mike Becker, Evan Pfahler, Jeff Shannon and Sarah Barton (Facilitator)

Graphics and Handouts: *Agenda; Aerial images of FAI Overview, East Ramp, Terminal and Float Pond; Preliminary Issues List as of 11.14.11; Master Plan Process diagram; AIAS diagram and planning process; 2005 Master Plan; Advisory Board Roster/Contacts.*

MEETING SUMMARY

Jesse welcomed the Working Group and spoke to the values of DOT to involve, value, and balance the needs of the key stakeholders (e.g., this working group). Jesse noted that we are not looking for solutions today, just issues. Solutions will come later in the process.

Royce Conlon introduced the project team including PDC, RS&H, ABR, R&M and RISE Alaska.

The Working Group members introduced themselves and spoke to their interests in building a sound future for the community of Fairbanks and the airport. In addition to those attending, it was noted that potential representation from Eielson would be valuable. The group will consider the need for other parties to participate either in the Working Group or related technical subcommittees for special issues.

Dave Nafie (Aviation Planner, RS&H) introduced the Master Planning process, including three primary phases of investigation, solutions and implementation. This process will be based on external inputs including the work of the AIAS planning processes. The process will look at a broad range of issues from policies to particular small projects depending on what is needed.

Projects might include analysis as well as construction. A GIS product will capture the data gathered and present it visually as map layers. There will be ongoing engagement of the Working Group, staff and the general public.

Royce Conlon (Project Lead, PDC) presented an overview of the FAI boundaries and activities. The last Master Plan was published in 2005, based on work done in 2001. Now it is time to update the plan, typically done every 10-20 years. Aircraft are changing, and costs of operations are increasing. PDC has begun initial interviews to establish the preliminary issues list. This will grow as the Working Group and staff and other affected stakeholders provide additional insights. Patrick Cotter (PDC) presented the Preliminary Issues List (as of 11.14.11).

Dave Nafie reviewed the 2005 Master Plan, explaining that the current project will build on the previous work. The 2005 Master Plan proposed relocation of the Float Pond to the other side of University Avenue. Otherwise, there are no significant changes to the main airfield. The group discussed a 20-year planning horizon as the basis of the existing study and the FAA funding requirement.

The Working Group then brainstormed to identify other potential issues for consideration in the Master Plan process. This list represents the issues identified by the Working Group, which has also been sorted by category and East/West on an updated Issues Summary (attached).

- Flood Issues – all flood hazard areas.
- Extend the shoulder operation season for small aircraft (M&O issue).
- Security Issues on the East Ramp.
- Compass Rose – certified and usable on both east and west – easily accessible – usable by large helicopters.
- Environmental – Creamer's Field.
- Air Space restrictions by the military.
- Noise compatibility.
- General compatible land use planning outside the boundaries of FAI.
- Hydrant fuel at the terminal as well as the south cargo apron.
- Utility issues – water and sewer communication services – East side has problems.
- Real Estate – lease policies 55 year lease vs. 95 year leases; Title 29 property tax issues – taxed differently than ANC and up north.

- Fuel issues – long term supply and viability of the Refinery.
- East side Deicing washing.
- Control side Charlie – FAA wants to make them controlled.
- Tiedown demand analysis - reconfigurations of the East ramp tiedowns – presently pull through tiedowns with electricity are in demand, while existing tail in tiedowns without electricity are not. May end up with less tiedowns overall but they could be more marketable.
- Both east and west sides have lack of developable lease lots.
- Rail Road relocation.
- Electricity on the Float Pond.
- Funding – typically federal, will there be state funding to implement?
- What is the value of moving the Float Pond? – air traffic issue between the other two runways, and a bird-attractant.
- Float Planes – taxi lanes and turnaround space.
- Identify growth – projected growth data from major air carriers and how that may impact terminal space needs.
- Larger baggage area – regional air carriers suggestion.
- Are we functioning to grow as an in-state hub for the interior?
- Ensure that FAI is an attractive place to do business for carriers.
- ARFF – new ARFF is being rebuilt in existing location – design in 2012 and build in 2013-14.
- Closures due to wildfire smoke. If the shooting range wasn't onsite, there could be lower minimums.
- DOT is talking about redoing Airport Way – possible roundabouts
- Increasing public interest in the airport: viewing area without creating aircraft incursions; relocate Aviation Museum from town.
- Higher and better use of underutilized lands. Define higher and better use. Defining areas where other users may want to encroach on the airport. Looking out long term can be very beneficial. Case in point the "new" Denver airport is only 18 years old and it is already surrounded.
- Feasibility of Cat3 landings from both ends.

- Possibility of light rail transport of people
- Extend 1L and 1C out to full length (1C is shown on the 2005 AMP development plan drawing as shorter length than 1L)
- Snow Storage – leaseholders have made agreements to dispose of their snow – the fence affected the GA ability to push snow out to the ditch. There should be some clarity on snow removal and storage policies. Field maintenance and GA both require additional snow storage areas
- Some of these issues may need a focus group to better define and analyze. Recommend Taxiway Bravo Working Group. Jesse will work to define this group.
- Float Pond is now at 97% capacity. Demand analysis for growth requirements is necessary.
- Technological challenges – GPS may not be available in the future "light squared" is problematic.
- Priorities – Why spend money for electrical tie downs if we need to move the Float Pond. The forecast needs to sync with the project.
- Vehicle Parking – long term lot often looks like it is full, but there is often room available to the north. Is more parking needed?
- Design Group 6 compatibility.
- Increase the East Ramp transient facility from a service standpoint.
- Keep campground accessible if the Float Pond is relocated. Is the campground currently in the right location?
- Customs for the east ramp and Float Pond users.

Jesse and Becky Cronkhite introduced the AIAS system and current planning efforts. AIAS was begun in 1961, including airports in both Anchorage & Fairbanks. All the money generated goes into a common pot and the expenses come out of that same common pot. No state general funds are used as the enterprise is financially self –sufficient. A core value of the AIAS is that it should operate in a business-like manner. Capital expenses may be partially funded by FAA.

FAI and ANC work together and are now developing a common forecast. Input from all users is critical. The planning will coordinate with the ANC Part 150 Study and the ANC Master Plan. One interest is to consider more traffic to Fairbanks to alleviate congestion on ANC that will eventually lead to construction requirements there. Air carriers encouraged Fairbanks' capacity be used.

NEXT STEPS

PDC team will continue gathering data by meeting with public at Open House on 11.16 at Noel Wien Library. They will also work with FAI staff group. Alternatives will be generated between June and November 2012.

NEXT MEETING

The group changed its name from Working Group to FAI Advisory Board (FAB). The next FAB meeting is tentatively proposed for February 29, to be confirmed at a later date. This meeting will focus on the AIAS forecast information.

FAI ADVISORY BOARD (FAB) MEETING NOTES

March 15, 2012 ● Fairbanks, Alaska

MEETING ATTENDANCE

FAI Advisory Board (FAB) Members:
Attending: Harry Cook, Jon Cook, Rebecca Cronkhite, Ron Dearborn, Ben Doyle, Tom George, Bob Hawkins, Melissa Osborn, Pat Oien, Serenity Orth, Judy Trotter, Jeremy Worrall
Unable to attend: Cory Christian, Matt Divens, Richard Heieren, Melissa Kellner, Duke Prewitt, Jim Hajdukovich, Bob Rieth, Matt Shaw

Also attending: Richard Wenzel and Dennis Mitchell of Arctic Sands; Leah Henderson of DOWL HKM

FAI and DOT Staff:
Jesse VanderZanden, Steve Henry, John Kirkendall

Project Team:
Royce Conlon, Dave Nafie, Patrick Cotter, Mike Becker, and Sarah Barton (Facilitator).
With AIAS forecast/capacity presentations by Pat Kennon and Greg Albjerg of HNTB

Graphics and Handouts: *Agenda; Updated Master Plan Process diagram; Updated Conceptual Timeline; Updated Advisory Board Roster/Contacts; AIAS Planning Study Presentations.*

Project Website: http://pdcprojects.info/FAIMasterPlan/index.html

MEETING SUMMARY

Jesse welcomed the Fairbanks Advisory Board (FAB) and spoke to the values of the Airport to involve, value, and balance the needs of the key stakeholders (e.g., this Advisory Board). The group provided self-introductions.

AIAS Forecast and Capacity
Becky Cronkhite introduced members of the AIAS Planning Study Team from HNTB. She noted that this is a talented and experienced team that is providing a common forecast to be used by the FAI Master Plan as well as multiple other studies (ANC Part 150, ANC MP, Alaska Strategic Plan). Jesse noted that this is the first capacity analysis for AIAS since its origin in 1961. This long term planning will help to make the best use of resources system-wide.

Pat Kennon of HNTB presented AIAS forecasts noting a conservative growth forecast of 1.2% per year over the next 20 years. See attached presentation pdf for details.

Greg Albjerg of HNTB presented AIAS initial capacity analysis, noting trigger points and potential delays for 4 different configurations at ANC, including a SIMMOD demonstration. Capacities at ANC are projected to be exceeded in 2030. There are a number of ways to mitigate, including potential diversion to FAI. See attached presentation pdf for details.

Dave Nafie (Aviation Planner, RS&H) introduced the project team including PDC, RS&H, ABR, R&M and RISE Alaska. Dave outlined the Master Planning process, including three primary phases of investigation, solutions and implementation as shown on the handout of the Master Plan Process. The Advisory Board was referred to the Issues List as of 2.14.12. Dave reviewed the list indicating issues that were included in the Master Plan, those issues that might be included as new scope, those issues that were administrative or policy matters.

Tom George addressed the East Side Issues relaying the discussions of the East Side Working Group. A brief summary follows. Meetings and discussions will continue with the East Side Working Group.

- Feasibility of ILS on 02R: the group does not see a need for lower minimums, but are still discussing this issue. The Tower will be consulted.
- Helicopter/Fixed Wing operational conflicts: A better structured plan for arrivals and departures would be good, due to the ground impacts of helicopter air currents.
- Taxiway Bravo safety: The system is working now and progress has been made. The group is not clear about what issues there may be.
- Controlled Charlie analysis: The group was not clear what the extension of control along Charlie would do, and noted that it would cause future incursions. This needs more attention.
- Runway length analysis, especially 2R/20L: No one needs more than 5,000 feet, and maybe even less would do. Tom will address with the group. Runway is currently 6500 feet.
- Float Pond: The Float Pond is at or near capacity. Fingers could be added with gravel for a short term solution. Long term, relocation will be needed for greater separation. Using the float pond as a ski strip could extend the shoulder season for ski operations.
- Compass Rose: There is a question of whether a Compass Rose is needed on both East and West sides. There are some constraints on the West.

- GA Facilities vs Demand: Additional lease space is needed on the East ramp. The RR spur is an obstacle, but provides a means for bulk fuel delivery to the airport that may be a critical element in the future. The RR needs to be addressed with a plan for the future. An aircraft washing stand should be added.
- Shoulder season for small aircraft: The group recommends extending the season, noting that the ski strip is available later than the Pond, and the float pond is still good in the fall.
- General Security: No East Side issues defined.
- Railroad relocation: This is an issue needing future attention and planning.
- Aircraft deicing/washing: The group recommends reshaping the Issues List to include a section for improving the business environment on the East Side. Jesse indicated that all GA-related issues should be put in one category for easier reference. There was a brief discussion of term lengths for leases. Jesse noted that this is a matter of state law, not FAI policy.
- Snow Storage: This issue should be changed to "Snow Management", addressing policy and procedures. It was noted that this should be included on the list for "Improving the business environment on the East Side."
- Other issues may be added after further meetings.

Other Potential Issues - Military
Jesse asked the FAB to look at potential issues not now addressed in the MP process. One significant change since the first FAB meeting is the prospect of the move of F-16s from Eielson. This could influence a future Base Realignment and Closure (BRAC) process. How much would enplanement drop with the potential move of 3000 people from Fairbanks? What would it mean for Red Flag? The group agreed that there should be a new category of issues on the list: "Military." It was agreed that the net effect of military downsizing on the Fairbanks economy in general, and on activity at FAI in particular, would be negative.

In addition, this "what if" thinking should be included within the development of scenarios. (Note that business planning is not now in the scope of the Master Plan.) Other potential game-changers could include oil and gas development, the future of Bypass Mail, resource development including International Tower Hill, and successful incentive implementation to relieve congestion at ANC for Asia-North American cargo operations. Other variables might include new airspace requirements for Unmanned Aerial Vehicle development at Wainwright, and new FAA regulations about driver training.

Judy Trotter noted that 16-18 Chinooks would be in Fairbanks based at Ladd for 7 months, starting in May. They would be fueling at FAI.

Other Potential Technical Working Groups - Terminal, Land Use
Additional specialized information will be needed from those stakeholders related to the terminal. This could be a future working group, but questions might best be addressed in project team interviews.

Another area of specialized expertise is land use. Generally, it would be most productive to focus on land use issues after the Facilities Requirements have been defined to address what is needed. This group would address the railroad planning, snow storage, hydrant system, the DOT facilities that currently utilize airside frontage land, and other issues.

NEXT STEPS

Royce Conlon (Project Lead, PDC) presented an overview of the FAI schedule and next steps. The initial eALP will be out in April. The PDC team will continue with the investigation phase of the project, sending several documents to the FAB for review in the next month.

FAA will host Aviation Day on 19 May. As part of community outreach, the project team will put together a booth on the Master Plan for this event.

NEXT MEETING

The next FAB meeting is tentatively proposed for 19 June, to be confirmed at a later date. This schedule is dependent on the availability of information from the AIAS System Planning process.

FAI MASTER PLAN PROJECT

Agenda for FAB Meeting
3.15.12 from 9:00am-noon
FAI Conference Room

9:00

Welcome –Jesse VanderZanden

AIAS Master Plan Forecast– Pat Kennon, HNTB

AIAS Capacity Analysis, Impacts for FAI – Greg Albjerg, HNTB

10:00

AIAS Forecast and the FAI MP – Dave Nafie

Revised Issues List/Discussion – Dave Nafie

11:00

Update from East Side Working Group – Ron Dearborn/Tom George

Identification of Other Potential Working Groups

Next Steps – Royce Conlon

Next Meeting – Schedule in last half of June 2012

Adjourn – Jesse VanderZanden

FAI MASTER PLAN PROJECT

AIRPORT MASTER PLAN PROCESS

AIRPORT MASTER PLAN

EXTERNAL INPUTS

AIAS Forecast

INVESTIGATION

- Gap Analysis
- Data Collection
- Forecast
- Facility Requirements

SOLUTIONS

- Alternatives
- Scenario Development
- Environmental Review
- Development Program

IMPLEMENTATION

- Implementation phasing
- Financial Feasibility
- Documentation
- Airport Layout Plan

AGIS/eALP

AR Survey Project

- Imagery and Data Collection
- Airspace Analysis
- eAirport Layout Plan

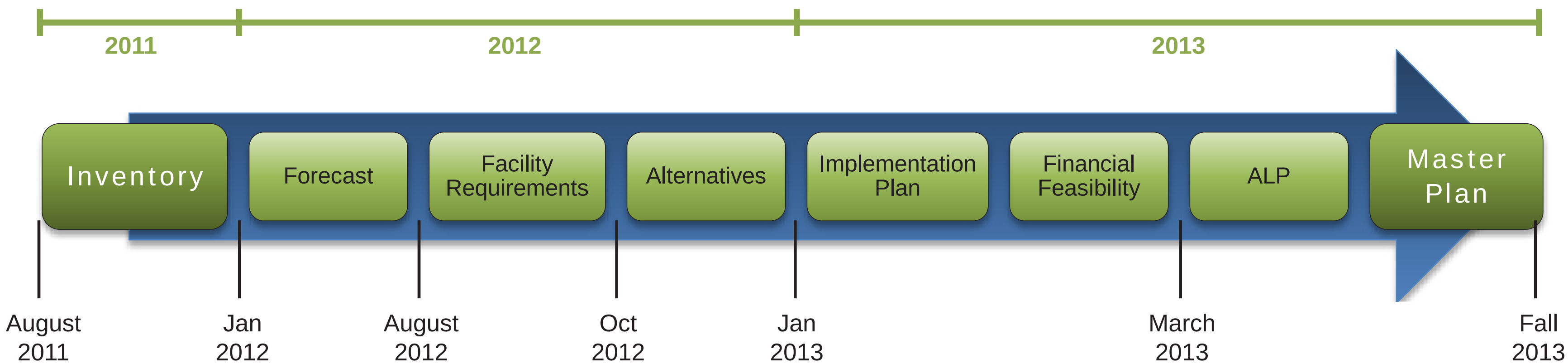
PUBLIC INVOLVEMENT

	Winter 2011	2012	2013
Working Team (FAB and FMPT) Meetings	11/16, 11/29	2/29, 6/19, 9/26, 12/12	2/14 (optional), 4/21
Public Open Houses	11/16	12/12	6/9

updated 2.28.12

FAI Master Plan Project Timeline

3.15.12



FAI MASTER PLAN ADVISORY BOARD

First Name	Last Name	Organization/Agency	Email	Phone (hm/wk)	Cell Phone
Cory	Christian	Station Manager, Alaska Airlines, AOPA	Cory.Christian@alaskaair.com	907-474-0711	
Jon	Cook	FEDC (and ARRC)	joncook@aer-inc.net	907-460-7030	
Harry	Cook	AK Airmen's Association	hcook@mosquitonet.com	907-479-9500	
Rebecca	Cronkhite	AIAS Planner, DOT&PF Statewide Aviation	rebecca.cronkhite@alaska.gov	907-266-2530	
Ron	Dearborn	FAI General Aviation Association	rkdearborn@acsalaska.net	907-455-6692 (hm)	907-590-8144
Matt	Divens	FCVB and Holland America	mdivens@princess.com	907-479-0117	
Rob	Everts	Everts Air Cargo	rweverts@evertsair.com	907-450-2300	
Tom	George	AOPA, Aviation Advisory Board, GA	tom.george@aopa.org	907-455-9000	
Jim	Hajdukovich	Station Manager, Frontier Flying Service	jimh@frontierflying.com	907-450-7247	
Bob	Hawkins	FBO, Corporate Aviation	bobhawkins@alaskaaerofuel.com	907-474-0062	
Richard	Heieren	Fairbanks Chamber	rch@rchsurveys.com	907-451-7411	
Melissa	Kellner	Comp Planner, FNSB	mkellner@fnsb.us	907-459-1252	
Lt. Col Robert	Mackelprang	Air National Guard	robert.mackelprang@ang.af.mil	907-377-8859	
Jon	McIntyre	Ace Fuels, LLC	northlandaviation@alaska.net	907-474-0948	
Patricia	Oien	FAA Planner	pat.oien@faa.gov	907-271-5445	
Melissa	Osborn	NR DOT (or Jeremy Worrell)	melissa.osborn@alaska.gov	907-451-5230	
Duke	Prewitt	FTWW Airport Operations Manager	allen.prewitt@us.army.mil	907-353-9034	
Bob	Rieth	Director of Ground Operations, Northern Air Maintenance Services	RRieth@nac.aero	907-677-4204	907-632-8448
Matt	Shaw	Airline Tech Rep	m.shaw@avairpros.com	206-244-3773	
Judy	Trotter	FAI/FAA-ATC (Air Traffic Control) Representative	judy.ctr.trotter@faa.gov	907-474-0500	907-750-7461
Art	Warbelow	General Aviation, Warbelows Air Ventures	art@warbelows.com		907-378-7203
Jeremy	Worrall	NR DOT (or Melissa Osborn)	jeremy.worrall@alaska.gov	907-451-5230	
Darren	Young	Director of Operations, Warbelow's / Air Arctic	adventure@northernalaska.com	907-474-3550	253-229-1203

March 13, 2012

AAAC
DOT&PF Staff

AIAS Planning Study
Technical Analyses

Aviation Demand Forecasts

Study Team

DOWL HKM

HNTB Corporation

Webber Air Cargo

David Carlstrom

CT Argue Aviation

Forecast Process

- Forecast Methodology Reviewed and Approved 8/2011
- Air Carrier Surveys 8/2011-11/2011
- Forecast Assumptions Reviewed and Approved 12/2011
- Baseline Forecast & Forecast Report 3/2011

Key Assumptions - Economic

- Income Growth (Average Annual)
  - Anchorage Metro Area 1.8%
  - Fairbanks Metro Area 1.4%
  - Rest of Alaska 1.1%
- GDP Growth (Average Annual)
  - U.S. 2.8%
  - China 7.2%
  - Japan 0.8%
  - Rest of Asia/Pacific 4.6%

Key Assumptions – Fuel Prices

- Jet Fuel (2010 prices)
  - $2.94/gal in 2011 to $4.19/gal in 2030
- Crude Oil (2010 prices)
  - $98/barrel in 2011 to $148/barrel in 2030

Key Assumptions – Other

- Range/Payload Trade-Off
  - Willingness to sacrifice payload for range will not increase
- Transfer Cargo (sorting and cross-loading)
  - Constant share of Asia-North America cargo tonnage)
- Competition from Ocean Freight
  - Air freight will continue to lose share to ocean freight
- Competition from Other Airports
  - KHV and CTS constrained, ICN potential competitor as aircraft range increases.

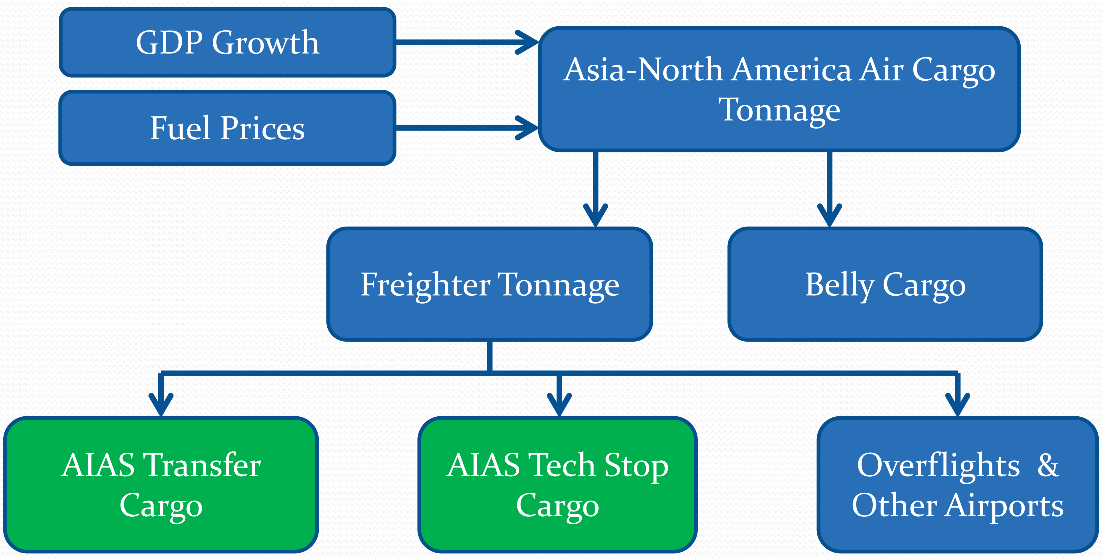
Passenger Forecast Approach

- Segmented
  - ANC-FAI
  - Other Alaska
  - Other U.S.
  - International
- Regression Based Forecast Equation
- Key Variables
  - Income Growth
  - Employment Growth
  - Average Fares

Cargo Forecast Approach Intra-Alaska

- Segmented
  - ANC-FAI
  - Other Alaska
- Regression Based Forecast Equation
- Key Variables
  - Employment Growth
  - Price of Fuel

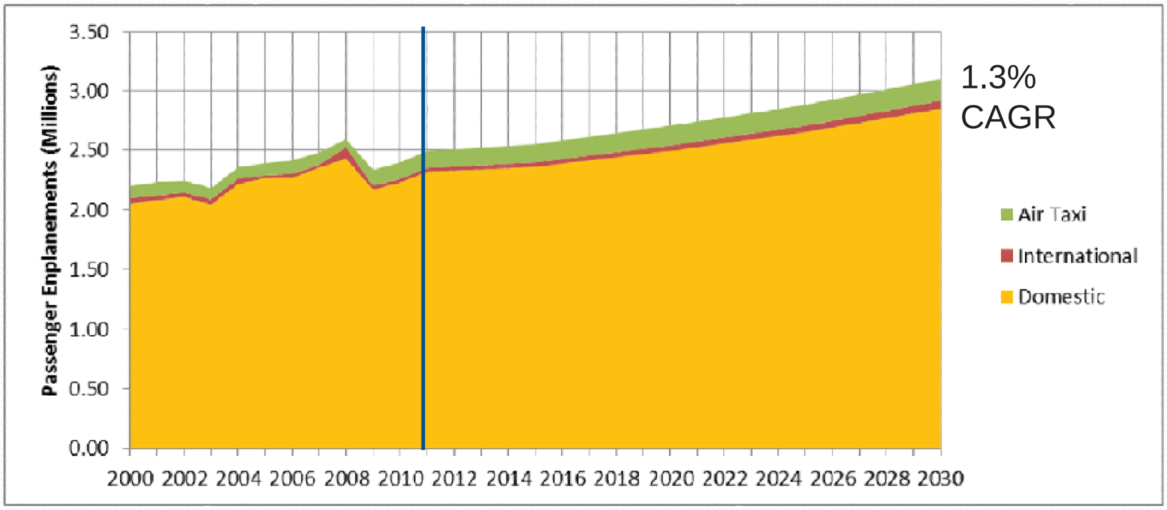
Cargo Forecast Approach Asia-North America



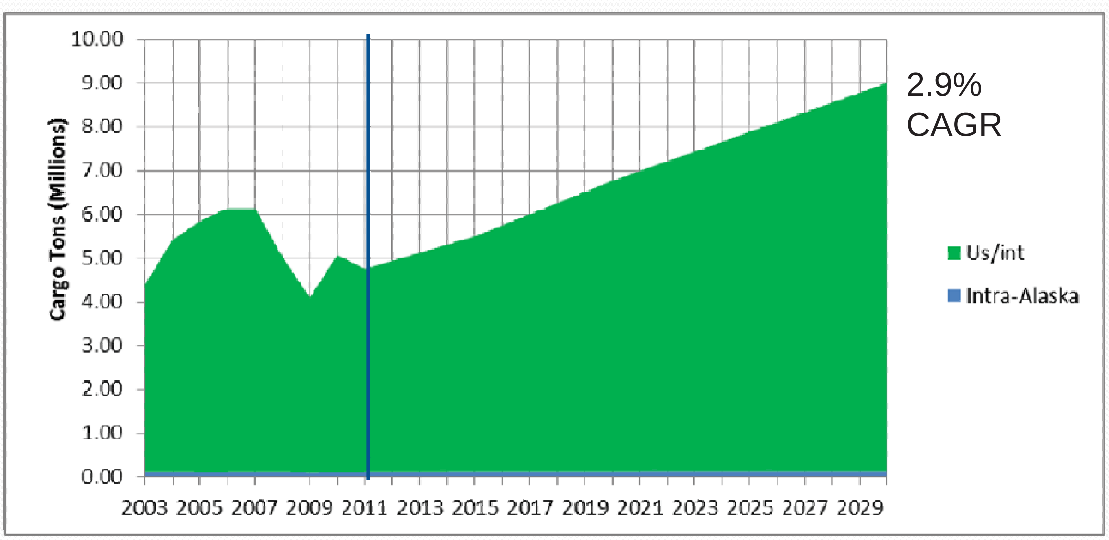
Cargo Forecast Approach Asia-North America

- Factors Determining AIAS Tech Stop Share
  - Geographic Origin of Air Cargo
    - Japan/Northeast Asia share decreasing
    - China/Southeast Asia increasing
    - Decreases opportunities for overflying
  - Aircraft Range Increasing
    - Phase-out of 747-200s
    - Introduction of 777F
    - Increases opportunities for overflying
  - Airport Competition
    - ICN advantages increase as aircraft range increases
    - Increases opportunities for diversion

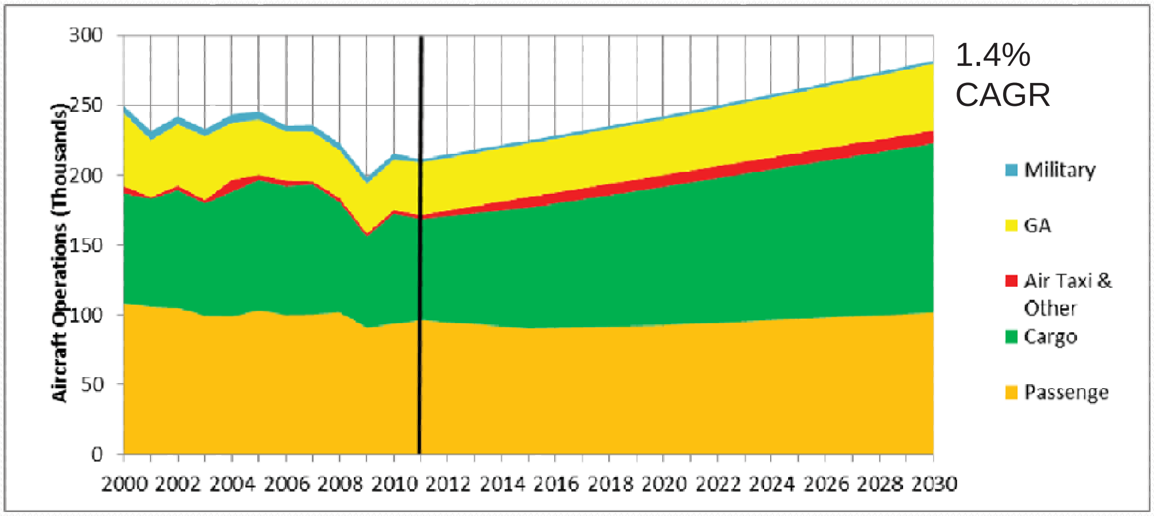
Baseline Passenger Enplanement Forecast: ANC



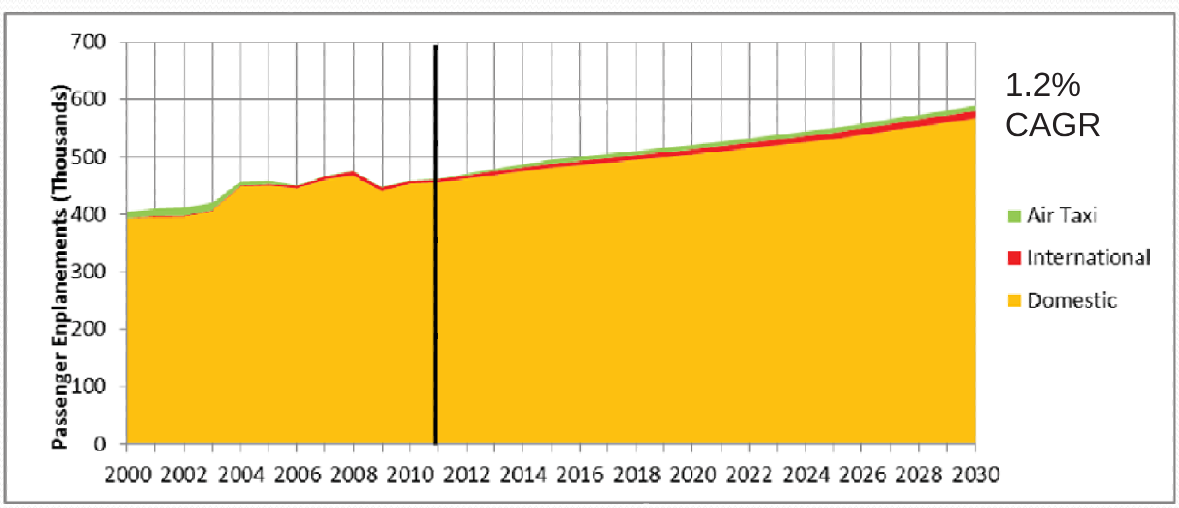
Baseline Cargo Tonnage Forecast: ANC



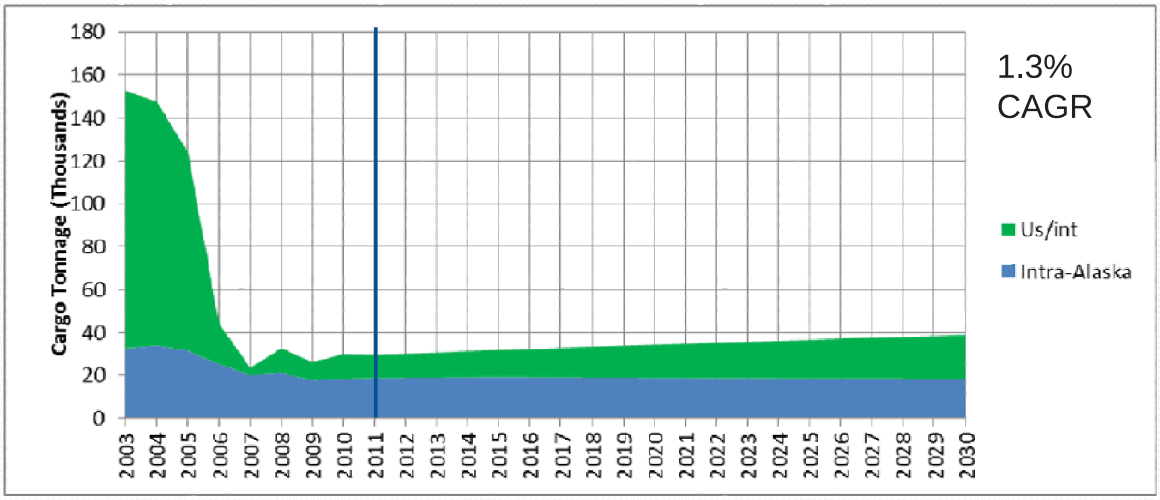
Baseline Aircraft Operations Forecast: ANC



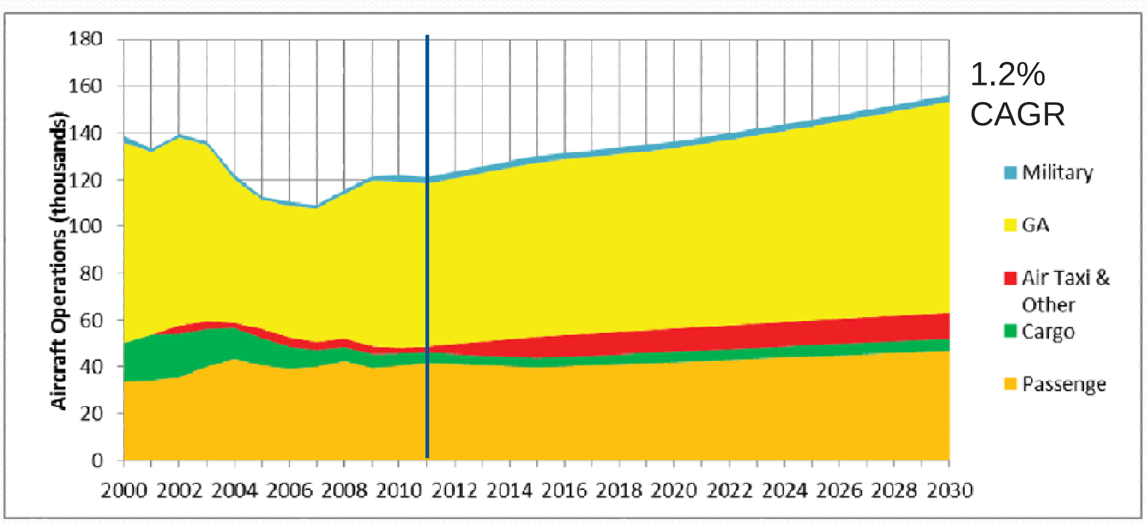
Baseline Passenger Enplanement Forecast: FAI



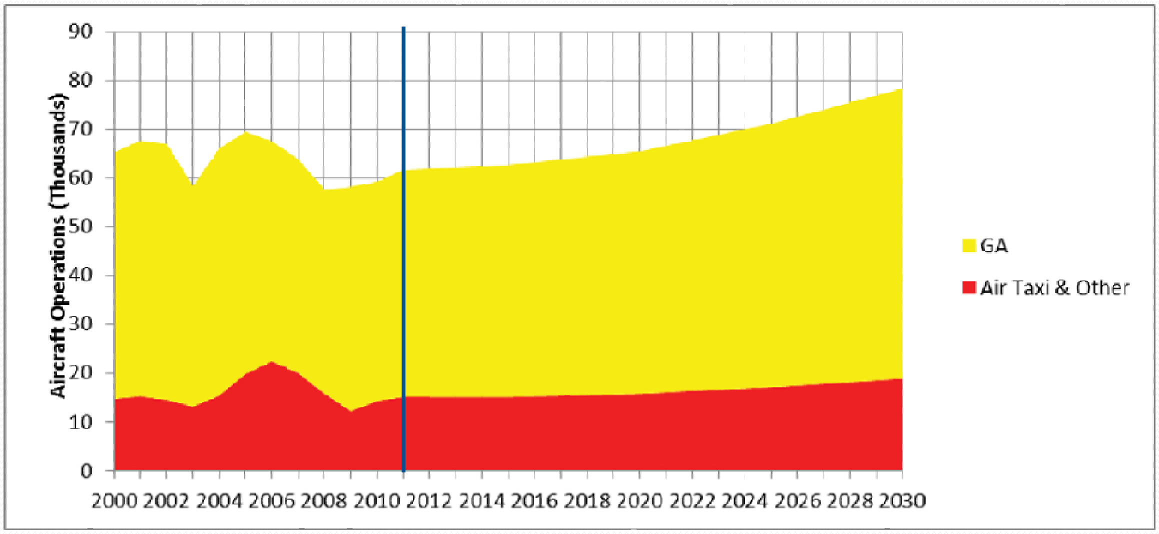
Baseline Cargo Tonnage Forecast: FAI



Baseline Aircraft Operations Forecast: FAI



Baseline Aircraft Operations Forecast: LHD



Next Steps – AIAS Forecasts

- Incorporate comments (due by March 26th) and prepare final forecast report
- Submit forecasts for FAA approval
- Select and prepare forecast scenarios.

Questions Or Comments?

March 13, 2012

AAAC
DOT&PF Staff

AIAS Planning Study
Technical Analyses

Capacity Study

Purpose

- Brief the AAAC on the current status of the study
- Solicit input
- Respond to questions

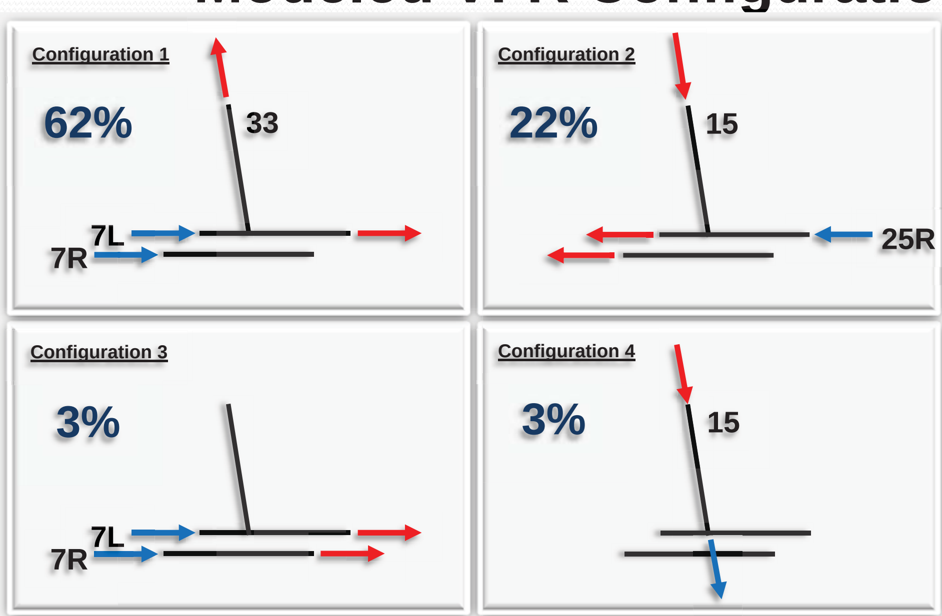
Task Scope

- Analyze capacity and delay during peak periods at both ANC and FAI
- Identify the "Trigger Point" when runway demand exceeds capacity and delays are unacceptable
  - Trigger Point will likely be different for different users
- Evaluate the effect of shifting some international cargo fueling traffic from ANC to FAI
- Study focus on ANC and FAI airfield only.
- For ANC, basic airspace interactions with Elmendorf are evaluated (modeled).
- Flow control, deicing, ground delay programs are not modeled.
- Master Plans will determine the extent of physical improvements required

Airfield Configurations - ANC

- ANC operates in numerous runway configurations throughout the year.
- Based on FAA data over 15 configurations were recorded between 2002 and 2006 .
- For the purposes of the SIMMOD analysis the FOUR most commonly used runway configurations, that offers a fair representation (~92%) of airport operations on an annualized basis, were selected .

Modeled VFR Configurations

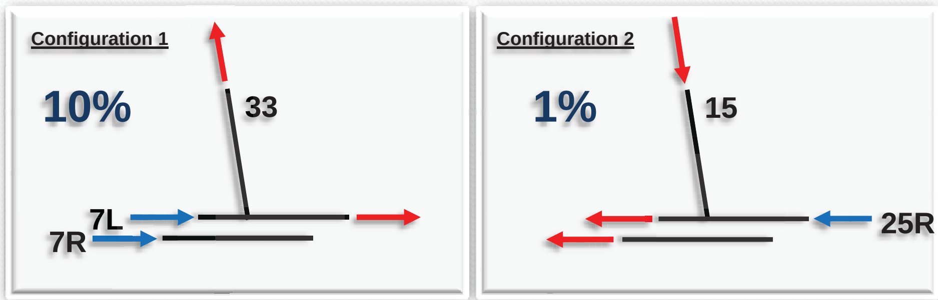


% of time used

Reviewed configurations with FAA for concurrence in November 2006

Alaska International Airport System PLANNING STUDY

Modeled IFR Configurations



% of time used Reviewed configurations with FAA for concurrence in November 2006

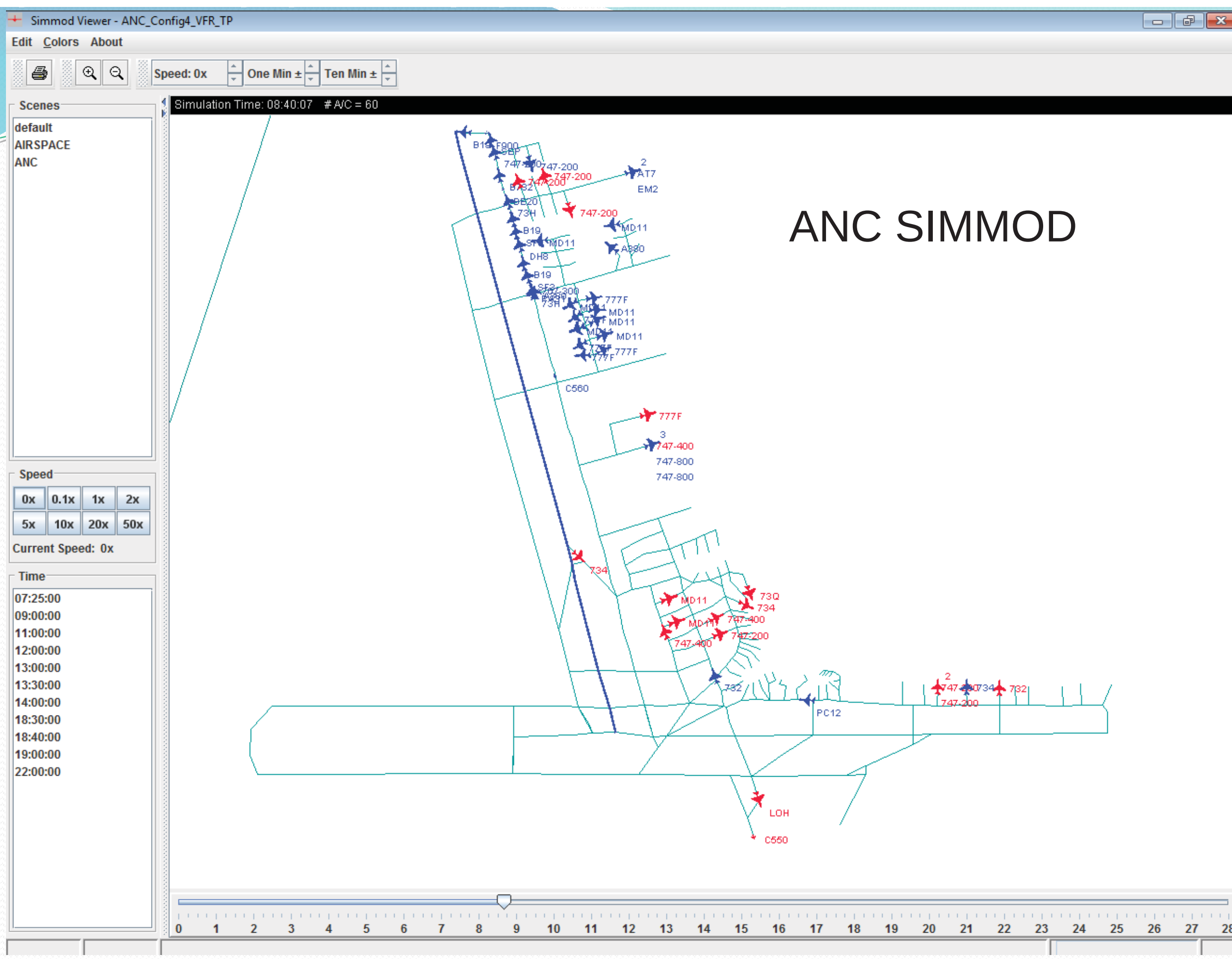
Alaska International Airport System PLANNING STUDY

Airfield Configurations - FAI

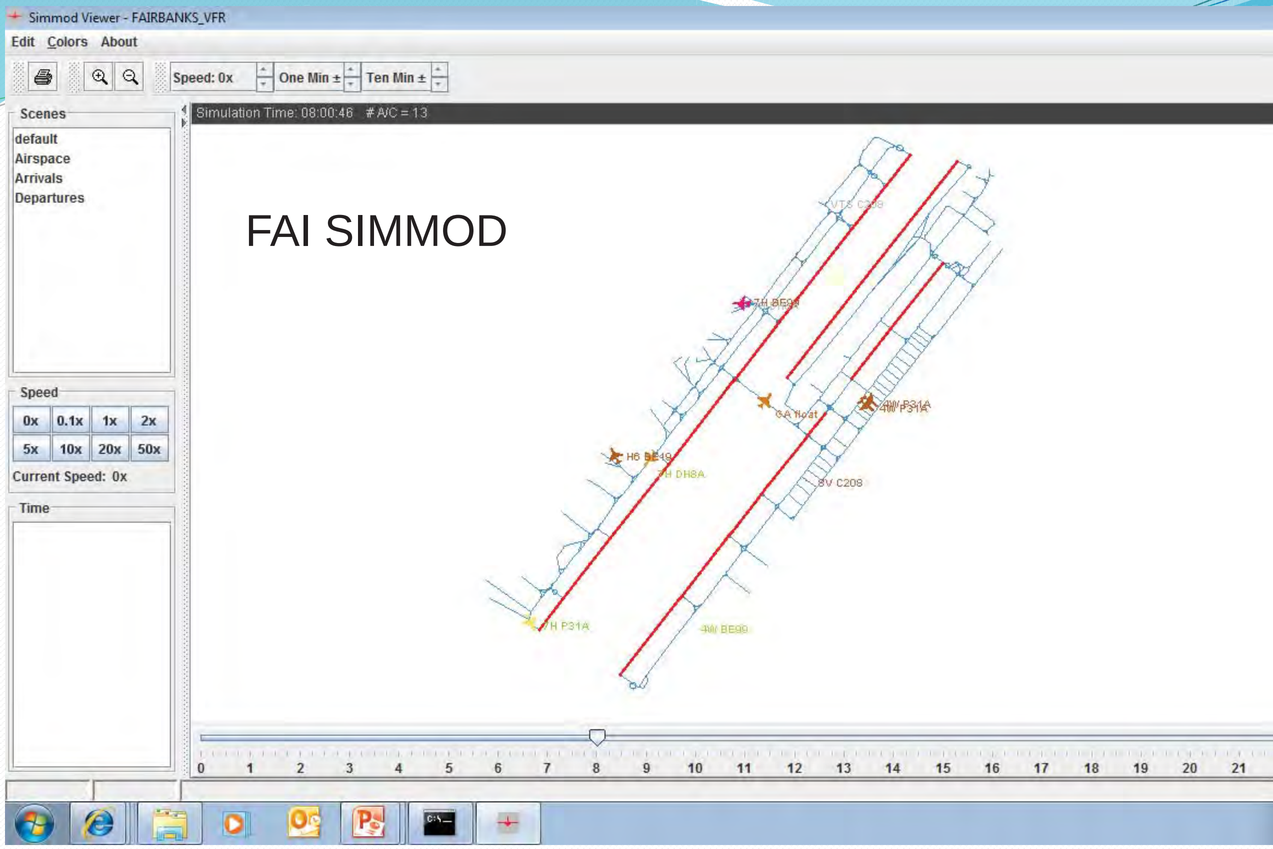
- FAI operates in two basic flows – North Flow and South Flow
- Capacity is essentially the same for both flows
- For FAI we are only modeling North Flow for both VFR and IFR

FAA's Airport and Airspace Simulation Model - SIMMOD

- Is an event-step simulation model that traces the movement of individual aircraft and simulated ATC actions required to ensure aircraft operate within procedural rules
- Output consists of reports which provide statistics describing aircraft delay, travel time and fuel consumption
- SIMMOD has a post-processing animation system which shows the movement of aircraft on the airfield and in the airspace



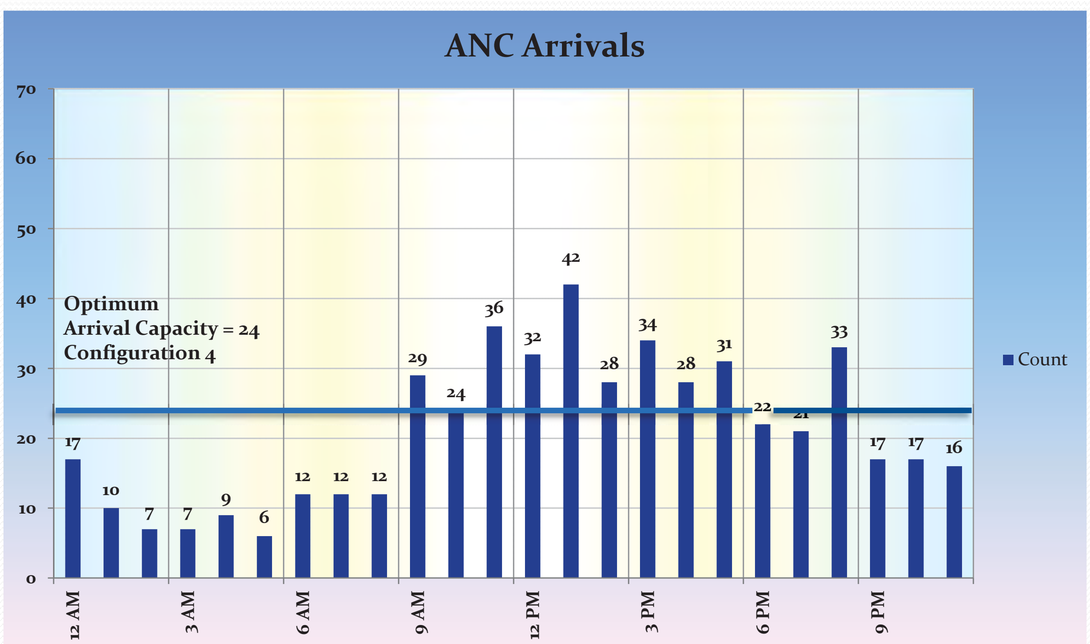
FAI SIMMOD



2030 Gated Schedule

Configuration 4 Capacity

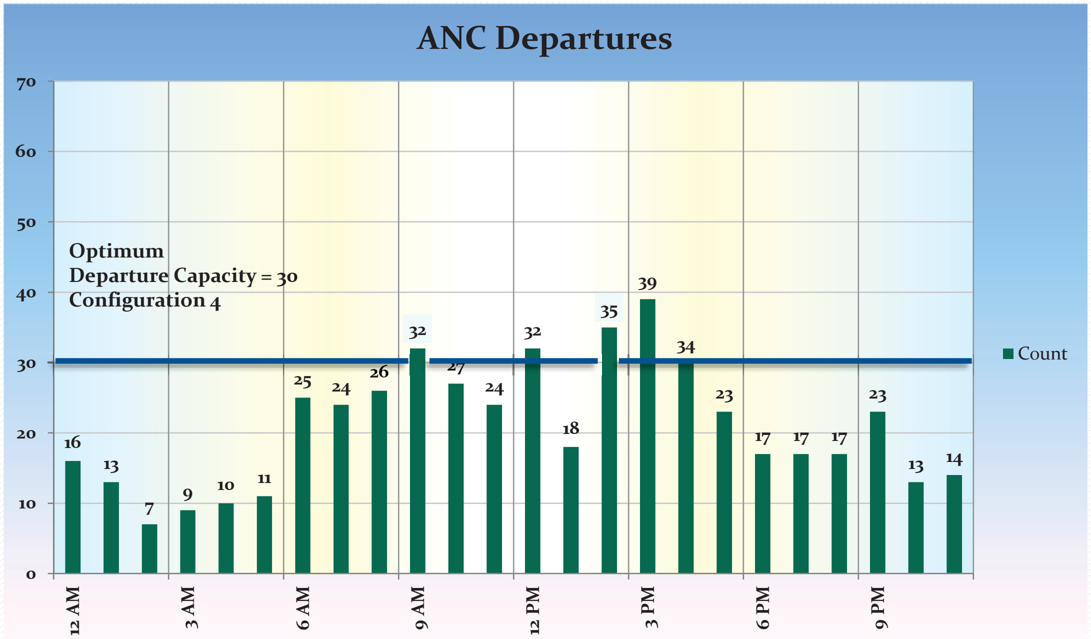
Arrivals	
Time	Count
12 AM	17
1 AM	10
2 AM	7
3 AM	7
4 AM	9
5 AM	6
6 AM	12
7 AM	12
8 AM	12
9 AM	29
10 AM	24
11 AM	36
12 PM	32
1 PM	42
2 PM	28
3 PM	34
4 PM	28
5 PM	31
6 PM	22
7 PM	21
8 PM	33
9 PM	17
10 PM	17
11 PM	16
Total	502



2030 Gated Schedule

Configuration 4 Capacity

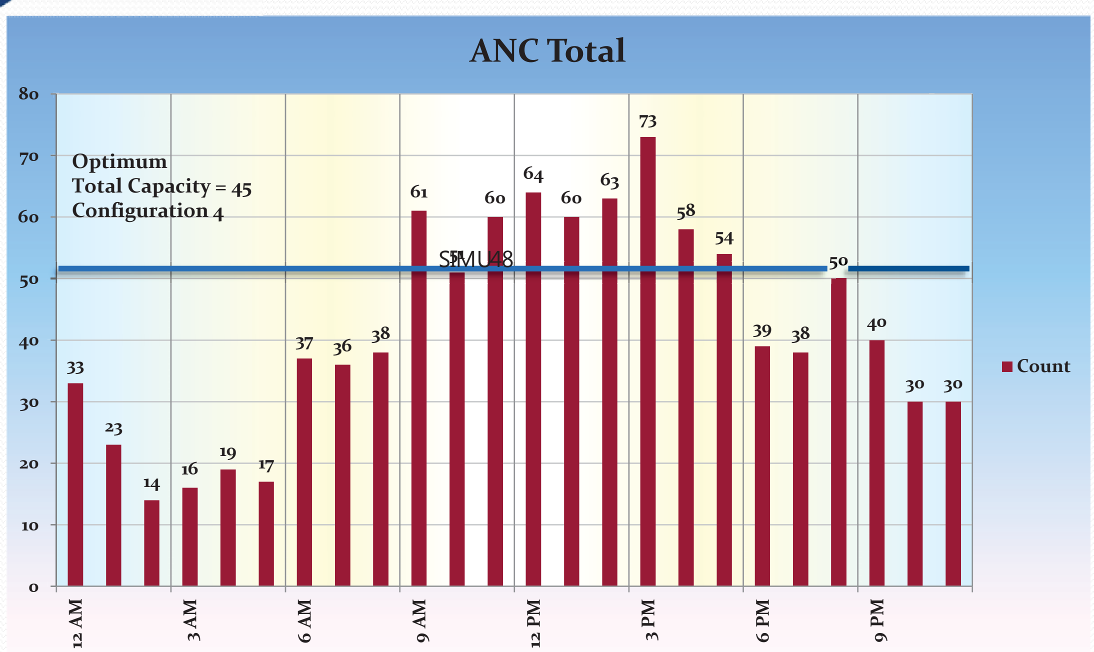
Departures	
Time	Count
12 AM	16
1 AM	13
2 AM	7
3 AM	9
4 AM	10
5 AM	11
6 AM	25
7 AM	24
8 AM	26
9 AM	32
10 AM	27
11 AM	24
12 PM	32
1 PM	18
2 PM	35
3 PM	39
4 PM	30
5 PM	23
6 PM	17
7 PM	17
8 PM	17
9 PM	23
10 PM	13
11 PM	14
Total	502



2030 Gated Schedule

Configuration 4 Capacity

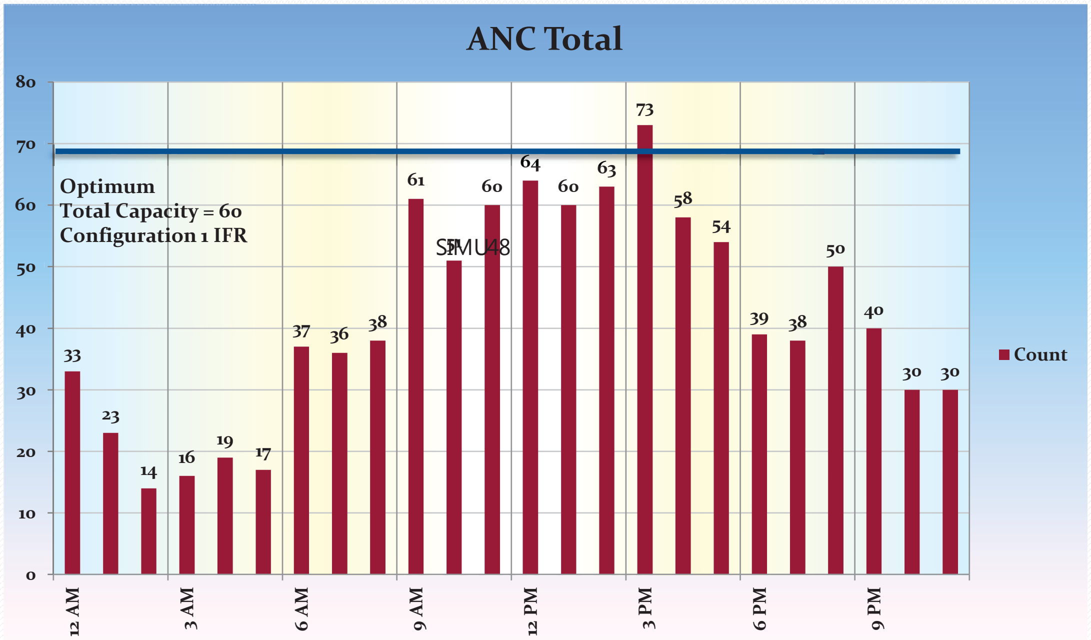
Total	
Time	Count
12 AM	33
1 AM	23
2 AM	14
3 AM	16
4 AM	19
5 AM	17
6 AM	37
7 AM	36
8 AM	38
9 AM	61
10 AM	51
11 AM	60
12 PM	64
1 PM	60
2 PM	63
3 PM	73
4 PM	58
5 PM	54
6 PM	39
7 PM	38
8 PM	50
9 PM	40
10 PM	30
11 PM	30
Total	1004



2030 Gated Schedule

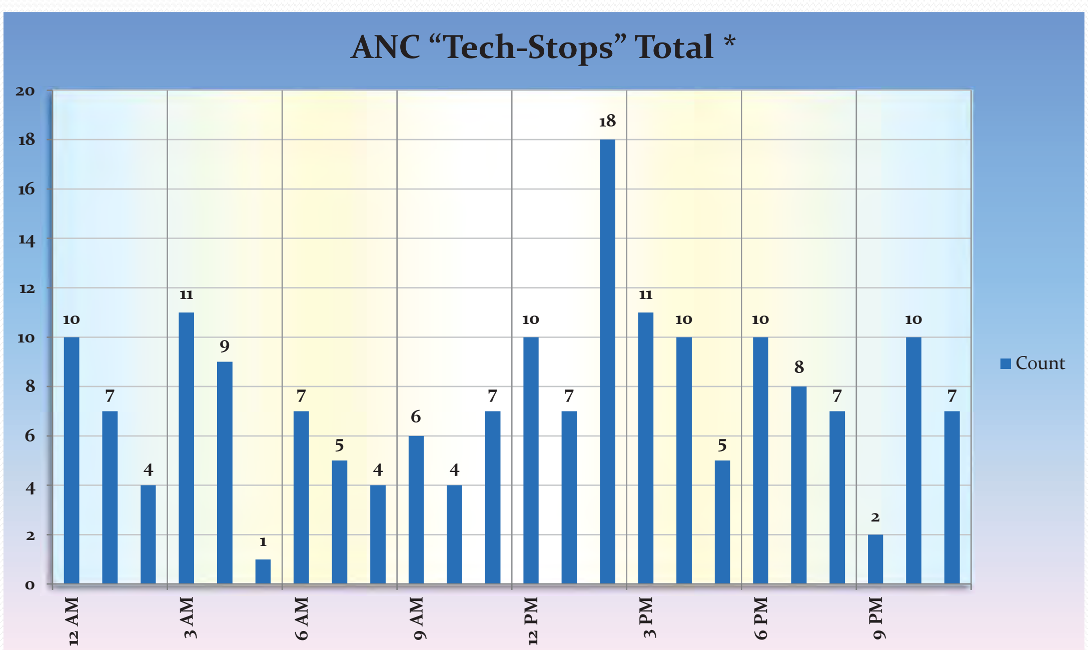
Configuration 1 IFR Capacity

Total	
Time	Count
12 AM	33
1 AM	23
2 AM	14
3 AM	16
4 AM	19
5 AM	17
6 AM	37
7 AM	36
8 AM	38
9 AM	61
10 AM	51
11 AM	60
12 PM	64
1 PM	60
2 PM	63
3 PM	73
4 PM	58
5 PM	54
6 PM	39
7 PM	38
8 PM	50
9 PM	40
10 PM	30
11 PM	30
Total	1004



2030 Gated Schedule

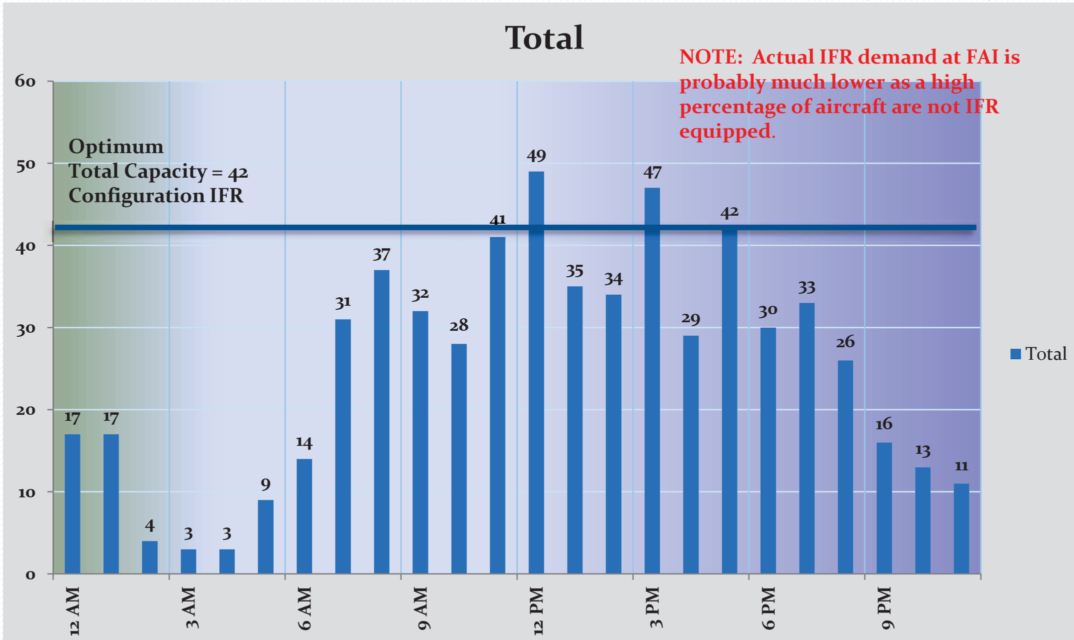
Total	
Time	Count
12 AM	10
1 AM	7
2 AM	4
3 AM	11
4 AM	9
5 AM	1
6 AM	7
7 AM	5
8 AM	4
9 AM	6
10 AM	4
11 AM	7
12 PM	10
1 PM	7
2 PM	18
3 PM	11
4 PM	10
5 PM	5
6 PM	10
7 PM	8
8 PM	7
9 PM	2
10 PM	10
11 PM	7
Total	180



* Excludes FedEx, Polar, and UPS wide-body aircraft

FAI 2020 Gated Schedule North Flow IFR Capacity

Total	
Time	Count
12 AM	17
1 AM	17
2 AM	4
3 AM	3
4 AM	3
5 AM	9
6 AM	14
7 AM	31
8 AM	37
9 AM	32
10 AM	28
11 AM	41
12 PM	49
1 PM	35
2 PM	34
3 PM	47
4 PM	29
5 PM	42
6 PM	30
7 PM	33
8 PM	26
9 PM	16
10 PM	13
11 PM	11
Total	601



Next Steps

- Finish SIMMOD modeling and quantify delays
- Continue to work with airlines through the ATR to identify “Trigger Points”
- Evaluate shifting enough tech stop traffic to Fairbanks such that ANC traffic is several years below trigger levels
- Analyze impacts to Fairbanks from increased traffic
- Evaluate cargo hardstand capacity, fueling, deicing, and aircraft maintenance
- Prepare preliminary report and review with airlines through the ATR
- Present results, as requested, at any future AAAC or Finance Committee meetings

Questions

FAI ADVISORY BOARD (FAB) MEETING NOTES

November 15, 2012 ● Fairbanks, Alaska

MEETING ATTENDANCE

FAI Advisory Board (FAB) Members:
Attending: Harry Cook, Rebecca Cronkhite, Ron Dearborn, Matt Divens, Tom George, Dianna Merry, Patricia Oien, Melissa Osborn, Jeff Roach, Karl Schulz, Judy Trotter and Arvid Weflen

Also attending: Tom Middendorf, AIAS Project Manager (DOWL/HKM), Pat Kennon (HNTB), and Greg Albjerg (HNTB)

FAI and DOT Staff: Jesse VanderZanden, Steve Henry, R.J. Stumpf

Project Team:
Royce Conlon (PDC), Jeff Mishler (RS&H), Bob Arthur (RS&H), Patrick Cotter (PDC), and Cynthia Oistad (RISE).

Graphics and Handouts: *Agenda; Updated Master Plan Process diagram; Revised Issues List; Fairbanks Area-wide GA Airport Inventory; Pilot Survey Summary; FAI Master Plan Update Presentation, AIAS Planning Study Presentations; Updated Advisory Board Roster/Contacts and Meeting Sign-In Sheet.*

Project Website: http://pdcprojects.info/FAIMasterPlan/index.html

MEETING SUMMARY

Jesse VanderZanden, FAI Airport Director, thanked the Fairbanks Advisory Board (FAB) for their participation and welcomed Jeff Roach and Arvid Weflen as new members of the Advisory Board. The group provided self-introductions.

FAI Master Plan and Project Update

Royce Conlon (Project Lead/PDC) reviewed the progress of the PDC consultant team on the FAI Master Plan and noted the team is completing the Forecast and Capacity Analysis of the "Investigation" phase. Next, the team will look at Solutions: scenario development, facility requirements, alternatives, environmental review and development program. Royce expressed that the FAI Master Plan team is incorporating and expanding on the forecast and scenario development data from the AIAS planning team to develop Fairbanks-based scenarios.

GA Survey and Facility Inventory

The PDC team conducted an inventory of the General Aviation (GA) Facilities in Fairbanks and Royce shared the results of the GA Survey that was completed this past summer. Over 1,000 questionnaires were mailed and the team received over an 18% response rate. While the Fairbanks air taxi companies were mailed the survey, they did not participate in the survey response. The PDC consultant team will speak to the air taxi companies individually to get their input.

The survey didn't include visitors (transient pilots) and it was noted that visitors may have an opinion on items such as the air campground and pilot's lounge.

It was also noted that the responses for the instrument approach survey question about runway 2R could have been unclear. The question focused on the need for better minimums, not necessarily a lack of need for the current minimums.

Survey respondents commented that desired new facilities at FAI are more hangar space, additional float pond slips, electricity at more slips, and an aircraft wash facility. However, EPA requirements for a wash rack are likely beyond what an FBO (fixed-base operator) could meet.

Pat Oien inquired about the inadequate signage comment in the survey response and Royce said she would find out more and get back to her.

AIAS Forecast and Capacity

Jesse expressed the importance of the AIAS Plan and forecast information to the FAI Master Plan. The airport needs to know what happens if there is a major activity surge in operations. What is the airport's capacity to meet that increased need? What are the trigger points? There are a lot of unknowns and variables, but the carriers and FAA want to know so they can make investment and economic decisions. This information will help the airport address the overall capacity of the entire AIAS system. Becky Cronkhite added that while we can't tell air carriers which airports to use, we can incentivize them and provide them the economic data to make informed decisions.

Pat Kennon of HNTB presented AIAS Planning Study demand forecasts noting a conservative growth forecast of 1.4% per year for Fairbanks Metro Area over the next 20 years. He reviewed six scenarios and how those scenarios would affect FAI's cargo tonnage, passenger enplanement and aircraft operations:

1. No Action
2. High Fuel Price

3. High Economic Growth/Increased International Cargo
4. Star Burst
5. Low Fuel Price
6. Updated Base Year

See attached presentation pdf for details. It was noted that the intra-Alaska cargo tonnage is forecasted to be flat, but not decreasing. The GA operations growth rate was questioned due to the high quantity of planes for sale on the east side. Jesse commented that Alaska's special cargo regulation exemptions allow the Star Burst scenario to occur.

Greg Albjerg of HNTB presented AIAS Preliminary Demand Capacity Analysis, noting the forecast scenarios under both VFR and IFR conditions. Analysis showed FAI has sufficient hourly capacity to handle increased demand for both Future 1 (602 Avg. Day/Peak Month) and Future 2 (690 Avg. Day/Peak Month). He discussed their team's assessment of a potential future condition of a "30-minute untenable delay" at the Anchorage International Airport during critical hours and how delays significantly and negatively impact carriers. Carriers told the team that flights delayed by 30 minutes or more are in jeopardy of missing the sort.

The AIAS team looked at a scenario where the tech stop airlines move to FAI. Even if 100% of the tech stops move to FAI, it appears the delay times for Fairbanks would still be very low (under 3 minutes). Trigger points were discussed as when action would need to be taken to avoid untenable delays. Becky noted the airports need to plan well ahead of those trigger points because of the years it takes to plan, design and construct new runways, capital improvements at the airports. See attached presentation pdf for details.

The PDC consultant team will take the AIAS capacity data and investigate further to determine FAI specific information such as current tech stop capacity at FAI. Jesse commented that Alaska is strategically located to accommodate Asia and North America cargo traffic.

Fairbanks-based Aircraft Forecast and Critical Aircraft

Royce introduced Jeff Mishler to the FAB and said he has been working with Dave Nafie on this project from the outset as a principal with RS&H.

Jeff reviewed the forecast of Fairbanks-based aircraft for years 2012-2030, noting 1.1% annual growth rate for single engine piston aircraft and -0.3% decline annually for multi-engine piston aircraft. He also discussed critical aircraft (Boeing 747-800, Boeing 737-800, Single Engine Piston) related to ultimate runway planning.

Fairbanks Specific Scenarios Worksession

Jeff led a scenario brainstorming worksession with the FAB to look at what scenarios would really "change the game" at FAI. The team is investigating any scenario that might impact or change the facility requirements or operations at FAI to include in the master plan. To start the discussion, the team proposed the following scenarios for initial consideration and these were validated by the FAB:

- Shift of tech stops from Anchorage
- Doubling or a big "Boom" of commercial operations by…
  - Increased natural resource development
  - Construction of natural gas pipeline
  - Other?
- Changes in local military presence (what if Eielson closes and Air National Guard moves to FAI?) JBER and Ft. Wainwright are not viable locations for ANG operations.

FAB comments and additional scenarios included:

- A significant shift in US Postal Service operations (including By Pass Mail) and resulting change in air cargo volume.
- Changes in the U.S. DOT's Essential Air Service (EAS) program would impact passenger service to rural Alaskan communities
- A big "Boom" of development would include year –round operations, less seasonal for FAI
- Tourism – the impact of Railroad extension on the airport is unknown; changes in the number of cruise ships to Alaska seems to have little impact on passenger enplanements
- Increased tourism from Canada or Russia could have an impact
- Increased activity and development in the Arctic could increase traffic at FAI as a gateway to the Arctic.
- Increased TSA screening of small passenger aircraft at the terminal could force changes to the terminal design.
- Increased TSA screening of GA activity at FAI could; 1) demand changes in GA facilities and 2) likely force-down demand by chasing based FAI aircraft to more rural airports to avoid the hassle of TSA screening
- Changes to GA fleet mix could be a game changer. Terminal modifications to serve regional jets should be considered as part of master plan should FAA funding be sought in the future.
- Influx of helicopters related to resource development boom would have an impact.

- Fuel prices could impact GA operations. Would be interesting to know at what fuel price would GAs stop flying? $8/gal? $10/gal? $15/gal?

Other issues discussed included:

- 2R/20L is set up for design group III. With an extended closure on 2L, what happens? What can we do with 2R right now?

- What to do with 2R in general? Scale up or down? What are the trigger points for scaling up or down?

- Taxiway Bravo crossing the runways and how to access the East Ramp.

NEXT STEPS

In summary, Royce reviewed the FAI schedule and next steps. The PDC team will continue with the solutions phase of the project, sending several documents to the FAB for review in the next month.

NEXT MEETING

The next FAB meeting is tentatively proposed for February. Date and time will be confirmed at a later date.

FAI MASTER PLAN PROJECT

Agenda for FAI Advisory Board Meeting
11.15.12 from 1:30pm-4:00pm
FAI Conference Room

1:30

Welcome & Refresher – Jesse VanderZanden, Airport Director

FAI Master Plan Project Update – Royce Conlon, PDC

- Revised Issues List
- Fairbanks Area-wide GA Airport Inventory
- Pilot Survey Summary

AIAS Master Plan Forecast – Pat Kennon, HNTB

2:30

AIAS Capacity Analysis & System Scenarios that Impact FAI– Greg Albjerg, HNTB

Fairbanks-based Aircraft Forecast and Critical Aircraft - Jeff Mishler, RS&H

Fairbanks Airport Specific Scenarios Worksession – Jeff Mishler, RS&H and Cynthia Oistad, RISE

AGIS Project Update – Patrick Cotter, PDC

4:00

Next Steps – Royce Conlon

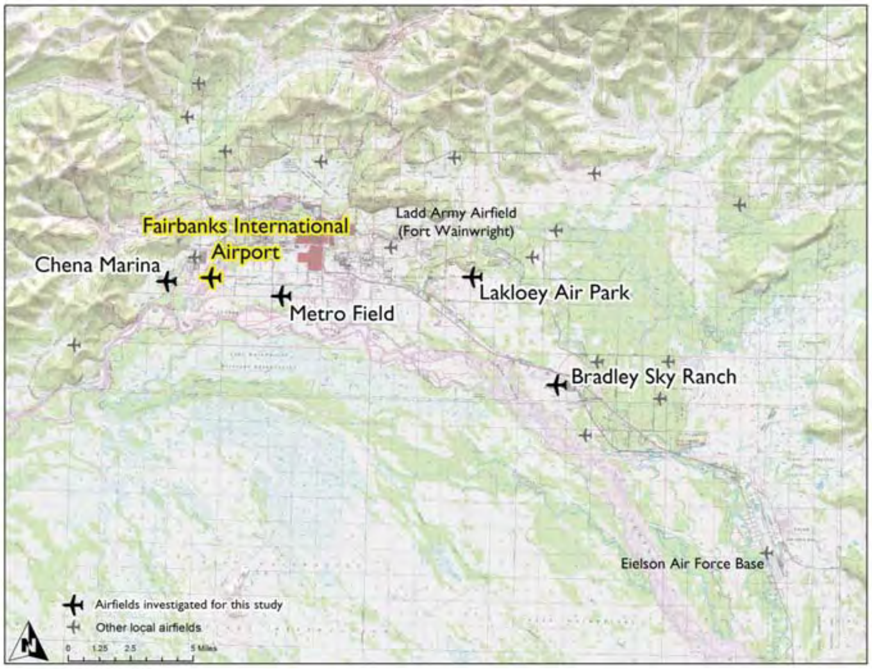
Next Meeting – February 2013

Adjourn – Jesse VanderZanden

Project Update

November 15, 2012

Inventory of Other GA Facilities



Inventory of Other GA Facilities

	Tie-downs	Hangars	Aircraft types	Comments
Metro Field	21	8	Single-engine fixed-wing; Both wheels and floats	Limited facilities; No t-hangars
Bradley Sky Ranch	20	3	Single-engine fixed-wing on wheels 4 Ultra lights	No float planes; Float pond is very short
Lakloey Air Park	N/A	10+	Single-engine fixed-wing; both wheels and floats	Airstrip & float pond are bordered by private homes; Runway narrow
Chena Marina	100	20 conventional 2 tee	Single- and multi-engine fixed-wing; Both wheels and floats; Helicopters	More commercial facilities than other 3 airports; t-hangars present

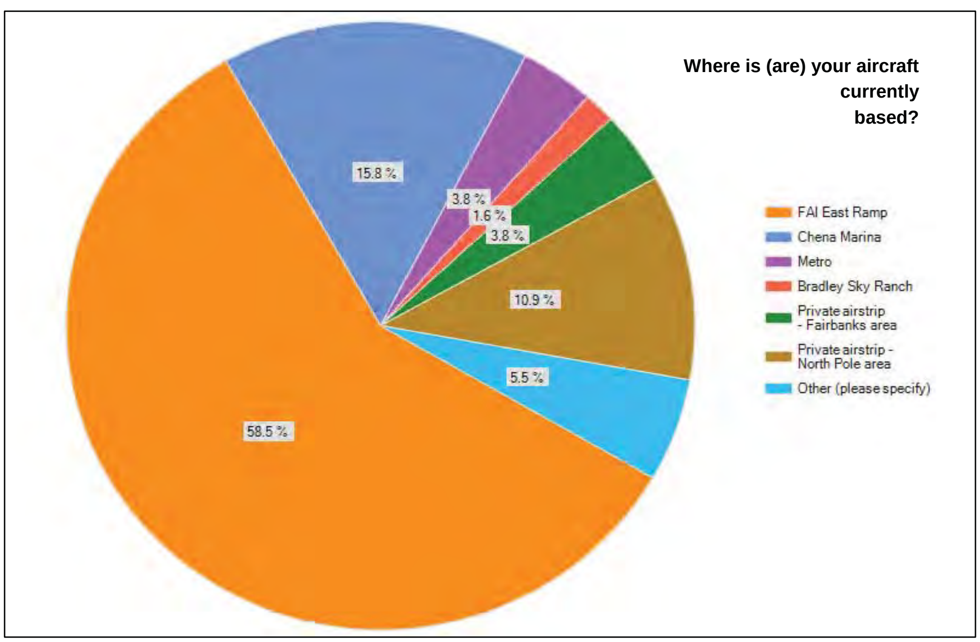
	Runway dimensions[1]	Runway surface	Floatpond dimensions
Metro Field	4,600' x 80'	Gravel/asphalt[2]	4,000' x 200'
Bradley Sky Ranch	4,100' x 60'	Gravel	2,000' x 100'
Lakloey Air Park	4.000' x 50'	Gravel	3,400' x 100'
Chena Marina	4,700' x 60'	Gravel	4,000' x 200'

GA Survey

- >1,000 questionnaires mailed
- 184 responses; 58.5% at FAI
- Users generally very happy
- Desired new facilities:
  - More hangar space
  - Aircraft wash facility
  - Additional float pond slips
  - Provide electricity at more slips

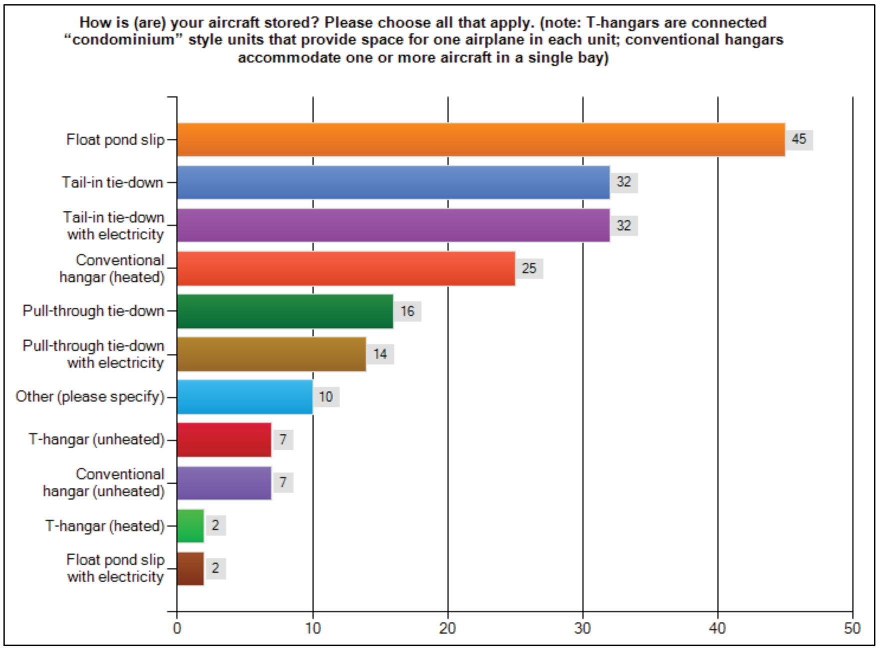
FAI MASTER PLAN PROJECT

GA Survey Results



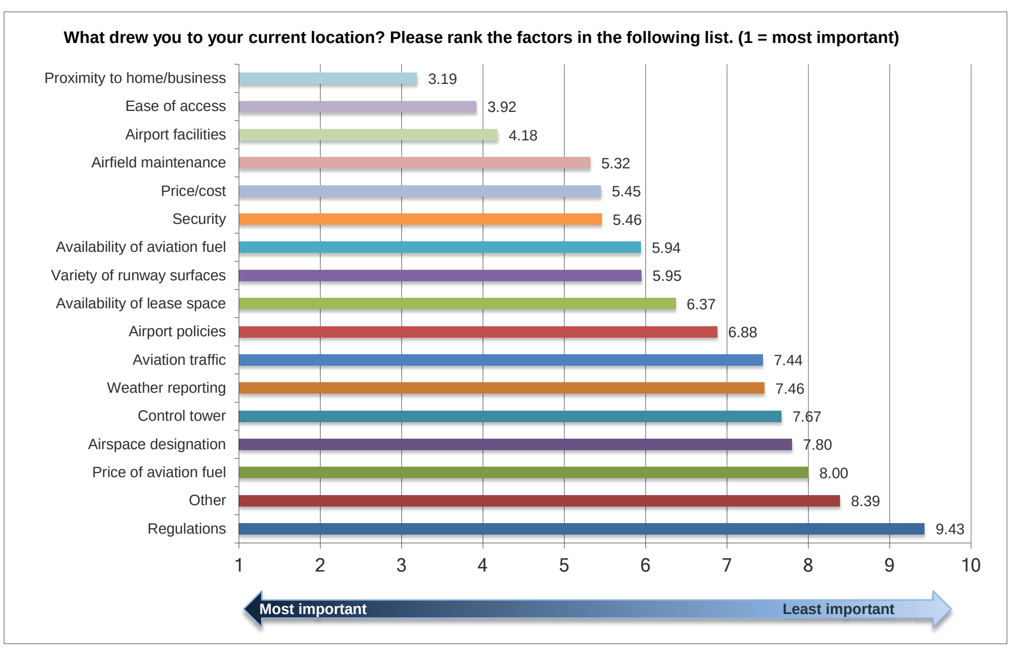
FAI MASTER PLAN PROJECT

GA Survey Results



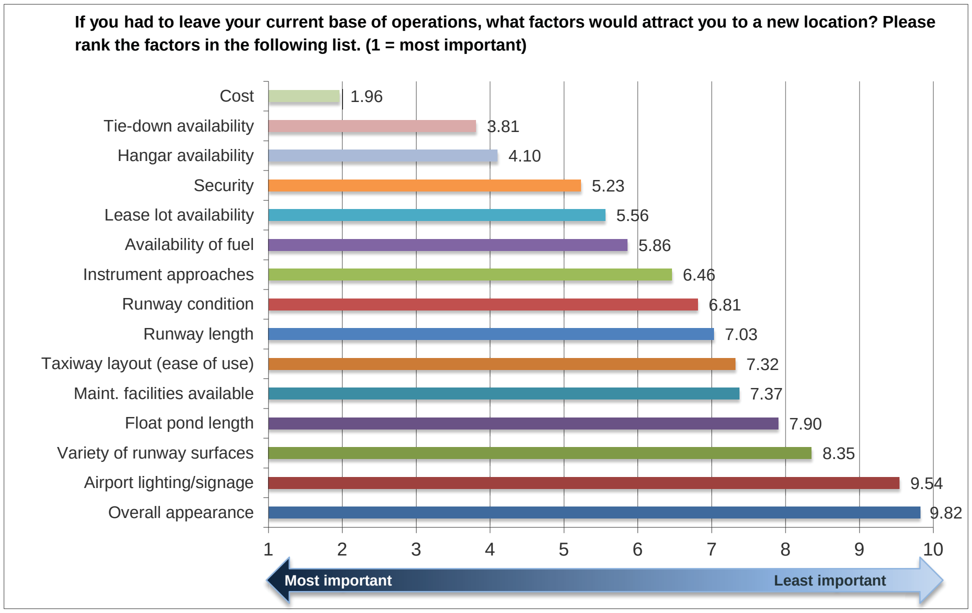
FAI MASTER PLAN PROJECT

GA Survey Results



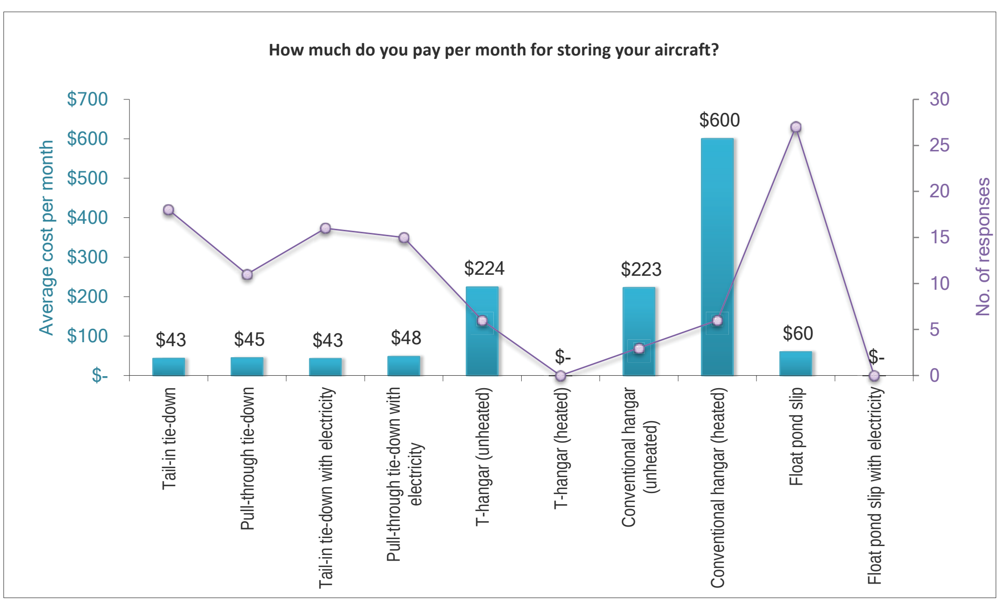
FAI MASTER PLAN PROJECT

GA Survey Results



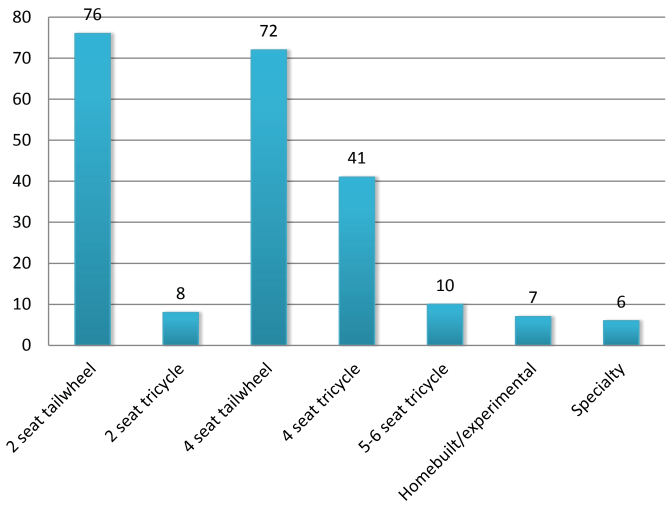
FAI MASTER PLAN PROJECT

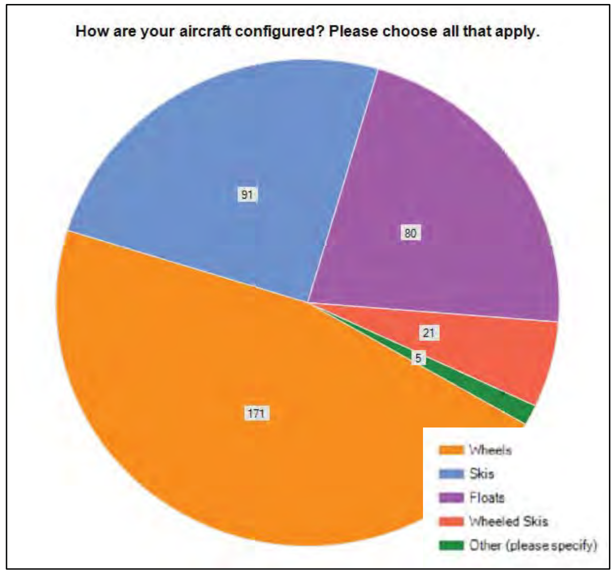
GA Survey Results



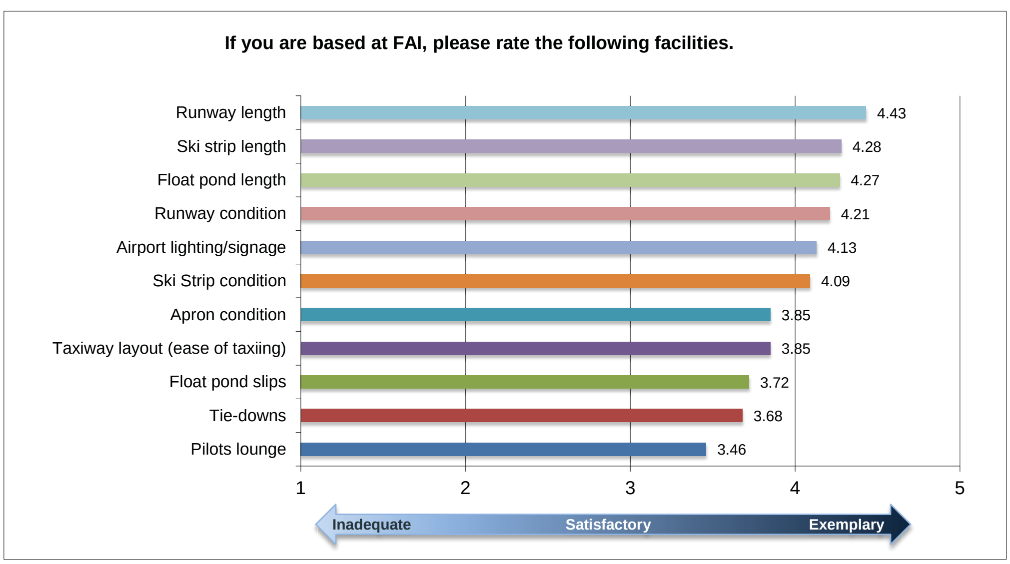
FAI MASTER PLAN PROJECT

GA Survey Results

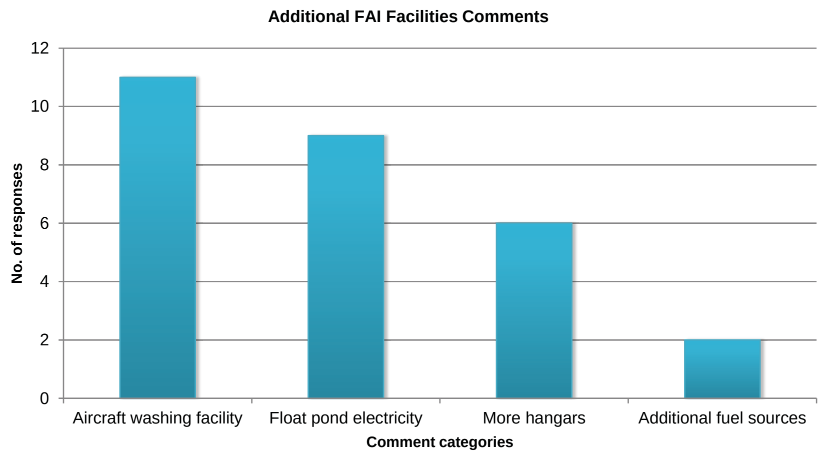




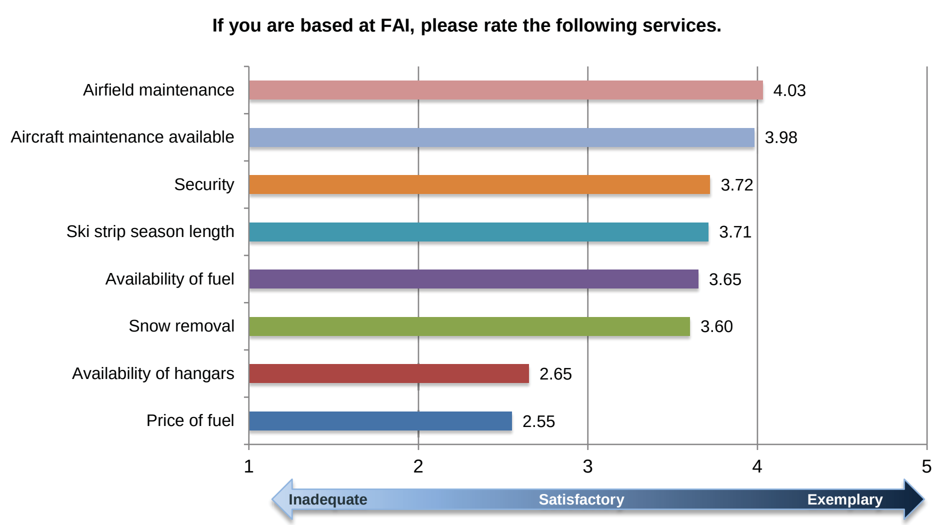
GA Survey Results



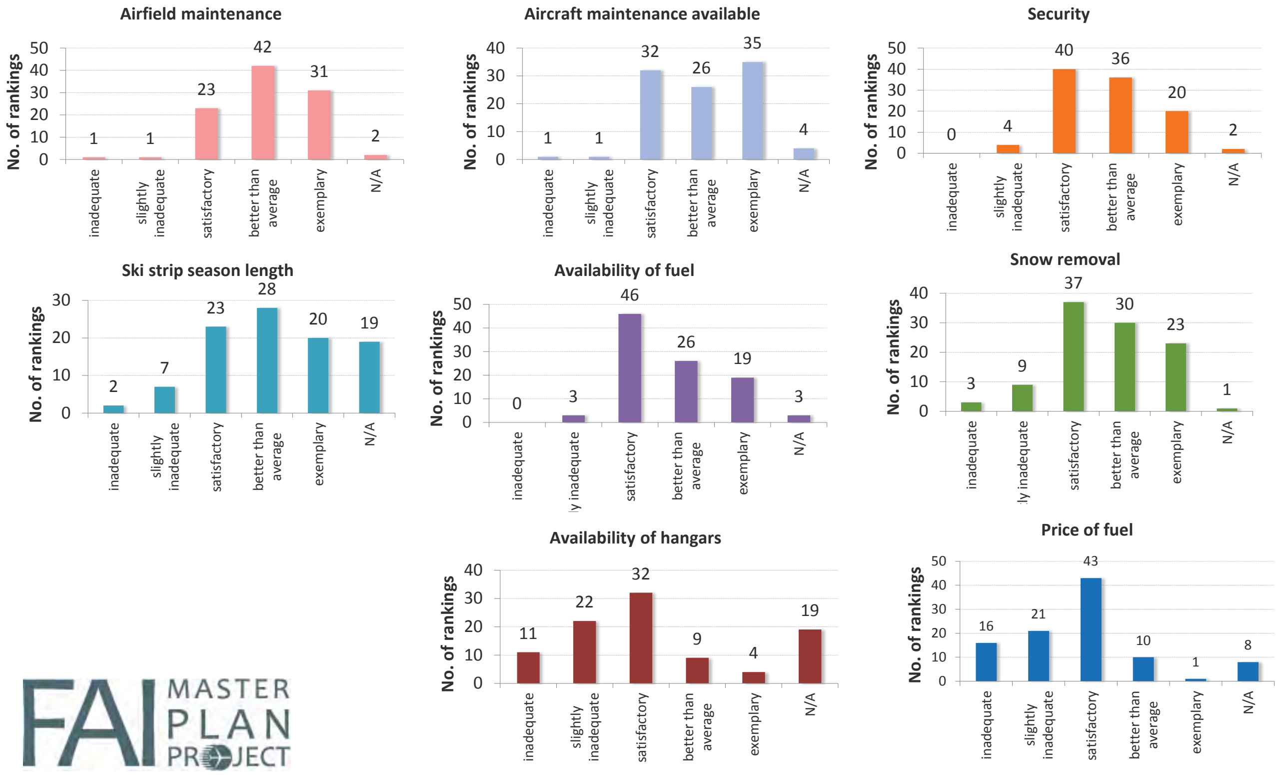
GA Survey Results



GA Survey Results

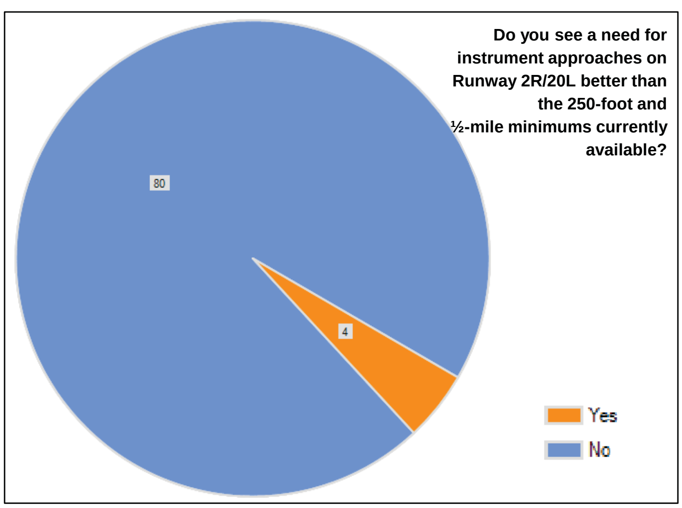


GA Survey Results



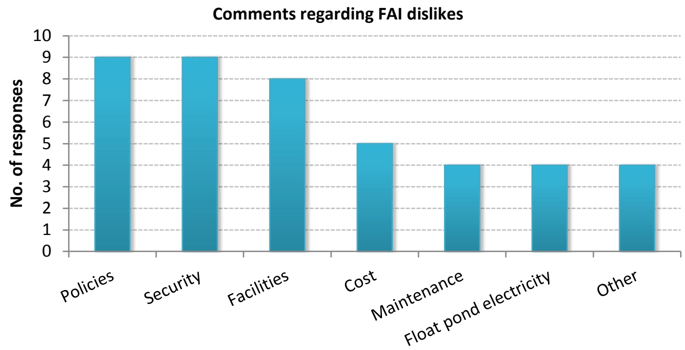
FAI MASTER PLAN PROJECT

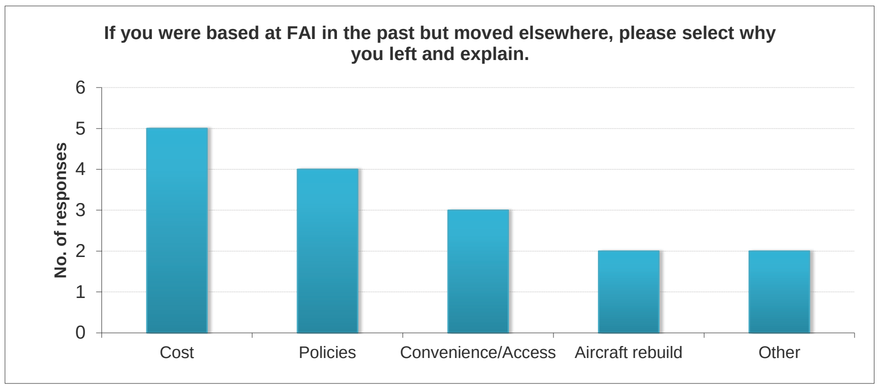
GA Survey Results



FAI MASTER PLAN PROJECT

GA Survey Results





FAI MASTER PLAN PROJECT

Based Aircraft Forecast

Year	Single Engine Piston	Multi-Engine Piston	Turbo-prop	Jet	Helicopter	Total
2012	386	65	-	-	-	451
2015	399	64	-	-	-	463
2020	421	63	-	-	-	485
2025	445	63	-	-	-	508
2030	470	62	-	-	-	532
			Average Annual Growth Rate			
2012-2030	1.1%	-0.3%	1.6%	5.7%	0.0%	0.9%

Source: AIAS Forecast and Airport, 2012

FAI MASTER PLAN PROJECT

Critical Aircraft

- Needed for ultimate runway planning
- Minimum 500 operations per year to qualify

Runway	Airfield Design Aircraft
2L - 20R	Boeing 747-800
2R - 20L	Boeing 737-800
2 - 20	Single Engine Piston
2W - 20W	Single Engine Piston

FAI MASTER PLAN PROJECT

Alternative FAI Forecast Scenarios

- Considered for additional analysis in FAI AMP:
  – Shift of tech stops from Anchorage (refinement)
  – Doubling of commercial operations by….
    - Increased natural resource development (Oil & Gas, Mining)
    - Construction of natural gas pipeline
  – Changes in local military presence

FAI MASTER PLAN PROJECT

AGIS Project Update

- 61 layers collected
- Field survey completed

FAI MASTER PLAN PROJECT

FAI MASTER PLAN PROJECT

Potential Issues List

ESWG: East Side Working Group

May 1, 2012

Category	Issue	Airport Wide	West Side	East	Admin/Ops Policy	Remarks
Terminal	Terminal Facility Demand Analysis · Major air carrier growth · Regional air carrier growth · Curbside Use · Rental car parking availability · Contingencies for Part 135 security regulations		X			Master Plan & Potential Terminal Focus Grp
Airside	Fuel hydrant system – Feasibility Analysis		X			Add to Scope
	Feasibility of Cat III landing on North end (20R)		X			Add to Scope
	Feasibility of ILS on 02R - (Focus Group: set aside for now)			X		Add to Scope?
	Helicopter/Fixed Wing – Operational Conflicts	X		ESWG		Master Plan
	Analyze Design Group VI compatibility		X			Master Plan
	Taxiway Bravo safety issues (VPDs & incursions)	X		ESWG		Master Plan
	Controlled Charlie Analysis			ESWG		Master Plan
	Shooting Range Location				X	Master Plan
	Runway length analysis, especially 2R/20L (best length?)	X		ESWG		Master Plan
	Float Pond Design Criteria · Dredging of shallow spots · Taxi lane & turnaround space			ESWG		Master Plan
	Compass Rose, certified and easily accessible to each side	X				Master Plan
	Long Term Snow Management	X				Policy
	ARFF Training Facility · Location & physical condition of ARFF training area				X	Master Plan
	Issues with parallel traffic on both Rwys 2R/20L & 2L/20R (needs clarification)	X				Master Plan
Access	Cell phone parking/waiting area	X	X			Master Plan
	General Security of the Airport and Unauthorized Access · Physical control · Policies (authorized vendor access, etc) · Compliance with regulation · East Ramp Access Plan	X			X	Master Plan
	Parking Lot long-term capacity		X			Master Plan

Category	Issue	Airport Wide	West Side	East	Admin/Ops Policy	Remarks
Land Use	Public Viewing Area					Master Plan
	Develop land use plan · Highest and best use of undeveloped land already owned · Higher and better use/land reuse/redevelopment	X				Master Plan
	Relocation of the aviation museum	X			X	Master Plan
	Railroad relocation	X		ESWG		Master Plan
	Cumulative impacts to wetlands and biological resources	X				Master Plan
	Plan for ability to accommodate additional lease parcels			ESWG		Master Plan
	Compatible land use planning for land adjacent to FAI boundaries: · Define potential encroachment for at least 50-year window · Noise Compatibility	X				Master Plan
Environmental	Existing fuel hydrant system cleanup				X	Add to Scope
	Aircraft Deicing/Washing facility	X		ESWG		Master Plan
	M&O/Environmental Warm & Cold Storage	X				Master Plan
Airport Admin	Airport Way Roundabout project with DOT in design				X	Policy
	Availability of fuel supply		X		X	Master Plan
	Title 29 property tax issues – different than ANC and up north (clarification needed)				X	Policy
	Closures due to wildfires				X	Policy
	Land Use compliance study element				X	Add to Scope?
	Non-movement area driver training				X	Policy
Game Changers & Scenarios	Significant Increase in Group V and VI Operations (AIAS Incentives Work)	X				Master Plan
	Introduction of Heavy Lift Airships	X				Add to Scope?
	Changing role of military bases in the Fairbanks area - F-16s and refueling wing	X				Add to Scope
	Airspace planning for UAVs	X				Add to Scope
Candidates for Removal/ Outside of Project Scope	Feasibility of light rail transport for people					Not Studied
	Funding: State, Federal					Not Studied
	Customs for East Ramp / Float Pond (add to information map)					Not Studied
	Investigate technology challenges (GPS Threats)					Not Studied
	Length of Lease Terms					Not Studied
	Resolve with FNSB : · Property boundary discrepancies				X	Policy
	Business plan development	X			X	
	Feasibility of ILS on 02R - (set aside for now)					Not Studied?

FAI MASTER PLAN PROJECT

Potential Issues List for GA Focus Group Input

ESWG: East Side Working Group

March 29, 2012

Category	Issue	Airport Wide	West Side	East	Admin/Ops Policy	Remarks
Airside	Helicopter/Fixed Wing – Operational Conflicts	X		ESWG		Master Plan
	Taxiway Bravo safety issues (VPDs & incursions)	X		ESWG		Master Plan
	Controlled Charlie Analysis			ESWG		Master Plan
	Runway length analysis, especially 2R/20L (best length?)	X		ESWG		Master Plan
	Feasibility of ILS on 2R			ESWG		Master Plan
	Compass Rose (needed on both sides of airport?)	X		ESWG		Master Plan
	Shoulder seasons for float pond and ski strip			ESWG		Master Plan
	Float Pond Design Criteria · Dredging of shallow spots · Taxi lane & turnaround space			ESWG		Master Plan
Landside / Access / Use	Plan for ability to accommodate additional lease parcels	X		ESWG		Master Plan
	Float Pond Capacity			ESWG		Master Plan
	Railroad relocation			ESWG		Master Plan
	Snow Management	X		ESWG		Policy
	Aircraft Deicing/Washing facility	X		ESWG		Master Plan

SITE VISIT REPORT

Observer:	Patrick Cotter	**Date:**	September 4, 2012
Visit Date: **Time:**	June 22, 2012 10am – 2pm	**PDC #:** **Name:**	11072FB Fairbanks International Airport Master Plan
RE:	Site visits to 4 local airstrips - Metro Field, Bradley Sky Ranch, Chena Marina, and Lakloey Air Park		

INTRODUCTION

On June 22, 2012, Dave Nafie, Mike Becker, and I visited four airports in the Fairbanks/North Pole area (Figure 1) to inventory aviation facilities at each as part of the FAI Master Plan. We drove around each airport, counted tie-downs and hangars, and photographed various airport features. Likewise, we noted the general layout of the airfield and types of aircraft based at the airport. There are at least a dozen other small private airstrips in the Fairbanks area that we did not visit. They do not have the level of air traffic or facilities that the four subject airfields have.

1028 Aurora Drive
Fairbanks, AK 99709
T: 907.452.1414
F: 907.456.2707

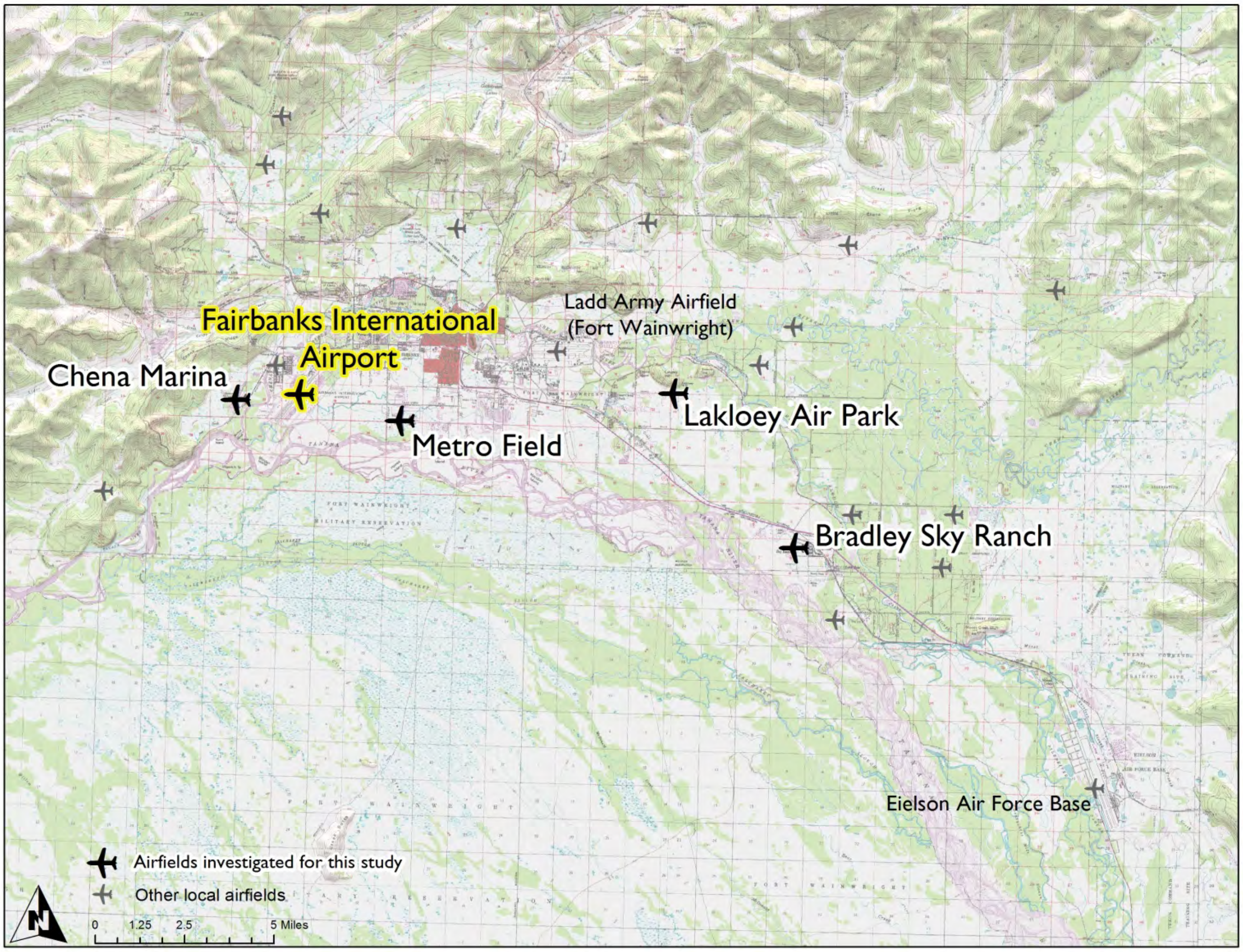


Figure 1 - Fairbanks area airports and airstrips

COMMENTS

Each airport we visited has both a gravel runway and float pond, although the pond at Bradley Sky Ranch is quite short and appears unused. The availability of facilities varied considerably between the airports. Chena Marina has the widest range of available facilities and services, while Lakloey Air Park is completely private. We did not encounter any pilots and were unable to ask questions about each airfield.

A summary of the aviation facilities is included in the tables below. Hangar and tie-down numbers are approximate. Hangar and tie-down counts for Chena Marina are based on review of aerial photography and the site visit.

	Tie-downs	Hangars	Aircraft types	Comments
Metro Field	21	8	Single-engine fixed-wing; Both wheels and floats	Limited facilities; No t-hangars
Bradley Sky Ranch	20	3	Single-engine fixed-wing on wheels 4 Ultra lights	No float planes; Float pond is very short
Lakloey Air Park	N/A	10+	Single-engine fixed-wing; both wheels and floats	Airstrip & float pond are bordered by private homes; Runway narrow
Chena Marina	100	20 conventional 2 tee	Single- and multi-engine fixed-wing; Both wheels and floats; Helicopters	More commercial facilities than other 3 airports; t-hangars present

	Runway dimensions[1]	Runway surface	Floatpond dimensions
Metro Field	4,600’ x 80’	Gravel/asphalt[2]	4,000’ x 200’
Bradley Sky Ranch	4,100’ x 60’	Gravel	2,000’ x 100’
Lakloey Air Park	4.000’ x 50’	Gravel	3,400’ x 100’
Chena Marina	4,700’ x 60’	Gravel	4,000’ x 200’

[1] Runway and floatpond dimensions from *FAA Alaska Supplement*, 09 Feb 2012 edition
[2] First 2,600’ of runway 6 is paved

Figure 2 - Chena Marina

Figure 3 - Bradley Sky Ranch

Figure 4 - Lakloey Air Park

Figure 5 - Metro Field

PHOTOS

Figure 6 - Lakloey Air Park runway end

Figure 7 - Metro Field runway

Additional high-resolution photos are in the project directory.

End of Report

November 15, 2012

AIAS Planning Study
Technical Analyses

Aviation Demand Forecasts and Draft Forecast Scenarios

9/19/2012 1

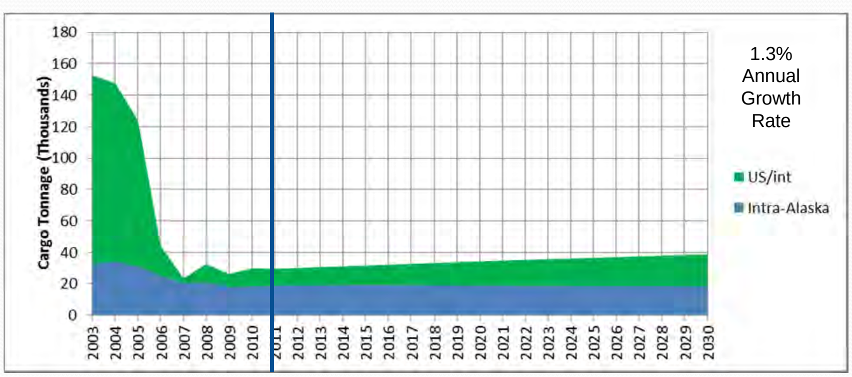
Purpose of Forecasts

- Optimize Use of Alaska International Airport System Capacity (ANC and FAI)
- Provide Forecasts for ANC and FAI Master Plans
- Provide Forecast for ANC/Lake Hood Part 150 Study
- Provide Forecast for FAI Part 150 Study

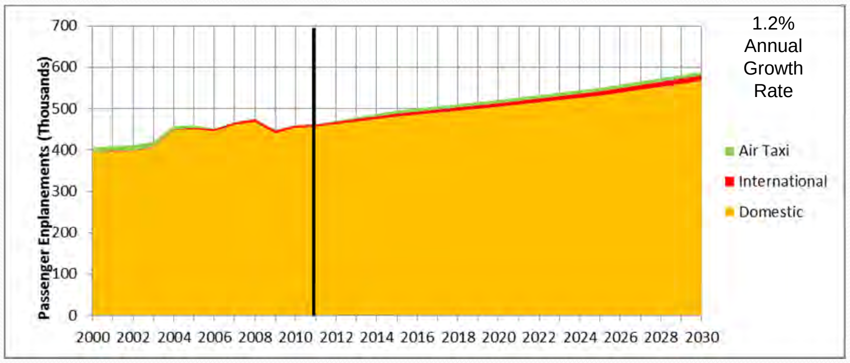
Forecast Process

- Forecast Methodology Reviewed and Approved by AIAS and airlines 8/2011
- Air Carrier Surveys 8/2011-11/2011
- Forecast Assumptions Reviewed and Approved 12/2011
- Draft Baseline Forecast & Forecast Report 3/2011
- Review by AIAS and airlines 3/2012 – 5/2012
- Endorsed by airlines 7/2012
- Approved by FAA 9/2012
- Preparation of Scenarios 10-11/2012

Baseline Cargo Tonnage Forecast: FAI

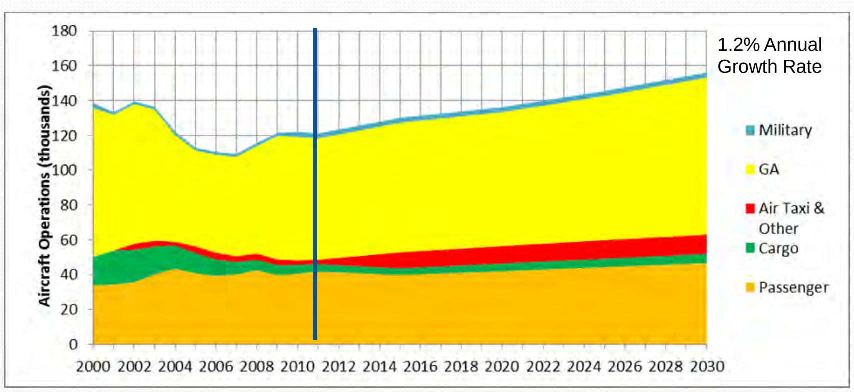


Baseline Passenger Enplanement Forecast: FAI



Baseline Aircraft Operations Forecast: FAI

1.2% Annual Growth Rate



Forecast Scenarios

- Baseline (FAA Approved Forecast)
- Scenario 1 - No-Action
- Scenario 2 - High Fuel Price
- Scenario 3 - High Economic Growth/Increased International Air Cargo
- Scenario 4 - Star Burst
- Scenario 5 - Low Fuel Price
- Scenario 6 - Updated Base Year

Key Assumptions
Scenario 1 – No Action

- Based on Capacity Analysis
- Aircraft Operators will begin to make adjustments when ANC annual operations reach 258,000, estimated to occur around 2024.
- Focused on 14:00 to 17:00 (afternoon peak) when projected demand exceeds throughput capacity.
- Examined 2030 design day flight schedule during that peak
- Identified flights most sensitive to delay
- Expected most likely response (may differ by carrier):
  - Overfly
  - Use FAI
  - Use another tech stop/sort hub
  - Switch to off-peak hour

Key Assumptions
Scenario 2 – High Fuel Price

- Assumes DOE High Jet Fuel Price Forecast ($3.89/gal. in 2015, $4.35 in 2020, $4.78 in 2025, and $5.04 in 2030)
- Based on DOE analysis, each $10/barrel increase in crude oil prices is assumed to lower GDP and income levels by 0.7%.
- Air carriers assumed to pass on higher fuel prices through higher air fares and cargo rates, thereby lowering demand.
- Reduced economic growth also lowers demand.

Key Assumptions
Scenario 3 – High Economic Growth

- Consistent with FAA's Optimistic Forecast, GDP and income levels are assumed to grow 0.5% per year faster than under the Baseline Forecast after 2012.
- Total Asia/North America air cargo is assumed to grow at average of Boeing and Airbus projections (6.9 % per year).
- Higher economic growth and income levels increase demand for passenger travel and air cargo.

Key Assumptions
Scenario 4 – Starburst Scenario

- Assumes development of major transfer operations at ANC by current tech stop operators affecting 50 percent of the tech stop cargo.
- Fleet mix on Asia-Alaska segments (747/777/MD11) assumed to be the same as under the Baseline Forecast because of the long distances involved.
- Cargo on Alaska/Lower 48 segments assumed to be transferred to smaller aircraft (Boeing 757/767). No 737 classics assumed because of their limited range.
- Scenario assumed to be halfway implemented by 2015, and fully implemented by 2020.
- Result is less Asia/North America cargo lost to overflying than under Baseline Forecast, and more aircraft operations by smaller aircraft.

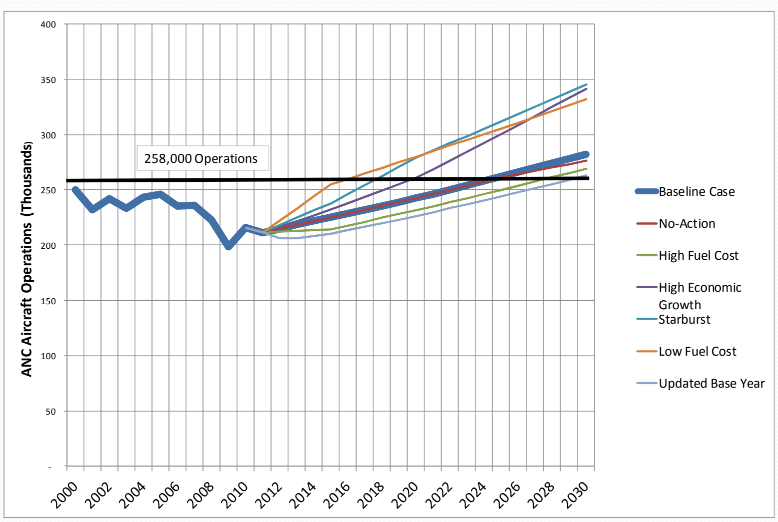
Key Assumptions
Scenario 5 – Low Fuel Price

- Assumes DOE Low Jet Fuel Price Forecast ($1.60/gal. in 2015, $1.58 in 2020, $1.55 in 2025, and $1.55 in 2030)
- Based on DOE analysis, each $10/barrel decrease in crude oil prices is assumed to increase GDP and income levels by 0.7%.
- As a result of competition, air carriers assumed to pass on lower fuel prices through lower air fares and cargo rates, thereby increasing demand.
- Increased economic growth also increases demand.

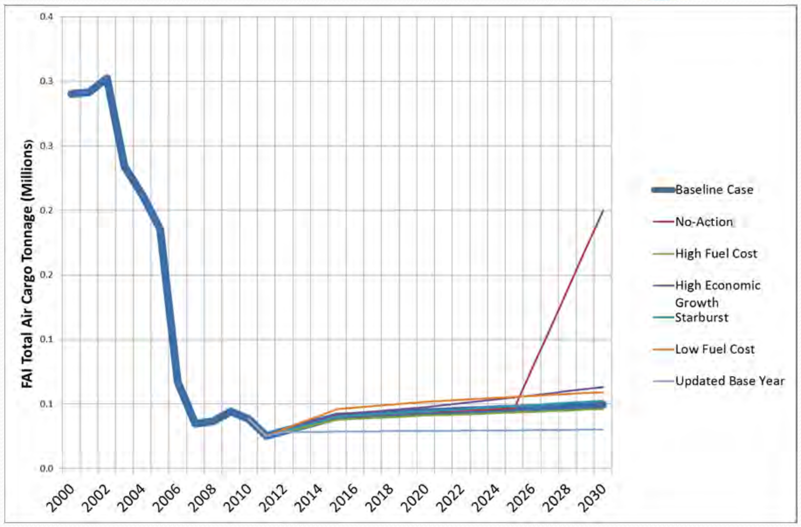
Key Assumptions
Scenario 6 – Updated Base Year

- 2012 annual passenger, cargo and aircraft operation levels estimated by extrapolating from January – September data.
- 2013 levels are assumed to be the same as 2012 because of anticipated constraints on economic growth (fiscal cliff, slowing Asian economies, continuing Euro crisis)
- Growth assumed to resume after 2013, at same rates as in Baseline Forecast.

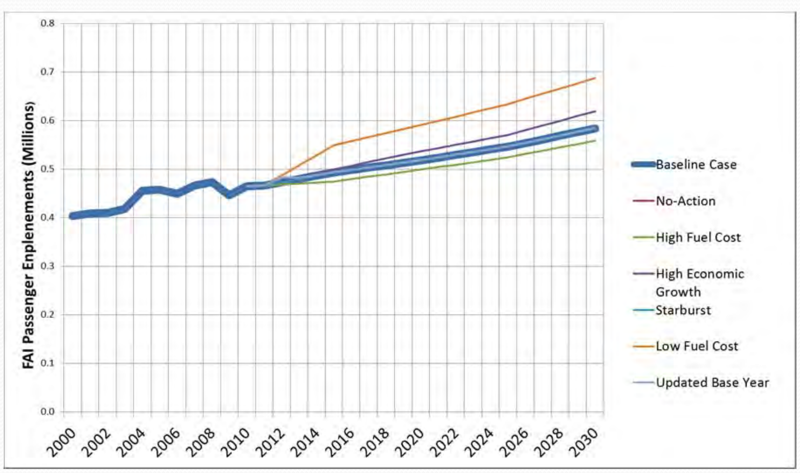
Aircraft Operations Forecasts by Scenario: ANC



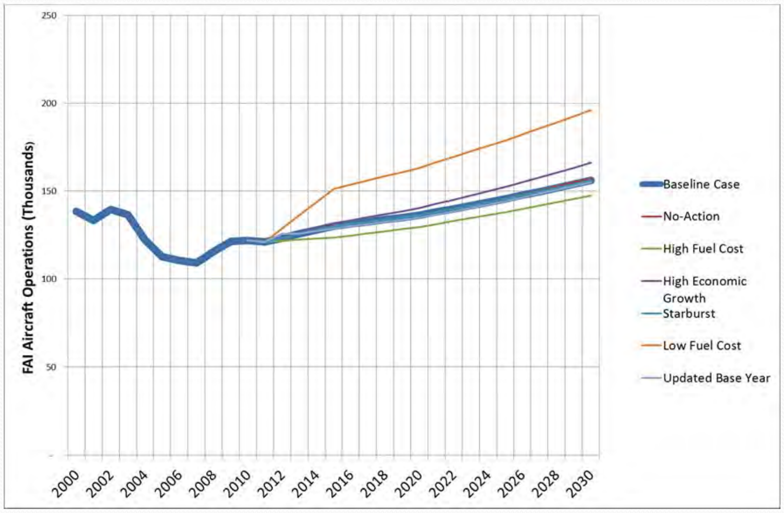
Air Cargo Forecasts by Scenario: FAI



Passenger Enplanement Forecasts by Scenario: FAI



Aircraft Operations Forecasts by Scenario: FAI



QUESTIONS?

BACK UP SLIDES

Key Assumptions - Economic

- Income Growth (Average Annual to 2030)
  - Anchorage Metro Area 1.8%
  - Fairbanks Metro Area 1.4%
  - Rest of Alaska 1.1%
- GDP Growth (Average Annual to 2030)
  - U.S. 2.8%
  - China 7.2%
  - Japan 0.8%
  - Rest of Asia/Pacific 4.6%

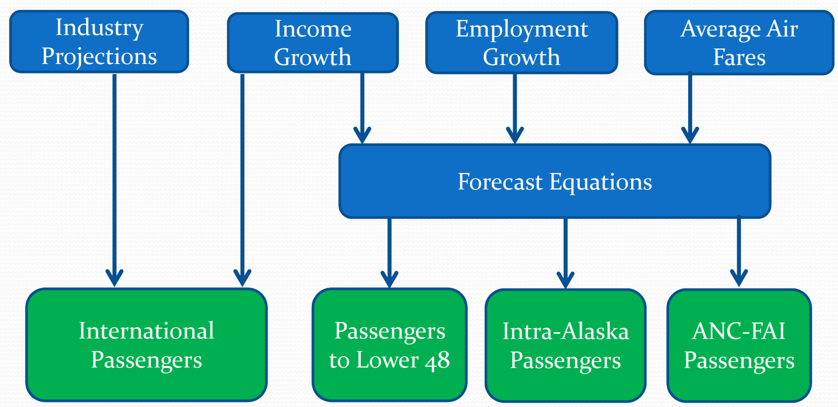
Key Assumptions – Fuel Prices

- Jet Fuel (2010 dollars)
  - $2.94/gal in 2011 to $4.19/gal in 2030
- Crude Oil (2010 dollars)
  - $98/barrel in 2011 to $148/barrel in 2030

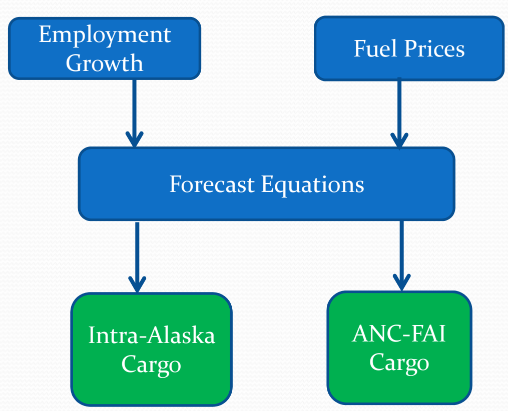
Key Assumptions – Other

- Range/Payload Trade-Off
  - Willingness to sacrifice payload for range will not increase
- Transfer Cargo (sorting and cross-loading)
  - Constant share of Asia-North America cargo tonnage)
- Competition from Ocean Freight
  - Air freight will continue to lose share to ocean freight
- Competition from Other Airports
  - Khabarovsk, Russia and Chitose, Japan constrained, Seoul, S. Korea potential competitor as aircraft range increases.

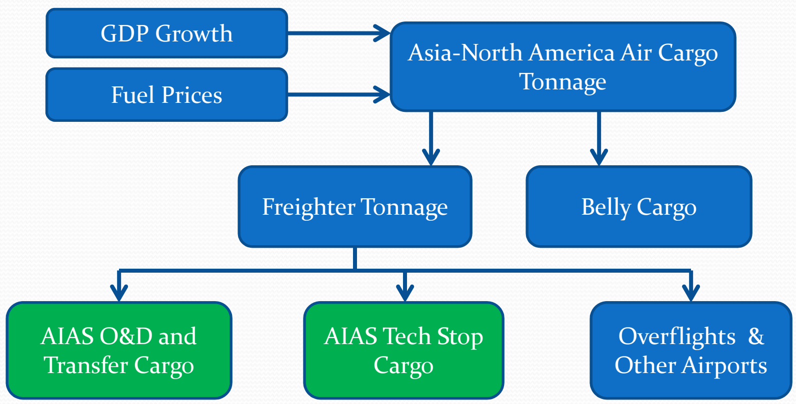
Passenger Forecast Approach



Cargo Forecast Approach Intra-Alaska



Cargo Forecast Approach Asia-North America



Key Air Cargo Growth Rates

- Total Asia/North America Air Cargo
  - Boeing - 6.6% to 6.8%
  - AIAS study – 4.3%
- Asia/North America Air Cargo Going Through AIAS
  - 3.0%
- AIAS International Air Cargo Aircraft Operations
  - 2.3%
- Total ANC Operations (cargo/passenger/GA/military)
  - 1.4%

ALASKA INTERNATIONAL AIRPORT SYSTEM

Preliminary Demand Capacity Analysis

Presentation to Fairbanks AMP Airport Advisory Board

11-15-12

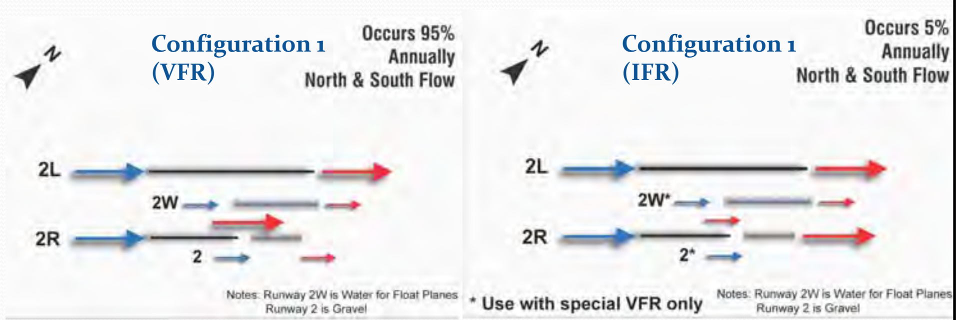
Agenda

- Forecasts – Focus on Daily & Hourly Ops
- Runway Operating Scenarios Modeled
- Overview of Runway Delay Results
- Briefly Review Detailed Information For Selected Scenarios
- Discuss Untenable Delay Horizons
- Capacity Balancing Analysis
- Review General Facility Needs For Tech Stop Aircraft

Forecast Info

- Anchorage
  - Existing 211,409 Annual 728 Avg. Day/Peak Month
  - Future 1 242,275 Annual 860 Avg. Day/Peak Month
  - Future 2 281,942 Annual 1,004 Avg. Day/Peak Month
- Fairbanks
  - Existing 121,145 Annual 526 Avg. Day/Peak Month
  - Future 1 136,248 Annual 602 Avg. Day/Peak Month
  - Future 2 156,128 Annual 690 Avg. Day/Peak Month

Scenarios Modeled-Fairbanks



FAI Capacity is Essentially the same for North and South Flow

GA18

Delay Results Overview-Base

Preliminary

Anchorage

		Config 1		Config 2		Config 4	
	VFR	62%		22%		3%	
	IFR	10%					
		Future 1	**Future 2**	**Future 1**	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	1.8	3.5	3.8	10.7	186.6	445.0
	Departures	16.3	38.6	3.4	9.6	64.3	69.2
IFR	Arrivals	7.0	20.3				
	Departures	14.8	37.4				

Percentage Use Annually (the Config, VFR and IFR rows)

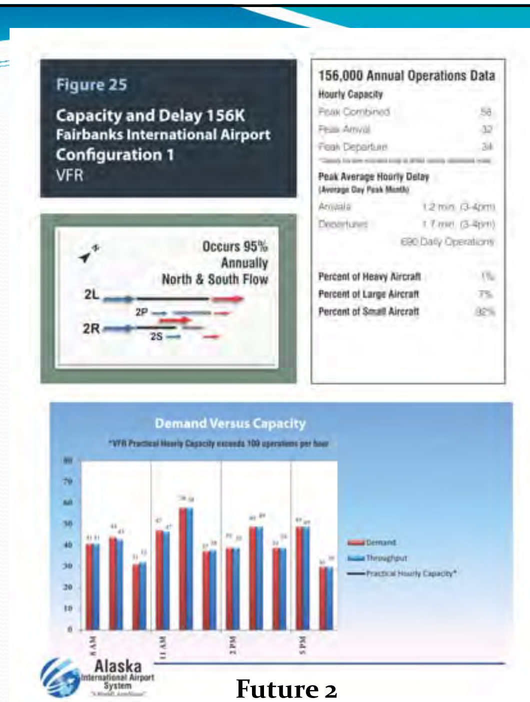
Average Minutes Delay – Peak Hour (the Future 1 / Future 2 rows)

Fairbanks

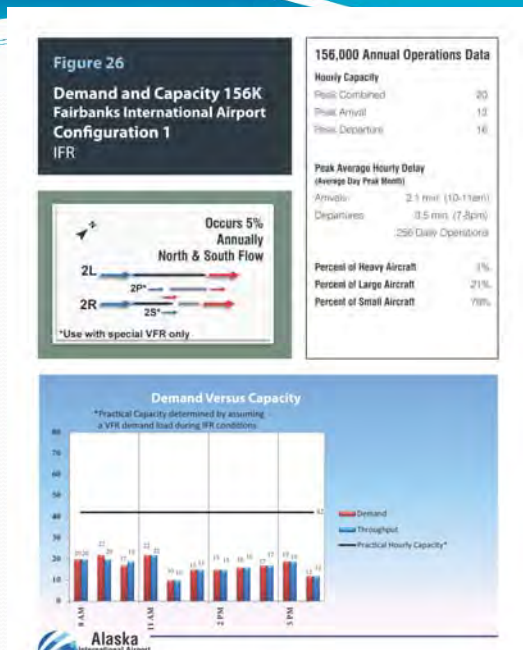
		Config 1		Reduced GA-IFR	
	VFR	95%			
	IFR	5%			
		Future 1	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	0.9	1.2		
	Departures	0.9	1.7		
IFR	Arrivals			1.0	2.0
	Departures			0.4	0.5

Percentage Use Annually (the Config, VFR and IFR rows)

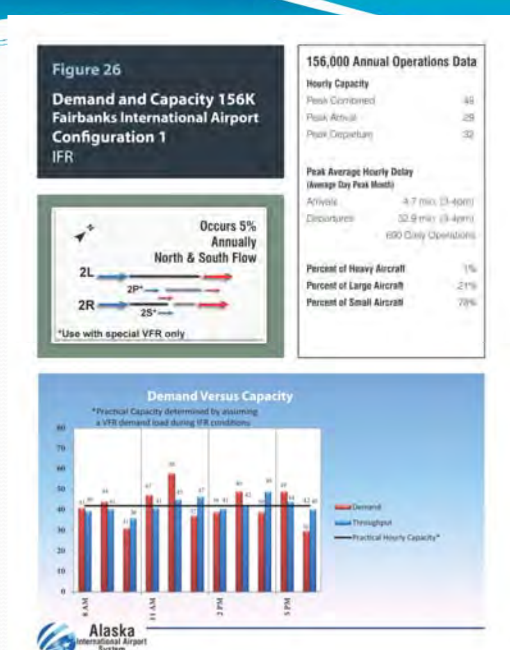
Average Minutes Delay – Peak Hour (the Future 1 / Future 2 rows)



Future 2



Future 2



Future 2

GA19

Delay Results Overview-Base

Preliminary

Anchorage

		Config 1		Config 2		Config 4	
	VFR	62%		22%		3%	
	IFR	10%					
		Future 1	**Future 2**	**Future 1**	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	1.8	3.5	3.8	10.7	186.6	445.0
	Departures	16.3	38.6	3.4	9.6	64.3	69.2
IFR	Arrivals	7.0	20.3				
	Departures	14.8	37.4				

Percentage Use Annually

Average Minutes Delay – Peak Hour

Fairbanks

		Config 1		Reduced GA-IFR	
	VFR	95%			
	IFR	5%			
		Future 1	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	0.9	1.2		
	Departures	0.9	1.7		
IFR	Arrivals			1.0	2.0
	Departures			0.4	0.5

Percentage Use Annually

Average Minutes Delay – Peak Hour

Untenable Delay Discussion

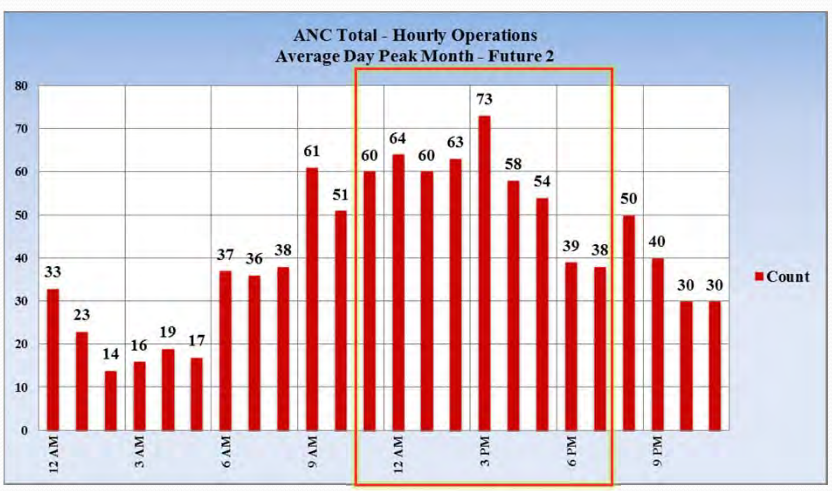
- What Is Untenable Delay?
  - Current Conclusion Is 30 Minutes Average Delay During Critical Hours
  - Needs To Happen With Sufficient Frequency (10% or more of Time?)
- Based Upon Input From Last Master Plan That Network Cargo Carriers Work Hard To Meet The Turn Time Of 1.5 Hours For Eastbound Flights
  - ANC Aircraft Are Normally The Last To Reach Hubs In Lower 48
  - Each Late Arrival From ANC Can Delay Dozens Of Other Aircraft

Why 30 Minutes?

- Desire Is To Keep Alaska Competitive For Air Cargo
- As Stated Above, 90 Minutes Is the Maximum Ground Turn Time That Network Cargo Carriers Strive to Meet or Beat.
  - 30 Minutes Increases Turn Time By **33%** and Total Ground Time By **28%**, Which Multiplies Through The System
  - Carriers Have Stated That Flights Delayed By 30 Minutes are In Jeopardy Of Missing The Sort
- 30 Minutes Is Twice The Delay Level of 15 Minutes That FAA Considers Significant
- 20 Minutes Average Daily Delay is FAA Standard For BCA Analysis. 30 Minutes (50% Increase) Seems Reasonable For Standard For Peak Hour Average Delays Given Other Information

Capacity Balancing Strategy

Total Operations



Overall Critical Hours

Tech Stop Airlines Move To FAI

- 5Y - Atlas
- BR – Eva Air
- CA – Air China
- CI – China Airlines
- CK – China Cargo Airlines
- CX – Cathay Pacific
- EZ - Evergreen
- K4 - Kalitta
- KE - Korean
- KZ – Nippon Cargo
- OZ - Asiana
- SOO - Southern
- SQ - Singapore
- WO – World Airlines

Tech Stop Operations to Move

- Future 1 – 144 Operations Daily
- Future 2 – 180 Operations Daily

50% Tech Stop Airlines Move To FAI

GA14

Delay Results Overview-Base

Preliminary

Anchorage

		Config 1		Config 2		Config 4	
	VFR	62%		22%		3%	
	IFR	10%					
		Future 1	**Future 2**	**Future 1**	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	1.8	3.5	3.8	10.7	186.6	445.0
	Departures	16.3	38.6	3.4	9.6	64.3	69.2
IFR	Arrivals	7.0	20.3				
	Departures	14.8	37.4				

Percentage Use Annually

Average Minutes Delay – Peak Hour

Fairbanks

		Config 1		Reduced GA-IFR	
	VFR	95%			
	IFR	5%			
		Future 1	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	0.9	1.2		
	Departures	0.9	1.7		
IFR	Arrivals			1.0	2.0
	Departures			0.4	0.5

Percentage Use Annually

Average Minutes Delay – Peak Hour

GA10

Delay Results Overview
All Tech Stop Move To FAI Preliminary

Anchorage

		Config 1		Config 2		Config 4	
	VFR	62%		22%		3%	
	IFR	10%					
		Future 1	**Future 2**	**Future 1**	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	1.8	2.8	4.4	6.2	62.2	193.2
	Departures	3.6	9.2	2.4	4.8	24.8	38.7
IFR	Arrivals	6.3	13.7				
	Departures	3.2	10.2				

Percentage Use Annually

Average Minutes Delay – Peak Hour

Fairbanks

		Config 1		Reduced GA-IFR	
	VFR	95%			
	IFR	5%			
		Future 1	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	0.8	1.1		
	Departures	2.3	2.9		
IFR	Arrivals			2.3	3.1
	Departures			1.8	2.7

Percentage Use Annually

Average Minutes Delay – Peak Hour

GA12

Delay Results Overview
Comparison – Base/All Tech Prelim

Anchorage

		Config 1		Config 2		Config 4	
	VFR	62%		22%		3%	
	IFR	10%					
		Future 1	**Future 2**	**Future 1**	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	0.0	-0.7	0.6	-4.5	-124.4	-251.8
	Departures	-12.7	-29.4	-1.0	-4.8	-39.5	-30.5
IFR	Arrivals	-0.6	-6.6				
	Departures	-11.6	-27.2				

Percentage Use Annually

Difference in Average Minutes Delay – Peak Hour

Fairbanks

		Config 1		Reduced GA-IFR	
	VFR	95%			
	IFR	5%			
		Future 1	**Future 2**	**Future 1**	**Future 2**
VFR	Arrivals	-0.1	-0.1		
	Departures	1.4	1.2		
IFR	Arrivals			1.3	1.1
	Departures			1.4	2.2

Percentage Use Annually

Difference in Average Minutes Delay – Peak Hour

Trigger Point Discussion

- Trigger Point Is When Action Needs To Be Taken To Avoid Untenable Delay
- Trigger Point Varies Depending On Solution
- Solution with Limited Capital Projects May Require 1 or 2 Years of Preparation
  - **Total 1-2 Years**
- Physical Improvements To Accept Additional Aircraft At Fairbanks Could Require Some Environmental Review
  - 1-2 Years Planning & Environmental, 1-2 Years Design, 1-2 Years Construction – **Total 3-6 Years**
- Significant Improvement Such as New Runway Would Require Significant Lead Time
  - 3-5 Years Planning and Environmental, 3-4 Years Design, 4-6 Years Construction – **Total 10 -15 Years**

Summary Of Tech Stop Facilities

AIAS Tech Stop Summary Existing Capacity		
	FAI	**ANC**
Runways	• 11,800' – CAT III • Rare closure of runway for snow removal	• 12,400' – CAT III • 11,584' – CAT I • 10,600' – CAT I • Usually able to keep 2 runways open during snow removal
Taxiways	• Full parallel taxiway • Short taxi distance for departures • Minimal congestion, except during diversions	• Full parallel taxiways • Short taxi distance for departures/ arrivals • Some congestion along Taxiway K and in terminal area
Aprons	• 6 drive thru hardstands	• 14 drive thru hardstands • 16 push back supplemental hardstands
Fuel	• 980,000 gallons storage on airport • 60 minutes to fill a tech stop aircraft	• 56 million gallons storage on airport and at Port • 60 minutes to fill a tech stop aircraft
Deice	• Minimal deicing due to drier climate and less freeze/thaw cycles	• Frequent deicing, but well equipped
Maintenance	• Colder climate and lack of hangar space • Limited mechanics and no parts pool	• Availability of FedEx hangar • Plenty of mechanics and parts pool sharing parts

100% Tech Stop Shift to FAI			
	Current Capacity	**Estimated Capacity Needed by 2020: If <u>all</u> tech stop traffic moves to FAI[1]**	**Estimated Capacity Needed by 2030: If <u>all</u> tech stop traffic moves to FAI[2]**
Apron	6	10 additional	13 additional
Fuel	980,000 gallons	~35 million gallons	~44 million gallons
	2 truck refill spots 8 - 10,000 gallon trucks	Hydrant System	Hydrant System
Deice	2 spots	1 additional spot	2 additional spots

[1] Represents estimated needed capacity if all forecasted 72 tech stops move from ANC to FAI with a maximum of 9 per hour.

2 Represents the estimated capacity if all forecasted 90 tech stops move from ANC to FAI with a maximum of 10 per hour.

50% Tech Stop Shift to FAI			
	Current Capacity	Estimated Capacity Needed by 2020: If 50% of tech stop traffic moves to FAI [1]	Estimated Capacity Needed by 2030: If 50% of tech stop traffic moves to FAI[2]
Apron	6	2 additional	9 additional
Fuel	980,000 gallons	~18 million gallons	~22 million gallons
	2 truck refill spots	Hydrant System	Hydrant System
	8 - 10,000 gallon trucks		
Deice	2 spots	1 additional spot	2 additional spots

[1] Represents estimated needed capacity if 50% of forecasted 72 tech stops move from ANC to FAI with a maximum of 9 per hour.

2 Represents estimated needed capacity if 50% of forecasted 90 tech stops move from ANC to FAI with a maximum of 10 per hour.

This is preliminary information and we continue to solicit input from the airlines.

Please contact:

Tom Middendorf

tmiddendorf@dowlhkm.com or 907-562-2000 or

Greg Albjerg

galbjerg@hntb.com or 763-852-2100

FAI MASTER PLAN ADVISORY BOARD

First Name	Last Name	Organization/Agency	Email	Phone (hm/wk)	Cell Phone
Cory	Christian	Alaska Airlines	Cory.Christian@alaskaair.com	907-474-0711	
Jon	Cook	FEDC (and ARRC)	joncook@aer-inc.net	907-460-7030	
Harry	Cook	AK Airmen's Association	hcook@mosquitonet.com	907-479-9500	
Rebecca	Cronkhite	AIAS Planner, DOT&PF Statewide Aviation	rebecca.cronkhite@alaska.gov	907-266-2530	
Ron	Dearborn	FAI General Aviation Association	rkdearborn@acsalaska.net	907-455-6692 (hm)	907-590-8144
Matt	Divens	FCVB and Holland America	mdivens@princess.com	907-479-0117	
Rob	Everts	Everts Air Cargo	rweverts@evertsair.com	907-450-2300	
Terry	French	Era Aviation/Frontier Flying Service	tfrench@frontierflying.com		
Tom	George	AOPA, Aviation Advisory Board, GA	tom.george@aopa.org	907-455-9000	
Curtis	Harper	FAA	curtis.harper@faa.gov		
Jim	Hajdukovich	Station Manager, Frontier Flying Service	jimh@frontierflying.com	907-450-7247	
Bob	Hawkins	FBO, Corporate Aviation	bobhawkins@alaskaaerofuel.com	907-474-0062	
Richard	Heieren	Fairbanks Chamber	rch@rchsurveys.com	907-451-7411	
Melissa	Kellner	Comp Planner, FNSB	mkellner@fnsb.us	907-459-1252	
Lt. Col Robert	Mackelprang	Air National Guard	robert.mackelprang@ang.af.mil	907-377-8859	
Jon	McIntyre	Ace Fuels, LLC	northlandaviation@alaska.net	907-474-0948	
Patricia	Oien	FAA Planner	pat.oien@faa.gov	907-271-5445	
Melissa	Osborn	NR DOT (or Jeremy Worrell)	melissa.osborn@alaska.gov	907-451-5230	
Duke	Prewitt	FTWW Airport Operations Manager	allen.prewitt@us.army.mil	907-353-9034	
Bob	Rieth	Director of Ground Operations, Northern Air Maintenance Services	RRieth@nac.aero	907-677-4204	907-632-8448
Jeff	Roach	NR DOT (or Melissa Osborn)	jeff.roach@alaska.gov		
Karl	Schulz	Station Manager, Alaska Airlines, AOPA	karl.schulz@alaskaair.com	907-474-0711	
Matt	Shaw	Airline Tech Rep	m.shaw@avairpros.com	206-244-3773	
Judy	Trotter	FAI/FAA-ATC (Air Traffic Control) Representative	N4697k@yahoo.com	907-474-0500	907-750-7461
Arvid	Weflin	Assoc. Dean, University of Alaska Fairbanks	awweflen@alaska.edu	907-455-2867	907-378-2787
Darren	Young	Director of Operations, Warbelow's / Air Arctic	adventure@northernalaska.com	907-474-3550	253-229-1203

updated 5/2/12

FAI MASTER PLAN PROJECT

AIRPORT MASTER PLAN PROCESS

November 15, 2012 FAI Advisory Board Meeting

PLEASE SIGN IN

NAME	ORGANIZATION / AFFILIATION	PHONE	EMAIL*
Jeff Roach	DOT&PF NR Planning	451-2381	jeff.roach@alaska.gov
Royce L. Conlon	PDC eng	452-1414	royce.conlon@pdceng.us
Harry Cook	Alaska Airmens Assoc.	978-8750	hcook@mosquitonet.com
Arvid Weflen	UAF	479-5375	awweflen@alaska.edu
Judy Trotter	FAA Tower	474-0050	N4697K@yahoo.com
Melissa Osborn	FAI Ops	474-2530	
Matt Divens	HAP Alaska - Yukon	479-0117	mdivens@hollandamerica-princess.com
Tom Middendorf	Dowl HKM	562-2000	tmiddendorf at dowlhkm.com
R.J. Stumpf	DOT&PF	451-2245	rj.stumpf@alaska.gov
Tom George	AOPA	455-9000	tom.george@aopa.org
Ron Dearborn	GAA & AOPA	455-6692	RKDearborn@acsalaska.net
Rebecca Cronkhite	AIAS	269-2530	rebecca.cronkhite@alaska.gov
Dianna Merry	FAI operations	474-2552	dianna.merry@alaska.gov
Jeff Mishler	RS&H	713-914-4440	jeff.mishler@rsandh.com
Robert C. Arthur	RS&H	713-914-4463	robert.arthur@rsandh.com
Patrick Cotter	PDC Engineers	452.1414	patrickcotter@pdceng.com
Steve Henry	FAI	474-2537	Steve.Henry@alaska.gov

FAI MASTER PLAN PROJECT

FAI ADVISORY BOARD (FAB) MEETING NOTES

January 29, 2014 ● Fairbanks, Alaska

MEETING ATTENDANCE

Name	Organization
Jon McIntryre	Northland/ACE fuel
Tom George	AOPA
Ron Dearborn	AOPA/FAI GAA
Harry Cook	Alaska Airman's Association
Jae Hill	Fairbanks North Star Borough
Arvid Welflen	University of Alaska Fairbanks / CTC
Kottayam Natarajan (telecon)	AvAir Pros – Seattle Tacoma International Airport
Joe Reynolds	FAA ATCT ATM
Brett Lystad	FAA ATCT NATCA
Kurt Haukoul (telecon)	FAA – Senior Safety Analyst
Jesse VanderZanden	FAI Airport Director
Melissa Osborn	FAI
Steve Henry	ADOT&PF
Jeff Roach	ADOT&PF
Al Beck	ADOT&PF
Alex Moss	AIAS/ADOT&PF
Annette Cole	FAI

Project Team:
Royce Conlon (PDC), Jeff Mishler (RS&H), Michael Becker (RS&H), Patrick Cotter (PDC), Charles Bettisworth (BNAP), Christoph Falke (BNAP), and Cynthia Oistad (ARCADIS).

Graphics and Handouts: *Agenda, FAI Master Plan Presentation, Draft FAI Master Plan Chapters 1-4*

Project Website: http://pdcprojects.info/FAIMasterPlan/index.html

MEETING SUMMARY

Welcome and Meeting Goals
Jesse VanderZanden, FAI Airport Director, thanked the Fairbanks Advisory Board (FAB) for their participation in the master plan process and noted the meeting purpose was to provide an update on the FAI Master Plan progress, review development options and distribute Draft Chapters 1-4 for input. The group provided self-introductions.

FAI Master Plan and Project Update
Royce Conlon (Project Lead/PDC) reviewed the progress of the PDC/RS&H project team on the FAI Master Plan. The team is completing the Airfield Alternatives and Comprehensive Plan Development and is beginning the Implementation Phase: Implementation Plan, Environmental Overview and Final Master Plan. Efforts are being coordinated with FAI's eAirport Layout Plan (eALP) and the AIAS System

Planning Study. Royce reviewed the projects proposed under the 2005 Airport Master Plan and which have been completed. The 2014 FAI Master Plan Update is focused on the following areas:

- Review upgrade requirements of the main runway to accommodate increased potential cargo traffic, both Design Group VI and Modification of Standard
- Short and long term plans for Runway 2R/20L (Design Group II vs. Design Group III)
- Taxiway B non-standard conditions and incursion reduction
- Regional terminal expansion
- Cargo Apron expansion
- Deicing expansion
- East side lease lot development

AIAS Forecast, Capacity Analysis and Facility Analysis
Mike Becker, RS&H, reviewed the AIAS 20-year forecast information that looked at two forecast scenarios: 1) a baseline of regular, steady growth at FAI and 2) FAI receiving 50% of ANC airport's cargo traffic.

He discussed capacity related requirements as they relate to runway capacity, design aircraft upgrades, cargo tech stop hard stands, deicing and fuel storage. He noted the key question the team looked at was "*What are the trigger points for when FAI will need to install additional cargo handstands or upgrade runway 2L/20R to accommodate Design Group VI cargo aircraft?*

- *Design Group VI Upgrade:* Both the Baseline and the ANC 50% Cargo Shift forecasts showed FAI can support additional capacity through the planning period and an upgrade to Design Group VI would only be needed under the ANC 50% Cargo Shift scenario. Mike reviewed the relative plane sizes/wing span for the Boeing 737-900, Boeing 747-8 and the Airbus A380 and noted the Boeing 747-8 is the new aircraft that cargo air carriers are moving towards. It is realistic to use this aircraft as a model in future planning at FAI.

- *Cargo Tech Stops:* There is excess capacity under the base case scenario, but four (4) more hardstands would be needed under the ANC 50% Cargo Shift forecast. A southern extension of existing heavy cargo apron was considered the best option for additional hardstands.

- *Deicing Position:* Under the base forecast, one (1) additional deicing pad will be needed, and one (1) more would be needed under the ANC 50% Cargo Shift forecast. The team looked at potential locations to the northwest and southwest areas of airport property.

- *Fuel Storage:* There is sufficient land to expand the existing FAI fuel farm should additional fuel storage capacity be needed.

In summary, under the base case forecast, no additional capacity or upgrades are needed at FAI on the westside except for Taxiway improvements. Under the ANC 50% Cargo Shift Forecast, FAI would first add cargo aircraft parking positions, then work to upgrade to accommodate Boeing 747-8 aircraft. The runway capacity was deemed adequate under both scenarios. Jesse clarified there has been a 27% cargo traffic decline at ANC and the AIAS forecast shows ANC will not have untenable delays until 2028 or 2030. It is only when air carriers start experiencing these untenable delays that they would look at shifting their cargo operations to FAI. FAI and ANC are working together on their master planning efforts to evaluate the AIAS system collectively to best meet peak hour demand, and best utilize current airport infrastructure before building additional runways.

Facility Requirements

Jeff Mishler, RS&H, reviewed the airfield layout based requirements and the changes driven by the new FAA Advisory Circular: limit runway crossings, eliminate indirect access, correct taxiway intersection geometry (i.e. radii and transitions) and avoid high energy intersections. The project team has identified 16 different areas on the FAI airfield that don't meet the new FAA standards. FAI will work closely with FAA to address these issues over time. Taxiway B and the security issues have been deemed more critical and will be addressed this summer.

Airport Layout Requirements

Design Group VI Upgrade – The project team investigated both a Modification of Standard (MOS) to accommodate the Boeing 747-8 and a full Design Group VI upgrade. The 747-8 is mostly treated as a Design Group V aircraft and can be fully accommodated now at FAI, except when weather conditions limit visibility to less than ½ mile. The larger A380 Airbus, which is a Design Group VI, is only designed in a passenger configuration and Airbus does not plan to reconfigure it for cargo. FedEx and UPS are not currently interested in the A380 and have expressed they will use the 747-8 aircraft. The project team is recommending FAI include the 747-8 MOS in the master plan because it will have much less impact on existing lease lots than the full Design Group VI upgrade (a 500-foot separation from runway to taxiway vs. a 550-foot separation with DG VI). The group discussed that 500 landings a year is the "trigger event" to implement the 747-8 MOS. Most of the time FAI can operate without any change as long as weather visibility is greater than a ½ mile, however, the long-term plan would be to fully meet 747-8 aircraft in all weather conditions.

Taxiway B Development Options

The project team noted there has been a lot of discussion the past four months with FAI, DOTPF, FAA, East Side Working Group and the Airport Tower on various solutions and development options for Taxiway B. Jesse noted that numerous options have been vetted and there is not an easy "silver bullet" solution that meets the FAA Advisory Circular standards, FAI operations needs and resolves the incursion and apron connectivity issues. FAI has contacted Apple Inc. and is working to relocate the FAI pin point in Apple's map software which led to two vehicle incursions in September 2013. In the short term, FAI is looking into installing a gate to prevent traffic on Taxiway B, headed to the west side.

The planning team is investigating configuration and security issues and reviewed two favored options with the FAB:

- Option A: install a gate on Taxiway B (or Float Pond Road) and remove pavement east of Runway 2R-20L.
- Option B: remove/decommission Taxiway B and construct a new Taxiway Q to the south.

The group discussed both options in detail as it related to high energy crossings, back taxing, gate locations, signage and painted runway markings. Jon McIntyre noted that several pilots were in favor of shortening Runway 2R-20L and the project team may want to revisit. A key reason the east runway was extended to 6500 feet was so it could be used for emergencies by larger aircraft as well as for training purposes. There was significant interest by FAI and all stakeholders in keeping Taxiway B in the short term. The Tower will look closely at possible airspace interaction this summer with the Float Pond. FAI and project team will continue close discussion with FAA (FAA Safety and FAA Airports) on how to best resolve Taxiway B issues.

It was discussed that Option B shouldn't be supported because the new Taxiway Q would cause two high energy runway crossings vs. only one runway crossing with Taxiway B. Taxiway Q would be a demand driven solution only when the east runway is converted to a main air carrier runway.

The most favorable option at the end of discussion was an option to maintain Taxiway B and install a grass island east the runway to keep vehicles from crossing east to west. A grass island on the west side may also be needed. FAA Safety indicated they prefer painted red hold lines on Taxiway B over installing a gate across the Taxiway. Project team will explore this option further.

East Side Lease Lots

Steve Henry, DOT&PF, shared the airport's development plans for the East Side Lease lots to increase the leasable area and promote private investment. Lot development was structured so it will work in the next 20-30 years when FAI builds a new runway. Phase I lease lots were put out for public notice and include 2 lots for single hangars, 2 lots for T hangars, 3 helicopter lots and 5 additional lease lots. Additional lots are planned to be advertised in December 2014. University Avenue access needs to be planned for Phase II. Lease lot development will be phased based on market demand. Public comments on lease lots were accepted until February 12th and applications were accepted starting March 3rd.

Other East Side Improvements

Royce Conlon reviewed other East Side development issues the project team is looking at as part of the FAI Master Plan process including Float Pond dredging, electrification of pond slips and GA tie downs, and additional float pond slips. Many of these were addressed in the 2005 AMP and will be carried forward in the 2014 AMP. Development will be based on demand. East side deicing facility and aircraft wash facility could be private development.

Regional Terminal Expansion
Charles Bettisworth (CB), Bettisworth North Architects and Planners, reviewed the existing FAI airport configuration. CB pointed out that during the terminal design, a 143,000 SF terminal size was the goal at that time and the Beech 1900 aircraft was used as base aircraft for the Regional Carrier portion of the terminal. Era Aviation (now Ravn) began operating their Dash-8 aircraft at FAI during the terminal construction. CB shared a concept for terminal expansion that would address seven key issues: ticket office utilization, baggage handling area addition, baggage claim slide modifications, gate relationship to aircraft parking (via an enclosed heated walkway), passenger/tour operations at north vestibule, passenger holding area expansion and concessions/vending machines. When time comes to expand the terminal, the expansion would be planned north to south to get passengers closer to the aircraft in an enclosed, heated environment. These terminal improvements would be demand driven.

NEXT STEPS

The project team has drafted Chapters 1-4 and is distributing to the FAB for review and comment today. The team is now starting the Implementation Plan that will look at how to build the airport master plan recommendations based on funding expectations and market demand. The Environmental Overview will identify if there are any "fatal flaw" environmental impacts related to the recommendations. A full Master Plan draft will be available for early review by the FAB in mid-April and released to the public in May, in time for the annual Aviation Day event on May 17th. The eALP has been submitted for existing conditions/current future in the 2005 Master Plan and as we add new issues, the project team will submit them to the FAA for inclusion in the eALP.

The FAB requested to review the draft FAI Master Plan in three segments:

1. *Chapters 1-4*, released 1/29/14, comments due February 15, 2014.
2. *Airfield Alternatives, Comprehensive Plan and Implementation Plan,* to be released in March.
3. *Final Draft Master Plan*, to be released in mid-April, prior to public comment period.

NEXT MEETING

The next FAB meeting is tentatively proposed to occur around April 22nd or 23rd, timed with the scheduled AAC meetings. Date and time will be confirmed at a later date.

Alaska Department of Transportation & Public Facilities

Fairbanks Airport Master Plan Advisory Board

January 29, 2014

Agenda

- Introductions
- Overview and FAI Master Plan Update
- AIAS Forecast, Capacity Analysis & Facility Requirements
- Layout Requirements
- East Side Development
- Regional Terminal
- Next Steps

FAI MASTER PLAN PROJECT — AIRPORT MASTER PLAN PROCESS

AIRPORT MASTER PLAN

EXTERNAL INPUTS	INVESTIGATION	SOLUTIONS	IMPLEMENTATION
AIAS Forecast	✓ Gap Analysis ✓ Data Collection ✓ Issues List ✓ Forecast and Capacity Analysis	✓ Scenario Development ✓ Demand/Capacity and Facility Requirements • Airfield Alternatives • Comprehensive Plan Development	• Implementation Plan • Environmental Overview • Final Master Plan and Documentation

AGIS/eALP

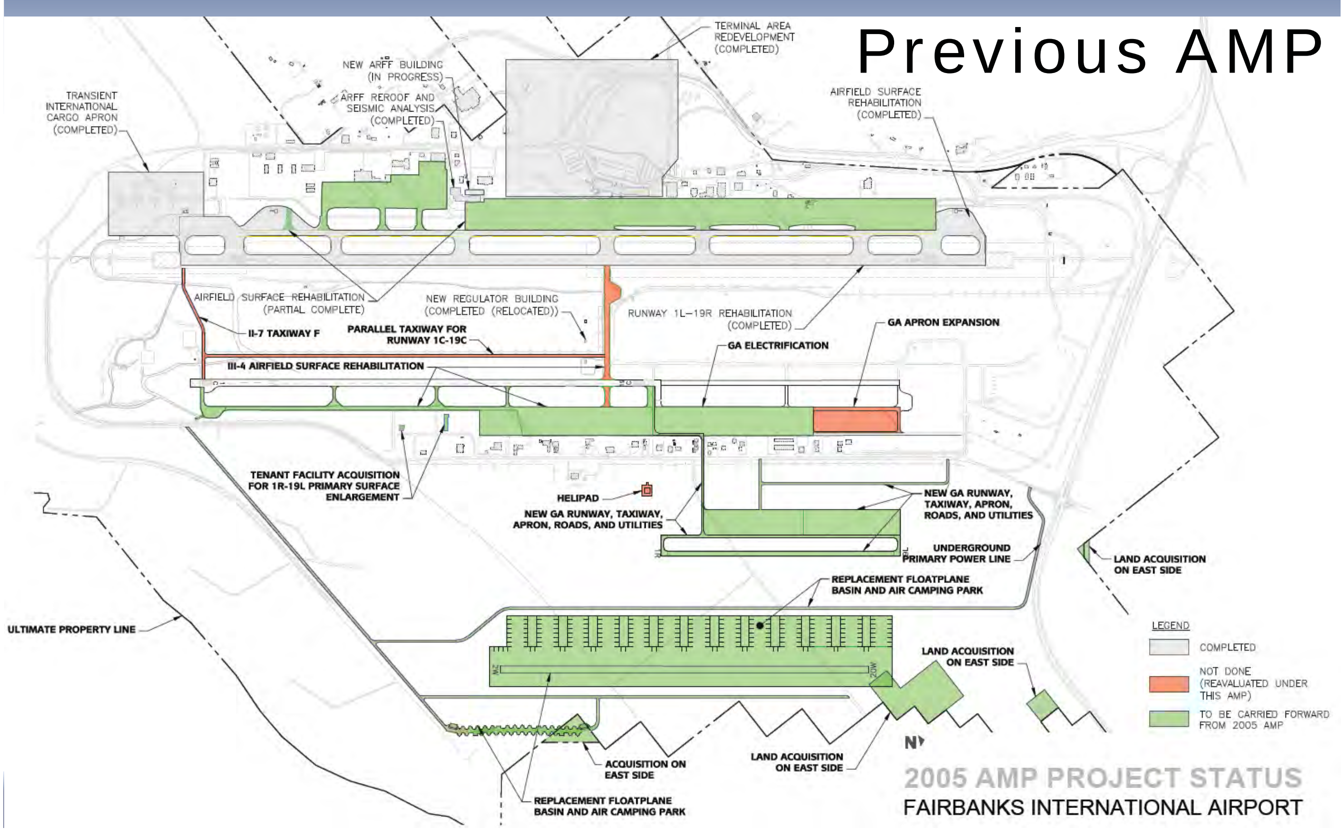
AR Survey Project	✓ Imagery and Data Collection	✓ Airspace Analysis	• eAirport Layout Plan/GIS Airfield Alternatives

PUBLIC INVOLVEMENT

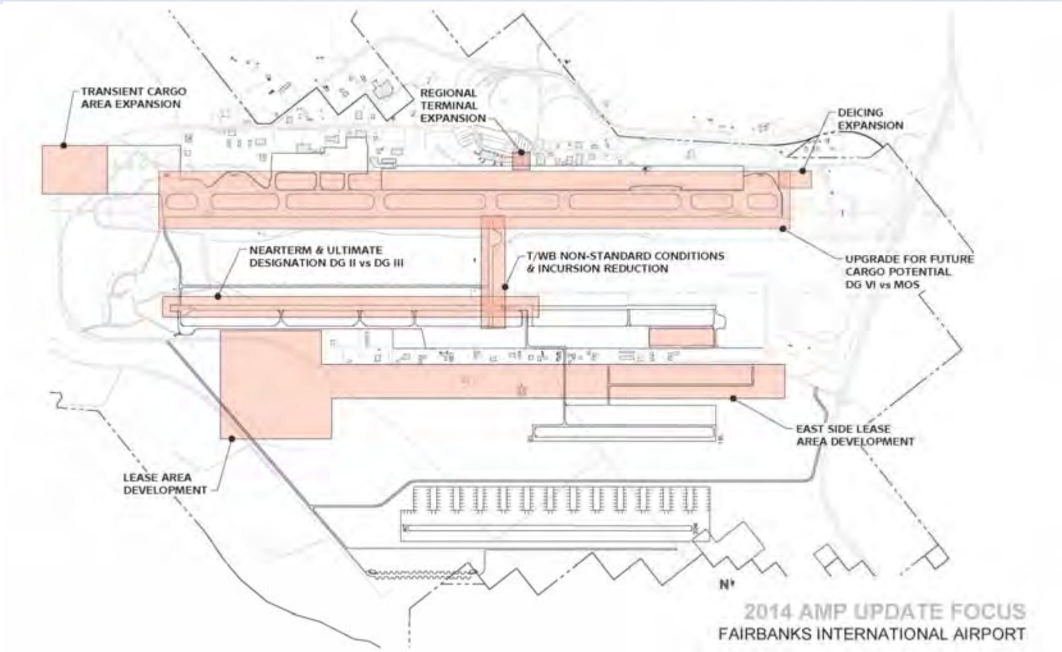
	Winter 2011	2012	2013	2014
Working Team (FAB and FMPT) Meetings	Nov.	March, Nov.	July: FAI MP Phase II Kickoff	Jan., May
Public Open Houses	Nov.			May

updated 1.14.14

Previous AMP



This AMP



Forecasts

Two forecasts:

1. Base FAI forecast

Year	Passenger	All-Cargo	Air Taxi and Other	General Aviation	Military	Total
2010	40,496	5,062	2,603	71,099	2,721	121,981
2030	51,664	8,010	3,329	90,295	2,830	156,128

Source: AIAS Forecast, Table 10.13

2. ANC 50% cargo shift scenario

Year	Passenger	All-Cargo	Air Taxi and Other	General Aviation	Military	Total
2010	40,496	32,437	2,603	71,099	2,721	149,356
2030	51,664	35,385	3,329	90,295	2,830	183,503

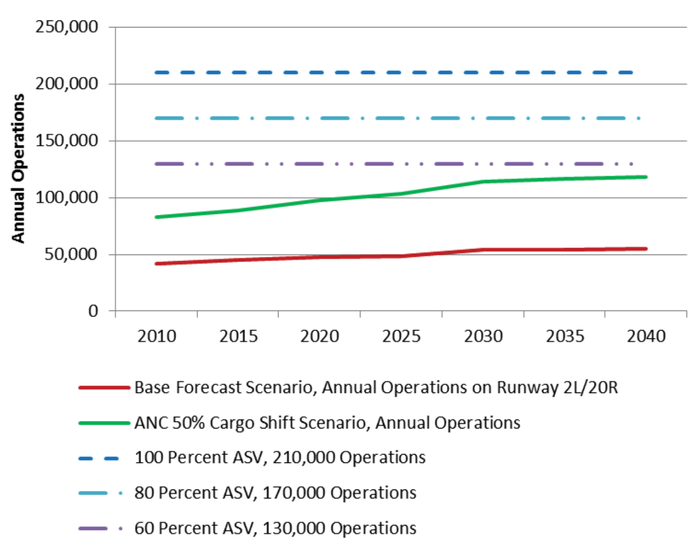
Source: AIAS Forecast, Table 10.13 adjusted to reflect an increase of 75 daily all-cargo operations

Facility Requirements

- **Capacity**-related requirements
  - Runway Capacity
  - Design Aircraft Upgrades
  - Cargo Tech Stop Hardstands
  - Deicing & Fuel Storage
- **Layout**-based requirements
  - Taxiway/Runway geometry

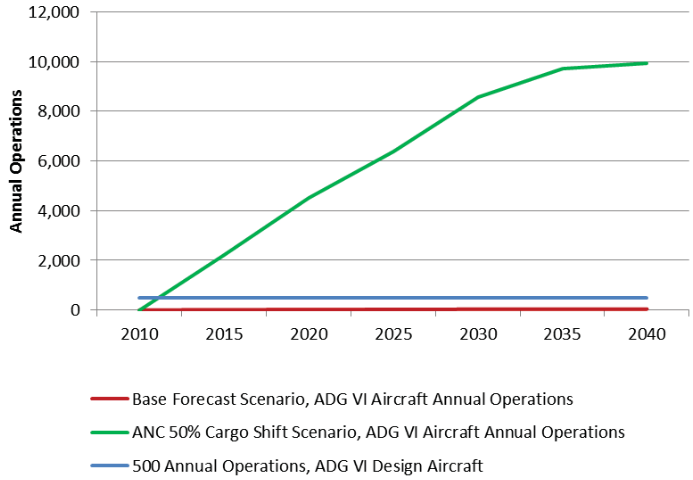
Runway Capacity

- Capacity adequate through the planning period

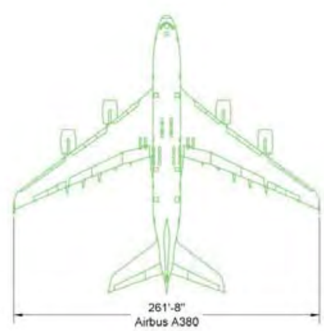


Design Aircraft Upgrades

- No changes for Base Forecast Scenario
- ADG VI upgrade for ANC 50% Cargo Shift Scenario

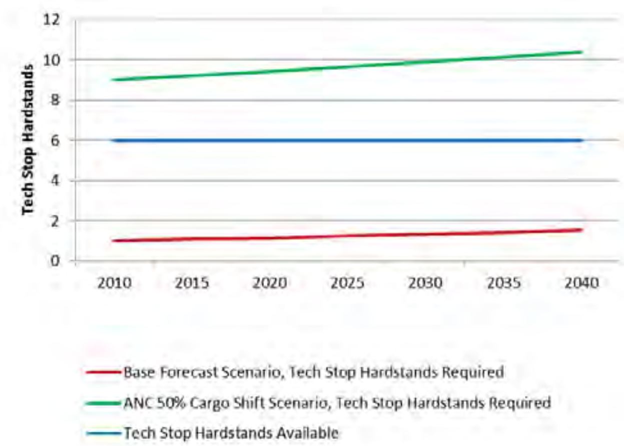


Design Aircraft Upgrades

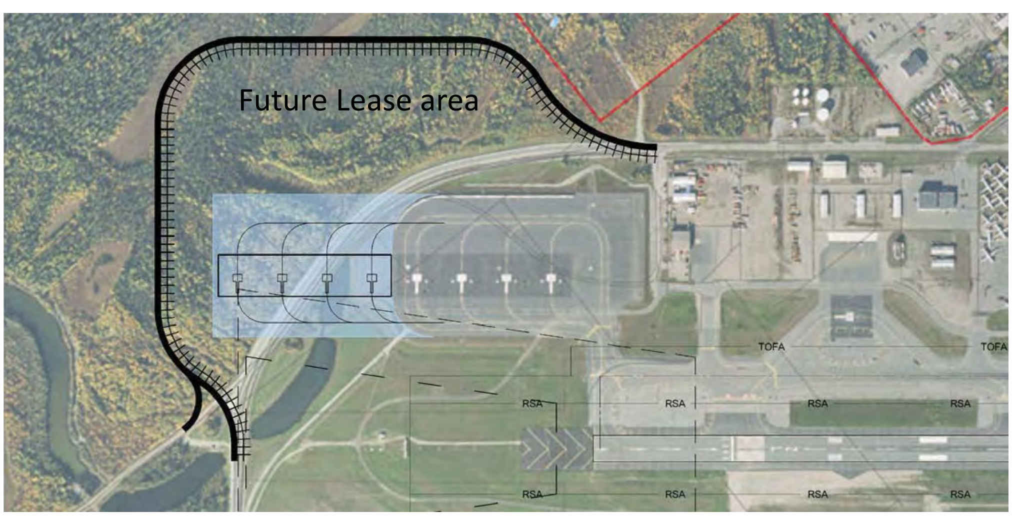


Cargo Tech Stop Hardstands

- Excess capacity for Base Forecast Scenario
- 4 more needed for ANC 50% Cargo Shift Scenario



Cargo Tech Stop Hardstands



Deicing Position

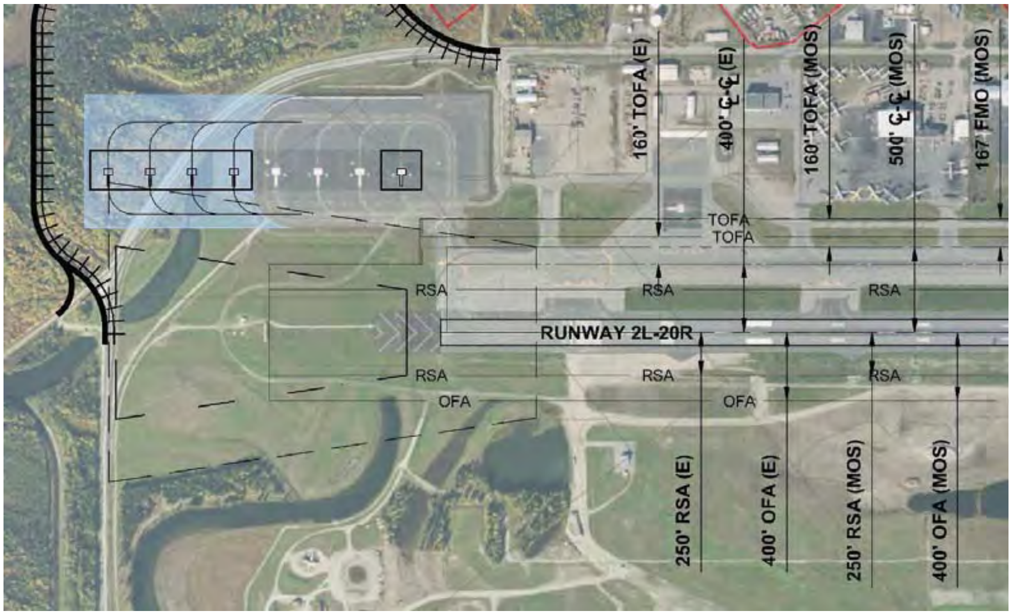
- Base Forecasts by 2030, 1 additional deicing pad needed.

Planning Period	Large PAX Aircraft Peak HR Operations	Existing Hourly Deicing Capacity	Hourly Deicing Demand	Required Deicing Pads
2011	4	6	4	2
2015	5	6	5	2
2020	6	6	6	2
2030	8	6	8	3

Source: AIAS Forecast Technical Report. MPU Inventory Gated Schedule
Note: The 2030 planning period was extrapolated from the source.

Northwest Deicing Plan

Southwest Deicing Plan



Fuel Storage

- Fuel Storage Requirements

Planning Period	Total Annual Operations	Average Daily Uplift (gal)	Existing Storage (gal)	Required Storage (gal)	Required Area (sf)
2010	121,981	32,152	978,000	978,000	150,000
2015	130,123	32,795	978,000	997,560	153,000
2020	136,248	33,451	978,000	1,017,511	156,000
2030	156,128	34,802	978,000	1,044,060	160,000

Source: RS&H Analysis. AIAS Forecast Technical Report Table 10.10
Note: Analysis based on estimated 2% increase in fuel consumption

Capacity Summary

- Base Forecast Scenario - no additional capacity or upgrades needed
- ANC 50% Cargo Shift Scenario
  - First – Add parking positions
  - Second – Upgrade for new Design Aircraft
- Both scenarios - runway capacity is adequate
- ANY QUESTIONS?

Layout-based Requirements

- Para 401.b(5)
  - Limit Runway Crossings
  - Indirect access
  - Avoid "High Energy" intersections

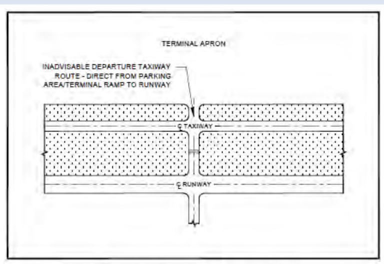


Figure 4-3. Not recommended taxiway design

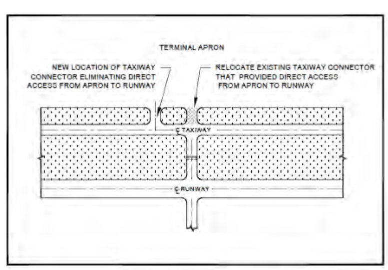
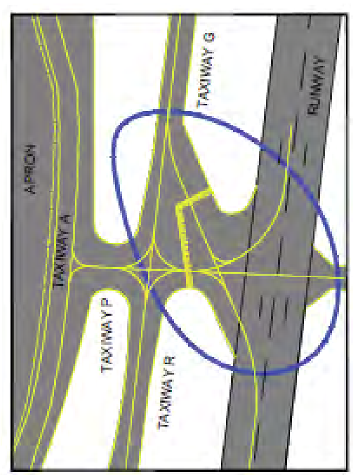
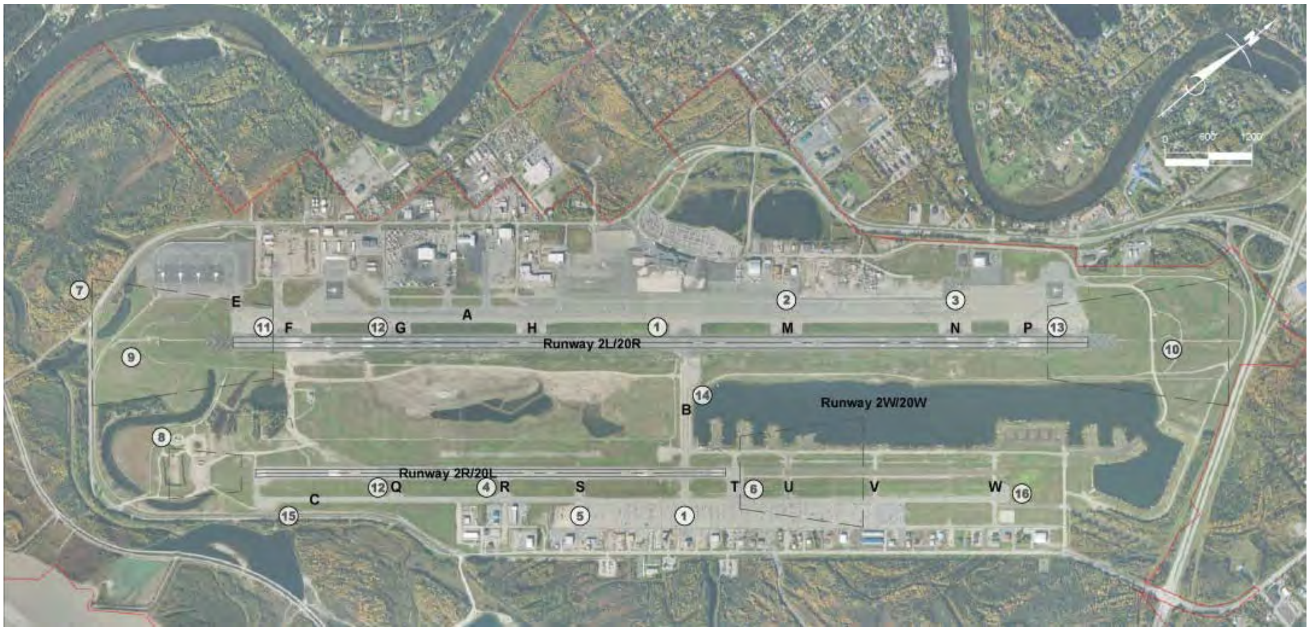


Figure 4-4. Proper taxiway design



Layout-based Requirements



Design Aircraft Upgrades

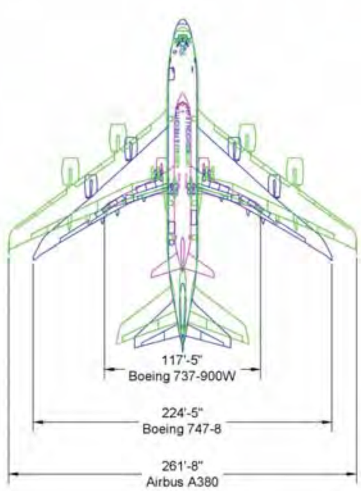
- Full ADG VI Upgrade:
  - Impact to deicing pads, roads, hangars, buildings, terminal apron, taxiway
- MOS for Boeing 747-8*
  - Taxiway to Taxilane separation required 279 feet

*Existing runway meets ADG V separation requirements for visibility > ½ mile

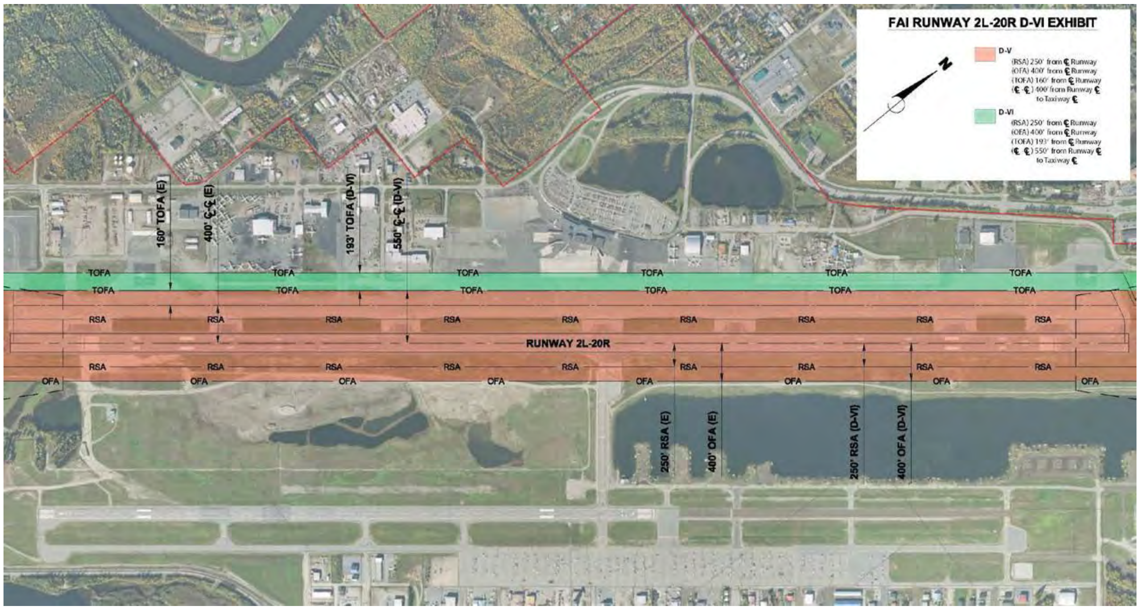
Design Aircraft Upgrades

- Considerations
  a. Capacity – Yes
  b. Full ADG-VI vs. 747-8
  c. All Weather Conditions (visibility - ½ mile)

Design Aircraft Upgrades



ADG VI Upgrade



ADG VI Impacts

Boeing 747-8 MOS

747-8 MOS Impacts

Design Aircraft Upgrades

- Considerations
  a. Capacity – Yes
  b. Full ADG-VI vs. 747-8
  c. All Weather Conditions (visibility - ½ mile)
- Any Questions?

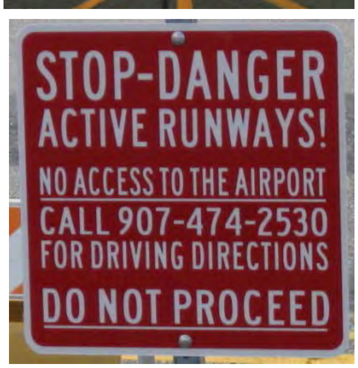
East Side Development

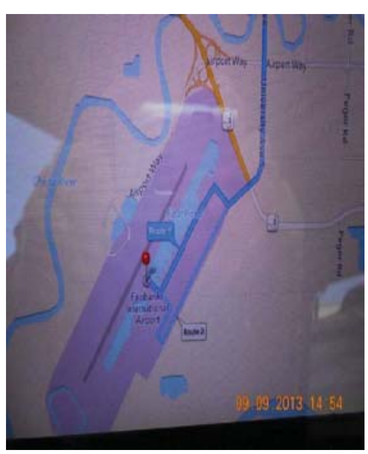
- Taxiway B
- East Side Lease Lots
- Other East Side Improvements

Taxiway B Issues

Taxiway B

- September 6 & 20
- Two entrances remain closed
- Still under FAA investigation





2 miles
Turn right for Mitchell Expy

2.2 miles
Take exit for S University Ave

0.3 miles
Turn right onto Float Pond Rd

0.2 miles
At the end of the road, turn left onto Float Pond Rd

1 mile
At the end of the road, turn right onto Taxiway B

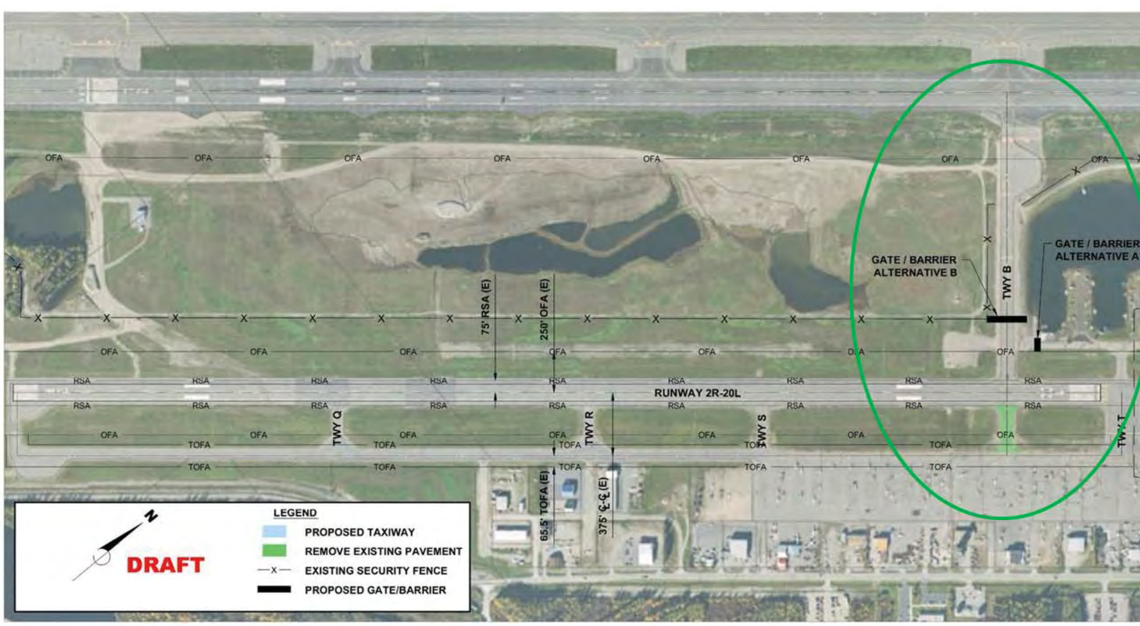
0.2 miles
The destination is on your left: Taxiway B

Taxiway B

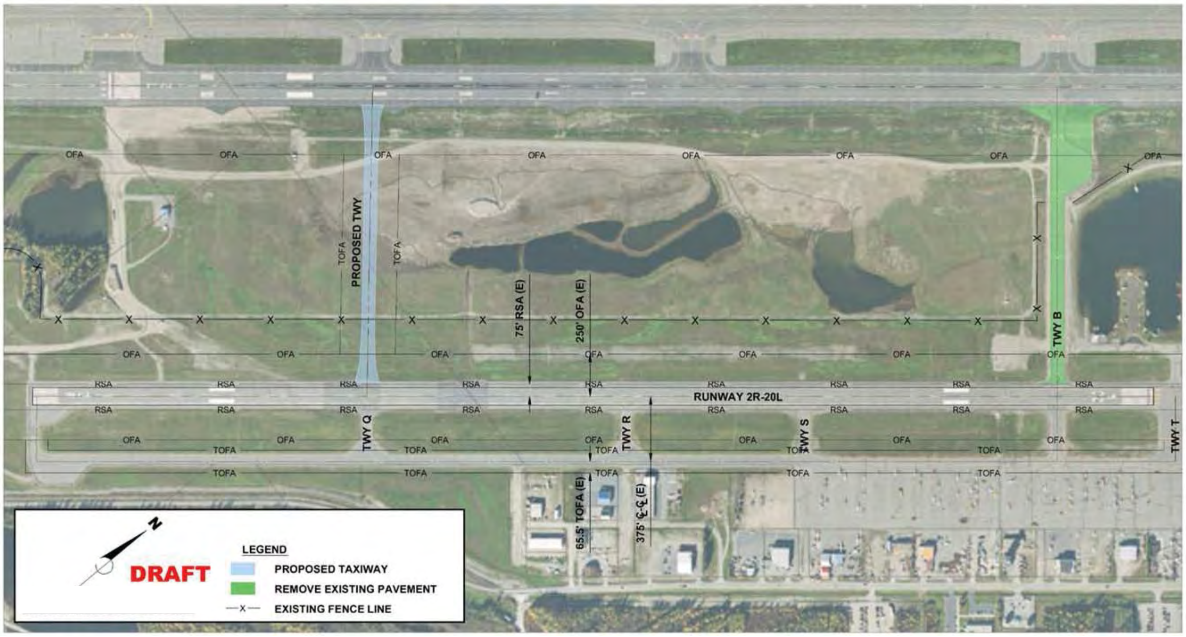
- Taxiway B
  - Number of options and iteration presented and vetted with east side working group and FAA
    - Shortened 2R/20L (2 different)
    - Eliminate B and replace with south end T/W
    - Indirect access to T/W B

  - Two favored options to carry forward
    - Short-term – Incursion Abatement
    - Long-term – Useful life of Taxiway B?

Taxiway B –Option A



Taxiway B – Option B



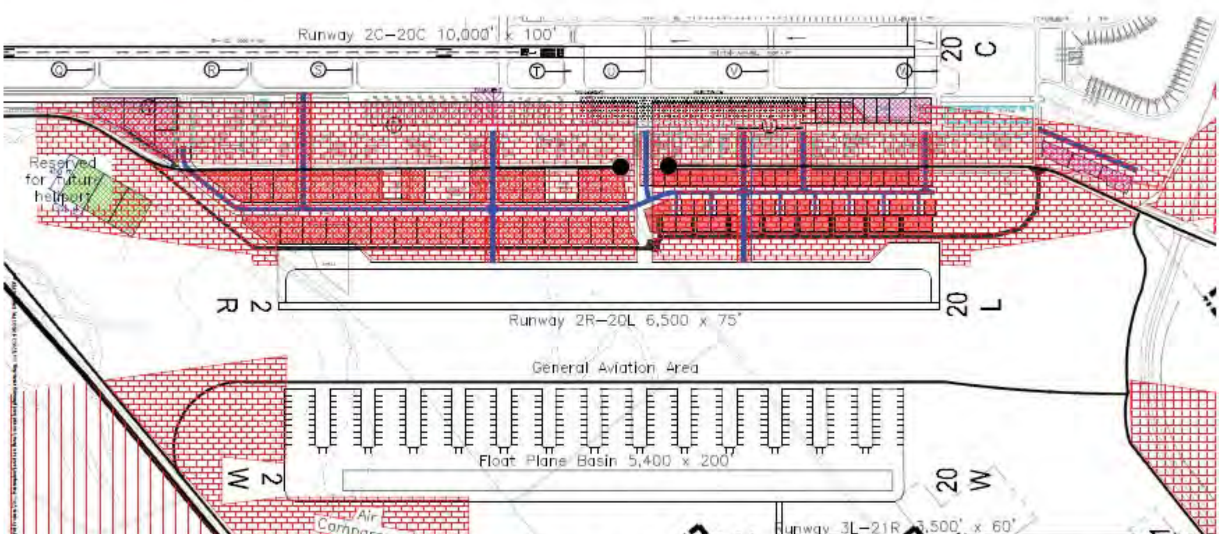
Taxiway B

- Any Questions?

East Side Development Plan

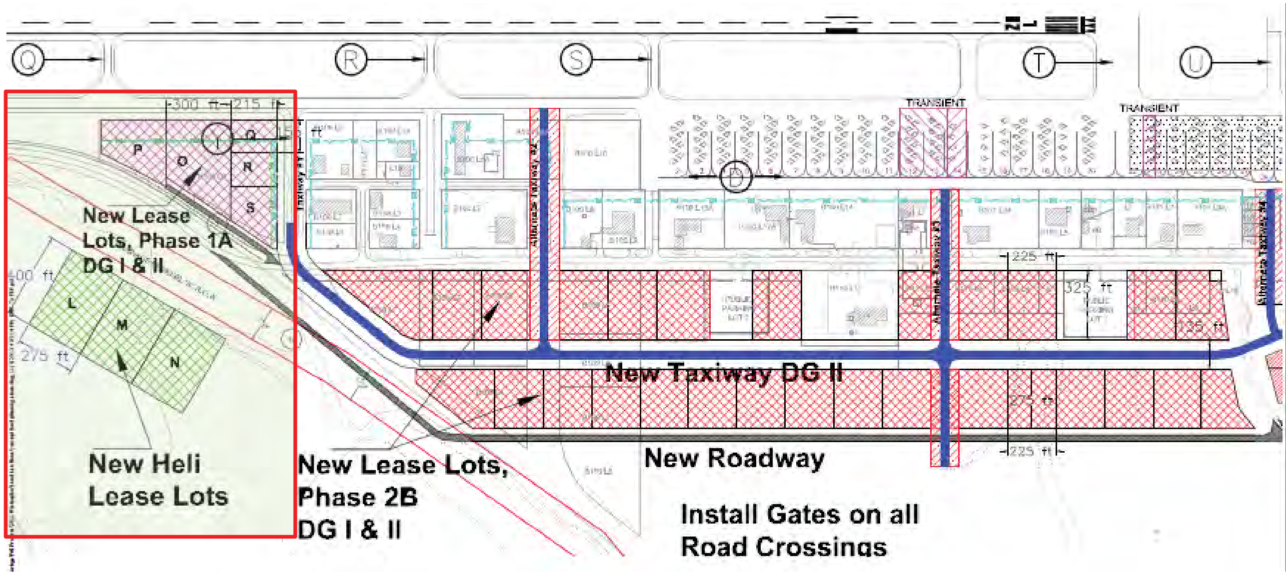
- Increase the leasable area to promote private investment:
  - Hangar development (single and T-hangars)
  - Aircraft wash facility

East Side Development Plan

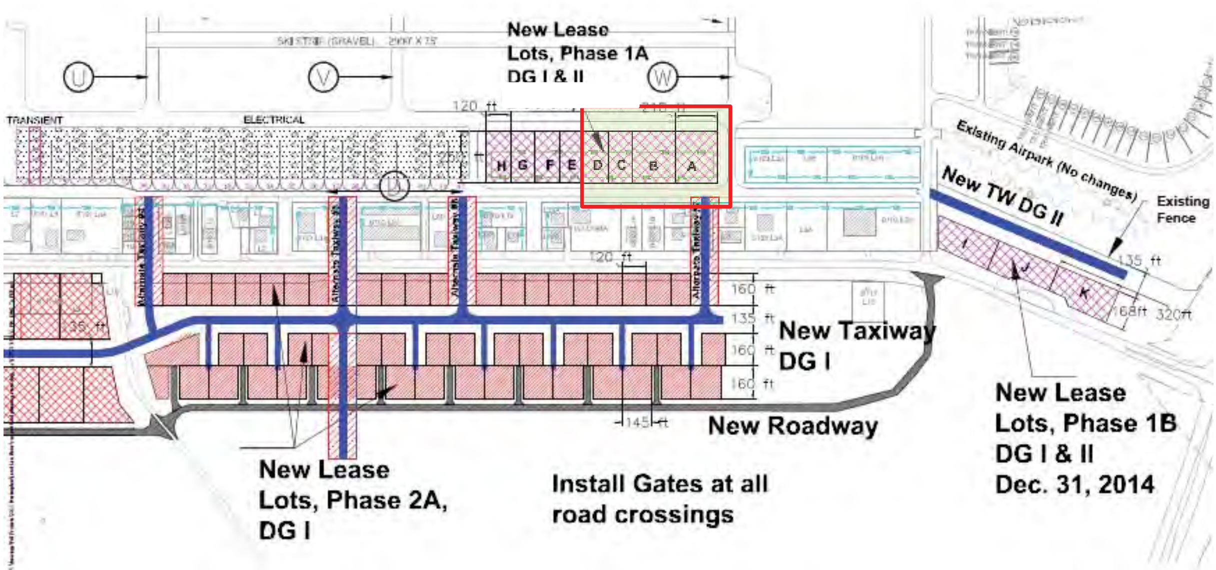


FAI Concept GA Land Use, with Ultimate Plan

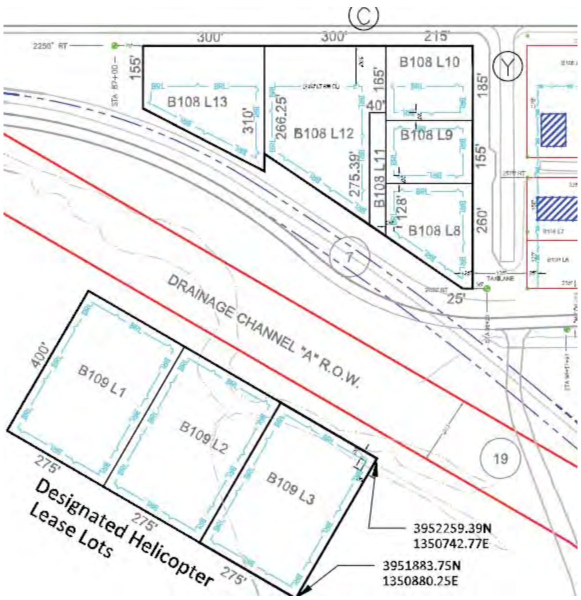
East Side GA Land Use Plan (south)



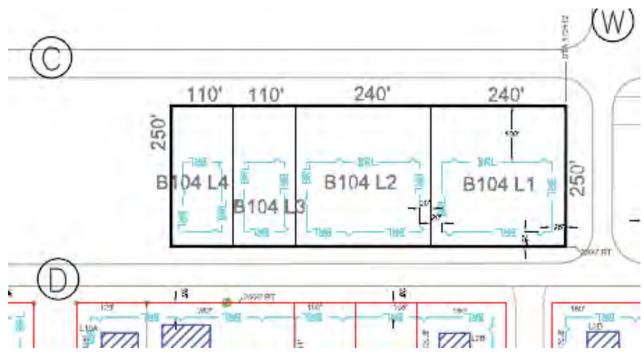
East Side GA Land Use Plan (north)



Currently Available for Lease



Currently out for Public Notice, applications will be accepted not sooner than March 3rd.



East Side Lease Lots

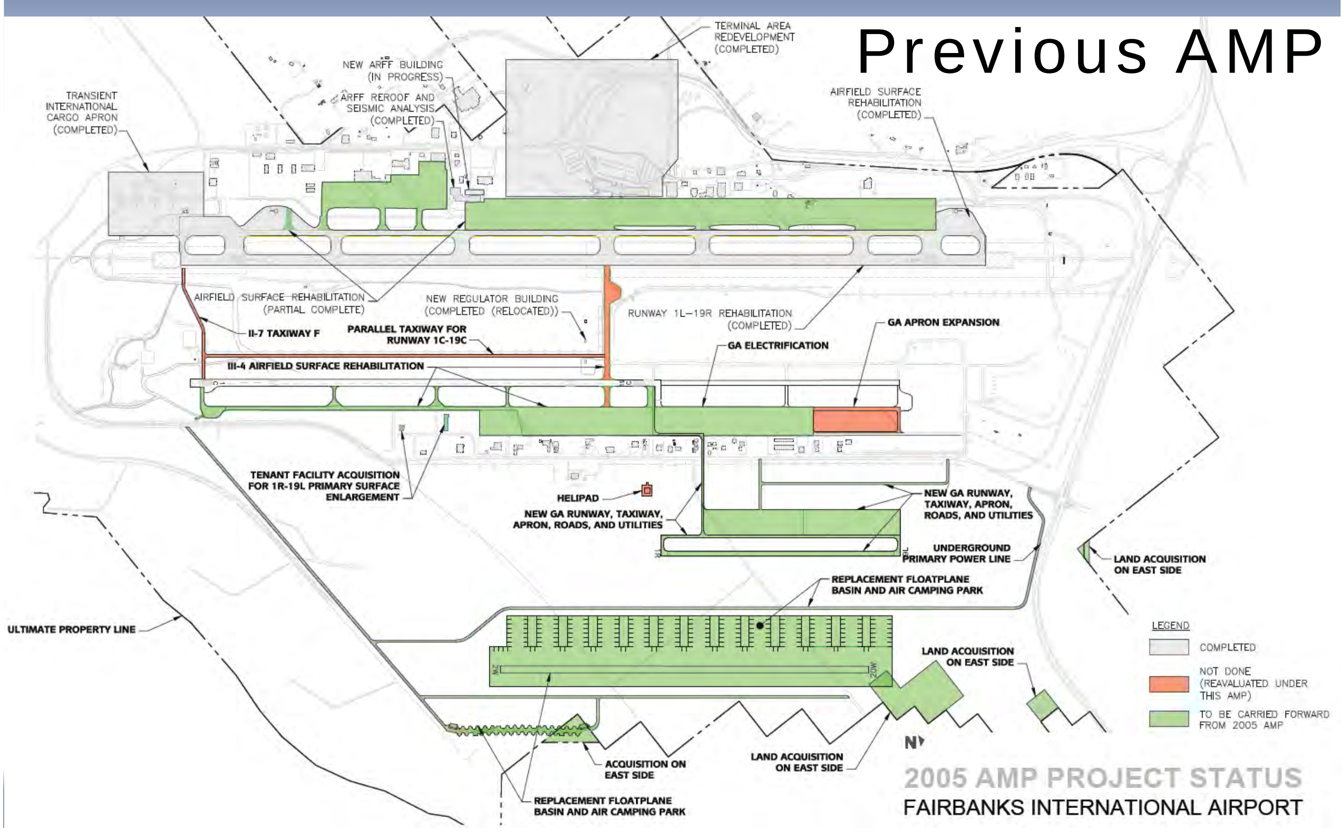
- Any Questions?

Development to meet Other Demands

- Float Pond
  - Dredging
  - Electrification
  - More slips
- Additional GA tie-down electrification

- Previous AMP addressed this demand and will be carried forward….

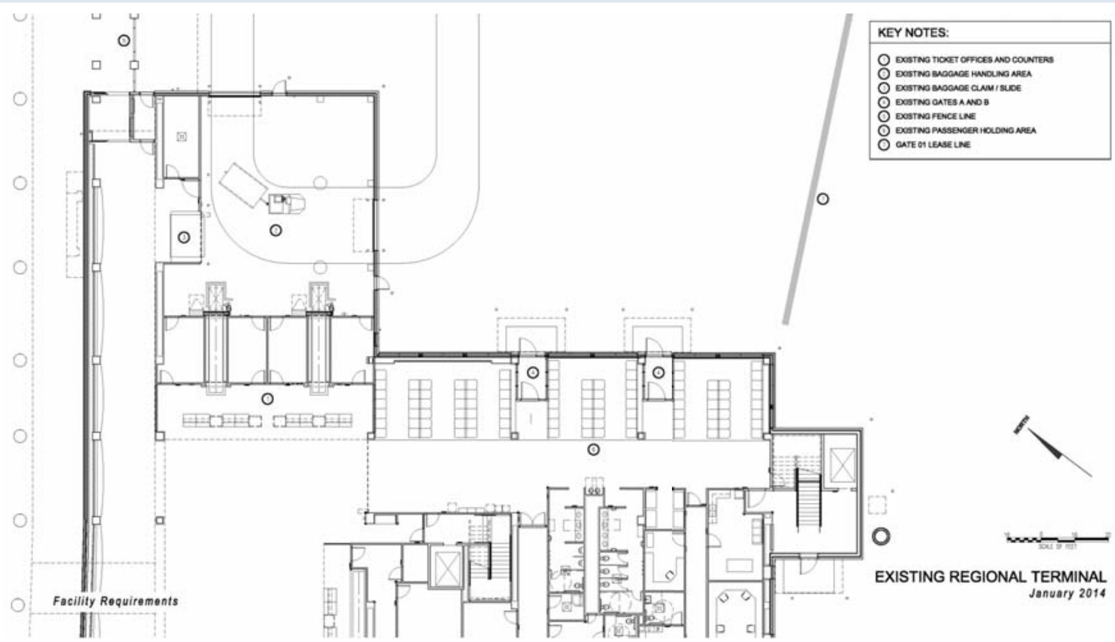
Previous AMP



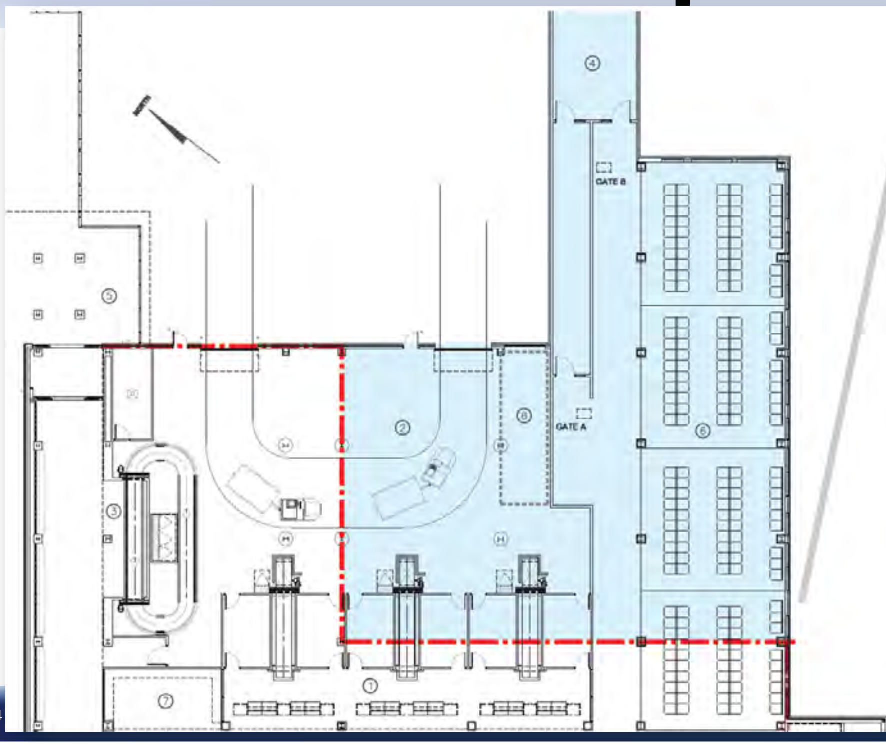
Terminal – Regional Carriers

- Additional baggage handling area
- Larger baggage claim slide
- Passenger walkway to aircraft
- Covered passenger drop-off area at the north end of the terminal

Existing Terminal

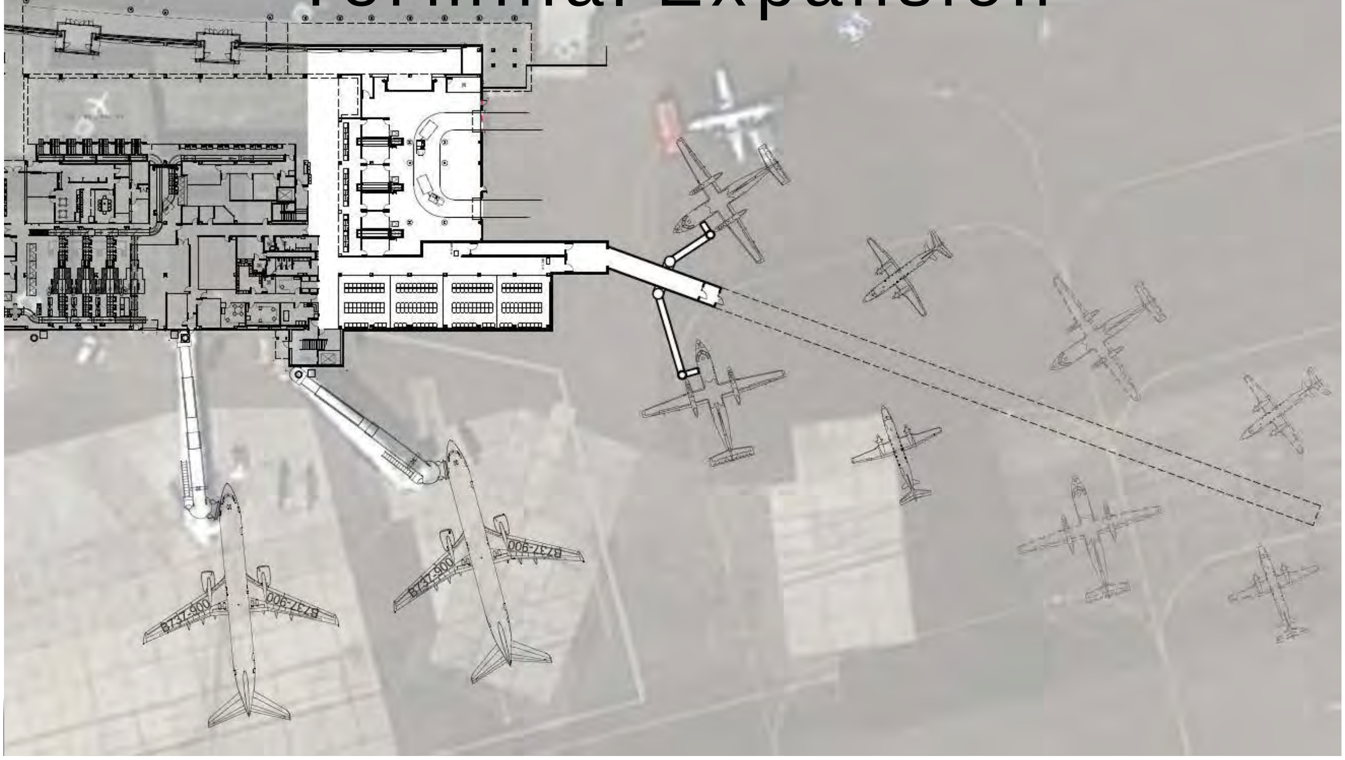


Terminal Expansion



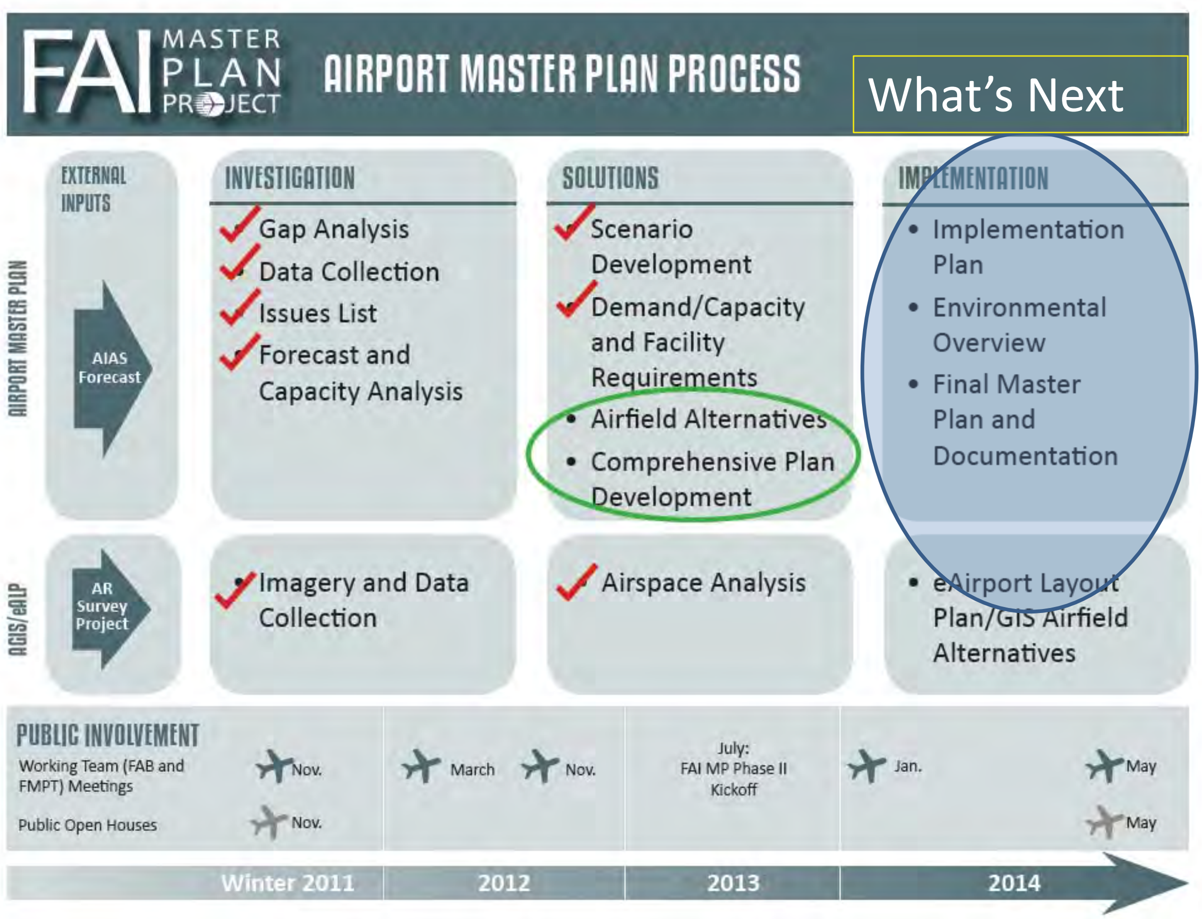
1. Ticket office utilization
2. Baggage handling area addition
3. Baggage claim slide modifications
4. Gate relationship to aircraft parking
5. Passenger/tour operations at north vestibule
6. Passenger holding area expansion
7. Concessions

Terminal Expansion



Terminal – Regional Carriers

- Any Questions?



updated 1.14.14

The End

- Any Questions?
- Final Remarks
- www.PDCProjects.info/FAIMasterPlan/index

EASTSIDE WORKING GROUP WORKSESSION

November 6, 2013 ● Fairbanks, Alaska

MEETING ATTENDANCE

East Side Working Group Members:

- Jon McIntyre, Northland Aviation/ACE Fuel
- Ron Dearborn, FAI GAA
- Brett Lystad, FAI ATCT NATCA
- Joe Reynolds, FAI ATCT ATM
- Harry Cook, Alaska Airmen's Association
- Chris Matthews, Wright Air Service
- Tom George, AOPA

FAI and ADOT&PF Staff: Jesse VanderZanden (Airport Director), Steve Henry (FAI Engineering), R.J. Stumpf (ADOT&PF Design), Melissa Osborn (FAI Operations), Clark Klimaschesky (FAI ISOA/Maintenance), and Pete Vandehei (FAI Operations)

Project Team: Royce Conlon (PDC), Jeff Mishler (RS&H), Patrick Cotter (PDC), and Cynthia Oistad (ARCADIS – via telecon).

Graphics and Handouts: *Agenda, Updated FAI Master Plan Info Sheet, and attached Eastside Working Group Update Presentation.*

Project Website: http://pdcprojects.info/FAIMasterPlan/index.html

MEETING SUMMARY

Introduction

Jesse VanderZanden, FAI Airport Director, thanked the Eastside Working Group (ESWG) for their participation in today's work session. He noted that today's focus was to collect good input and feedback from the tower and eastside operators on:

1) ***Short and long term strategies for Taxiway B/Runway 2R/20L.*** The project team has developed three preliminary 2R/20L runway alternatives to discuss with FAA/Tower users, owners and eastside users. Installation of a gate is planned to address Taxiway B incursion issues in the short term.

2) ***Eastside lease lot development***. There is demand for additional lease lots on the eastside. ADOT&PF has developed some plans for ***incremental*** and phased lease lot development and would like to get public notice out soon for new lease lots available in Spring 2014.

The purpose of today's work session is to gain a stronger understanding of the operational impacts and user needs so the team can revise alternatives, if needed, and present viable and actionable options to the Fairbanks International Airport Advisory Board (FAB).

FAI Master Plan Project Update

Royce Conlon (Project Lead/PDC) reviewed the progress of the PDC consultant team on the FAI Master Plan. She noted the team has completed the investigation and forecast phases based on the AIAS planning efforts and is currently preparing the Chapter 4 (Facility Requirements) submittal. The project team is now in the process of developing and evaluating various airfield alternatives for Taxiway B and Runway 2R/20L. Next steps include development of the terminal development alternatives for regional carriers, the implementation plan, and the environmental analysis, and lastly, completion of the Final Master Plan Update that will be done by June 2014.

Facility Requirements

Jeff Mishler (Airport Planner/RS&H) reviewed the team's findings with respect to facility requirements based on the forecast. The team studied airfield capacity, selected the design aircraft, and evaluated facility requirements.

Airfield/Parking Capacity: Jeff reviewed FAI's capacity to accommodate additional international cargo growth. Eastside runways and parking conditions were determined to have sufficient capacity over the 20-year planning period.

The team investigated FAI's capacity to meet ADG VI aircraft design standards, which apply to the Boeing 747-8 jets. Findings show that even if 50% of ANC airport cargo tech stop traffic shifted to FAI, FAI's airfield capacity at 230,000 annual operations exceeds the 100,000 ops demand. Currently, FAI has seven parking positions for transient aircraft. Analysis indicates that four additional parking positions will be needed in the future if the cargo traffic operations increase as forecast.

FAI's current operation plan can accommodate additional ADG VI aircraft traffic on a periodic basis, but if regularly scheduled operations increase, FAI's top priority will be to upgrade the west side of the airfield either to full ADG VI or possibly only to aircraft-specific (i.e., Boeing 747-8) standards. For eastside purposes, the main runway is not capacity-constrained. FAI can shift excess traffic from the main runway to the smaller runway to increase utilization at the airport if desired.

The forecast shows FAI is not capacity-constrained on the east or west side. Eastside operations are projected to experience growth of 1-2%.

Fueling Capacity: FAI has sufficient fuel storage capacity, but not pumping capacity. If FAI did receive more cargo traffic, they could use a privately operated hydrant. Jesse added that capacity would have to reach 40-60 million gallons of fuel before FAI would need to install a hydrant system. The cargo parking apron has the piping for a hydrant system in place; it would just need to be hooked up.

2R/20L Runway Discussion/Issues: The group discussed the following issues with respect to 2R/20L Runway:

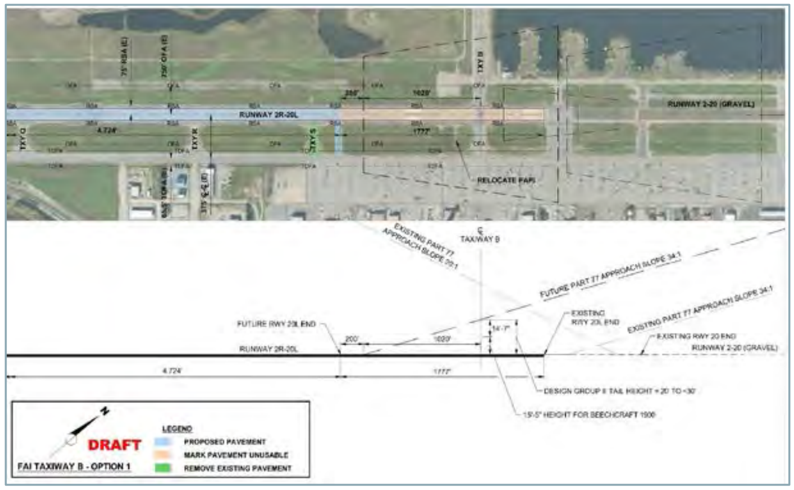
1) Operational implications of shortening runway or relocating Taxiway Bravo
2) Number and timing of annual operations across Bravo
3) Impacts to Float Pond approach
4) Gate placement across Bravo – Pros/Cons? Motion-, radio-, or tower-activated gate?
5) Airfield re-marking/pavement requirements

RS&H's analysis shows that FAI doesn't need to upgrade its DGIII Air Carrier runway in next 20 years. However, Taxiway B needs to be improved to address incursion issues, high energy areas, and direct apron access. The group discussed the long-term intent/purpose of Runway 2R/20L, safety issues, and how Taxiway B fits into it. FAA would like to clean up any direct access from the apron onto the runway for safety reasons.

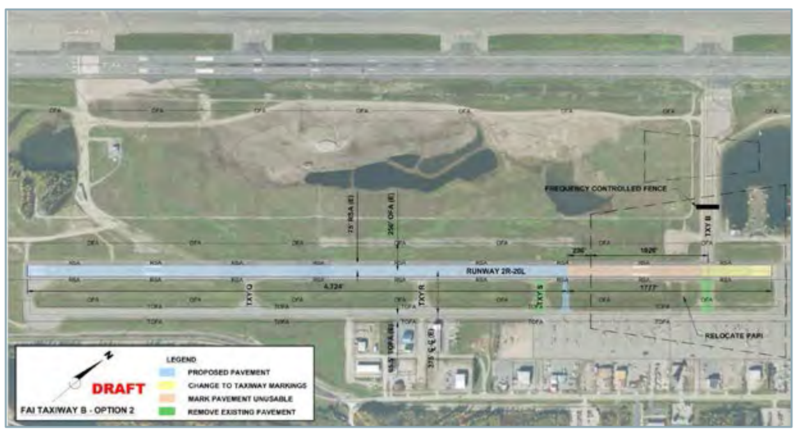
Taxiway B Gate: Installing a gate on Taxiway B to prevent incursion was identified as a short-term solution. The group discussed moving the gate to the west so it is closer to the main runway. The gate needs to be positioned so planes can get fully off the main runway onto Taxiway B and then wait for the gate to open; the positioning of the gate so it is not under the float pond approach/departure path needs to be considered further. They also discussed the pros and cons related to electronic override dispatch and multiple radio frequencies.

Runway Length: The range of possibilities discussed ran from leaving the length at 6,500' to shortening it to as low as 4,000'. Pros and cons were given for all lengths considered. Some desired the runway to be long enough to accommodate occasional air carrier landings should the main runway be closed for repair or maintenance or when additional capacity is needed. The group also discussed "right"-sizing the runway to accommodate only eastside operations. Many rural airports are sized to 4,000' to accommodate the airtaxi aircraft operating from the east side. RS&H will look to see what runway length is needed to meet requirements for the Dash-8. While a shorter runway would have lower costs for snow removal and pavement maintenance and would help solve Taxiway B incursion issues, it could result in increased activity on Taxiway C. With a shorter runway, planes landing on 20L would be at the same altitude as the float planes departing 2W. In strong winds, float planes could drift into the flight path of 20L. There may also be more activity on the taxiway behind the USFWS Hangar, where it would not be clearly visible from the tower. While cameras could be used at ATCT to help view obstructed areas, overall, the ESWG agreed that maintaining as much of the 2R/20L runway length as possible would be preferable from a flexibility and safety perspective, even with higher maintenance costs. It was noted that the runway length beyond 5,000 feet was not federally (FAA) funded. Thus, the State/FAI would likely be responsible for future rehabilitation of the additional 1,500' of pavement to preserve the full 6,500' length.

Runway Alternative Options: Three runway alternative configurations were presented to the group. FAA's new safety criteria for avoiding runway crossings in the middle third of the runway were included in each of the new options.



<u>Option 1</u> – Shortens runway to 4,724 feet. This is based on the needs of the Beech 1900, the Runway 2R/20L design aircraft. This option meets all approach safety criteria.



<u>Option 2</u> – Shortens runway to 4,724' and adds a frequency-controlled gate on Taxiway B. Maintains pavement on closed portion of the runway for emergency situations; would allow full length to be brought back into service if desired in the future. Solves runway incursion and safety problems. Main advantage is that it maintains the East portion in the long term, although it has higher maintenance costs. Taxiway B would be uncontrolled.

<u>Option 3</u> – Shuts down Taxiway B completely and solves incursion and safety issues related to runway crossing. This option proposes to build a new taxiway to the west and maintains full length of runway. Jesse noted that Option 3 is a long-term option with a $25 million price tag. FAI would rather pursue modifications to Options 1 and 2 to address short-term needs.

Additional Discussion

- Most did not like the "dog leg" presented in Option 3 Taxiway.
- If the runway is changed to a B-II, then we could move the hold lines closer, which would improve the ground operations.
- FAI is not in favor of fencing around the entire east side as FAA may prefer.
- At some point Taxiway B will require resurfacing. The cost for this future work should be considered when evaluating the options.

In the short term, to address FAA concerns, FAI may need to develop additional low-cost, short-term runway development options. The group discussed modifying Option 2 so it doesn't include a shortened runway. Whether Taxiway B is controlled or not controlled, all options would include installation of a gate to the west. It was commented that the Taxiway B gate takes some pressure off, but doesn't address entry point pressure.

Revisions to Options

After in-depth discussion of each option, the group agreed the options should be refined and brought back for final input. The team is to consider the following key considerations when refining the alternatives.

- Keeping runway length at least 5,000' if not the current length
- Avoiding overlapping approach/departure paths for 20L and 2W
- Keeping a connecting taxiway from east side to west side, but with sufficient obstacles (presented by the layout or gate) to discourage incursions.

Eastside Lease Lots (North and South)

Steve Henry (ADOT&PF), presented concepts for new eastside lease lots to confirm lot sizes are consistent with long-term demand forecast and to get feedback from the ESWG before FAI begins publicly offering lots in January 2014 for lease in summer 2014. ADOT&PF is seeking greatest return on investment for lease lot development.

ADOT&PF wants a lease lot plan that addresses existing capacity issues and preserves future development (as shown in the 2005 AMP). Steve noted that Phase 1 on the south end could be leased immediately, as power hookups are in place; the north end, however, would require infrastructure build-out.

The group discussed that large 120'x250' hangars are in short supply. Hangars are currently at 100% occupancy and there is a waitlist, demonstrating demand. Orienting the hangar north/south best optimizes the cost/benefit. A T-hangar would accommodate more planes and benefit multiple users on a rotating basis. It would also attract business and keep planes at the airport.

There is interest from helicopter owners/operators in leasing lots across University Avenue, but there are some ROW issues that need to be negotiated first.

While the group discussed some minor modifications, there were no major objections to the lease lot plans proposed. The group supported FAI publishing the lease lots in January.

NEXT STEPS

Royce reviewed the FAI master plan schedule and next steps. The project team will revise the runway alternatives and bring them back to the ESWG in December. The team will also look at concepts for modifications to the FAI terminal to accommodate regional carrier operations. Once those are developed and vetted with the regional air carriers, the team will review them with the FAI Advisory Board in January.

NEXT MEETING

The next ESWG meeting will be held December 10th from 9-11 a.m. in the FAI conference room. The next FAB meeting is tentatively proposed for mid-January. Date and time will be confirmed at a later date.

FAI MASTER PLAN PROJECT

AIRPORT MASTER PLAN PROCESS

November 6, 2013 EASTSIDE WORKING GROUP

PLEASE SIGN IN

NAME	ORGANIZATION / AFFILIATION	PHONE	EMAIL
JoN McIntyre	Northland Aviation/ACE Fuel	388-9837	jon@northlandaviation.com
Ron Dearborn	FIA GAA	455-6692	RKDearborn@acsalaska.net
BRETT Lystad	FAI ATCT NATCA	378-7954	faifacrep@NATCA.NET
Joe Reynolds	FAI ATCT ATM	474-0050	joseph.kyle.reynolds@faa.gov
clark Klimaschesky	FAI/SOA/maint.	474-2506	clark.klimaschesky@alaska.gov
HARRY Cook	ALASKA Airmen's Association	479-4500	hcook@mosquitonet.com
Chris MATTHEWS	Wright Air Service	474-0502	CMATTHEWS@wrightairservice.net
Royce L. Conlon	PDC Inc Engineers	452-1414	royceconlon@pdceng.com
Melissa Osborn	FAI Operations		
Tom George	AOPA	455-9000	tom.george@aopa.org
PETE VANDEHEI	OPS	474-2554	pete.vandehei@alaska.gov

FAI MASTER PLAN PROJECT

AIRPORT MASTER PLAN PROCESS

November 6, 2013 EASTSIDE WORKING GROUP

PLEASE SIGN IN

NAME	ORGANIZATION / AFFILIATION	PHONE	EMAIL
Steve Henry	FAI Engineering	474-2587	
R.S. Stumpf	ADOT Design	451-2285	

FAI MASTER PLAN PROJECT

Agenda for Eastside Working Group Meeting
11.6.13, 9:00 AM – 12:00 PM
FAI Conference Room

9:00 am Welcome – Jesse VanderZanden, Airport Director

9:10 am FAI Master Plan Project Update – Royce Conlon, PDC and Jeff Mishler, RS&H

- Project Progress
- Facility Requirements

9:25am 2R/20L Runway/Taxiway Bravo Options – Jeff Mishler, RS&H

- Operational implications of shortening runway or relocating Bravo on DG II and III
- # of annual operations across Bravo and timing
- Impacts to Float Pond approach
- Fence Placement across Bravo – Pros/Cons? Motion, radio or tower activated fence?
- Airfield remarking/pavement requirements

10:00 am Eastside Lease Lots (North and South) – Steve Henry, DOT&PF

- Confirm lot sizes are consistent with long-term demand patterns/forecast
- What is necessary for "approval" for FAI to begin publically leasing lots

11:30am

Next Steps – Royce Conlon

Next Meeting – Fairbanks Airport Advisory Board Meeting tentatively set for November 20th

Adjourn – Jesse VanderZanden

PROJECT INFO

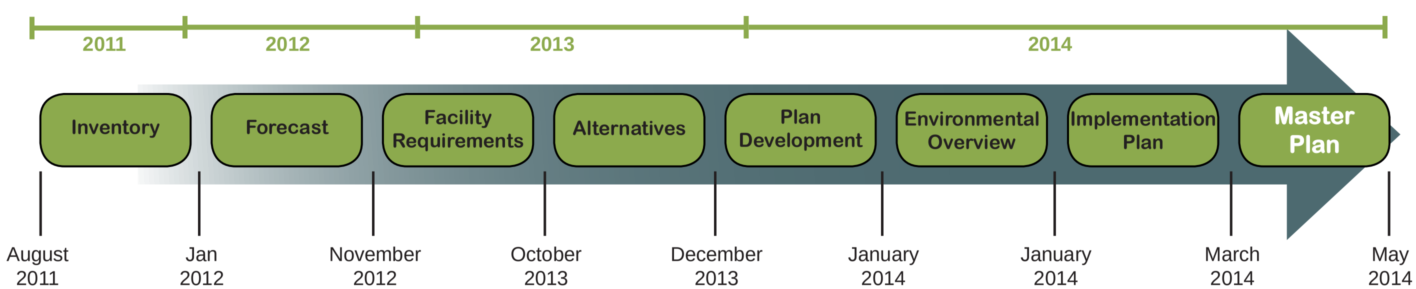
FAI MASTER PLAN PROJECT

The DOT&PF Northern Region has begun an update of the Fairbanks International Airport (FAI)Master Plan. Working with PDC Engineers, this plan will address the aviation needs for the Fairbanks area for the next 20 years. The intention is to satisfy aviation demand, be compatible with the environment and support other transportation modes, airport plans and area development.

Fairbanks International Airport, along with Ted Stevens Anchorage International Airport, comprises the Alaska International Airport System (AIAS). The FAI Master Plan is being developed parallel to the AIAS plan, thus ensuring compatibility between the two plans. The Master Plan will set a course and provide guidance for future aviation investment in support of the Fairbanks community and the state. This two-year process will include engagement of areawide stakeholders.

The Master Plan will engage the airport in future technology with development of an electronic airport layout plan (eALP) based on Geographic Information System (GIS) data, one of 37 FAA pilot programs across the country. The GIS will contribute to better management of the National Airspace System using satellite-based approach procedures.

PROJECT SCHEDULE



PROJECT CONTACTS

Angie Spear
Division Operations Manager
angie.spear@alaska.gov
907.474.2500

Royce Conlon, Project Manager
PDC Inc. Engineers
royceconlon@pdceng.us
907.452.1414

WEBSITE: http://pdcprojects.info/FAIMasterPlan/index.html

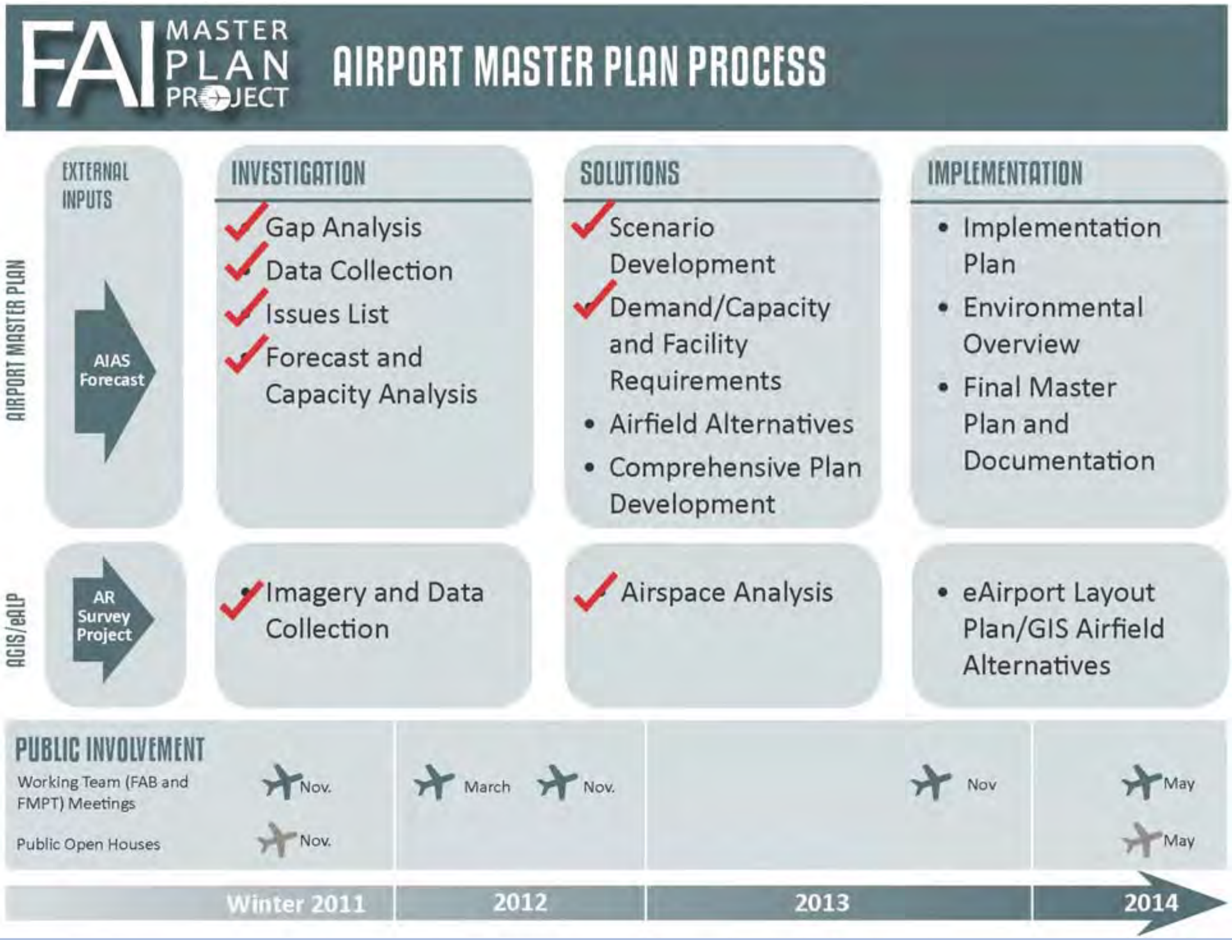
Alaska Department of Transportation & Public Facilities

Fairbanks Airport Master Plan
East Side Working Group

November 6, 2013

Agenda

- Master Plan Update
- Facility Requirements
- 2R/20L Runway & Taxiway Bravo Options
- East Side Lease Lots
- Next Steps



Facility Requirements

- Capacity
- Airfield Design
- De-icing Positions
- Fuel Storage Areas
- Alternatives for Taxiway B

Runway 2R/20L

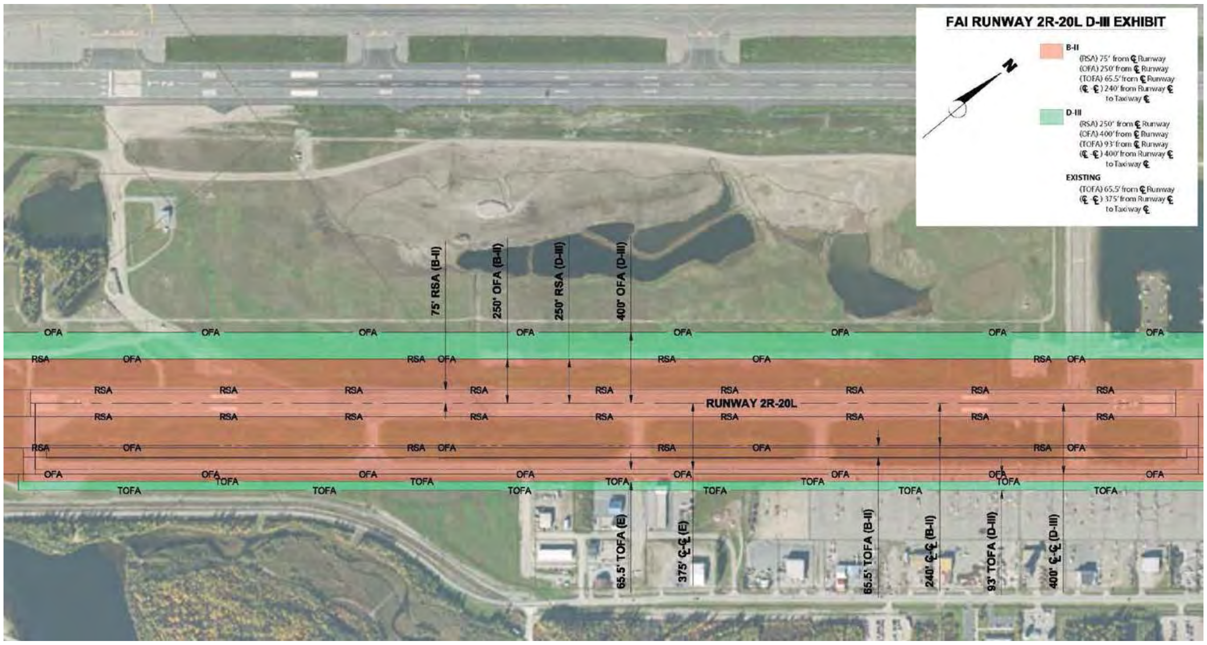
- Runway configuration re-evaluation based on
  - Capacity needs
  - Maintenance costs
  - Safety issues

Runway 2R/20L

- Upgrade to RDC D-III for Boeing 737-800
  - Current length adequate for FAI to PDX
  - 8,250 feet for FAI to ORD

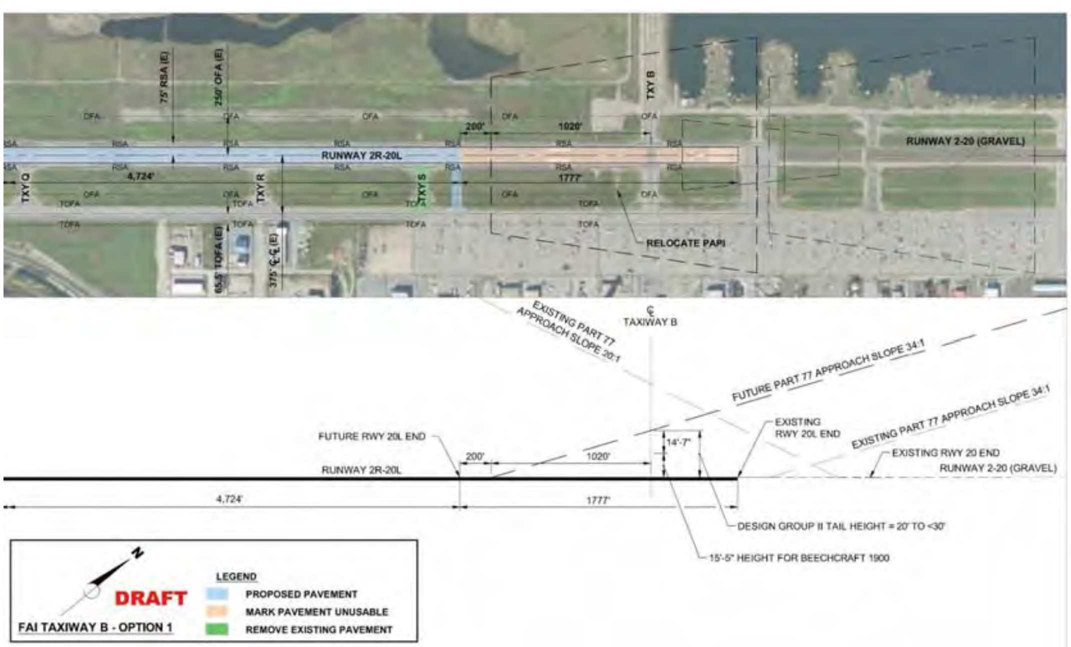
- Reduce Runway length/remain RDC B-II
  - Beech 1900D requires 3,737 feet
  - Operators may want at least 5,000 feet

D-III Upgrade



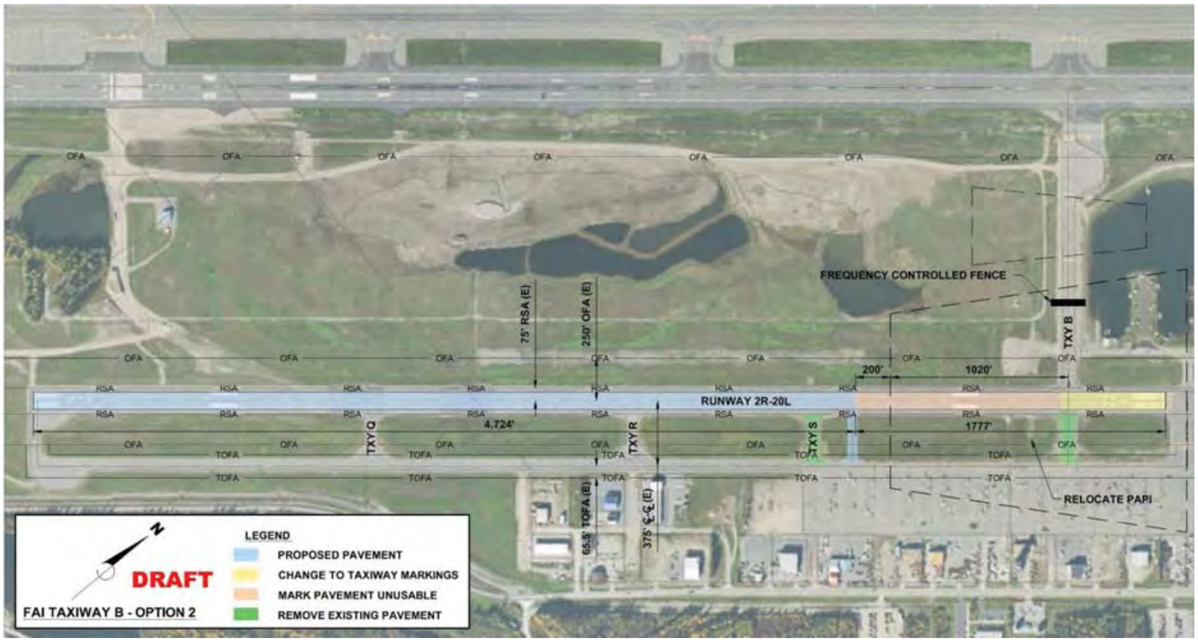
Taxiway B – Option 1

Shorten Runway 2R-20L to 4,724'



Taxiway B – Option 2

Add Taxiway B Fence, Reroute Entry and Shorten Runway



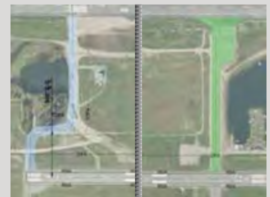
Taxiway B – Option 3

Decommission Taxiway Bravo and Construct New Taxiway to West

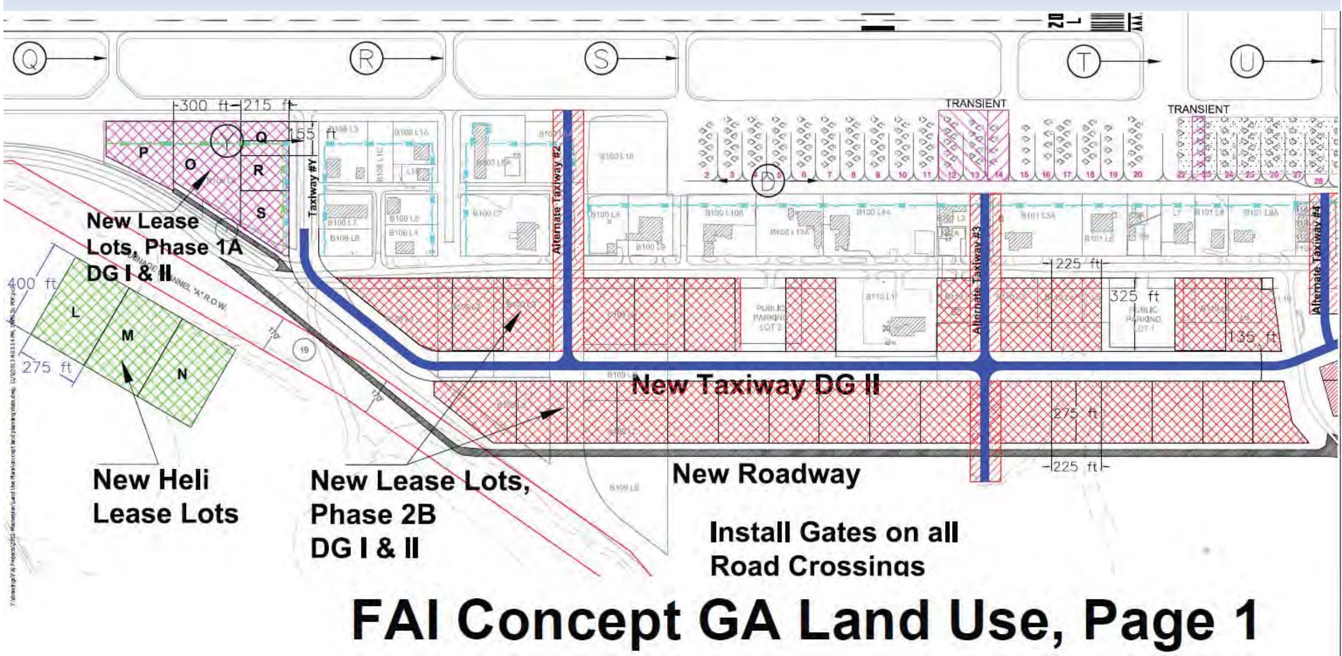
Taxiway B Evaluation Matrix

Legend

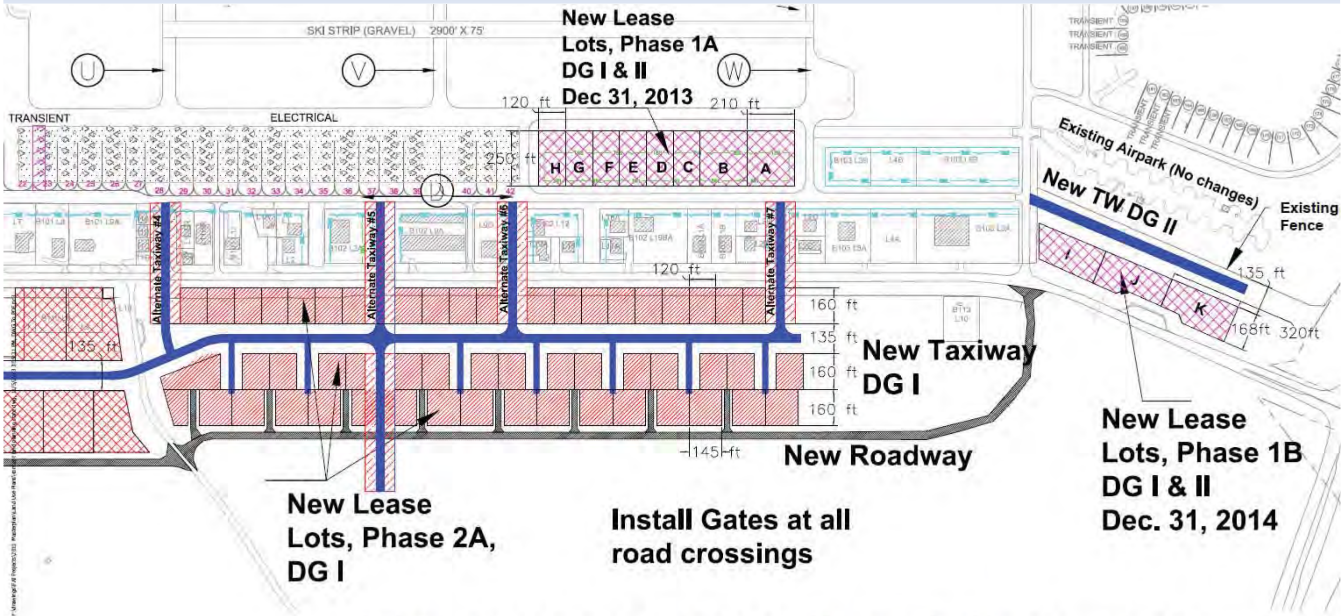
Does not Meet Criteria — Fully Meets Criteria

Taxiway B Alternatives	 **Option 1**	 **Option 2**	 **Option 3**
User Functionality			
Incursion Potential			
Airfield Capacity and Delay			
Taxi Times and Cost			
Land Acquisition Requirements			
Environmental Impacts			
Airspace Interactions and Efficiency			
Construction Considerations			
Phasing Considerations and Costs			

Eastside Lease Lots: South

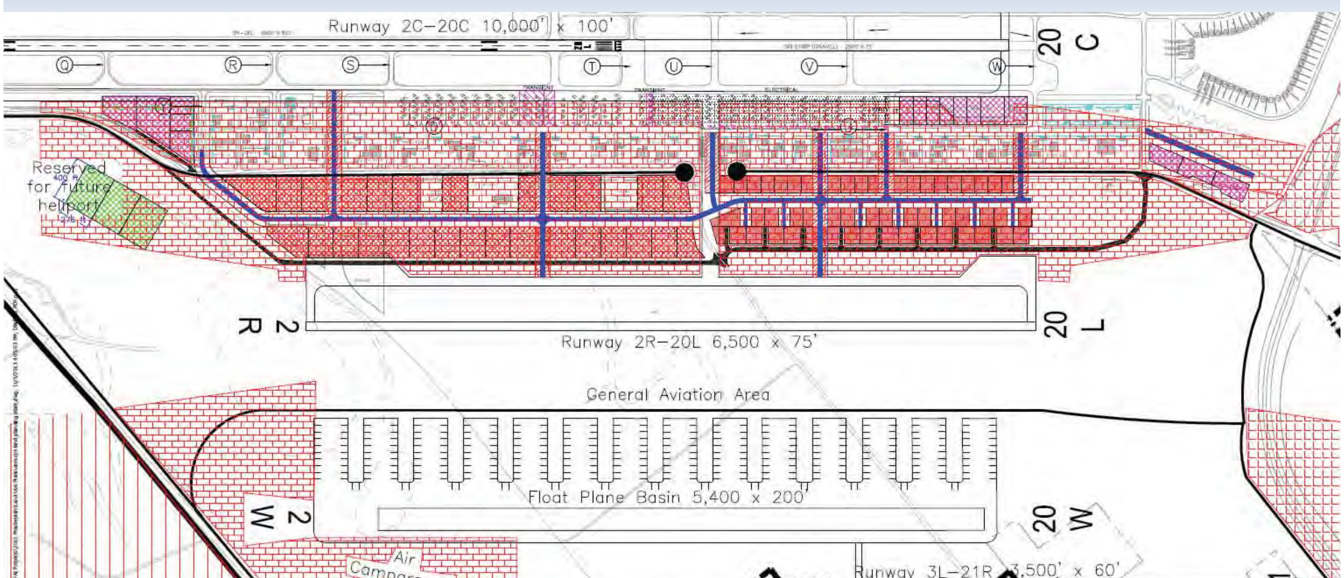


Eastside Lease Lots: North



FAI Concept GA Land Use, page 2

Long-Term Compatibility



FAI Concept GA Land Use, with Ultimate Plan

Questions & Comments

EAST SIDE WORKING GROUP WORKSESSION

December 10, 2013 ● Fairbanks, Alaska

MEETING ATTENDANCE

East Side Working Group Members:

- Harry Cook, AK Airmen's Association
- Tom George, AOPA, Aviation Advisory Board
- Ron Dearborn, FAI General Aviation Association
- Jon McIntyre, Northland Aviation/ACE Fuel
- Darren Young, Warbelow's/Air Arctic
- Joe Reynolds, FAI ATCT ATM
- Travis Williams
- Brett Lystad, FAI ATCT NATCA
- Pat Oien, Federal Aviation Administration – Alaskan Region (via telecon)
- Dave Whatto, Federal Aviation Administration – Alaskan Region (via telecon)

FAI and ADOT&PF Staff: Jesse VanderZanden (Airport Director), Steve Henry (FAI Engineering) and R.J. Stumpf (ADOT&PF Design)

Project Team: Royce Conlon (PDC), Jeff Mishler (RS&H), Christopher Greene (RS&H) Ken Risse (PDC) and Cynthia Oistad (ARCADIS – via telecon).

Graphics and Handouts: *East Side Working Group Update Presentation*

Project Website: http://pdcprojects.info/FAIMasterPlan/index.html

MEETING SUMMARY

Introduction

Royce Conlon (Project Lead/PDC) noted the meeting summary from the November 6, 2013 East Side Working Group Worksession has been distributed. Over the past month, the project team has been developing revised options for Runway 2R/20L/T/W B based on the user feedback received from the meeting. The purpose of today's session is to review the updated runway design options and identify the preferred alternative to further revise and develop.

Jesse VanderZanden, FAI Airport Director, reminded the group that the FAI Master Plan Update is scheduled for completion in Summer 2014 and the focus for this East Side Working Group is to identify solutions for reducing airfield runway incursions, be the sounding board for East side airport development, review updated options and provide comments to the Airport and project team.

Runway 2R/20L Design

Jeff Mishler (Airport Planner/RS&H) reviewed the Taxiway B incursion issues and how the runway configuration currently does not meet FAA airport design guidelines of limiting runway crossings, indirect assess and avoiding "high energy" intersections. He clarified that the Runway 2R/20L options included in this master plan update are designed for Design Group II (DG II) which includes the Beech 1900/Dash 8 aircraft. With Q-400s joining the fleet, if FAI wants to Runway 2R/20L to be able to accommodate occasional landings and take-offs from larger aircraft, we need to include approximately 5,000' for runway length in design planning.

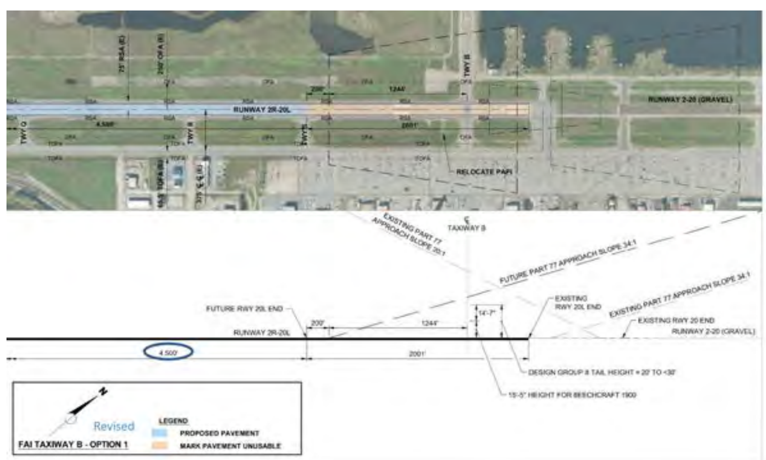
Jeff provided an overview of the key discussion points from the November 6 worksession:

- Operational implications of shortening runway or relocating Taxiway B
- Number and timing of operations across Taxiway B
- Potential Impacts to Float Pond approach
- Physical Barrier/Gate placement across Taxiway B, location and how barrier would be controlled/activated.
- Airfield re-marking/pavement requirements for DG II

Key design parameters for the runway include:

- Minimum of 5,000' for Runway 2R/20L length.
    - Warbelows trains new pilots and a longer runway is needed for touch-n-go. 5,000' minimum length.
- Avoid any overlapping takeoff/landing pathways with 2W and 20L.
- Maintain a taxiway that connects the east side to west side but also prevent incursions.

Revised Option 1: Reduce runway length to allow free flow of traffic on Taxiway B to the west side. (Cost: $4.3M)



This eliminates interaction between taxiway and runway on the east side but only allows for 4,580' which doesn't maintain the 5,000' length for the Q400s to occasionally use it. However, that 2,000' decommissioned length could be used in emergencies.

A question was raised regarding how difficult it is to maintain separations between takeoffs and landings with 2W and 20L. ATC confirmed there are no restrictions for simultaneous operations in the same direction. FAA can control approach and departure activity to avoid overlaps with 2W and 20L but it does increase potential for human error/miscommunication.

Users prefer a longer runway. Group discussed revising this option to include a 4,700’ runway and making Taxiway T uncontrolled. The additional length would be whatever distance from B to T centerlines are added to 4,500’.

Revised Option 2 – Remove existing connector on Taxiway B and reroute taxiway across float pond road. (Cost: $4.8M)

This option eliminates airspace interactions with float planes, solves vehicle incursion issues and maintains full runway length. However, rerouting the taxiway will reduce parking along the float pond and the nearby fueling facility will need to be relocated. Vehicles will still be able to drive down float pond road. This option does not address Taxiway B interaction with the apron on the west side. Taxiway B and T would be uncontrolled. Group discussed possibly modifying option to have planes taxi directly on the runway vs. float pond road. This option impacts Northland Aviation’s (fueling operator) operations. Runway would have to be shortened enough so the Object Free Area (OFA) stays out of Northland Aviation’s area.

Revised Option 3 – Remove Taxiway B. Construct a new Taxiway. (Cost: $5.8M which includes demo of Taxiway B and construction of new taxiway Q)

This option maintains existing runway length and addresses safety issues. However, it will include pilots to taxi for a longer length, increasing operating cost. RS&H presented this option as the preferred long-term option because it corrects two safety issues per FAA’s Advisory Circular: TW/RW intersection in the “high impact” area and eliminating direct apron access to runway.

FAI noted there is very minimal traffic going east to west. With the longer runway on the east side, Taxiway B is not used as often. FAI Tower expressed concerns with the operational impacts of this option 3 as it impacts capacity with Taxiway B (Mid-field), increases runway crossings and requires longer taxi time. They noted Option 3 creates more problems from an operational perspective than it solves.

Pat Oien noted we need to review the new FAA Advisory Circular (AC) and address the geometry issues. Option 3 is the only option presented today that meets the new AC but is also more expensive and allows for less capacity. However, FAI has excess capacity so it can absorb the capacity loss without impacting functionality or future demand planning.

<u>Other Runway 2R/20L Options Discussed</u>

- Revisit "Option 3" from November 6th Meeting. Remove Taxiway B and build new Taxiway to south end of Runway.

- "Hybrid Alternative" - Jon McIntyre suggested combining Options 1 and 2 to design a longer runway. This would shorten runway to 5,000' just 500' south of Taxiway B to preserve operation of float pond taxiway. Widen float pond road toward the runway. Put a gate between the apron and start of Taxiway B to prevent incursion. Control issues don't change and there are reduced runway crossings east to west. There is a 300' "Object Free Area surrounding the runway. We have to be outside of the safety area (300' on DG II aircraft) to have it not be a runway crossing.

- Revisit "Option 2" from November 6th Meeting. Shorten runway to 4,724' and add a gate on Taxiway B. Maintain pavement on closed portion of the runway for emergency situations; would allow full length to be brought back into service if desired in the future. This option solves runway incursion and safety problems. Main advantage is that it maintains the East portion in the long term, although it has higher maintenance costs. Taxiway B would be uncontrolled.

Jesse reminded the group the primary goals for this runway are to increase safety and reduce vehicle incursion. The preferred option must meet FAA advisory guidelines. An incursion solution must be in place this summer. There is no one clear solution that addresses all concerns. He suggested keeping the 5,000' runway length option and Option 3 on the table.

<u>Taxiway B Barrier/Gate</u>

Regardless of runway option selected, FAI is planning to install a retractable barrier on Taxiway B to physically prevent vehicle incursion going east to west, as a short or long-term solution. Most of the incursions are going from float pond road to Taxiway B to runway.

Aluminum, cantilevered gates are

expensive ($500K to $1M) and require at least a 300' area to swing the gate open. At Chicago airport, there is a gate on rails but it requires a lot of maintenance. In addition to a 115" retractable barrier, FAI is also looking into retractable bollard structures.

Gate Location: One to two barrier locations were discussed. One barrier would be located directly on Taxiway B (two location options shown in above photo) and another would be located either on east of Taxiway B or on Float Pond Road (depending on runway design option).

Additional Discussion

- Currently Runway 2R/20L is marked for DGII aircraft. The group discussed if FAI should change markings and signage to accommodate larger aircraft. Pilots often stop on wrong side of hold lines. Tower and users expressed interest in bringing in hold lines to 125' from the current 250' so they are closer to runway and moving signage closer to Taxiway G for increased visibility.

- To ensure FAI's ability to get AIP funds for these development options, this master plan must meet new FAA guidelines in Advisory Circular. Jesse noted Taxiway B is 30 years old and deteriorating. Funding for replacement is contingent on completion of long-term master planning and FAA's approval of the ALP.

- Jeff said DG II design guidelines must be addressed in the FAI Master Plan and they can't be evaluated in an isolated fashion. Both east and west side must be addressed. FAA AC guidelines must be followed in development planning.

NEXT STEPS

The project team will continue to update the runway alternatives and bring them back to the ESWG.

NEXT MEETING

The next FAB meeting is tentatively proposed for mid-January. Date and time will be confirmed at a later date.

Potential Issues List

ESWG: East Side Working Group

May 1, 2012

Category	Issue	Airport Wide	West Side	East	Admin/Ops Policy	Remarks
Terminal	Terminal Facility Demand Analysis · Major air carrier growth · Regional air carrier growth · Curbside Use · Rental car parking availability · Contingencies for Part 135 security regulations		X			Master Plan & Potential Terminal Focus Grp
Airside	Fuel hydrant system – Feasibility Analysis		X			Add to Scope
	Feasibility of Cat III landing on North end (20R)		X			Add to Scope
	Feasibility of ILS on 02R - (Focus Group: set aside for now)			X		Add to Scope?
	Helicopter/Fixed Wing – Operational Conflicts	X		ESWG		Master Plan
	Analyze Design Group VI compatibility		X			Master Plan
	Taxiway Bravo safety issues (VPDs & incursions)	X		ESWG		Master Plan
	Controlled Charlie Analysis			ESWG		Master Plan
	Shooting Range Location				X	Master Plan
	Runway length analysis, especially 2R/20L (best length?)	X		ESWG		Master Plan
	Float Pond Design Criteria · Dredging of shallow spots · Taxi lane & turnaround space			ESWG		Master Plan
	Compass Rose, certified and easily accessible to each side	X				Master Plan
	Long Term Snow Management	X				Policy
	ARFF Training Facility · Location & physical condition of ARFF training area				X	Master Plan
	Issues with parallel traffic on both Rwys 2R/20L & 2L/20R (needs clarification)	X				Master Plan
Access	Cell phone parking/waiting area	X	X			Master Plan
	General Security of the Airport and Unauthorized Access · Physical control · Policies (authorized vendor access, etc) · Compliance with regulation · East Ramp Access Plan	X			X	Master Plan
	Parking Lot long-term capacity		X			Master Plan

Category	Issue	Airport Wide	West Side	East	Admin/Ops Policy	Remarks
Land Use	Public Viewing Area					Master Plan
	Develop land use plan · Highest and best use of undeveloped land already owned · Higher and better use/land reuse/redevelopment	X				Master Plan
	Relocation of the aviation museum	X			X	Master Plan
	Railroad relocation	X		ESWG		Master Plan
	Cumulative impacts to wetlands and biological resources	X				Master Plan
	Plan for ability to accommodate additional lease parcels			ESWG		Master Plan
	Compatible land use planning for land adjacent to FAI boundaries: · Define potential encroachment for at least 50-year window · Noise Compatibility	X				Master Plan
Environmental	Existing fuel hydrant system cleanup				X	Add to Scope
	Aircraft Deicing/Washing facility	X		ESWG		Master Plan
	M&O/Environmental Warm & Cold Storage	X				Master Plan
Airport Admin	Airport Way Roundabout project with DOT in design				X	Policy
	Availability of fuel supply		X		X	Master Plan
	Title 29 property tax issues – different than ANC and up north (clarification needed)				X	Policy
	Closures due to wildfires				X	Policy
	Land Use compliance study element				X	Add to Scope?
	Non-movement area driver training				X	Policy
Game Changers & Scenarios	Significant Increase in Group V and VI Operations (AIAS Incentives Work)	X				Master Plan
	Introduction of Heavy Lift Airships	X				Add to Scope?
	Changing role of military bases in the Fairbanks area - F-16s and refueling wing	X				Add to Scope
	Airspace planning for UAVs	X				Add to Scope
Candidates for Removal/ Outside of Project Scope	Feasibility of light rail transport for people					Not Studied
	Funding: State, Federal					Not Studied
	Customs for East Ramp / Float Pond (add to information map)					Not Studied
	Investigate technology challenges (GPS Threats)					Not Studied
	Length of Lease Terms					Not Studied
	Resolve with FNSB : · Property boundary discrepancies				X	Policy
	Business plan development	X			X	
	Feasibility of ILS on 02R - (set aside for now)					Not Studied?

Potential Issues List for GA Focus Group Input

ESWG: East Side Working Group

March 29, 2012

Category	Issue	Airport Wide	West Side	East	Admin/Ops Policy	Remarks
Airside	Helicopter/Fixed Wing – Operational Conflicts	X		ESWG		Master Plan
	Taxiway Bravo safety issues (VPDs & incursions)	X		ESWG		Master Plan
	Controlled Charlie Analysis			ESWG		Master Plan
	Runway length analysis, especially 2R/20L (best length?)	X		ESWG		Master Plan
	Feasibility of ILS on 2R			ESWG		Master Plan
	Compass Rose (needed on both sides of airport?)	X		ESWG		Master Plan
	Shoulder seasons for float pond and ski strip			ESWG		Master Plan
	Float Pond Design Criteria · Dredging of shallow spots · Taxi lane & turnaround space			ESWG		Master Plan
Landside / Access / Use	Plan for ability to accommodate additional lease parcels	X		ESWG		Master Plan
	Float Pond Capacity			ESWG		Master Plan
	Railroad relocation			ESWG		Master Plan
	Snow Management	X		ESWG		Policy
	Aircraft Deicing/Washing facility	X		ESWG		Master Plan

FAI Flight Lines

Summer/Fall 2011

Ski Strip Practice Strip Open

In a collaborative effort with the Fairbanks Airport, volunteers from the General Aviation Association, the Ninety-nines, and AOPA painted markings outlining the "bush practice strips" located on each end of the Ski Strip at FIA. The marked areas are 25 ft wide and 600 ft long. Those seeking to hone their skills before heading out for moose or just wanting to increase proficiency are encouraged to use it.
The airport and the volunteer organizations are anxious to gather feedback on use of the strip to guide future efforts. A brief survey can be found at: http://www.surveymonkey.com/FAISKI

The Big Pour 2011

On August 6, 2011 community members gathered at the FAI General Aviation Airpark to dispose of over 90 gallons of alcohol seized during the previous calendar year. The alcohol was "ceremoniously" poured out to express law enforcement and community member support of the enforcement of local alcohol laws

Master Plan Update for FAI

The DOT&PF Northern Region has begun an update of the Master Plan for FAI. Working with PDC Engineers as lead consultant, this plan will address the aviation needs for the Fairbanks area for the next 20 years. The intention is to satisfy aviation demand, be compatible with the environment and support other transportation modes, airport plans and area development. Coordination with the Alaska International Airport System Plan will ensure system compatibility. The Master Plan will set a course and provide guidance for future aviation investment in support of the Fairbanks community and the state. This two year process will include engagement of area wide stakeholders.

Royce Conlon (PDC) and her team including Dave Nafie of RS&H, RISE, R&M and ABR will be contacting airport stakeholders to begin data collection for inventory and issues identification. The Master Plan will engage the airport in future technology with development of an electronic airport layout plan (eALP) based on Geographic Information System (GIS) data, one of 37 FAA pilot programs across the country. The GIS will contribute to better management of the National Airspace System using satellite-based approach procedures. A community meeting to introduce the project will be scheduled later this fall.

Over the next couple months members of the project team will be making contact with leaseholders, tenants, airport users and airport personnel to gather existing conditions and facility information. This initial inventory is key and will set the base for the subsequent planning tasks.

Aviation Events

AOC-FAI, Everts Air, 3rd Thursday of each month at noon. For info contact Serenity.Orth@AlaskaAir.com

FAI General Aviation Association, for info contact Carol Scott at carlscottt@mosquitonet.com

Providing Interior Alaska's Gateway to the World
Get Alaska Moving through service and infrastructure

Project News

FIA Apron Improvement Project -Reconstructing older apron pavement on the West Side -Reconstructing concrete hardstand by Gate 1 & 2 -Install additional security fence on NW ramp -Project will start in early Spring with a completion of September 2012	**FIA Master Plan (ongoing)** -Contracted with Consultant -Planning Public Involvement Plan and Committees -Kickoff meetings early this winter **Bravo Elephant Ear Taxiway Lighting and Markings** -Project complete	**FIA GIS Database** -Develop an Electronic Airport Layout Plan (eALP) -Continued surveying -Developing Data Management Plan and complying data . **Heavy Cargo Apron Hard Stand #1 Extension** -Project complete by Oct 1, 2011

2011 Triennial Exercise

The FAI Police and Fire Department with the help of community volunteers, conducted a triennial mass casualty exercise on August 9th.

2011 Cargo Summit

Representatives from 17 air carriers from North America and Asia, and cargo industry players gathered in Anchorage August 29, for the 2nd Alaska International Air Cargo Summit. The summit provided a detailed overview of unique opportunities for international air cargo transfer in Alaska and how these options may benefit carriers.

Arrivals & Departures

Arrivals:

Judy Eiden, Finance, Admin

Robert Grill, Field Maintenance

Promotions:

Frank Yanagi, Foreman, Building Maintenance

Departures:

Donna Allen, Div. Operations Manager, Admin

Darryl Avara, Supervisor, Operations

Melissa Osborn, Officer, Operations

Donna Teffeteller, Dispatcher, Police & Fire

On the Pond

By using FAI's water lane this CL-215 was able to make a drop every 10-15 minutes on a wildfire that threatened several residences just north of Fairbanks.

Windsock Relocation at FAI

In response to pilot requests for improved visibility, two windsocks were relocated and one additional windsock was installed on the GA Ski Strip.

PUBLIC OPEN HOUSE SUMMARY

November 16, 2011, 5-7PM

Noel Wien Library Auditorium, Fairbanks, Alaska

OPEN HOUSE ATTENDANCE

Public Attendance: Mary Ann Robinson, Greg Allison, Shelly Showath, Stan Halvorsen, Tim Berg, Amy VanderZanden, Bill Bolen, Nancy and Mike Shaefer, Alan Buckmeir, Sean Ryan, Nancy Birkholz. The meeting sign-in sheet is attached to this summary.

FAI and DOT Staff:
Jesse VanderZanden and Angie Spear

Project Team:
Royce Conlon, Dave Nafie, Patrick Cotter, Mike Becker, Evan Pfahler, Jeff Shannon and Sarah Barton (Facilitator), Lanien Livingston (RISE)

MEETING NOTICES AND HANDOUTS

Meeting Notices**:** A 2x4 print ad was placed in the Fairbanks Daily News-Miner on 13, 15 and 16 November advertising the Public Open House. A copy of the print ad is attached to this summary. Notice of the meeting was also included on the FAI Master Plan project website (http://pdcprojects.info/FAIMasterPlan/index.html) as well mentioned in the airport's *Flight Lines Spring/Fall 2011* Newsletter.

Graphics and Handouts: *Aerial images of FAI Overview, East Ramp, Terminal and Float Pond; Preliminary Issues List as of 11.14.11; Master Plan Process diagram; AIAS diagram and planning process; Comment Sheet; Flightlines.*

OPEN HOUSE FORMAT

On 16 November 2011, a Public Open House was held at the Noel Wien Library multipurpose room to provide an overview of the Fairbanks International Airport Master Plan Project, introduce the project team and seek input on potential issues for consideration for the FAI Master Plan effort. Attendance at this meeting was limited due to the extremely cold temperatures/harsh weather conditions in Fairbanks that evening.

PUBLIC OPEN HOUSE SUMMARY

November 16, 2011, 5-7PM

Noel Wien Library Auditorium, Fairbanks, Alaska

Large-scale 32x44 aerial photos of the FAI campus and surrounding land were printed for ease of discussion and review by the community. FAI Master Plan project team members were stationed by each poster to facilitate discussion, questions and comments from the public. The community was invited to contribute additional issues for the project team to consider during the FAI Master Plan process. Sticky notes were provided and people posted them on the large-scale posters.

The project team welcomed the attendees individually and spoke to the values of FAI and DOT to involve, value, and balance the needs of the key stakeholders and the general public. It was noted the team was not looking for solutions today, just identification of issues.

Team members introduced the Master Planning process, including three primary phases of investigation, solutions and implementation. This process will be based on external inputs including the work of the AIAS planning processes. The process will look at a broad range of issues from policies to particular small projects depending on what is needed. Projects might include analysis as well as construction. A GIS product will capture the data gathered and present it visually as map layers.

The last Master Plan was published in 2005, based on work done in 2001. Now it is time to update the plan, typically done every 10-20 years. Aircraft are changing, and costs of operations are increasing. PDC has begun initial interviews to establish the preliminary issues list. This will grow as the public and affected stakeholders provide additional insights.

There were posters illustrating the AIAS system and current planning efforts.

FAI MASTER PLAN PROJECT

PUBLIC OPEN HOUSE SUMMARY

November 16, 2011, 5-7PM
Noel Wien Library Auditorium, Fairbanks, Alaska

OUTCOMES

During the Open House, those in attendance from the community noted the following issues be considered during the FAI Master Plan process. Comments were captured in conversations with the project team, and via sticky notes on the project graphics.

Operational Comments:

- NE Lease Lot Expansion
- Float Pond Parking Lots
- Float Pond electricity
- Other local general aviation competition is an issue in upgrading facilities and costs.
- Helipad - Security issues
- Build new shooting range that is open to the public.
- Pond relocation is a good idea.
- End-around taxiways
- Bravo – hot spot for runway incursions.

Environmental Comments:

- Large numbers of Sandhill cranes used to congregate near South Pond. Development of Creamer’s Field encouraged them to go there instead of airport.
- Propane cannons used to scare away birds from airport are not effective.
- While there aren’t a lot of ducks that use the Float Pond due to depth, there are some mallards that live/nest there.

NEXT STEPS

The Project Team will continue work on Master Plan with FAI Advisory Board and FAI staff group. Alternatives will be generated between June and November 2012. Progress will be posted on the FAI and project websites and included in future editions of Flight Lines.

NEXT OPEN HOUSE

The next public open house is scheduled for November 2012 to present and receive public input/comment on the Master Plan alternatives.

FAI MASTER PLAN PROJECT

Alaska Department of Transportation & Public Facilities
Fairbanks International Airport

Open House
Sign in Sheet
November 16, 2011

Name	Phone	Email	Updates* Check this box if you want to be on the mailing list for project updates.
Mary Ann Robinson	451-2794	maryann.robinson@alaska.gov	
Greg Allison	451-5783	gallison@explorefairbanks.com	
Shelly Skowatt	378-5299	shelly.skowatt@alaska.gov	
Stan Halvorsen	456-7802	halvee@alaska.net	
Tim Berg	479-8302	deadman@alaska.net	
Amy VanderZanden	490-6999	vanderzanden@acsalaska.net	
Bill Bolen	699-Rock	trampminellc@hotmail.com	
Nancy / Mike Stuefer			
Nancy Birkholz	479-5996		
Arlan Buckmeier	452-2733	Buckmeier@GCI.net	
Sean Ryan	799-8248	[illegible]	

You are invited to attend:

Public Open House

to introduce the

Fairbanks International Airport Master Plan Project

Please join us Wed., Nov. 16 from 5–7 p.m., in the Noel Wien Library Auditorium

More information? Call Royce Conlon with PDC at 452-1414.

FAI MASTER PLAN PROJECT

FAIRBANKS INTERNATIONAL AIRPORT

40387159-11-15-11

FAI MASTER PLAN PROJECT

What improvements are needed and why?

OVERVIEW

FAI MASTER PLAN PROJECT

What improvements are needed and why?

TERMINAL AREA

FAI MASTER PLAN PROJECT

What improvements are needed and why?

EAST RAMP

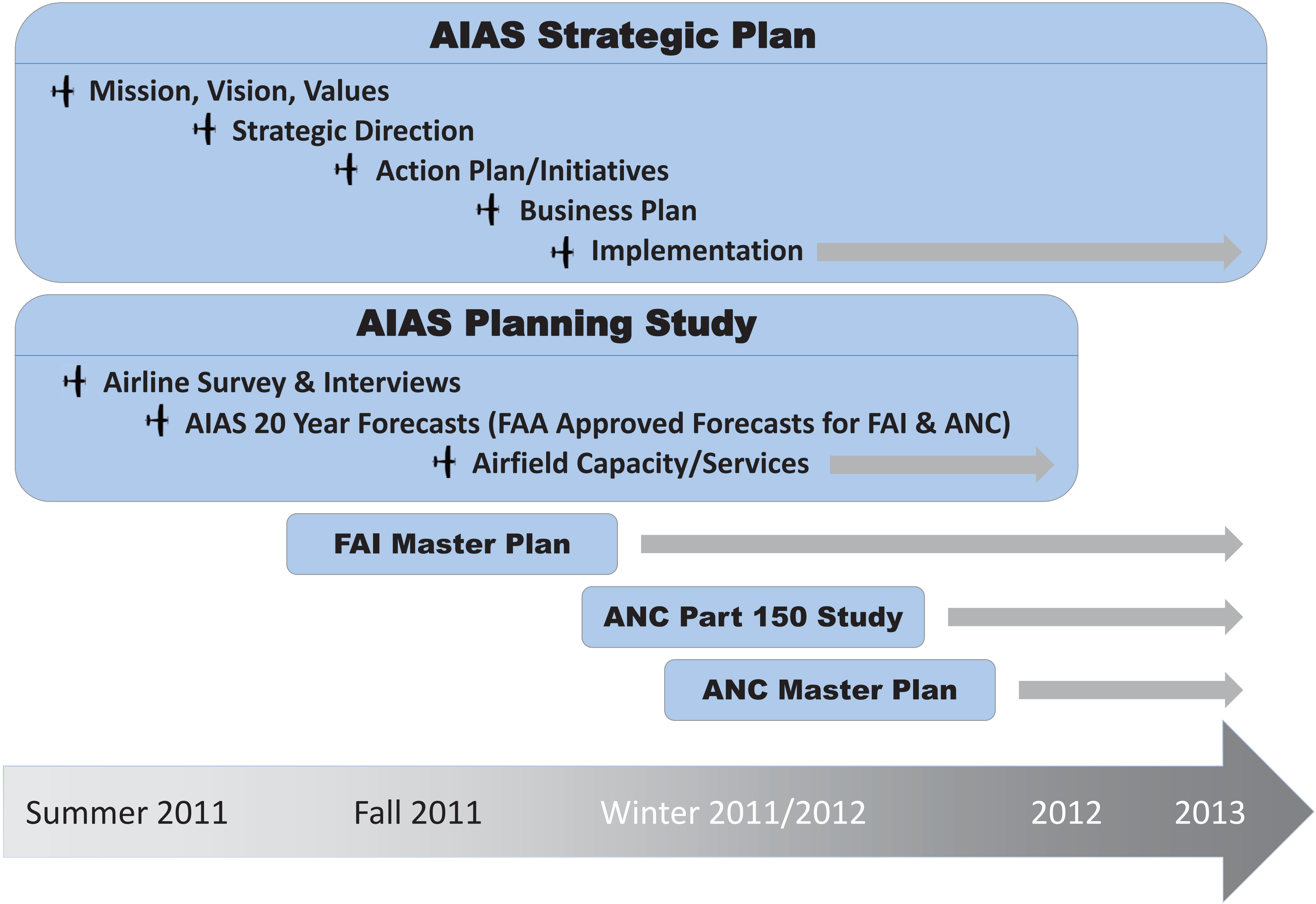
FAI MASTER PLAN PROJECT

What improvements are needed and why?

FLOAT POND

Alaska Department of Transportation & Public Facilities
Alaska International Airport System

PLANNING TIMELINE



AIAS

Alaska International Airport System

50 years old

- Created in 1961

Airports

- Anchorage International
- Fairbanks International

International Airport Revenue Fund

- No State General Funds
- Financially Self-Sufficient
- Shared Revenue/Expenses

Management

- By DOT & PF
- Local Airport Management
- System Rates, Fees, & Policies

FAI MASTER PLAN PROJECT

FAIRBANKS AREA PILOT SURVEY

The Fairbanks International Airport (FAI) is in the process of updating their Master Plan. You have been identified by zip code as having an aircraft registered in the airport's service area. By taking this 5-minute survey, even if you are not based at FAI, you will help airport staff adequately plan for the airport's future. **No personal identification is required**. Please return the survey in the attached pre-stamped envelope or fill it out online at **https://www.surveymonkey.com/s/FAI_master_plan** by July 27, 2012. Responses received by July 4 will be entered to win $100 worth of aviation fuel. We thank you in advance for your participation.

If you have any questions regarding this survey, please contact Royce Conlon, Project Manager, at 907-452-1414 or royceconlon@pdceng.us. If you would like to discuss any issues regarding the airport facility, please contact Steve Henry, FAI Engineer, at 907-474-2587 or steve.henry@alaska.gov.

1) What are the make(s) and model(s) of your aircraft? ______________________________

2) How is (are) your aircraft configured? Please choose all that apply.
   - a. Wheels
   - b. Floats
   - c. Skis
   - d. Wheeled skis
   - e. Other (explain) ____________________

3) Where is (are) your aircraft currently based? Please choose all that apply.
   - a. FAI East Ramp
   - b. Chena Marina
   - c. Metro
   - d. Bradley Sky Ranch
   - e. Private airstrip – Fairbanks area
   - f. Private airstrip – North Pole area
   - g. Other (explain) ______________________________

4) Where have you previously based your aircraft in the past 5 years?
   - a. FAI East Ramp
   - b. Chena Marina
   - c. Metro
   - d. Bradley Sky Ranch
   - e. Private airstrip – Fairbanks area
   - f. Private airstrip – North Pole area
   - g. No change
   - h. Other (explain) ____________________

5) What drew you to your current location? Please sequentially rank your **top 10** factors from the following list (1 = Most Important, 10 = Least Important)
   - a. Price/cost ____
   - b. Airport facilities ____
   - c. Airport policies ____
   - d. Airfield maintenance ____
   - e. Proximity to residence or business ____
   - f. Price of aviation fuel ____
   - g. Availability of aviation fuel ____
   - h. Availability of lease space ____
   - i. Ease of access ____
   - j. Aviation traffic ____
   - k. Type of airspace ____
   - l. Weather reporting ____
   - m. Control tower ____
   - n. Security ____
   - o. Regulations ____
   - p. Variety of runway surfaces ____
   - q. Other (explain) ________
   - r. Additional comments: ______________________________

6) How is (are) your aircraft stored? Please choose all that apply and indicate how much you pay per month. *(note: T-hangars are connected "condominium" style units that provide space for one airplane in each unit; conventional hangars accommodate one or more aircraft in a single bay)*
   - a. Tail-in tie-down $____
   - b. Pull-through tie-down $____
   - c. Tail-in tie-down with electricity $____
   - d. Pull-through tie-down with electricity$____
   - e. T-hangar (unheated) $____
   - f. T-hangar (heated) $____
   - g. Conventional hangar (unheated) $____
   - h. Conventional hangar (heated) $____
   - i. Float pond slip $____
   - j. Float pond slip with electricity $____
   - k. Other (explain): ____________________$______

7) What is (are) the primary use(s) of your aircraft? Select all that apply.
   - a. Business
   - b. Personal
   - c. Other (explain) ____________

8) Assuming adequate availability and reasonable price, which storage option would you prefer?
   a. Tail-in tie-down
   b. Pull-through tie-down
   c. Tail-in tie-down with electricity
   d. Pull-through tie-down with electricity
   e. T-hangar (unheated)
   f. T-hangar (heated)
   g. Conventional hangar (unheated)
   h. Conventional hangar (heated)
   i. Float pond slip
   j. Float pond slip with electricity
   k. Other (explain): ______________________________

9) Are you interested in owning a hangar in the next 5 years?
   a. Yes
   b. No
   c. Possibly (explain) ______________________________

If you **are based at FAI**, please answer questions 10-20. Otherwise, please skip to question #21.

10) If you **are** based at FAI, please rate the following **facilities** *(1 = inadequate, 3 = satisfactory, and 5 = exemplary)*

a.	Pilots lounge	1	2	3	4	5	NA
b.	Tie-downs	1	2	3	4	5	NA
c.	Floatpond slips	1	2	3	4	5	NA
d.	Runway length	1	2	3	4	5	NA
e.	Ski strip length	1	2	3	4	5	NA
f.	Float Pond length	1	2	3	4	5	NA
g.	Taxiway layout (ease of taxiing)	1	2	3	4	5	NA
h.	Runway condition	1	2	3	4	5	NA
i.	Apron condition	1	2	3	4	5	NA
j.	Ski strip condition	1	2	3	4	5	NA
k.	Airport lighting/signage	1	2	3	4	5	NA
l.	Other ____________	1	2	3	4	5	
m.	Other ____________	1	2	3	4	5	
n.	Other ____________	1	2	3	4	5	

11) For those facilities you rated as a '1' or '2' in question #10, please explain why:
____

12) Are there any additional **facilities** you would like to see at FAI? ______________________________

13) What would you suggest to enhance safety of float pond operations? ______________________________

14) Do you see a need for instrument approaches on 2R/20L better than the 250' and ½-mile minimums currently available?
__YES __NO If yes, what minimums are needed? ______________________________

15) If you **are** based at FAI, please rate the following **services** *(1 = inadequate, 3 = satisfactory, and 5 = exemplary)*

a.	Snow removal	1	2	3	4	5	NA
b.	Ski strip season length	1	2	3	4	5	NA
c.	Security	1	2	3	4	5	NA
d.	Airfield maintenance	1	2	3	4	5	NA
e.	Availability of aircraft maintenance	1	2	3	4	5	NA
f.	Availability of hangars	1	2	3	4	5	NA
g.	Price of fuel	1	2	3	4	5	NA
h.	Availability of fuel	1	2	3	4	5	NA
i.	Other ____________	1	2	3	4	5	
j.	Other ____________	1	2	3	4	5	

16) For those services you rated as a '1' or '2' in question #15, please explain why:

____

____

17) Are there any additional **services** you would like to see at FAI? __________________________

18) Are there any **policies** or **procedures** at FAI that you would like to comment on?

____

19) What do you like most about FAI? ____

20) What do you like the lease about FAI? _______________________________________

If you are **not based at FAI**, please answer questions 21-22.

21) If you had to leave your current base of operation, what factors would most attract you to FAI? Please rank your top 10 from the following list (1 = Most Important, 10 = Least Important)

a. Cost ____
b. Instrument approaches ____
c. Lease lot availability ____
d. Hangar availability ____
e. Tie-down availability ____
f. Float plane slip availability ____
g. Runway length ____
h. Float Pond length ____
i. Taxiway layout (ease of taxiing) ____
j. Runway condition ____
k. Airport lighting/signage ____
l. Security ____
m. Overall Appearance ____
n. Availability of maintenance facilities ____
o. Availability of fuel ____
p. Variety of runway surfaces ____
q. Other (explain): __________________________
r. Other (explain): __________________________
s. Additional comments ________________________

22) If you **were** based at FAI in the past but moved elsewhere, please select why you left and explain.

a. Policies ____
b. Facilities ____
c. Services ____
d. Other ____

23) Any other comments?

____

____

Would you like to be on our project mailing list or be entered in the drawing for $100 of avgas (for entries received by July 4)?

Name: __________________________ email: ______________________

Address: ____

Telephone: (   ) ___-____

I may be contacted by the project team for clarification of my answers __YES __NO

FAI MASTER PLAN PROJECT

1028 Aurora Drive • Fairbanks AK 99709

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Transportation and Public Facilities

Alaska International Airport System
AIRPORT MANAGER JESSE VANDERZANDEN, A.A.E.
FAIRBANKS INTERNATIONAL AIRPORT

6450 Airport Way, Suite 1
Fairbanks, Alaska 99709
Main: 907.474.2500
Fax: 907.474.2513
Website: www.fai.alaska.gov

February 19, 2013

Dear Alaska State Legislator,

The Fairbanks International Airport (FAI) is currently updating its airport master plan and expects it to be complete by May 2014. The FAI Master Plan hasn't been updated since 2005. The Master Plan update satisfies the national Federal Aviation Administration (FAA) requirement as well as provides a plan for FAI's growth over the next 20 years.

The Master Plan will set a course and provide guidance for future aviation investment in support of the Fairbanks community and the state. The FAI Master Plan is being developed in parallel to and collaboratively with the Alaska International Airport System plan, thus ensuring compatibility between the two plans. This two-year process includes engagement of area-wide stakeholders.

Progress to Date

Led by PDC Engineers, the FAI Master Plan project team has:

- Inventoried FAI airport facilities and existing conditions
- Identified issues affecting the airport, aviation community, and the public
- Initiated on-going public involvement activities
- Received aviation activity forecasts from the AIAS plan
- Developed FAI-specific forecast scenarios
- Conducted a Fairbanks-area pilot survey and analyzed results

Additionally, as part of this master planning effort, the project team is developing an Electronic Airport Layout Plan (eALP) based on GIS data. This is one of the FAA's national pilot projects, and one of only two such projects in Alaska. The eALP will contribute to better management of the National Airspace System using satellite-based approach procedures.

Next Steps

Using the aviation forecast, capacity analysis and future scenarios, the FAI Master Plan team will:

- Identify facility requirements
- Analyze growth scenario's
- Focus on specific challenge areas
- Select a preferred alternative

Based on the preferred alternative, the Master Plan will outline an implementation plan for capital projects. The public and airport stakeholders will continue to be involved throughout this process.

More Information

In addition to the enclosed materials, the project website: http://pdcprojects.info/FAIMasterPlan/index.html includes additional documents such as advisory board meeting minutes and project schedule. If you have any questions or comments on the project, please contact me at 907.474.2500.

Regards,

Jesse VanderZanden, A.A.E.
Airport Manager
Fairbanks International Airport

FREQUENTLY ASKED QUESTIONS

1. ***What is an airport master plan?***
   An airport master plan is a comprehensive study of an airport that describes the short- (5 year), medium (10 year), and long-term (20 year) development plans to meet future aviation demand. The goal of a master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

2. ***Why does the Fairbanks Airport Master Plan need to be updated?***
   The Federal Aviation Administration (FAA) recommends an airport master plan be updated every 5-7 years. The FAI master plan was last updated in 2005. Since then, there has been considerable change in the airports infrastructure, including a new terminal, de-icing pads, taxiway cargo apron, and reconstructed runway. Also, in the past 8 years, there has been change in world economies, aviation activity, aviation technology, and federal funding levels.

3. ***How are stakeholders and the public being involved in the planning process?***
   Public and stakeholder input are important in guiding this Master Plan process. The FAI Advisory Board (FAB) was established to collect ongoing stakeholder input through subject matter experts and community leaders and their networks. The FAB is comprised of representatives from the airlines, airport tenants, general aviation, the business community and airport staff. The FAB meets 2-3 times a year to advise and guide the FAI Master Plan project team at key milestones in the process. A project website (http://pdcprojects.info/FAIMasterPlan/index.html) was developed to keep the public and interested stakeholders informed.

4. ***What is an eALP?***
   An eALP, or Electronic Airport Layout Plan, is a database containing aeronautical information about an airport; one is being developed as part of this master plan effort. This is 1 of 20 FAA national pilot projects and 1 of 2 such projects in Alaska. An eALP can help the airport manage their assets and improve operational efficiency.

5. ***What facilities or infrastructure at FAI may be needed?***
   FAI has gone through significant capital expansion and reconstruction over the past decade, including the main taxiway, runway, passenger terminal, de-icing basins, and cargo apron. It is expected this infrastructure will meet forecast levels for the foreseeable future.

6. ***What general aviation issues will the Master Plan address?***
   It is anticipated that long-term facility plans identified in the last Master Planning effort, (i.e., float pond relocation farther east if warranted by demand), are still relevant today. FAI intends to address the following issues identified during this master plan update: interim strategies with RWY 2R/20L to match present and future design aircraft; how to reduce incursions in and around TWY Bravo; and how to best match airport ramp configuration with market demand.

FREQUENTLY ASKED QUESTIONS

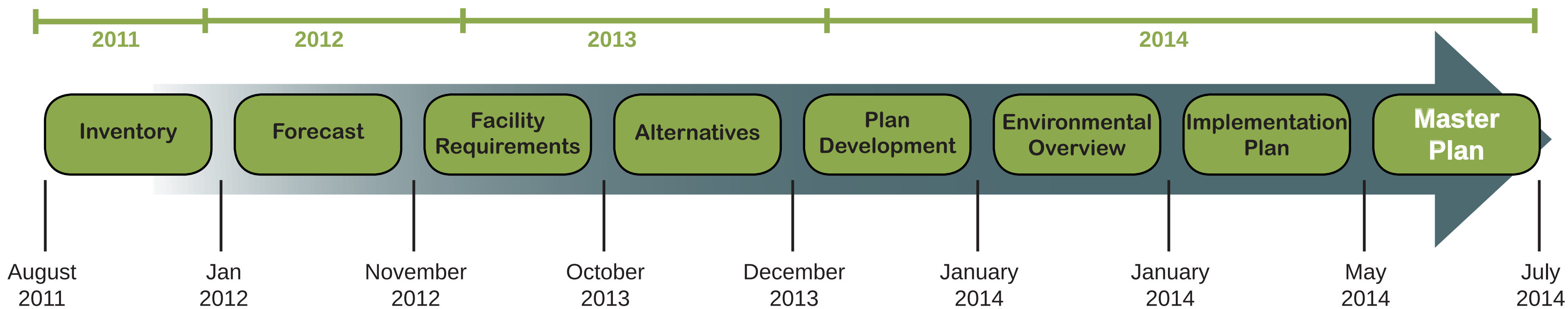
7. ***What are the forecasted activity levels for FAI?***
   Using methodology approved by the FAA, the Alaska International Airport System (AIAS) plan developed passenger and cargo aviation forecasts for Fairbanks and Anchorage, which were then approved by the FAA and endorsed by the airlines. The passengers and cargo forecasts for FAI are 1.2% and 1.3% growth per annum, respectively. In an effort to best utilize AIAS capacity, the FAI Master Plan will look at overall FAI runway capacity and identify incremental constraints preventing full utilization of the same.

8. ***What happens to FAI if the region experiences significant growth, i.e., another "TAPS"?***
   The FAI Master Plan will address this future growth scenario by evaluating historical trends, high growth forecasts, identifying trigger points, and evaluating how to accommodate such growth.

9. ***Will there be opportunities for development at the FAI airport in the future?***
   Yes, the FAI Master Plan will evaluate the existing and potential uses of existing lots, and areas for possible expansion. The team will also consider the replacement of existing facilities to meet long-term aviation demand and non-aviation commercial uses (those consistent with FAA grant assurances).

FAI Master Plan Project Timeline

5.14.14



PROJECT UPDATE

FAI MASTER PLAN PROJECT

ACCOMPLISHMENTS

- Completed an inventory of existing conditions and key issues at FAI
- Conducted a pilot survey of all registered aircraft owners in FAI service area and analyzed results
- Developed an aviation demand forecast for FAI based on the findings from the AIAS forecast effort
- Provided project information to public and stakeholders at FAI Aviation Day in May 2012
- Determined FAI facility requirements based on base forecast and scenario
- Generated airfield and landside development alternatives
- Drafted Implementation Plan, Environmental Overview and Land Use Plan

PROJECT OVERVIEW

The DOT&PF Northern Region solicited an update of the Master Plan for Fairbanks International Airport (FAI). This Master Plan addresses the aviation needs for the Fairbanks area for the next 20 years. The intention is to satisfy aviation demand, be compatible with the environment and support other transportation modes, airport plans and area development. FAI, along with Ted Stevens Anchorage International Airport, comprise the Alaska International Airport System (AIAS).

The Master Plan sets a course and provides guidance for future aviation investment in support of the Fairbanks community and the state. The two year process included engagement of area wide stakeholders. Public engagement occurred throughout the master planning process.

SPRING 2014 UPDATE

Over the past two years, the PDC Engineering/RS&H consultant team has completed the Investigation and Solutions phases of the project with input from FAI staff, airport tenants and users, pilots, stakeholders, and the public. This included: contacting FAI leaseholders, tenants, airport users and airport personnel to gather existing conditions and facility information, completing an inventory of FAI issues, conducting a pilot survey, and developing an aviation demand forecast based on the AIAS forecast.

Most recently, the project team has analyzed facility requirements, and generated Airfield and Landside Development Alternatives in collaboration with the Eastside Working Group, FAI, DOT, the Advisory Board and FAA representatives. The Implementation Plan, Environmental Overview and Land Use Plan have been drafted for review by DOT and the Advisory Board. To date, four meetings have been held with the Advisory Group and there was one public open house. The draft FAI Master Plan will be released in early July. Airport stakeholders and the public will have 30 days to review and provide comments from release date.

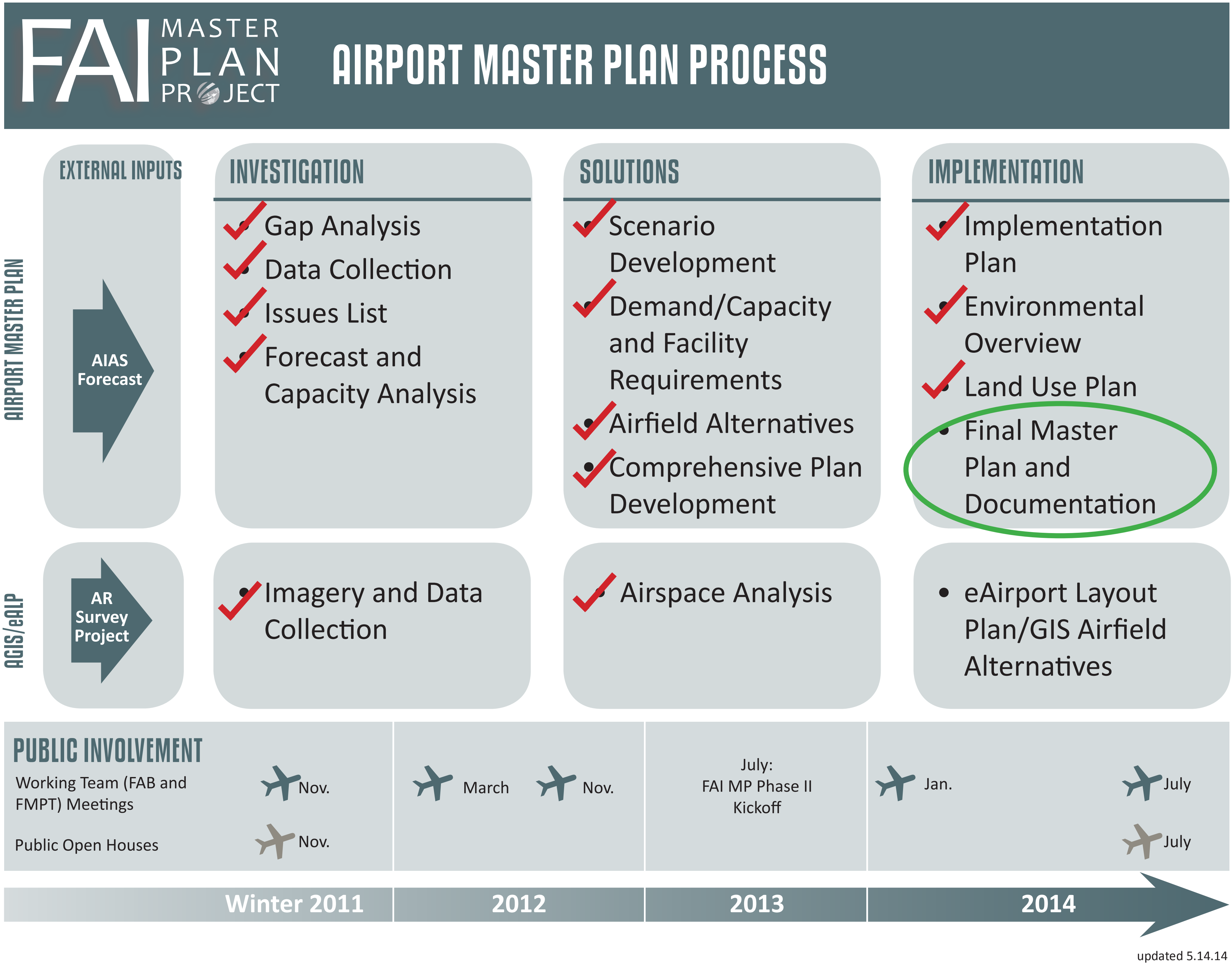
SAVE THE DATE! An Advisory Group meeting and public open house will be held on Wednesday, July 16, 2014 to review and comment on the FAI Master Plan Update.

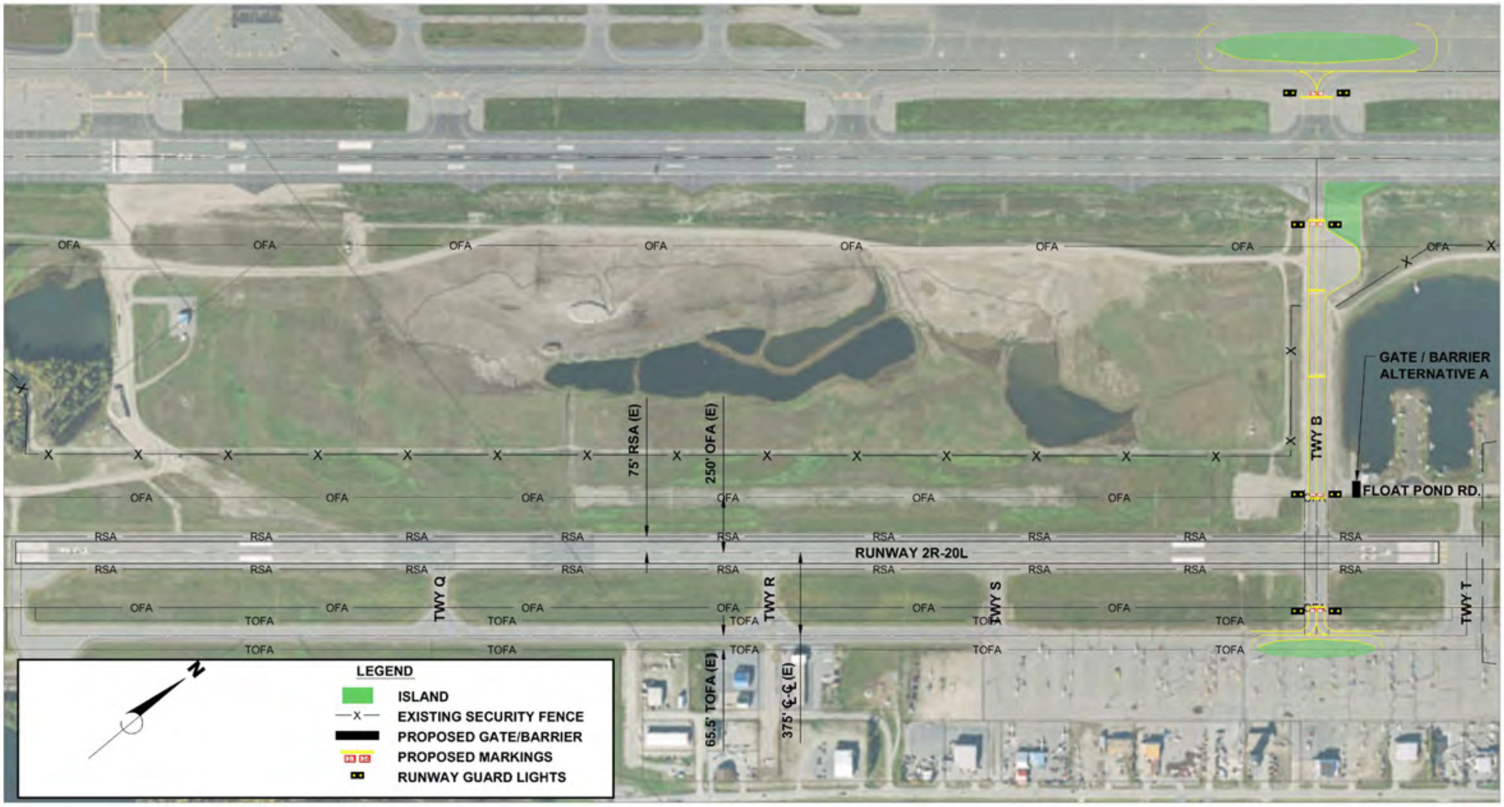
CONTACT US

FAI AIRPORT
Angie Spear, Division Operations Manager
angie.spear@alaska.gov, 907.474.2500

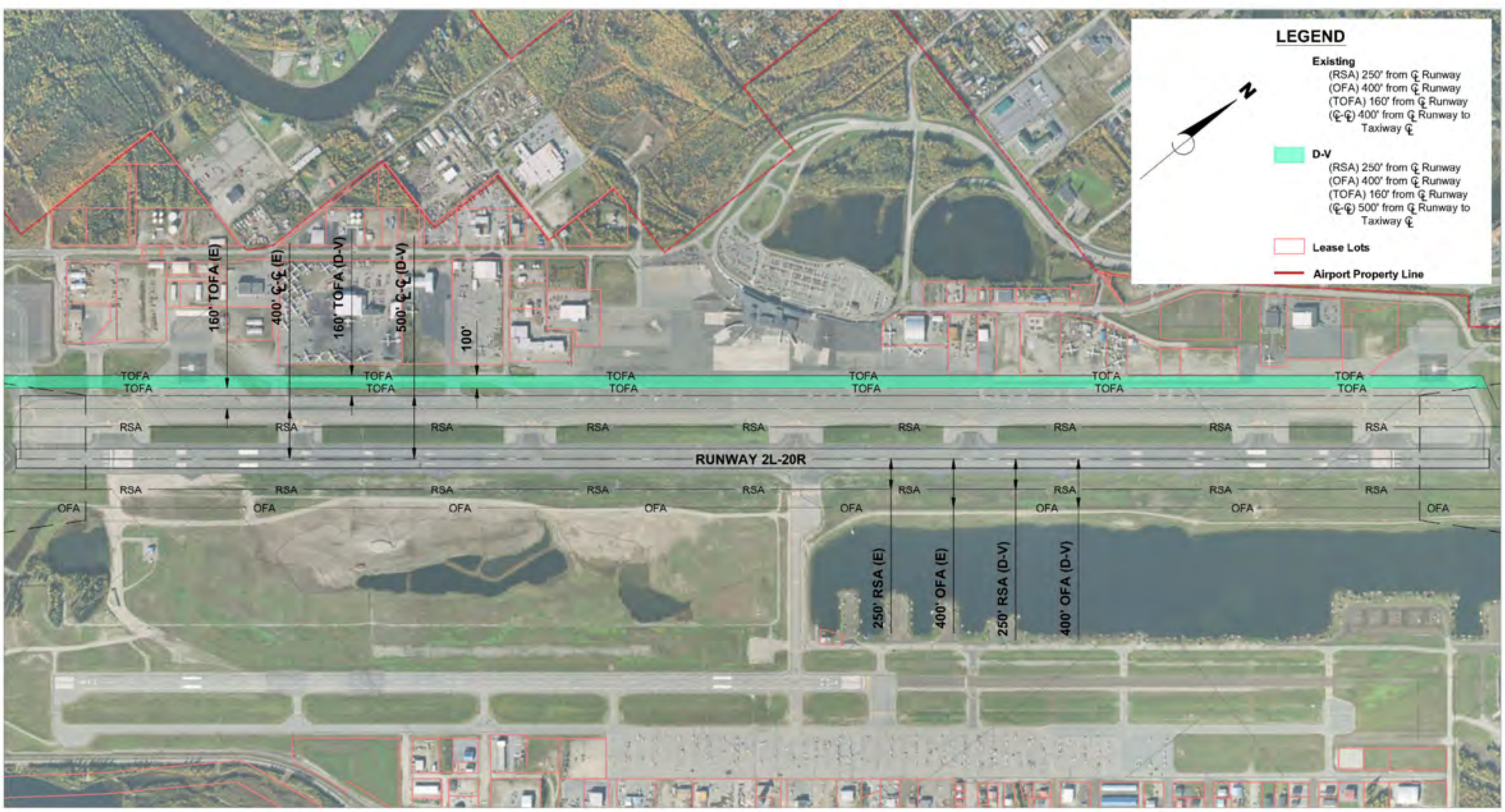
PDC INC. ENGINEERS
Royce Conlon, Project Lead
royceconlon@pdceng.com, 907.452.1414

PROJECT WEBSITE: http://pdcprojects.info/FAIMasterPlan/index.html


FAI MASTER PLAN PROJECT
AIRPORT MASTER PLAN PROCESS
AIRPORT MASTER PLAN
EXTERNAL INPUTS
AIAS Forecast
INVESTIGATION
Gap Analysis
Data Collection
Issues List
Forecast and Capacity Analysis
SOLUTIONS
Scenario Development
Demand/Capacity and Facility Requirements
Airfield Alternatives
Comprehensive Plan Development
IMPLEMENTATION
Implementation Plan
Environmental Overview
Land Use Plan
Final Master Plan and Documentation
AGIS/eALP
AR Survey Project
Imagery and Data Collection
Airspace Analysis
eAirport Layout Plan/GIS Airfield Alternatives
PUBLIC INVOLVEMENT
Working Team (FAB and FMPT) Meetings
Public Open Houses
Nov.
Nov.
March
Nov.
July:
FAI MP Phase II
Kickoff
Jan.
July
July
Winter 2011
2012
2013
2014
updated 5.14.14

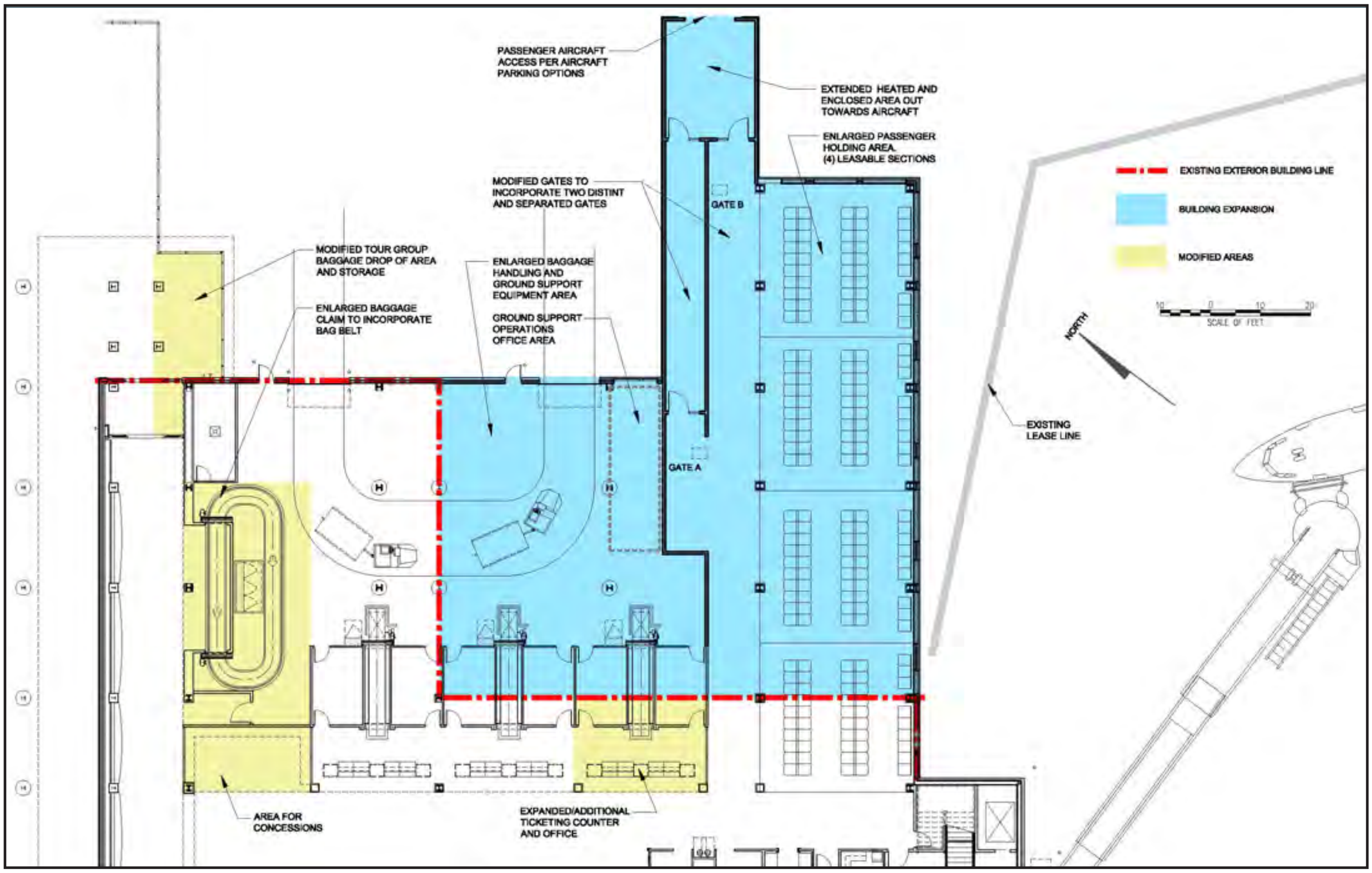


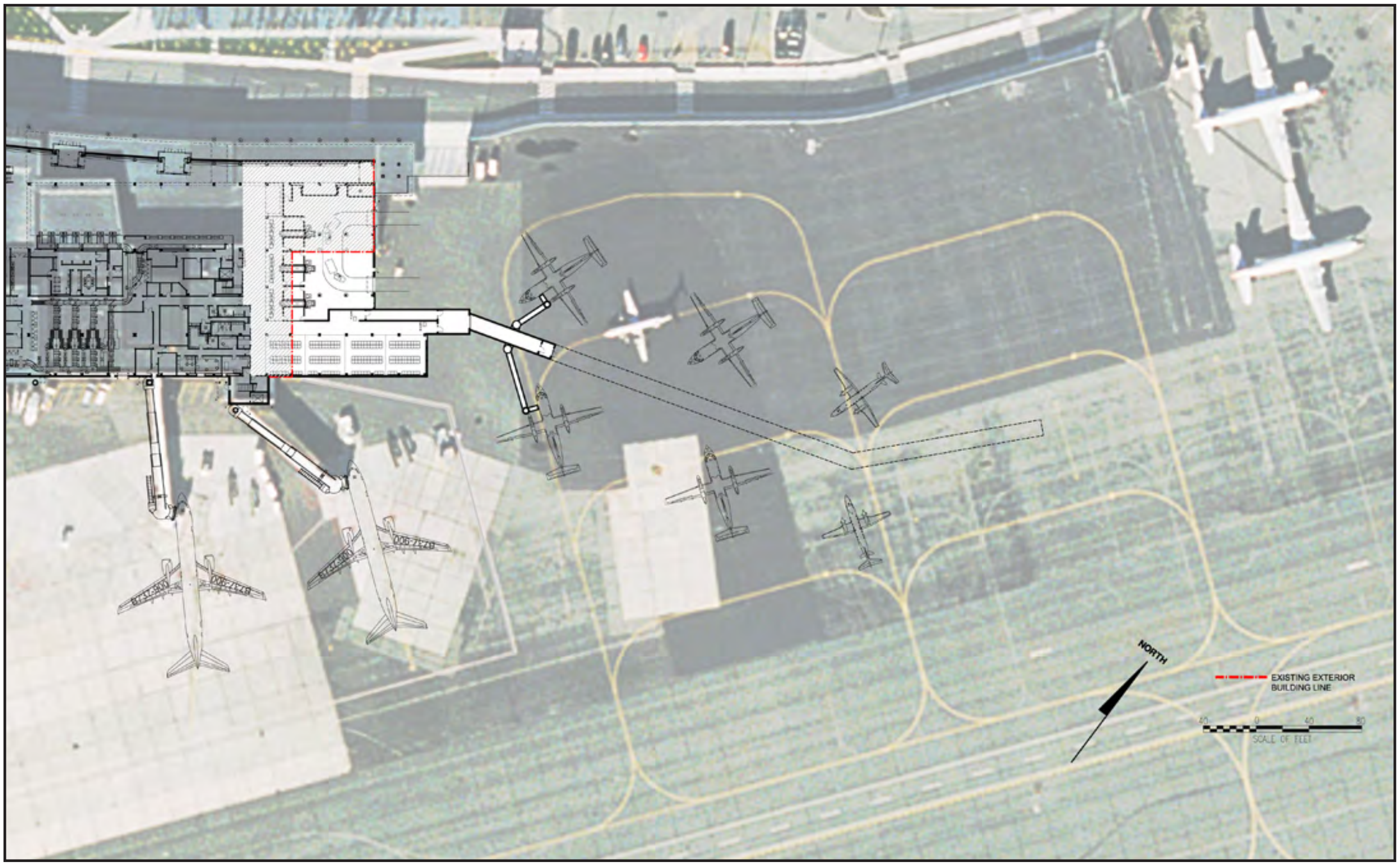
TAXIWAY B - PREFERRED ALTERNATIVE



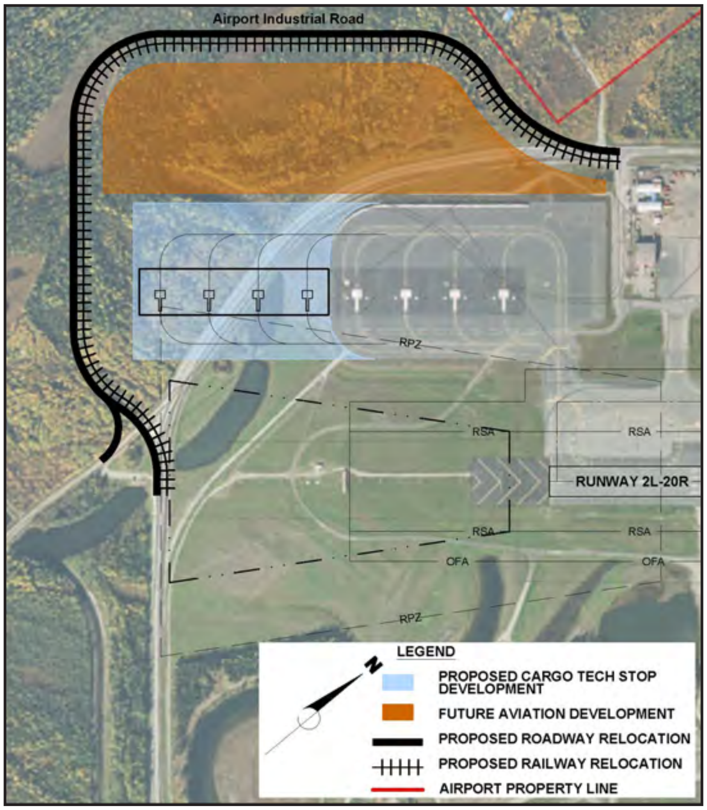
FULL AIRCRAFT DESIGN GROUP V UPGRADE

TAXIWAY B ALTERNATIVE AND ADG V UPGRADE

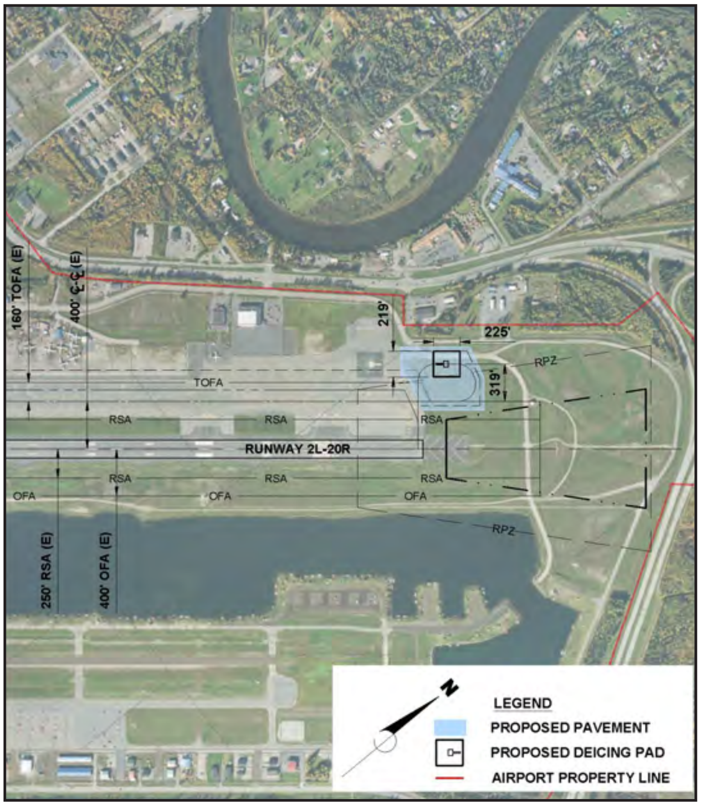




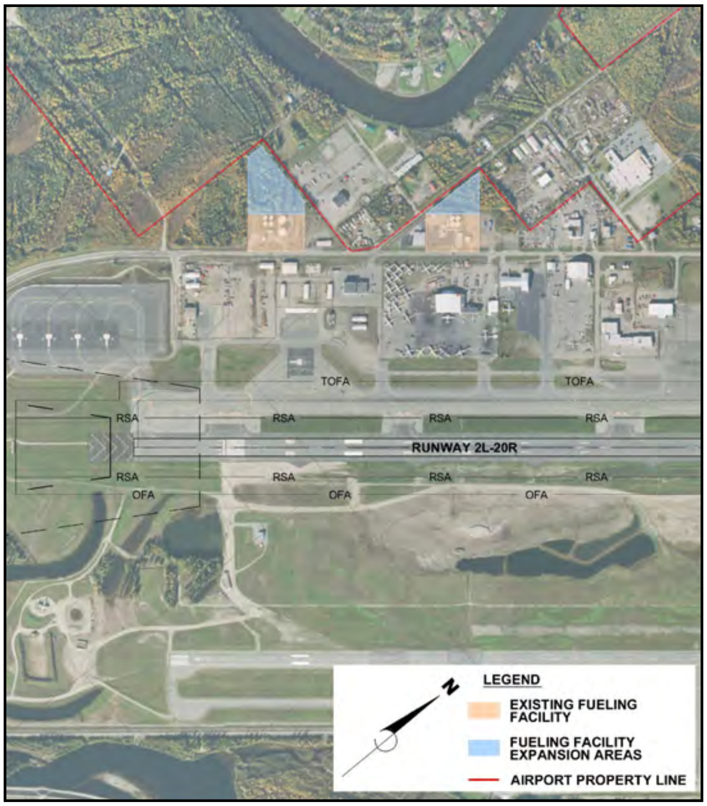
TERMINAL EXPANSION - PREFERRED ALTERNATIVE



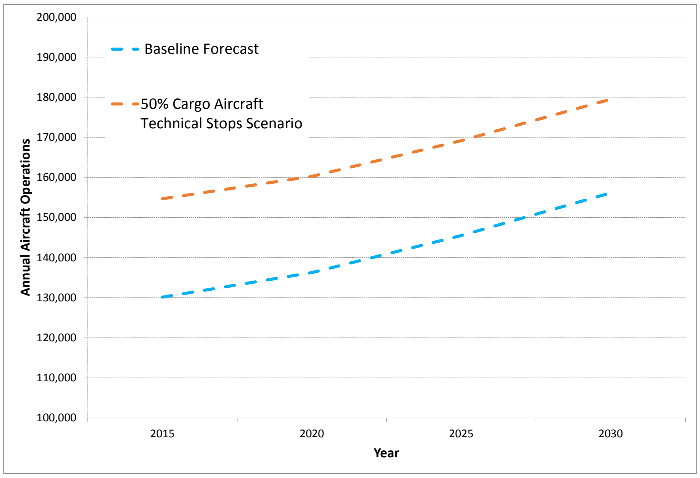
CARGO TECH STOP HARDSTANDS



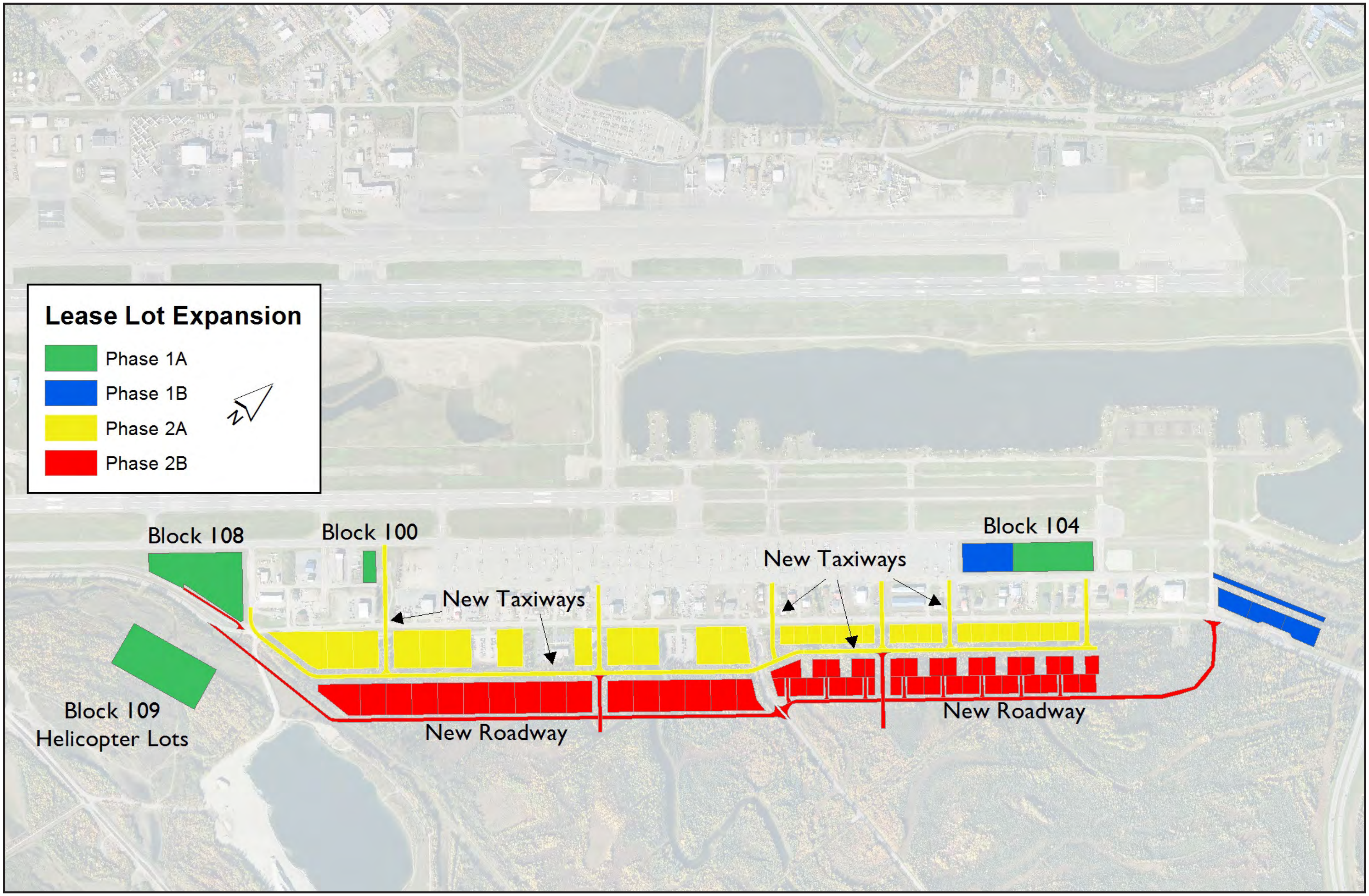
DEICING POSITIONS



FUEL FACILITY EXPANSION



BASELINE FORECAST VS. 50% ANC CARGO SHIFT TO FAI



LEASE LOT EXPANSION

FAI MASTER PLAN PROJECT

PUBLIC OPEN HOUSE

WHEN: Monday,
July 14, 2014
4:00 - 7:00 PM
Brief Presentations at 4:30 & 6:30 pm

WHERE: Pioneer Park, Exhibit Hall
2300 Airport Way
Fairbanks, Alaska 99701

Royce Conlon, Project Lead
royceconlon@pdceng.com, 907.452.1414

http://pdcprojects.info/FAIMasterPlan/index.html

FAI MASTER PLAN PROJECT

PUBLIC OPEN HOUSE SUMMARY

July 14, 2014, 4-7PM

Pioneer Park Exhibit Hall, Fairbanks, Alaska

OPEN HOUSE ATTENDANCE

Public Attendance:

Name	Organization/Affiliation
Dan Brady	FAA
Rita Valentine	Avis Rent a Car
Bob Fath	Civil Air Patrol
Michael Poulsen + Family	Twiggs Alaskan Gifts
Donna Gardino	FMATS
Ron Dearborn	AOPA/GAA
Kellen Spillman	FNSB
Joe Reynolds	FAA
Glen Kravitz	ARCADIS / Fairbanks resident
Michelle Stuver	ARCADIS / Fairbanks resident
Tom George	AOPA
Jae Hill	FNSB
Astro Bell	DOTPF
Carol Scott	Pilot (east ramp) – FGAA
Tim Berg	Pilot – Mechanic Pies FAI GAA

FAI and DOT Staff:

Jesse VanderZanden and Steve Henry

Project Team:

Royce Conlon (PDC), Jeff Mishler (RS&H), Michael Becker (RS&H), Patrick Cotter (PDC), Charles Bettisworth (BNAP), and Cynthia Oistad (ARCADIS)

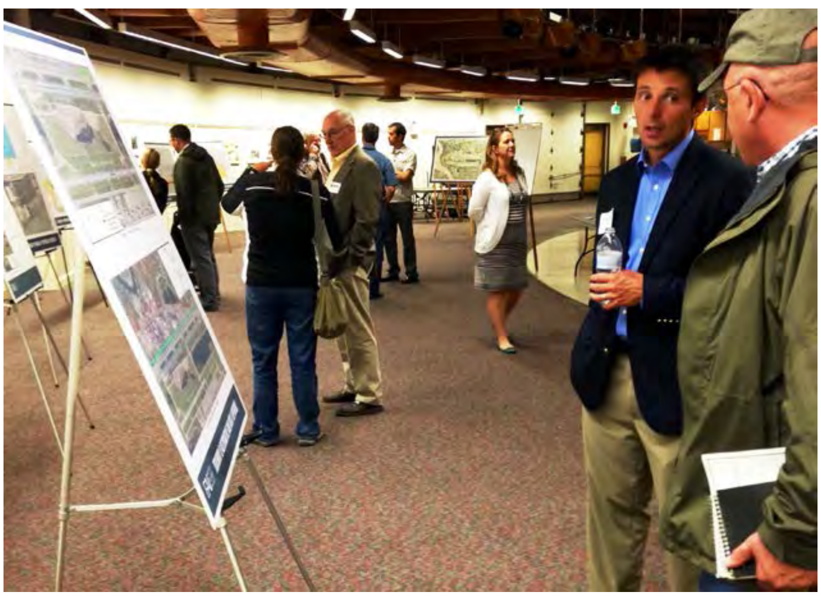
MEETING NOTICES AND HANDOUTS

***Meeting Notices*:** A 3 column x 4 inch print ad was placed in the Fairbanks Daily News-Miner on July 2, 6 and 13, 2014, advertising the Master Plan Public Draft Release and Public Open House. A copy of the print ad is attached to this summary. Notice of the meeting was included on the FAI Master Plan project website (http://pdcprojects.info/FAIMasterPlan/index.html) for 30 days and an announcement was emailed to FAI's staff and stakeholder contact list and FCVB's contact list. A large poster board advertising the Open House displayed in FAI's baggage terminal for two weeks prior to the open house. Invitations were distributed during presentations made by Jesse VanderZanden to the Greater Fairbanks Chamber of Commerce, Chamber Board of Directors, FMATS meetings, GAA Aviation Picnic and Sunrise Rotary Club.

Notice of the open house was included with the FAI MP Draft copies at the Noel Wein Library, FAI Offices and PDC offices. A press release and PSA announcement were issued to local Fairbanks media.

Graphics and Handouts: *24x36 Large Boards displayed at the open house – Taxiway B Alternative and ADG V Upgrade, Terminal Expansion Preferred Alternative, Cargo Tech Stop Hardstands, Deicing, Fuel Facility Expansion, Forecast Diagram, Lease Lot Expansion, Implementation Plan and Projects, Ultimate Implementation Plan (Beyond 20 years); Meeting Advertisement; FAI Master Plan Update Presentation; Instructions on how to Comment on Master Plan; Process Diagram; FAI Airplane kits, and Sign-In Sheet.*

OPEN HOUSE FORMAT



On July 15, 2014, a Public Open House was held at the Pioneer Park Exhibit Hall to provide an overview of the Fairbanks International Airport Master Plan Project Draft, introduce the project team and seek comments and public feedback. Each person was greeted individually by a member of the project team.

Jesse VanderZanden, FAI Airport Director, thanked everyone for coming and commented on how important public involvement has been to the Master Plan development process over the past two years.

Jeff Mishler gave a 20-minute overview of the FAI Master Plan, summary of Public Involvement, implementation plan and the key development recommendations. The objective of Airport Master Plan Update is to steer FAI's development over the next 20 years. The plan describes FAI's near-, mid-, and long-term development plans and identifies the triggers necessary to begin those projects. A copy of this presentation is included with this summary.

The remainder of the Open House was reserved for a free-style format. Large-scale 24x36 aerial boards of the FAI Airport and Masterplan development/alternative recommendations were put on display around the Exhibit Hall for ease of discussion and review by the public. Representatives from the Project Team and the Airport were stationed by each board to facilitate discussion, questions and comments from the public. Three copies of the printed Master Plan were laid out on a table for review.

Handouts included the FAI Master Plan presentation, Instructions on how to comment, comment cards and the Master Plan process diagram. FAI Master Plan balsa wood airplane kits were given to those in attendance.

OUTCOMES

During the Open House, those in attendance from the public, airport stakeholders and aviation community made the following observations about the Master Plan development recommendations.

Comments:

- Support for proposed Taxiway B alternative as defined in the Master Plan. Collaboration with the FAA, users and Airport resulted in an acceptable solution.
- Electric power is desired for the Float Pond.
- Concerned with building in the Runway Protection Zone.
- Float pond ramp needs maintenance.
- Proposed float pond road gate should be located close to Taxiway B on the west side of the gas station.

- Taxiway B should be relocated to address issues and hot spots.
- An accurate count of traffic should be recorded on Taxiway B.
- Excavated material should be used to create more "fingers" in the Float Pond.
- Airport retailer noted they were interested in the terminal expansion as it may relate to their future operations.
- The Master Plan was very easy to access via the project website and the information was well organized for public to understand the project and submit public comments. "This team is doing it right."
- FNSB discussed height restrictions zoning for airport cell towers.

NEXT STEPS

The Project Team will continue to review comments from the public for this FAI Master Plan until August 30, 2014. Completion of the final version of the Master Plan Update is anticipated in the Fall 2014, and will be posted on the project website.

FAI MASTER PLAN PROJECT

The Fairbanks International Airport (FAI) and DOT&PF Northern Region have prepared the DRAFT FAI Master Plan Update to address the aviation needs for the Fairbanks area for the next 20 years.

Please join us at a public open house to learn about the proposed development alternatives for the Fairbanks International Airport and provide your input.

Starting July 2nd, public can review the Draft Master Plan and provide on-line comments via the below project website.

FOR MORE INFO:

PDC INC. ENGINEERS
Royce Conlon, Project Lead
royceconlon@pdceng.com, 907.452.1414

PUBLIC OPEN HOUSE

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WHERE: Pioneer Park, Exhibit Hall
2300 Airport Way
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http://pdcprojects.info/FAIMasterPlan/index.html

FAI MASTER PLAN PROJECT

AIRPORT MASTER PLAN PROCESS

	EXTERNAL INPUTS	INVESTIGATION	SOLUTIONS	IMPLEMENTATION
AIRPORT MASTER PLAN	AIAS Forecast	✓ Gap Analysis ✓ Data Collection ✓ Issues List ✓ Forecast and Capacity Analysis	✓ Scenario Development ✓ Demand/Capacity and Facility Requirements ✓ Airfield Alternatives ✓ Comprehensive Plan Development	✓ Implementation Plan ✓ Environmental Overview ✓ Land Use Plan • Final Master Plan and Documentation
AGIS/eALP	AR Survey Project	✓ Imagery and Data Collection	✓ Airspace Analysis	• eAirport Layout Plan/GIS Airfield Alternatives

PUBLIC INVOLVEMENT

	Winter 2011	2012	2013	2014
Working Team (FAB and FMPT) Meetings	Nov.	March, Nov.	July: FAI MP Phase II Kickoff	Jan., July
Public Open Houses	Nov.			July

updated 5.14.14

Fairbanks International Airport Master Plan
Draft Available – Seeking Public Comments

The Fairbanks International Airport (FAI) and DOT&PF Northern Region are updating the Airport Master Plan to steer FAI's development over the next 20 years. The plan includes FAI's near-, mid-, and long-term development plans and identifies the triggers necessary to begin those projects. This plan serves as a framework to cost-effectively guide future airport development.

From July 2 to August 30, 2014, the public is encouraged to review the Draft Master Plan Update at http://pdcprojects.info/FAIMasterPlan/index.html and provide comments for consideration and response by the Project Team. Completion of the final version of the Master Plan Update is anticipated in Fall 2014, and will be posted on the project website.

HOW CAN I SUBMIT COMMENTS?

1. **EMAIL**: PatrickCotter@pdceng.com
2. **FAX**: 907-456-2707 (Attn: Patrick Cotter, Fairbanks Airport Master Plan)
3. **MAIL**: PDC Inc. Engineers
   Patrick Cotter, Fairbanks Airport Master Plan
   1028 Aurora Drive
   Fairbanks, AK 99709

CONTACT:

For more information, please contact Royce Conlon, Project Manager, PDC Inc. Engineers at 907-452-1414 or royceconlon@pdceng.com.

Alaska Department of Transportation & Public Facilities

Fairbanks Airport Master Plan Update

Public Open House
July 14, 2014

Introduction to FAI

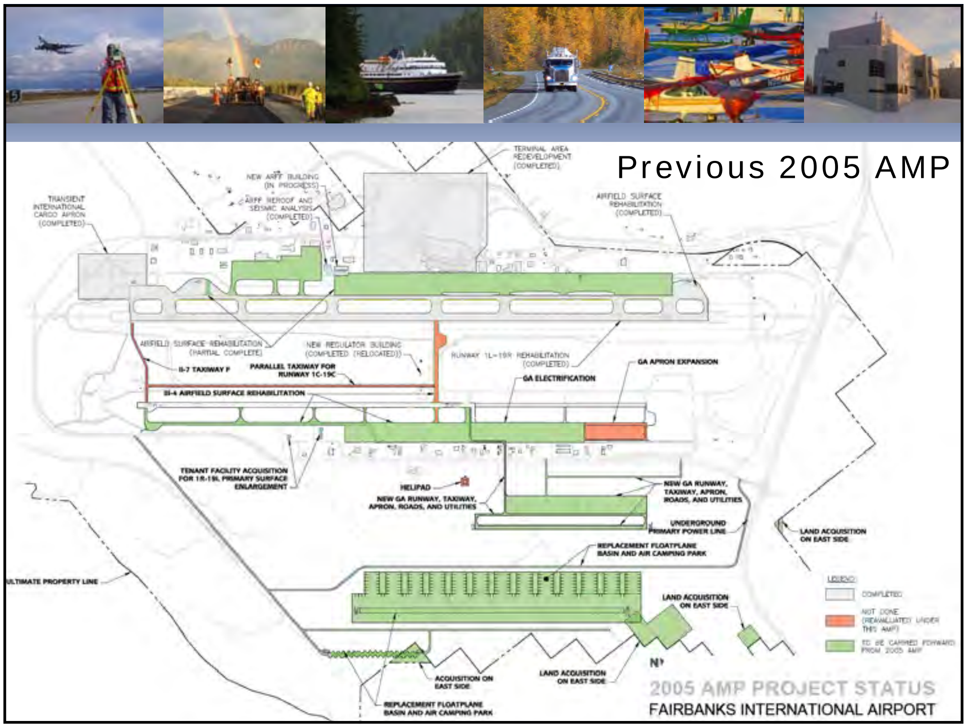
- ANC + FAI = Alaska International Airport System
- Both Airports Master Plans out for public comment
- Both rely on same forecast assumptions
- Forecasts drive improvements
- West side / East side
- 50% cargo scenario

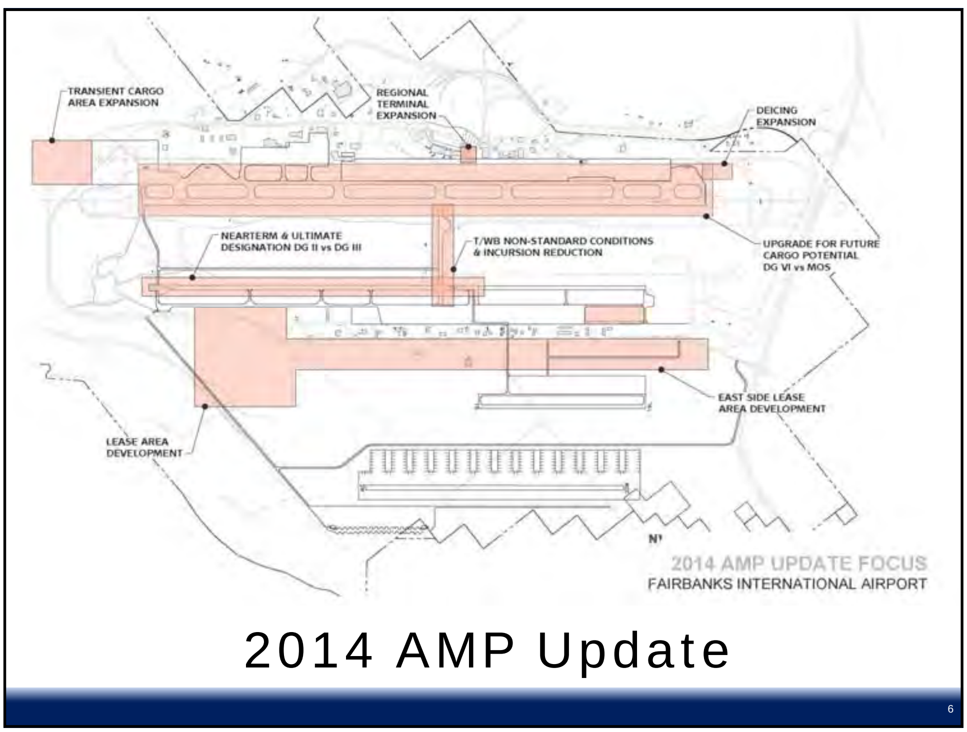
What is an Airport Master Plan?

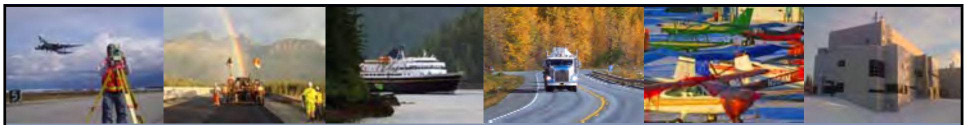
- Includes short (5-yr), med (10-yr) and long term (20-yr) development plans
- Provides framework to guide future airport development

Public Input has been Important to this Process

- Essential the AMP reflects goals of FAI, DOT, airlines, tenants, GA, community, travelers and public
  - Website
  - Pilot Survey
  - (5) Advisory Board Meetings
  - (2) Public Open Houses
  - (2) Aviation Day Exhibits
  - Legislative Information Packets
  - Presentations to Civic/Community Groups, FMATS Committees, GA Picnic


Previous 2005 AMP
TRANSIENT INTERNATIONAL CARGO APRON (COMPLETED)
NEW ARFF BUILDING (IN PROGRESS)
ARFF REROOF AND SEISMIC ANALYSIS (COMPLETED)
TERMINAL AREA REDEVELOPMENT (COMPLETED)
AIRFIELD SURFACE REHABILITATION (COMPLETED)
AIRFIELD SURFACE REHABILITATION (PARTIAL COMPLETE)
NEW REGULATOR BUILDING (COMPLETED (RELOCATED))
RUNWAY 1L-19R REHABILITATION (COMPLETED)
II-7 TAXIWAY F
PARALLEL TAXIWAY FOR RUNWAY 1C-19C
GA APRON EXPANSION
GA ELECTRIFICATION
III-4 AIRFIELD SURFACE REHABILITATION
TENANT FACILITY ACQUISITION FOR 1R-19L PRIMARY SURFACE ENLARGEMENT
HELIPAD
NEW GA RUNWAY, TAXIWAY, APRON, ROADS, AND UTILITIES
NEW GA RUNWAY, TAXIWAY, APRON, ROADS, AND UTILITIES
UNDERGROUND PRIMARY POWER LINE
LAND ACQUISITION ON EAST SIDE
REPLACEMENT FLOATPLANE BASIN AND AIR CAMPING PARK
ULTIMATE PROPERTY LINE
LAND ACQUISITION ON EAST SIDE
LEGEND
COMPLETED
NOT DONE (REEVALUATED UNDER THIS AMP)
TO BE CARRIED FORWARD FROM 2005 AMP
ACQUISITION ON EAST SIDE
LAND ACQUISITION ON EAST SIDE
REPLACEMENT FLOATPLANE BASIN AND AIR CAMPING PARK
2005 AMP PROJECT STATUS
FAIRBANKS INTERNATIONAL AIRPORT


TRANSIENT CARGO AREA EXPANSION
REGIONAL TERMINAL EXPANSION
DEICING EXPANSION
NEARTERM & ULTIMATE DESIGNATION DG II vs DG III
T/WB NON-STANDARD CONDITIONS & INCURSION REDUCTION
UPGRADE FOR FUTURE CARGO POTENTIAL DG VI vs MOS
EAST SIDE LEASE AREA DEVELOPMENT
LEASE AREA DEVELOPMENT
2014 AMP UPDATE FOCUS
FAIRBANKS INTERNATIONAL AIRPORT
2014 AMP Update
6



Forecasts

Two forecasts:

1. Base FAI forecast

Year	Passenger	All-Cargo	Air Taxi and Other	General Aviation	Military	Total
2010	40,496	5,062	2,603	71,099	2,721	121,981
2030	51,664	8,010	3,329	90,295	2,830	156,128

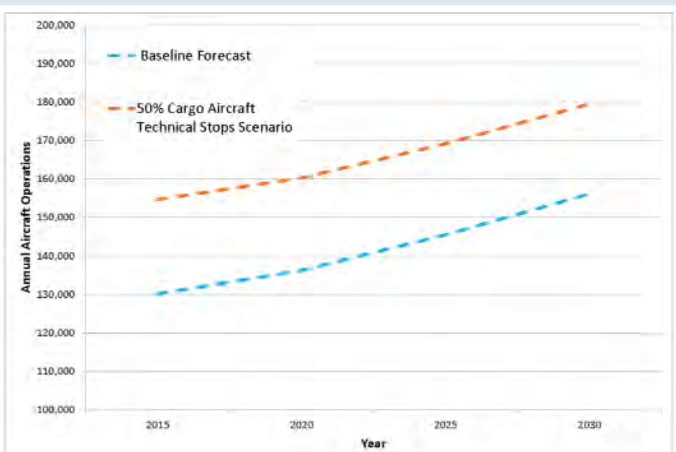
Source: AIAS Forecast, Table 10.13

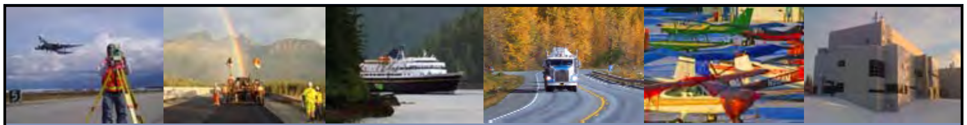
2. ANC 50% cargo shift scenario

Year	Passenger	All-Cargo	Air Taxi and Other	General Aviation	Military	Total
2010	40,496	32,437	2,603	71,099	2,721	149,356
2030	51,664	35,385	3,329	90,295	2,830	183,503

Source: AIAS Forecast, Table 10.13 adjusted to reflect an increase of 75 daily all-cargo operations

Base Forecast vs 50% Cargo Shift





Implementation Matrix

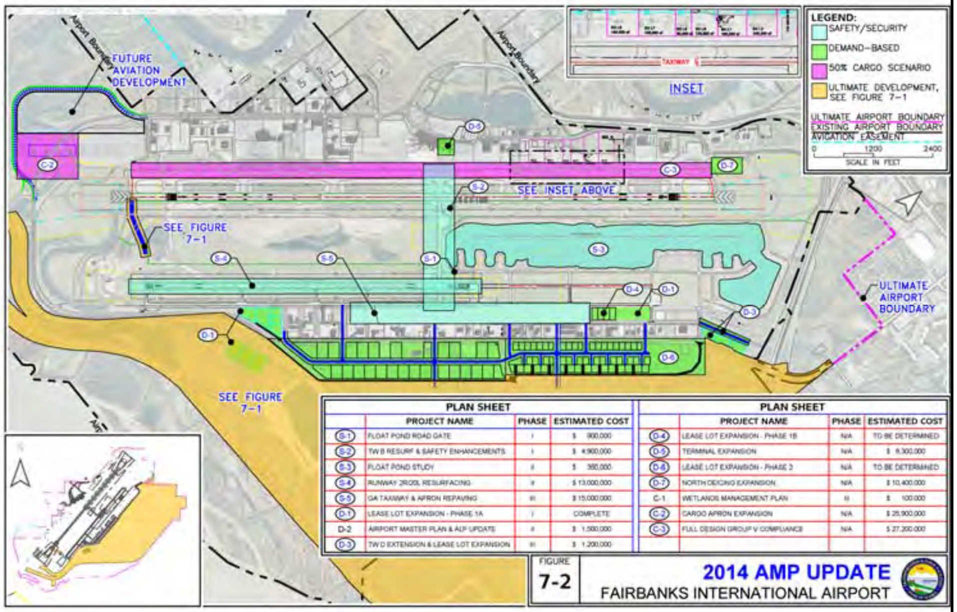
	Design Group VI Upgrade	Design Group V Upgrade (All-Weather Capability)	Deicing Positions	Cargo Tech-Stop Parking	Fuel Storage Area
Baseline Forecast Scenario	NO	NO*	1 Additional	Sufficient	Sufficient
50% ANC Cargo Shift Scenario	NO	YES*	2 Additional	4 -6 Additional	Sufficient

*Continue current 747-8 operations, coordinate with FAA for formal 747-8 MOS

Implementation Plan

Projects grouped into three categories:

1. Safety/Security
2. Demand-Based
3. 50% Cargo Scenario



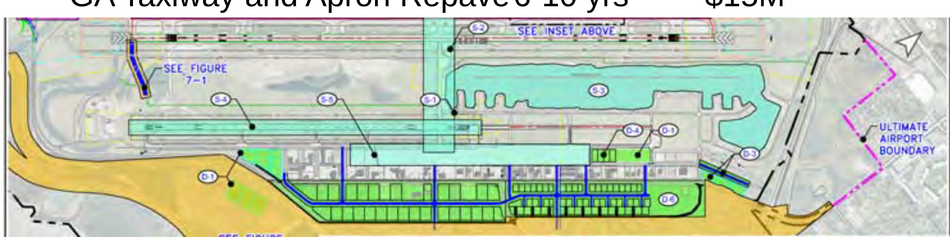
PLAN SHEET			
	PROJECT NAME	PHASE	ESTIMATED COST
S-1	FLOAT POND ROAD GATE	I	$ 900,000
S-2	TW B RESURF & SAFETY ENHANCEMENTS	I	$ 4,900,000
S-3	FLOAT POND STUDY	II	$ 350,000
S-4	RUNWAY 2R/20L RESURFACING	II	$ 13,000,000
S-5	GA TAXIWAY & APRON REPAVING	III	$ 15,000,000
D-1	LEASE LOT EXPANSION - PHASE 1A	I	COMPLETE
D-2	AIRPORT MASTER PLAN & ALP UPDATE	II	$ 1,500,000
D-3	TW D EXTENSION & LEASE LOT EXPANSION	III	$ 1,200,000

PLAN SHEET			
	PROJECT NAME	PHASE	ESTIMATED COST
D-4	LEASE LOT EXPANSION - PHASE 1B	N/A	TO BE DETERMINED
D-5	TERMINAL EXPANSION	N/A	$ 8,300,000
D-6	LEASE LOT EXPANSION - PHASE 2	N/A	TO BE DETERMINED
D-7	NORTH DEICING EXPANSION	N/A	$ 10,400,000
C-1	WETLANDS MANAGEMENT PLAN	II	$ 100,000
C-2	CARGO APRON EXPANSION	N/A	$ 25,900,000
C-3	FULL DESIGN GROUP V COMPLIANCE	N/A	$ 27,200,000

Implementation Plan

Safety/Security Projects

- Float Pond Road Gate 0-5 yrs $900K
- TWY B Enhancements 0-5 yrs $4.9M
- Float Pond Study 6-10 yrs $350K
- Runway 2R/20L Resurfacing 6-10 yrs $13M
- GA Taxiway and Apron Repave 6-10 yrs $15M

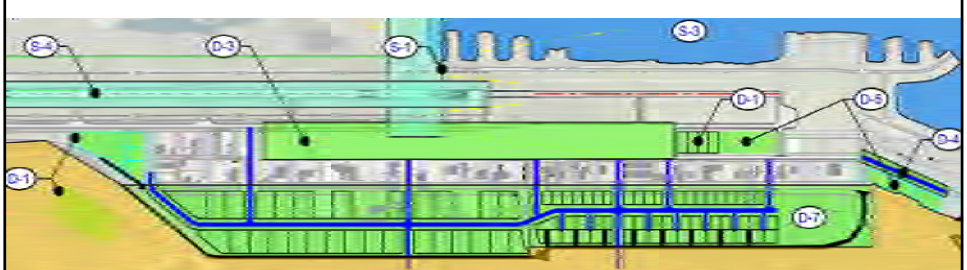


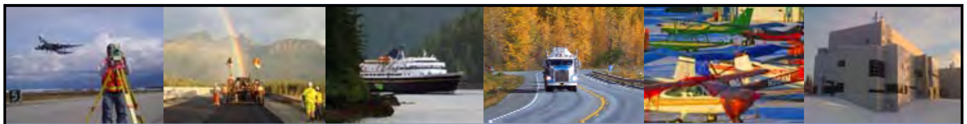
Demand-Based Projects

- Lease Lot / TWY D Extension $1.2M
- Terminal Expansion $8.3M
- North Deicing Expansion $10.4M

Lease Lot / TWY D Extension

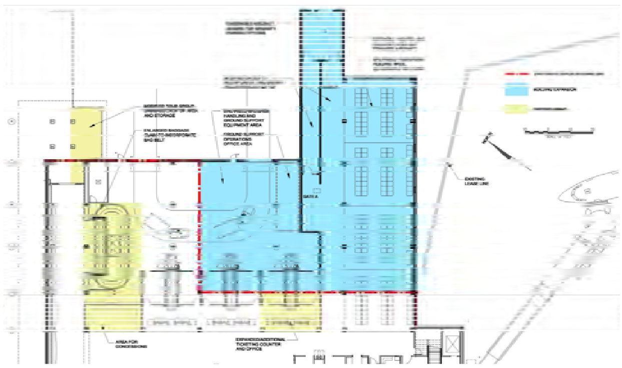
- Trigger: 75% occupancy $1.2M





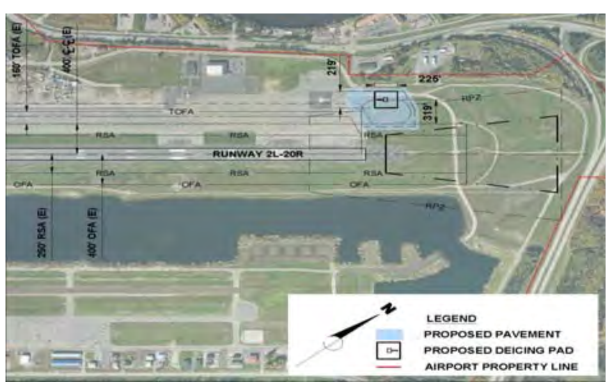
Terminal Expansion

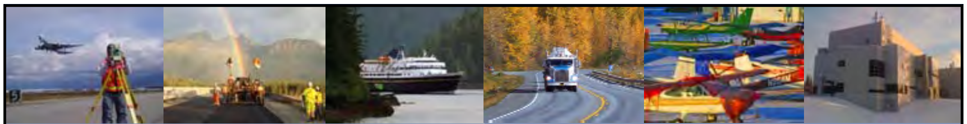
- Trigger: peak passenger volume = 78/hour $8.3M



North Deicing Expansion

- Trigger: demand = 6/hour $10.4M



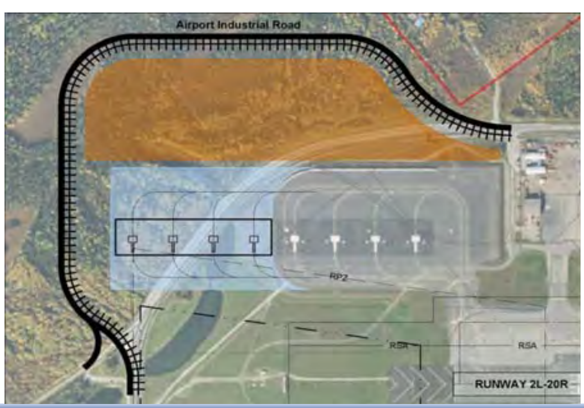


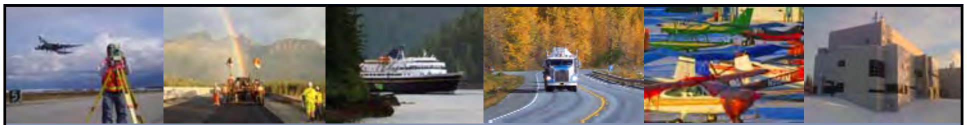
50% Cargo Scenario Projects

- Wetlands Management Plan $100K
- Cargo Apron Expansion $25.9M
- Full Design Group V Compliance $27.2M

Cargo Apron Expansion

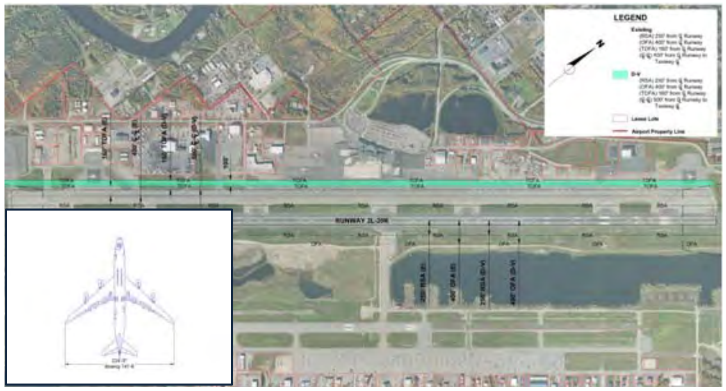
- Trigger: 4-5 tech stops/hour or 25/day $25.9M





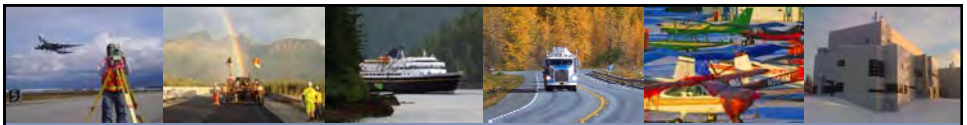
Aircraft Design Group V Upgrade
(All Weather)

- Trigger: cargo ops trend toward 300/yr $27.2M



We Want to Hear from You!

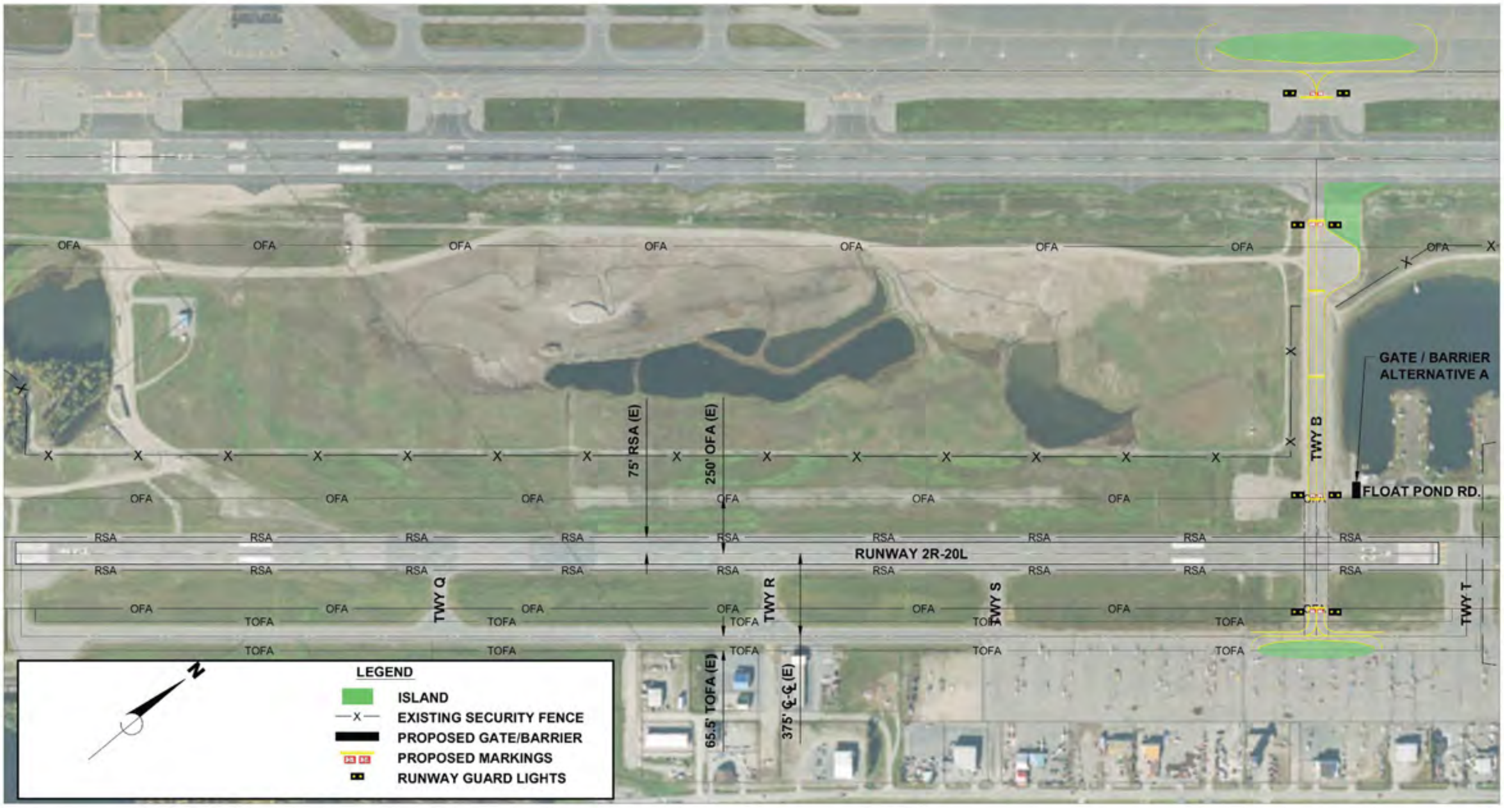
- **Draft posted on website**
- **Copies at Noel Wien Library, PDC and Airport Offices**
- **Public Comment Deadline** - August 30



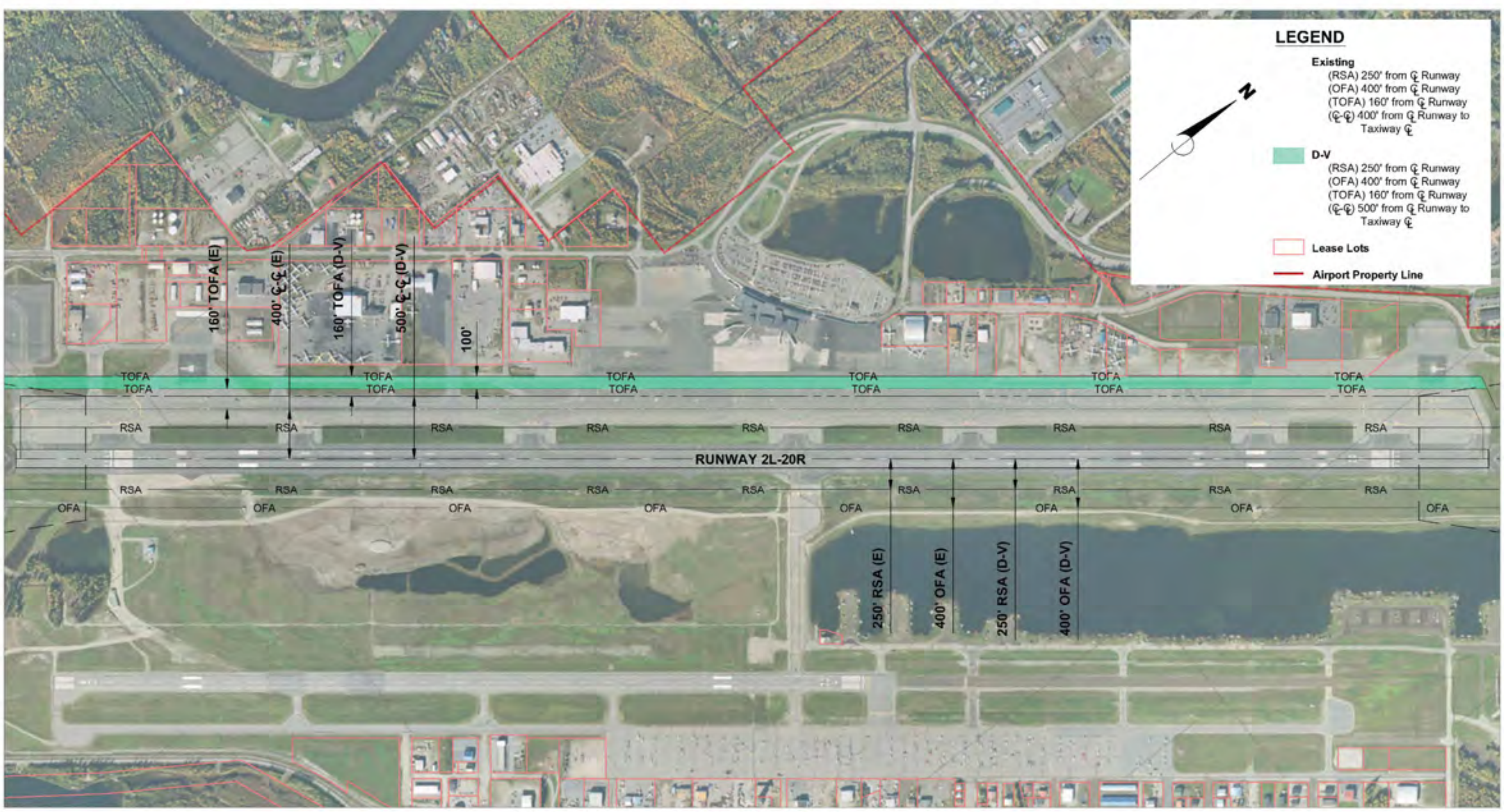
Project Website

http://pdcprojects.info/FAIMasterPlan/index.html

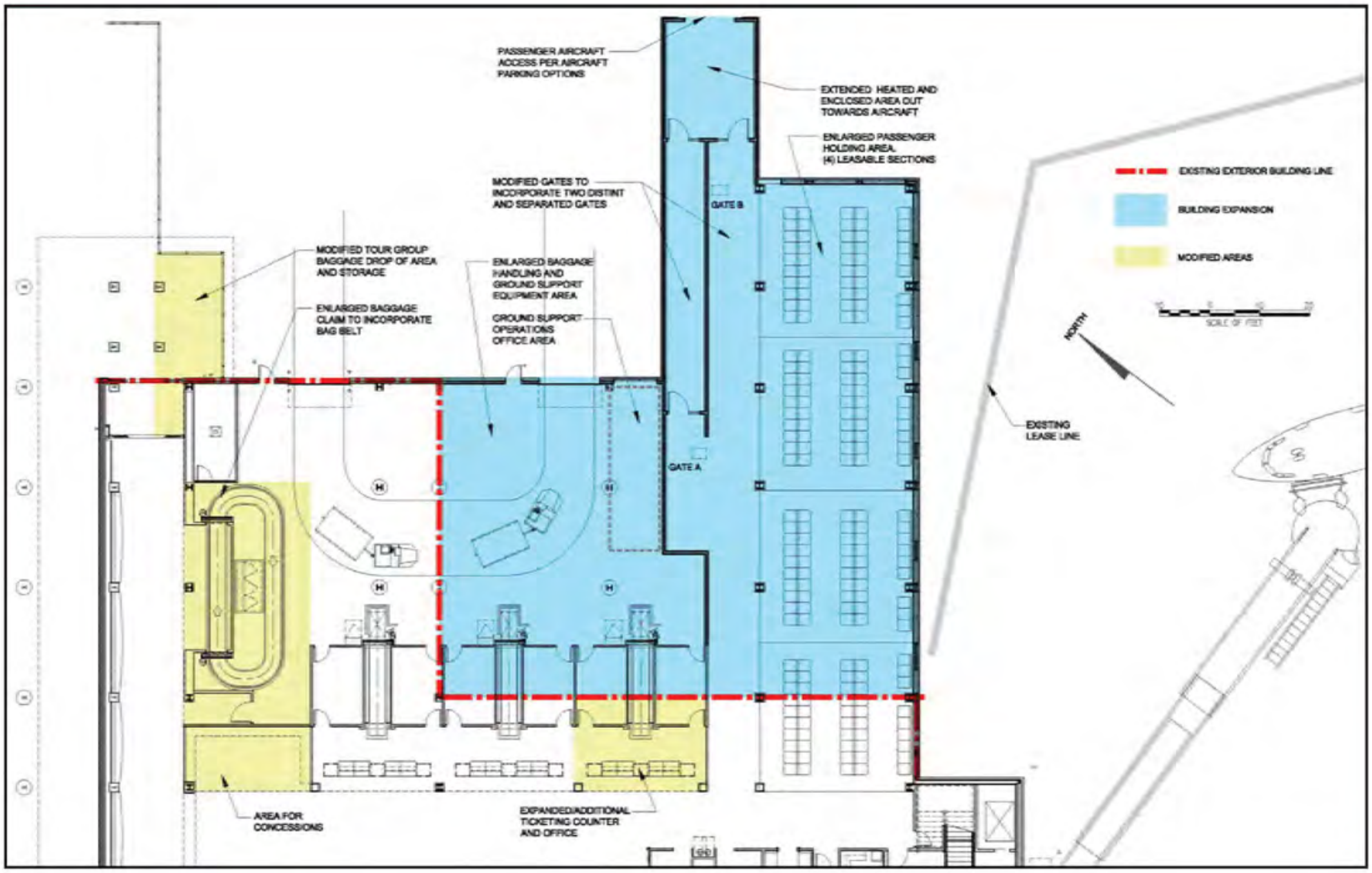
Questions & Comments?

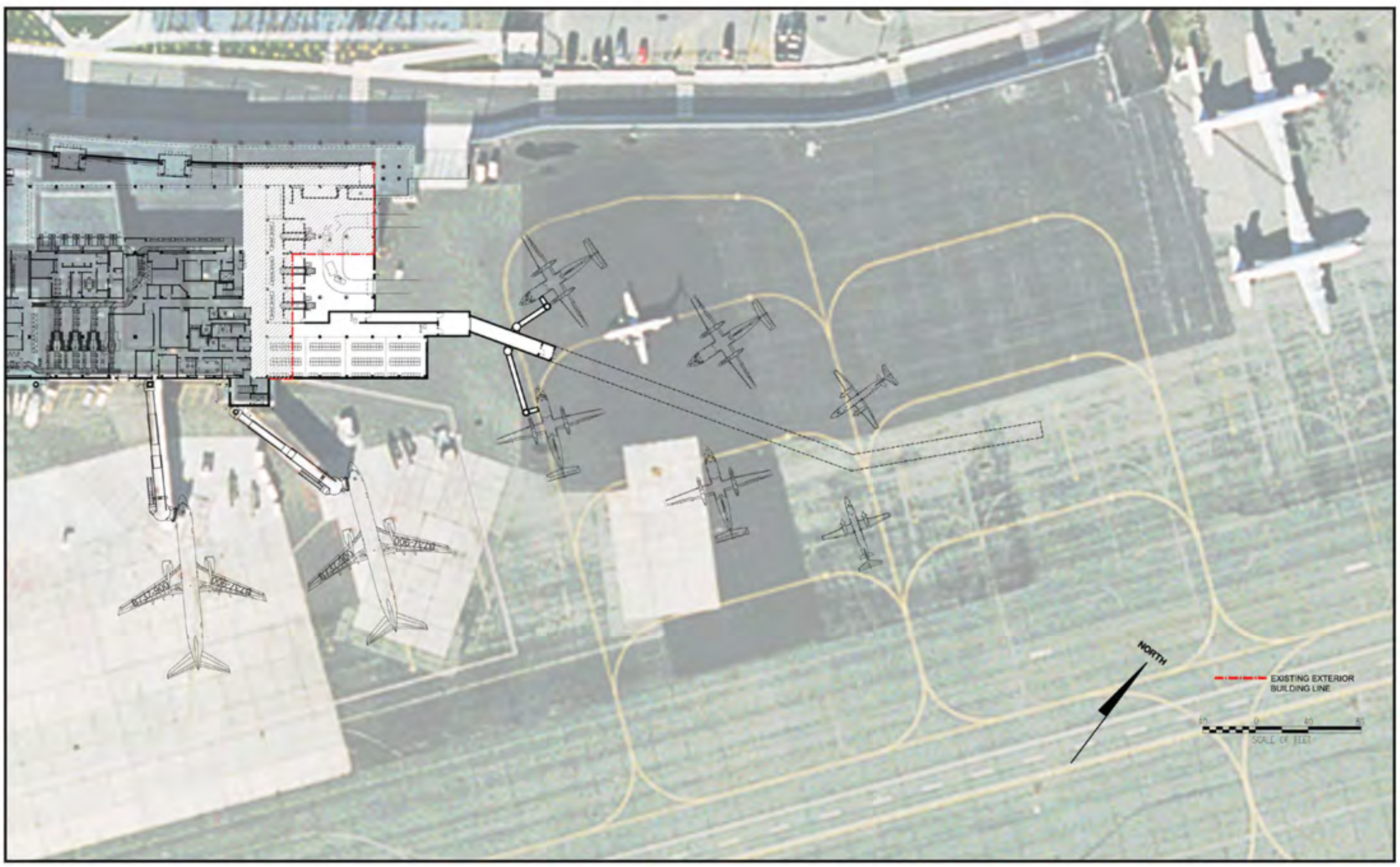


TAXIWAY B - PREFERRED ALTERNATIVE

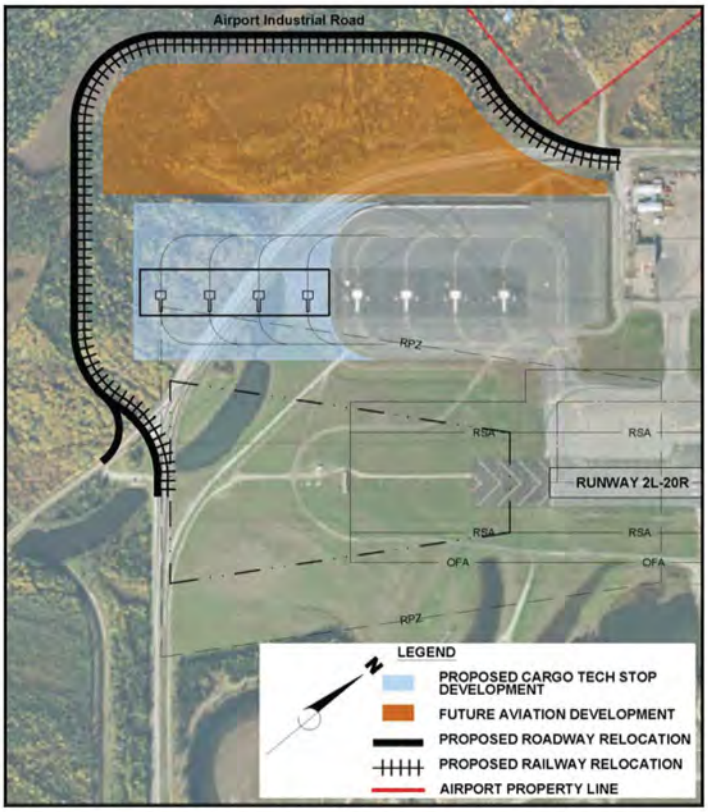


FULL AIRCRAFT DESIGN GROUP V UPGRADE

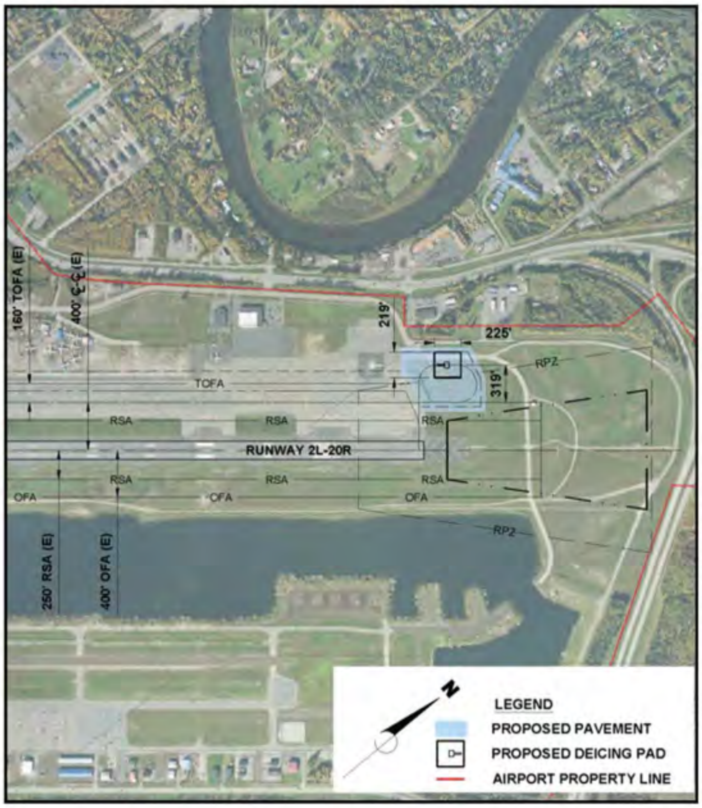




TERMINAL EXPANSION - PREFERRED ALTERNATIVE

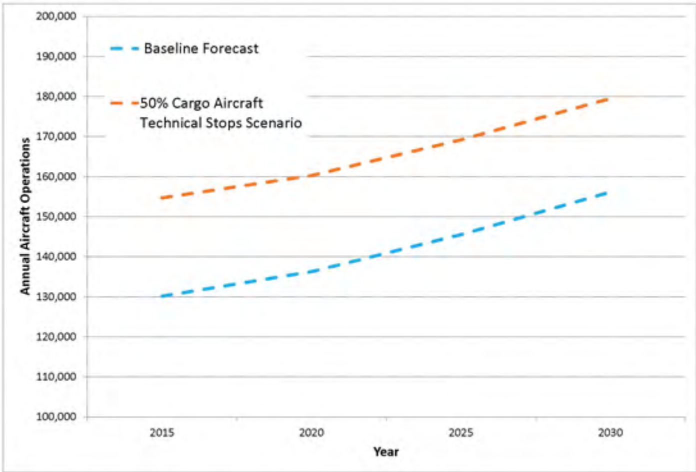


CARGO TECH STOP HARDSTANDS

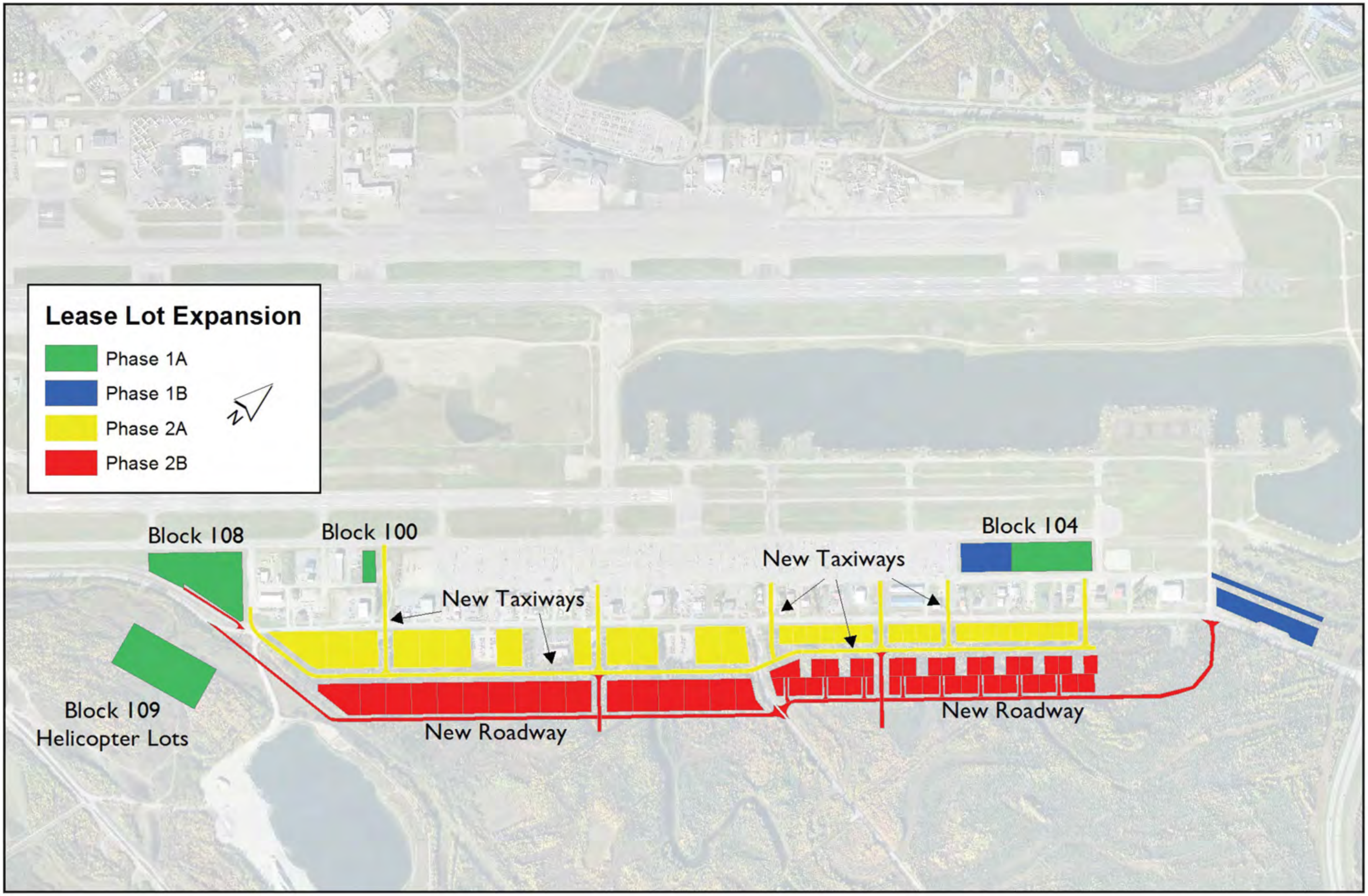


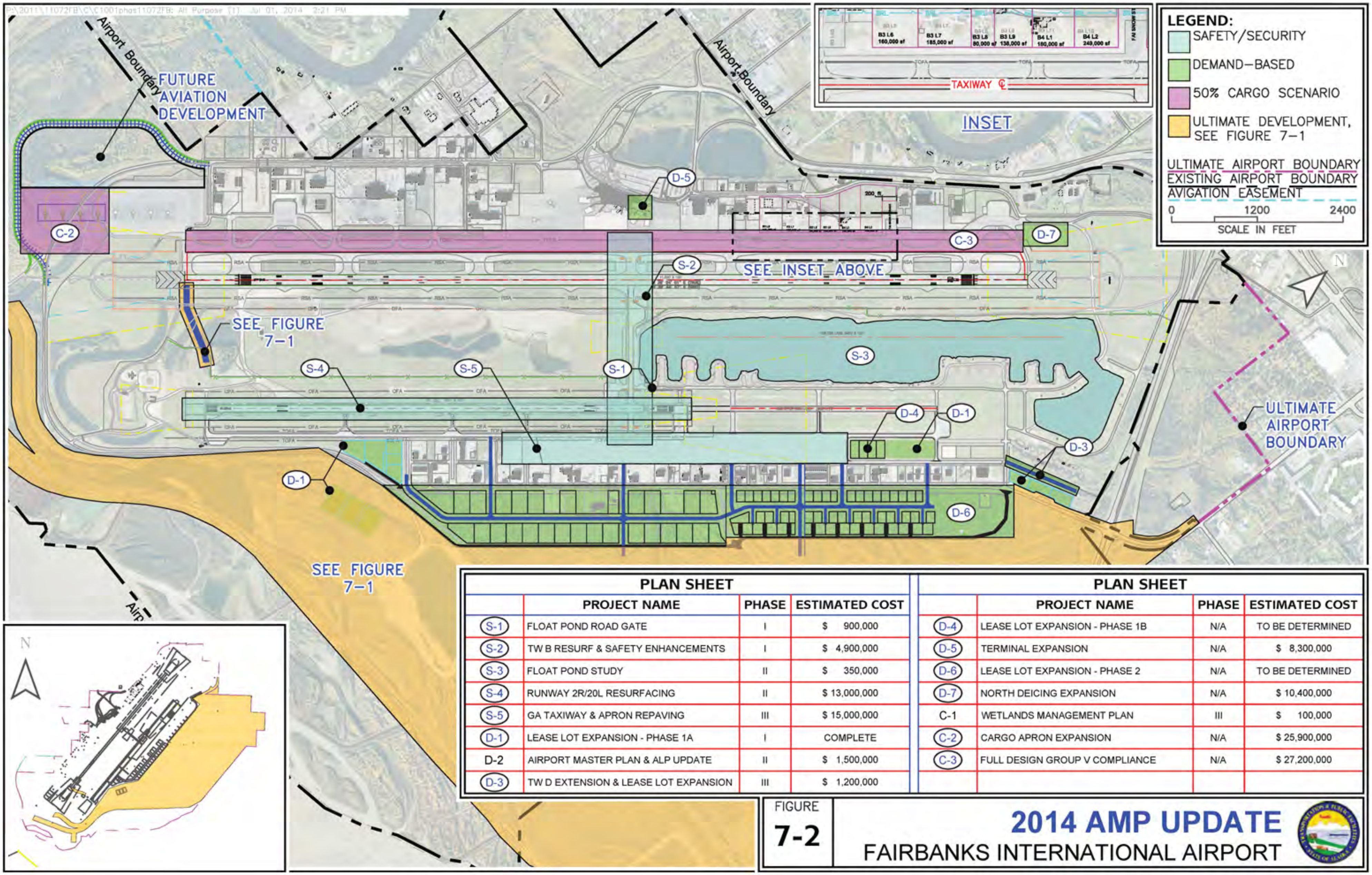
DEICING POSITIONS

FUEL FACILITY EXPANSION



BASELINE FORECAST VS. 50% ANC CARGO SHIFT TO FAI


Lease Lot Expansion
Phase 1A
Phase 1B
Phase 2A
Phase 2B
N
Block 108
Block 100
Block 104
New Taxiways
New Taxiways
Block 109
Helicopter Lots
New Roadway
New Roadway



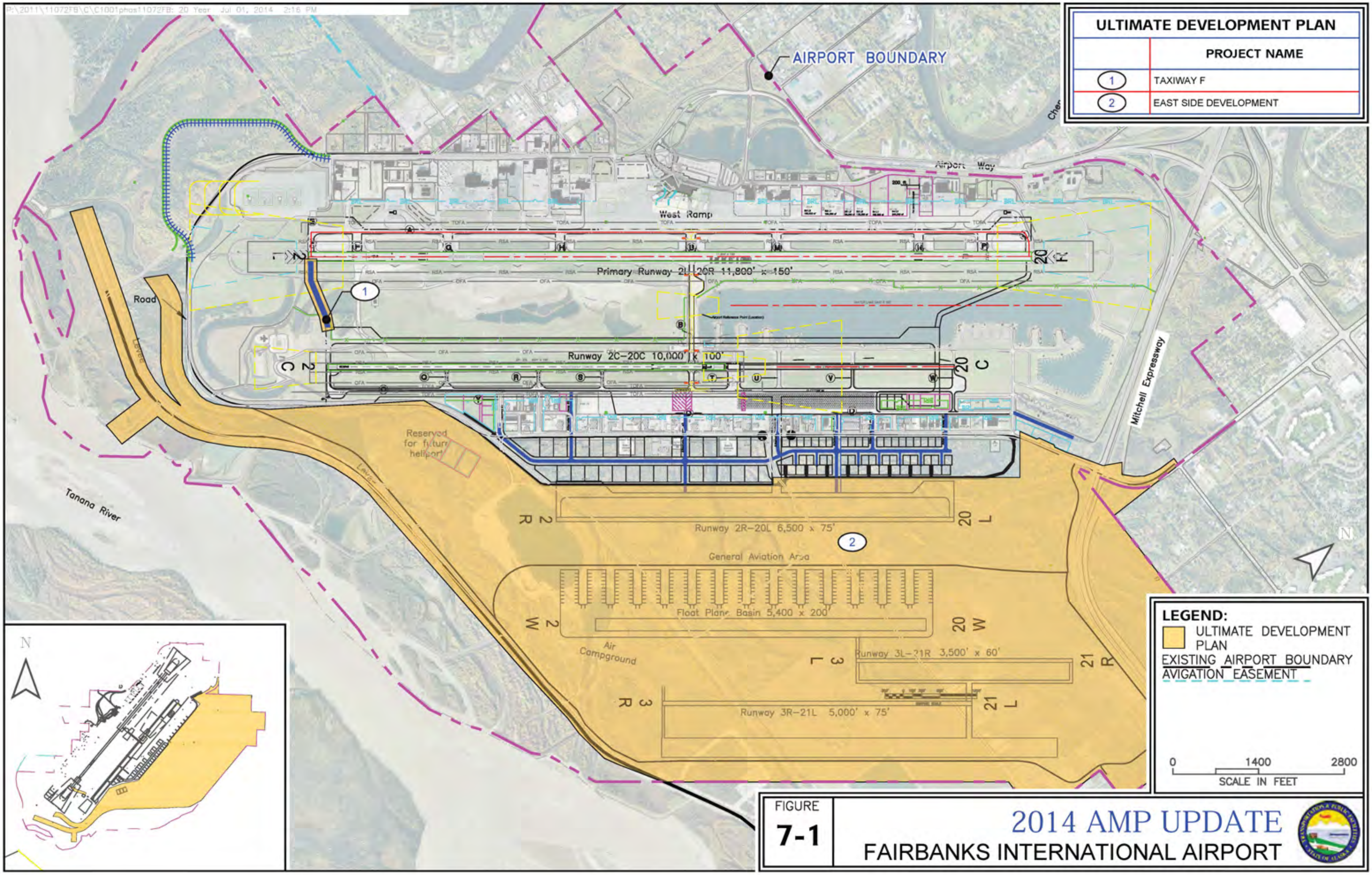
PLAN SHEET			
	PROJECT NAME	PHASE	ESTIMATED COST
S-1	FLOAT POND ROAD GATE	I	$ 900,000
S-2	TW B RESURF & SAFETY ENHANCEMENTS	I	$ 4,900,000
S-3	FLOAT POND STUDY	II	$ 350,000
S-4	RUNWAY 2R/20L RESURFACING	II	$ 13,000,000
S-5	GA TAXIWAY & APRON REPAVING	III	$ 15,000,000
D-1	LEASE LOT EXPANSION - PHASE 1A	I	COMPLETE
D-2	AIRPORT MASTER PLAN & ALP UPDATE	II	$ 1,500,000
D-3	TW D EXTENSION & LEASE LOT EXPANSION	III	$ 1,200,000

PLAN SHEET			
	PROJECT NAME	PHASE	ESTIMATED COST
D-4	LEASE LOT EXPANSION - PHASE 1B	N/A	TO BE DETERMINED
D-5	TERMINAL EXPANSION	N/A	$ 8,300,000
D-6	LEASE LOT EXPANSION - PHASE 2	N/A	TO BE DETERMINED
D-7	NORTH DEICING EXPANSION	N/A	$ 10,400,000
C-1	WETLANDS MANAGEMENT PLAN	III	$ 100,000
C-2	CARGO APRON EXPANSION	N/A	$ 25,900,000
C-3	FULL DESIGN GROUP V COMPLIANCE	N/A	$ 27,200,000

FIGURE 7-2

2014 AMP UPDATE

FAIRBANKS INTERNATIONAL AIRPORT



FAI MASTER PLAN PROJECT

FAI AIRPORT - ULTIMATE DEVELOPMENT PLAN (BEYOND 20 YRS)

Project Number	Project Name	Trigger	Estimated Cost	Year
SAFETY / SECURITY PROJECTS				
S-1	Float Pond Road Gate	VPDs and "Hot Spots" Designated by FAA	$900,000	0-5
S-2	TW B Resurf & Safety Improvements	PCI Value Below 60	$4,900,000	0-5
S-3	Float Pond Study	Trend Showing Low Water Levels	$350,000	6-10
S-4	Runway 2R/20L Resurfacing	PCI Value Below 70	$13,500,000	6-10
S-5	GA Taxiway and Apron Repaving	PCI Value Below 50	$15,000,000	6-10
DEMAND PROJECTS				
D-1	Lease Lot Expansion - Phase 1A	Demand for Private and T-Hanger Development		complete
D-2	Airport Master Plan & ALP Update	When AMP is 10 years old or there is a significant change in Air Traffic	$1,500,000	trigger driven
D-3/D-4	Twy D Extension & Lease Lot Expansion	When 75% of Lots in Phase 1A are Leased	$1,200,000	trigger driven
D-5	Terminal Expansion	When Peak Hour Passenger Volume reaches 78/hour	$8,300,000	trigger driven
D-6	Lease Lot Expansion - Phase 2	When 75% of Lots in Phase 1B are Leased	TBD	trigger driven
D-7	North Deicing Expansion	When Deicing demand reaches 6 aircraft/hour	$10,400,000	trigger driven
50% CARGO SHIFT SCENARIO PROJECTS				
C-1	Wetland Management Plan	When Cargo operations Trend towards 300/year	$100,000	trigger driven
C-2	Cargo Apron Expansion	When 10 to 15 daily cargo tech stops or 2 to 3 tech stops/hour	$25,900,000	trigger driven
C-3	Full Design Group V Compliance	When Cargo operations Trend towards 300/year and Construction should occur prior to 500 annual ADG V operations	$27,200,000	trigger driven
ULTIMATE AIRPORT DEVELOPMENT PROJECTS (Beyond 20 years)				
U-1	Taxiway F Connection		TBD	trigger driven
U-2	East Side Development/Expansion		TBD	trigger driven

FAI AIRPORT MASTER PLAN UPDATE DRAFT - NOW AVAILABLE!

The Fairbanks International Airport (FAI) and DOT&PF Northern Region are updating the Airport Master Plan to guide the FAI's development over the next 20 years. From July 2 to August 30, 2014, the public is encouraged to review the draft Master Plan and provide comments for consideration and response by the Project Team. Comments may be submitted via email, by fax or by mail.

PUBLIC OPEN HOUSE

Monday, July 14th
4-7pm
Pioneer Park
(2300 Airport Way)

The Master Plan Update is available for download on the project website below. Printed copies are available at the Noel Wien Library (1215 Cowles Street), PDC Inc. Engineers (1028 Aurora Drive) and FAI Airport Management Office (6450 Airport Road, Suite 1).

http://pdcprojects.info/FAIMasterPlan/index.html

FAI MASTER PLAN PROJECT

PROJECT CONTACT:
Royce Conlon, Project Lead
royceconlon@pdceng.com, 907.452.1414

Fairbanks International Airport Master Plan
Draft Available – Seeking Public Comments

The Fairbanks International Airport (FAI) and DOT&PF Northern Region are updating the Airport Master Plan to steer FAI's development over the next 20 years. The plan includes FAI's near-, mid-, and long-term development plans and identifies the triggers necessary to begin those projects. This plan serves as a framework to cost-effectively guide future airport development.

From July 2 to August 30, 2014, the public is encouraged to review the Draft Master Plan Update at http://pdcprojects.info/FAIMasterPlan/index.html and provide comments for consideration and response by the Project Team. Completion of the final version of the Master Plan Update is anticipated in Fall 2014, and will be posted on the project website.

HOW CAN I SUBMIT COMMENTS?

1. **EMAIL**: PatrickCotter@pdceng.com
2. **FAX**: 907-456-2707 (Attn: Patrick Cotter, Fairbanks Airport Master Plan)
3. **MAIL**: PDC Inc. Engineers
   Patrick Cotter, Fairbanks Airport Master Plan
   1028 Aurora Drive
   Fairbanks, AK 99709

CONTACT:

For more information, please contact Royce Conlon, Project Manager, PDC Inc. Engineers at 907-452-1414 or royceconlon@pdceng.com.

Fairbanks International Airport
AeroNexus®

AIRPORT MASTER PLAN UPDATE

YOUR COMMENTS ARE IMPORTANT!

The Fairbanks International Airport is updating its Master Plan to guide airport development over the next 20 years. We encourage you to review the draft Master Plan and provide feedback to the planning team!

SCAN HERE TO VIEW THE MASTER PLAN!

http://pdcprojects.info/FAIMasterPlan/index.html

MEETING MINUTES
& FOLLOW-UP ACTIONS

Location	FAA Conference Room - Anchorage, Alaska	**Date/Time**	October 22, 2014
Attendees	Pat Oien, Dan Brady, Steve Henry, Jeff Mishler, Jim Lomen, David Wahto, Patrick Zettler, Leslie Grey	**Client #**	
		Prepared By	Jeff Mishler, Steve Henry, Royce Conlon
Subject	FAI Airport Master Plan – FAA Comments for Resolution in the Final Document		

The following are the meeting notes from the October 22, 2014, meeting held in Anchorage.

1. FAA's key concern is for more access control on the east side. They understand the issues with the tenants. The FAA is pushing for relocation of University Avenue to the east. The idea is to create a win-win with the tenants and the Airport.

   A relocated University Avenue could be developed with a limited number of access points which would satisfy the FAA's concerns. The tenants would benefit from not having a security fence close to their operations and may actually end up with more room to operate. Jim indicated that he and Jesse had talked and Jesse seemed interested in the idea.

   Proposed Resolution: The University Avenue relocation shown as part of the lease lot expansion will be broken out to be advanced as a project for safety purposes. The new segment will become a "bypass" with limited access to the old alignment, which will be renamed East Ramp Access Road. The alignment as presently shown on Figure 6-5 (and 7-2) would be reconfigured at the ends so that University Avenue is a through road with connections at each end of the East Apron Access Road. A third access point to the East Apron Access Road via Van Horn Road may also be left in place (see attached figure).

   Jesse spoke at the GA Association's meeting on November 12th, and presented this change to the AMP. It was discussed that the project would have to go through the full environmental process prior to construction. Assuming this goes well, the AMP will be changed to include this project.

2. The FAA indicated support for the airport's proposed Taxiway B reconstruction and enhancement option (Figure 5-7). Dan Brady, FAA Runway Safety Action Team, suggested islands at the apron/taxiway connections at Taxiways S, T, and U. Another point brought up is that Taxiway C south of Taxiway S is a controlled surface. Adding islands along the entire length of the east side apron would open up the potential for making the entire Taxiway C a controlled surface.

   Proposed Resolution: Show the possibility of adding islands at Taxiways S, T, and U at the GA Association meeting (mentioned above).

   The GA Association expressed concern that the islands at Taxiways S, T, and U will impede operations and not improve safety. They also expressed concern that controlling TWY C the entire length would significantly increase deviations, is unnecessary, and would not improve safety. The collective opinion was to discuss this further in the RSAT process and during TWY B design and to show the original TWY B option (Figure 5-7) in the AMP.

3. It was decided to keep the future cross-field Taxiway Q on the ALP.

4. Pat asked for clarification about whether or not the Ultimate 10,000-foot Runway 2R-20L was in the 20-year plan. Steve indicated it was not. The existing ALP was reviewed. There was confusion about how sheets were labeled, and, the airfield configuration in the Land Use sheet did not match the Ultimate Airport Layout sheet. Pat wanted to give the mapping of a 10,000-foot runway some more thought, but ceded her opposition to its inclusion on the Ultimate Plan provided it was not a 20-year project.

   Proposed Resolution: The paper ALP will be updated to distinguish the Long-Term (10-20 years) from Ultimate (beyond 20 years) plans.

5. Dan was concerned about the Ultimate Airfield Configuration and airspace and interaction with other airports. He wanted to know if the AMP team had looked at it and suggested that if it hadn't been looked at, then the AMP team should look at before it gets submitted for airspace review and runways get put into the FAA Airspace system.

   Proposed Resolution: This can be added as a scope item for the upcoming ALP Update.

6. Pat wanted to know if the AMP looked at fueling requirements. Steve indicated that it did and that we had determined there was sufficient land area available for expansion.

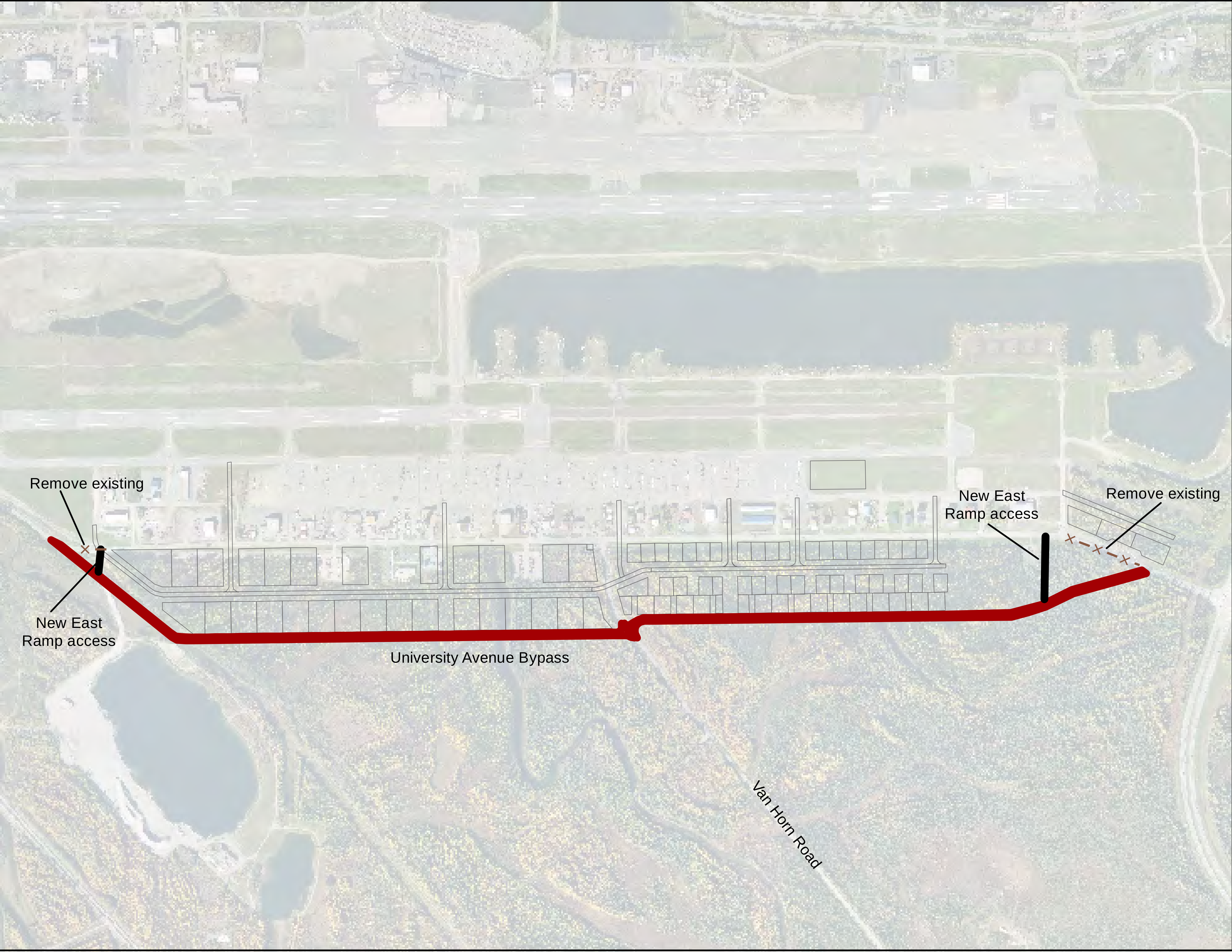
   Proposed Resolution: No additional resolution needed. Page 4-25 of the AMP discusses the fueling.

7. Because of the status of eALPs, a paper ALP set will have to be prepared for this master plan.

   Proposed Resolution: ADOT&PF will work with PDC to develop scope and budget for this work.

8. Another issue was the vacant land between Mitchell Expressway and University Avenue. Jim Lomen suggested a letter be sent to the FAA requesting transfer of this land from the BLM to the State of Alaska.

   Proposed Resolution: This work is in progress.


Remove existing
New East
Ramp access
University Avenue Bypass
Van Horn Road
New East
Ramp access
Remove existing

PUBLIC COMMENTS (July 2, 2014 - August 30, 2014)

Comment Date	Commenter	Contact Info	Comment	Response Date	Response
7/8/2014	Scott Christy	Scott512@gci.net	I looked over the draft Master Plan for FIA. I saw the projection for hours to be flown by general aviation aircraft, but I did not see any break down on private vs. commercial flights. It seems the private pilot population is 'aging' out of owning and flying their own aircraft. My guess is that the hours flown is highly dominated by air taxi G.A. aircraft. QUESTIONS: 1. How many private G.A. planes are based at FIA? 2. How many commercial G.A. planes are based at FIA? 3. What percentage of the G.A. hours flown is by commercial air taxis and what is by private pilot?	8/26/2014	Scott, thank you for your patience with the response to your questions. We appreciate you taking the time to review the document. Your observation of private vs. commercial operations on the East side is interesting; we did hear from the East Ramp group that they believe the average age of aircraft owners is over 50, in part because only then, once your children have grown, do you have the time and expendable income to own/operate an airplane. Responses to your questions: 1. 198 GA planes are based at FAI (based on 2011 data) 2. 141 (commercial air taxi, CAP, State/federal agencies, Corporate-owned aircraft)(based on 2011 data) 3. This data was not research/analyzed project study. Possibly a way to extract the number of airfield movements by these two categories from data the Tower collects, but getting hours may be much more difficult
7/16/2014	Brian Waters	koldfoot@hotmail.com	"Approximately 200 feet of designated taxi parking" This statement is in your draft and it is absolutely untrue. There is about 15 feet of designated taxi parking. There is absolutely no indication for 185 feet of that 200 that it is designated taxi parking. I have witnessed people argue with police over the issue. People argue, and rightly so, that there is nothing posted to that effect. Cab drivers have brought this issue up with police and management in the past and management refuses to address the situation, which would be a simple fix of posting 2 or 3 small signs. Also, in the parking section of your report you fail to note that public parking lots are dramatically underutilized. Traffic congestion at peak times is monstrous in front of the terminal. I have personally seen 4 unattended vehicles parked abreast. (4 traffic lanes in front of the terminal with unattended vehicles in all 4 lanes side by side) completely blocking the flow of traffic.) Granted, I have only seen that 2x, but I routinely (maybe 2x each month) see 3 lanes of traffic blocked with unattended vehicles. The first time I encountered unattended vehicles parked 4 abreast on an extremely busy night my first thought was - terrorism. Traffic was backed up to the final corner approaching the airport. Emergency vehicles will not have any access. No one can leave by car. Cars can't even clear a path for emergency vehicles. Confusion would reign. Fortunately that was not the case. The guy in the 4th lane had exited his vehicle to help an old lady to the car from the curb. He had nowhere else to park traffic was so bad.... Except of course legal FREE parking in the lot designated for such things .If you were to ask people illegally parked in front of the terminal for 5 minutes or more, as I have, they will invariably tell you "it's all right. I'm only going to be a second". With all those people who will only be a second, traffic doesn't move for several minutes. Yes, I am a cab driver. Yes, I am routinely at the airport. Yes, airport management is tired of hearing cabbie issues. Yes, I understand that airport management doesn't want to issue citations for parking along the curb which happens to have NO	12/23/2014	Thank you for your comments. The issue will be considered by Airport Operations.

PUBLIC COMMENTS (July 2, 2014 - August 30, 2014)

			PARKING signs every few feet. However, they have peak time parking issues that absolutely need to be addressed for a proper functioning airport. A big sign approaching the airport inviting people to use the convenient LEGAL parking in the lot provided right outside the terminal doors, and a couple small signs on the sidewalk by the taxi zone would be an inexpensive way to better serve everyone without resorting to issuing citations.		
8/20/2014	Donna Gardino MPO Coordinator FMATS	907.459.6786 donna.gardino@fmats.us	The Policy Committee thanks you for the opportunity to comment on the Fairbanks International Airport Master Plan. FMATS appreciates the new terminal and outstanding upgrades on the west side of the airport. Clearly, safety and security are the most pressing issues at FAI particularly regarding the recent incursion on the airport runway. FMATS fully supports the concept of the Alaska International Airport System and believes the use of the excess capacity at FAI is the proper alternative to building a half billion to a billion dollar runway at Ted Stevens International Airport. Hopefully, cargo traffic will pick up again in Alaska and FAI will stand ready to take on the demand. It is also encouraging that available lease lots are being utilized and that there is a plan to expand the availability of more lots. Thank you for the opportunity to comment.		
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile k.natarajan@avairpros.com	6-5 In the last paragraph on this page, I'm not sure the following is completely true, "In summary, ANC and AIAS future plans include preparation for a shift of cargo traffic to FAI." I think this is more of an option that may help alleviate capacity constraints at ANC, but those may never come and even if they do, carriers may not want to move operations to FAI. I think it would be more appropriate to say that IF cargo traffic is repositioned to FAI, then it will be necessary to provide for 500 feet of separation between the runway and the taxiway.		This is addressed with the trigger points identified in chapter 7
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile k.natarajan@avairpros.com	6-15 Section 6.6.1 "New lease lots will be made available in phases" should be reworded to say, "It is recommended that new lease lots be made available in phases".		Changed
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile k.natarajan@avairpros.com	• 6-17 first line change "Phase 1A is the most detailed phase." to "Phase 1A is the first recommended phase." • Fifth bullet change "Lot 6A will be reconfigured" to "Lot 6A should be reconfigured". • Change "Phase 1B includes:" to "Phase 1B is recommended to include:" • Change "Subsequent phases will be implemented when demand warrants." To " Subsequent phases should be implemented when demand warrants." • "Phase 2A is recommended to include:" • Phase 2B is recommended to include:"		• Phase 1A has been implemented; no change • Changed • Changed • Changed • Changed • Changed
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile	• 6-18 Section 6.6.2 Much better wording. Thank you! • 6.6.4 I'm not sure I agree with the following – "These facilities do not typically fall under the responsibility of the airport, but rather private development. Therefore, identifying sites for these facilities in the master plan is not		• You're welcome • That level of detail was beyond the scope of this master plan update due to budget constraints; FAI reviews all lease lot applications and can protect areas for highest and best use through the leasing process

PUBLIC COMMENTS (July 2, 2014 - August 30, 2014)

		k.natarajan@avairpros.com	warranted." There are a lot of things that are the responsibility of private development but because they take place on the airport they are part of the master plan. The master plan doesn't dictate how the private development will take place, but it should have a preferred alternative for where it takes place. There ought to be some notion of where a private developer could most effectively put an aircraft wash rack and deicing facilities and the airport should try and protect this area for the highest and best use.		
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile k.natarajan@avairpros.com	• 7-1The fourth bullet should be labeled "Phase IV" to match the paragraph below it, or make the following paragraph consistent. • Suggest enhancing the following sentence, "Within this implementation plan, recommended projects are presented in four groups:" to "Within this implementation plan, recommended projects are presented in four groups based on their anticipated implementation timeframe as follows:" • 7-5 last word in the first sentence should be "rectifying" • 7-13 I think for project III-1 Taxiway D extension and Lease Lot Expansion, there should be a cost benefit justification in addition to the listed trigger. The airport can't be in a position to simply meet any demand that is out there unless it is recovering its costs. In addition, if there is a distortion in the market and leases are artificially low, that will artificially drive up demand and move the trigger up in time. • 7-14 I would add "consider additional concessions" in the scope. If they do the full build out and the demand is there, I think it will support and small concession kiosk, or perhaps it will make sense to move the one in bag claim over to where the passengers are all waiting. You have this later on in chapter 8. • 7-15 For the Deicing Expansion project, for the sake of full disclosure I might also add a note to the trigger that "Changes in EPA or ADEC regulations may require enhanced glycol collection and this may also trigger the need for this project, including an enhanced collection system." • 7-17 same comment for page 7-13		• Corrected • Good suggestion – made the change • Corrected • Added sentence about CBA • Added • Any changes in EPA or ADEC regulations would require modifications to all of the deicing pads, which would be a stand-alone project; the project listed in the master plan would consider regulation changes when design began • Added sentence about CBA
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile k.natarajan@avairpros.com	8-7 Energy Supply paragraph - I realize it is kind of late in the game for this, but did anyone do an analysis of the potential increases in electrical loads and the substation feeding FAI. Does the substation have the capacity to provide additional power? Are there other potential demands on the substation?		No analysis was conducted, but the electrical grid is capable of handling any improvements at FAI
8/27/2014	Kottayam Natarajan Jr. AvAirPros	1525 S. Lilac Lane Liberty Lake, WA 99019 509.255.9958 office 206.919.7228 mobile k.natarajan@avairpros.com	• 9-2 Second to last paragraph, I'm not sure what a "condo-style aircraft hangar" is. Might be good to explain this one, unless it is a common term and I've just never heard of it. • 9-7 I think you need a paragraph defining the GA Aircraft operations. Especially as this is such a unique category in Alaska. I'm excited to read what you come up with! Will you include camping? In all seriousness, there should be a description of the GA operational areas.		Changed the legend on figure 9-1 from "GA Aircraft Operations" to "Aircraft Aeronautical"