

Ted Stevens Anchorage International Airport

2014 MASTER PLAN UPDATE

CHAPTER 6 - IMPLEMENTATION PLAN

FINAL
DECEMBER 2014

RS&H

IN ASSOCIATION WITH:

HDR

DOWL HKM

RIM Architects

ATAC



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TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT MASTER PLAN UPDATE

CHAPTER 6 IMPLEMENTATION PLAN

December 2014

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Prepared for:
Ted Stevens Anchorage International Airport
State of Alaska Department of Transportation & Public Facilities

Prepared by:



In association with:
HDR
DOWL HKM
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ATAC

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PREFACE

The Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update) provides Airport management and the Alaska Department of Transportation & Public Facilities (DOT&PF) with a strategy to develop the Ted Stevens Anchorage International Airport. The intent of the Master Plan Update is to provide guidance that will enable Airport management to strategically position the Airport for the future by maximizing operational efficiency and business effectiveness, as well as by maximizing property availability for aeronautical development through efficient planning. While long-term development is considered in master planning efforts, the typical planning horizon for the Master Plan Update is 20 years.

The Federal Aviation Administration provides guidance for Master Plan development in *FAA Advisory Circular 150 / 5070-6B, Airport Master Plans*. Although not required, the Advisory Circular strongly recommends airports prepare a Master Plan. Funding for the Master Plan Update is provided primarily by the Federal Aviation Administration through an Airport Improvement Program grant.

A comprehensive Master Plan Update was last prepared in 2002 and a partial update was undertaken between 2006 and 2008. This Master Plan Update was initiated in June 2012 and concluded in December 2014. The DOT&PF entered into a contract with the firm RS&H to lead this effort. The Master Plan Update included a robust public and stakeholder involvement program.

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Chapter 6 - Implementation Plan

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Acronyms and Abbreviations

AAAC	Airport Airline Affairs Committee
AAC	Aircraft Approach Category or Alaska Administrative Code
AACC	Anchorage Airport Communications Committee
AAD	Annual Average Day
AADT	Annual Average Daily Traffic
AAGR	Average Annual Growth Rate
AC	Advisory Circular
ACHP	Advisory Council on Historic Preservation
ACMI	Aircraft, Crew, Maintenance, and Insurance
ACMP	Anchorage Coastal Management Plan
ACRP	Airport Cooperative Research Program
ADAPT	Annual Delay and Activity Performance Times
ADEC	Alaska Department of Environmental Conservation
ADF	Aircraft Deicing Fluid
ADF&G	Alaska Department of Fish and Game
ADG	Airplane Design Group
ADNR, OHA	Alaska Department of Natural Resources, Office of History and Archaeology
ADOLWD	Alaska Department of Labor and Workforce Development
AEDC	Alaska Economic Development Corporation
AFSC	Anchorage Fueling and Service Company
AGL	Above Ground Line
AHPA	Alaska Historic Preservation Act
AHRS	Alaska Heritage Resource Survey
AIAS	Alaska International Airport System
AIDEA	Alaska Industrial Development and Export Authority
AIP	Airport Improvement Program
Airport	Ted Stevens Anchorage International Airport
AIT	Advanced Imaging Technology
AMATS	Anchorage Metropolitan Area Transportation Study
ANGB	Air National Guard Base
AOA	Air Operations Area
APDES	Alaska Pollutant Discharge Elimination System
APU	Auxiliary Power Units
ARC	Airport Reference Code
ARFF	Aircraft Rescue and Fire Fighting
AS	Alaska Statute

ASDA	Accelerate-Stop Distance Available
ASDE	Airport Surface Detection Equipment
ASIG	Aircraft Service International Group
ASPM	Aviation System Performance Metrics
ASR	Airport Surveillance Radar
ATCT	Airport Traffic Control Tower
AWMP	Anchorage Wetlands Management Plan
AWWU	Anchorage Water and Wastewater Utility
BAT	Best Available Technology
BGEPA	Bald and Golden Eagle Protection Act
BMPs	Best Management Practices
BRAC	Base Realignment and Closure
BRL	Building Restriction Line
CAA	Clean Air Act
CAD	Computer-aided Design
CATS	Compliance Activity Tracking System
CBIS	Checked Baggage Inspection System
CBP	Customs and Border Protection
CBRA	Checked Baggage Resolution Area
CCSF	Certified Cargo Screening Facility
CDS	Consolidated De-Icing Services
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESQG	Conditionally Exempt Small Quantity Generator
CFC	Customer Facility Charge
CFR	Code of Federal Regulations, or Crash / Fire / Rescue
CIP	Capital Improvement Plan
CO	Carbon Monoxide
Coastal Trail	Tony Knowles Coastal Trail
COD	Chemical Oxygen Demand
CONRAC	Consolidated Rental Car Facility
CUPPS	Common Use Passenger Processing Systems
CZMA	Coastal Zone Management Act
DHS	Department of Homeland Security
DME	Distance Measuring Equipment
DNL	Day-night Average Sound Level
DO	Dissolved Oxygen

DOT	U.S. Department of Transportation
DOT&PF	Alaska Department of Transportation and Public Facilities
EAS	Essential Air Service
EDS	Explosive Detection System
EMS	Environmental Management System
EOC	Emergency Operations Center
EQA	Equivalent Aircraft
ETD	Explosive Trace Detection
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FIRMS	Flood Insurance Rate Maps
FIS	Federal Inspection Service
FMRA	FAA Modernization and Reform Act of 2012
FY	Fiscal Year
GA	General Aviation
GPS	Global Positioning System
GRE	Ground Run-Up Enclosure
GSE	Ground Service Equipment
HLB	Heritage Land Bank
IAS	International Aviation Services, Inc.
IATA	International Air Transport Association
IBC	International Building Code
IFR	Instrument Flight Rules
IFT	International Freight Terminal
ILS	Instrument Landing System
INM	Integrated Noise Model
ISER	Institute of Social and Economic Research (at the University of Alaska Anchorage)
JBER	Joint Base Elmendorf-Richardson
LDA	Landing Distance Available
LOC	Localizer
LOS	Level of Service
LUST	Leaking Underground Storage Tank
Master Plan Update	Ted Stevens Anchorage International Airport Master Plan Update

MEP	Mechanical, Electrical, and Plumbing
MOA	Municipality of Anchorage
MSA	Metropolitan Statistical Area
MSGP	Multi-Sector General Permit
MSL	Mean Sea Level
MTOW	Maximum Takeoff Weight
NAAQS	National Ambient Air Quality Standards
NAC	Northern Air Cargo
NADP	Noise Abatement Departure Profiles
NAMS	Northern Air Maintenance Services
NAVAID	Navigational Aid
NCP	Noise Compatibility Program
NDB	Non-directional Beacon
NEMs	Noise Exposure Maps
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport System
NPL	National Priorities List
NRHP	National Register of Historic Places
O&D	Origin and Destination
O&M	Operations and Maintenance
OAIASS	Optimize AIAS Strategy
OER	Operating Expense Ratio
OFA	Object Free Area
OFZ	Obstacle Free Zone
OSR	On-Screen Resolution
PAL	Planning Activity Level
PAPI	Precision Approach Path Indicator
PCC	Portland Cement Concrete
PCI	Pavement Condition Index
PDARS	Performance Data Analysis and Reporting System
PFC	Passenger Facility Charges
PM-10	Particulate Matter with a Diameter of 10 Microns or Less
PM-2.5	Particulate Matter with a Diameter of 2.5 Microns or Less
QTF	Quick-Turnaround Facility

RCRA	Resource Conservation and Recovery Act
RDC	Runway Design Code
RNAV	Area Navigation
ROFA	Runway Object Free Area
RON	Remain Overnight
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RSIP	Residential Sound Insulation Program
RTR	Remote Transmitter Receiver
SCS	Sterile Corridor System
SHPO	State Historic Preservation Office(r)
SIDA	Security Identification Display Area
SIP	State Implementation Plan
SSCP	Security Screening Checkpoint
STEP	South Terminal Expansion Project
SWPPP	Stormwater Pollution Prevention Plan
TACAN	Tactical Air Navigation
TDG	Taxiway Design Group
TERPS	Terminal Instrument Procedures
TODA	Takeoff Distance Available
TORA	Takeoff Run Available
TRACON	Terminal Radar Approach Control
TSA	Transportation Security Administration
UPS	United Parcel Service
USDA-WS	U.S. Department of Agriculture - Wildlife Services
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USPS	United States Postal Service
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VOCs	Volatile Organic Compounds
VOR	Very High Frequency Omnidirectional Range
WAAS	Wide Area Augmentation Systems
WADP	West Anchorage District Plan
WBI	Whole Body Imaging
WHA	Wildlife Hazard Assessment
WHMP	Wildlife Hazard Management Plan

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CHAPTER 6 IMPLEMENTATION PLAN

SECTION 1 INTRODUCTION

In Chapter 5, Alternatives Development and Evaluation, a Plan for Future Development was recommended. This plan includes recommendations of the capital infrastructure, policy changes, and land uses that would best meet forecast demand and the Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update) Goals and Objectives. The development plan recommendation was made in consideration of input from a variety of stakeholders, including Airport tenants and members of the general public.

An implementation plan, as defined by the Federal Aviation Administration (FAA) in *Advisory Circular (AC) 150/5060-6B, Airport Master Plans*, provides guidance on how to implement the findings and recommendations of the planning effort. The following sections are included within this chapter.

- Summary description of the Plan for Future Development
- List of recommended projects, including project elements necessary for each project's implementation
- Development decision guides that the Airport can use to determine when to implement projects
- Land Use Plan to guide future Airport development

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SECTION 2 PLAN FOR FUTURE DEVELOPMENT

Chapter 5, Alternatives Development and Evaluation, describes the demand dependent, phased approach of the Plan for Future Development. The approach is fiscally responsible as it prioritizes lower-cost improvements, and is adaptable to changing conditions. Infrastructure is built only as warranted by demand. As an example, optimization of existing infrastructure is prioritized over more costly construction of major new infrastructure.

Key infrastructure projects are recommended in four phases of development. They are illustrated in Figure 6.1, Figure 6.2, Figure 6.3, and Figure 6.4 and listed by phase in Table 6.1. The phases presented indicate the future development approach. The specific implementation dates for the projects listed may vary depending upon demand and financial considerations.

Table 6.1
Master Plan Update Recommended Projects by Phase

Phase	Recommended Projects
Phase 1: Minimize Development	Construct Ground Run-up Enclosure Construct ARFF Training Facility Extend Taxiway R Develop Hotel ¹ Expand Fuel Farm ¹ Realign Crossfield Taxiways Decouple Runway 33 Widen Runway 15-33 Expand / Redevelop North & South Airparks ¹
Phase 2: Optimize ANC	Modify the Preferential Runway Use Program Construct South Airpark Access Roadway Implement STEP Extend East / West Parallel Taxiway Construct North Airpark Roadway Expand “Papa” RON Apron and Postmark Bog ¹ Extend Taxiway T and Expand North Airpark ¹ Reconfigure Public Parking Facilities
Phase 3: Optimize AIAS	Enhance Use of Fairbanks International Airport for Technical Stop Cargo Flights (OAIASS) Implement Fairbanks International Airport Improvements ²
Phase 4: Widely Spaced Runway	Develop West Airpark ¹ Construct West Airpark Tunnel Implement Potential North / South Runway and Associated Taxiways

Source: RS&H, 2014.

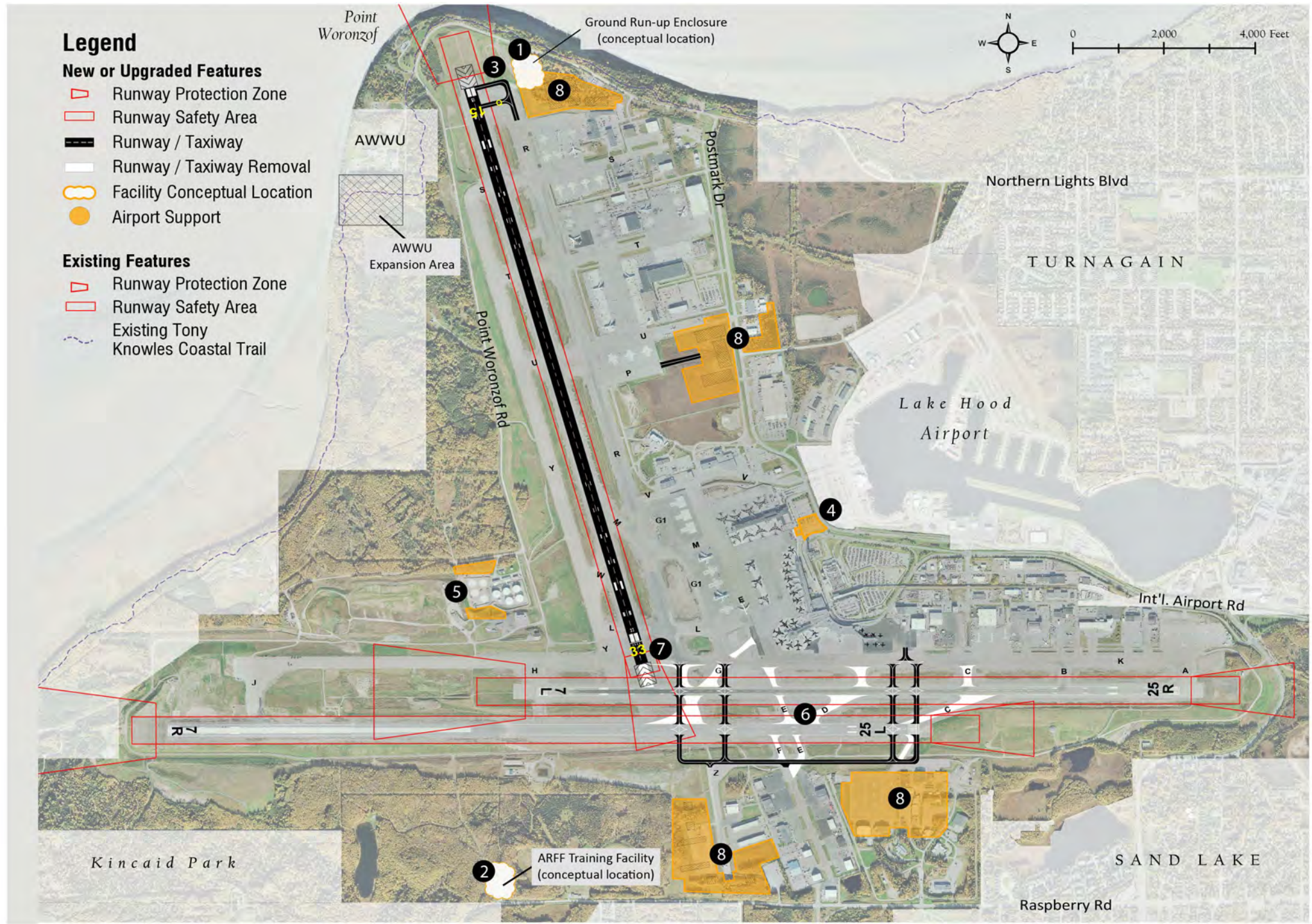
Notes: AIAS = Alaska International Airport System, Airport = Ted Stevens Anchorage International Airport, ARFF = Aircraft Rescue and Fire Fighting, Master Plan Update = Ted Stevens Anchorage International Airport Master Plan Update, OAIASS = Optimize AIAS Strategy, STEP = South Terminal Expansion Project, RON = Remain Overnight

1 - Tenant development and hotel is anticipated to be initiated / funded by a private developer / tenant.

2 - Fairbanks International Airport improvements are anticipated to be funded by Fairbanks International Airport.

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Figure 6.1 Phase I: Minimize Development



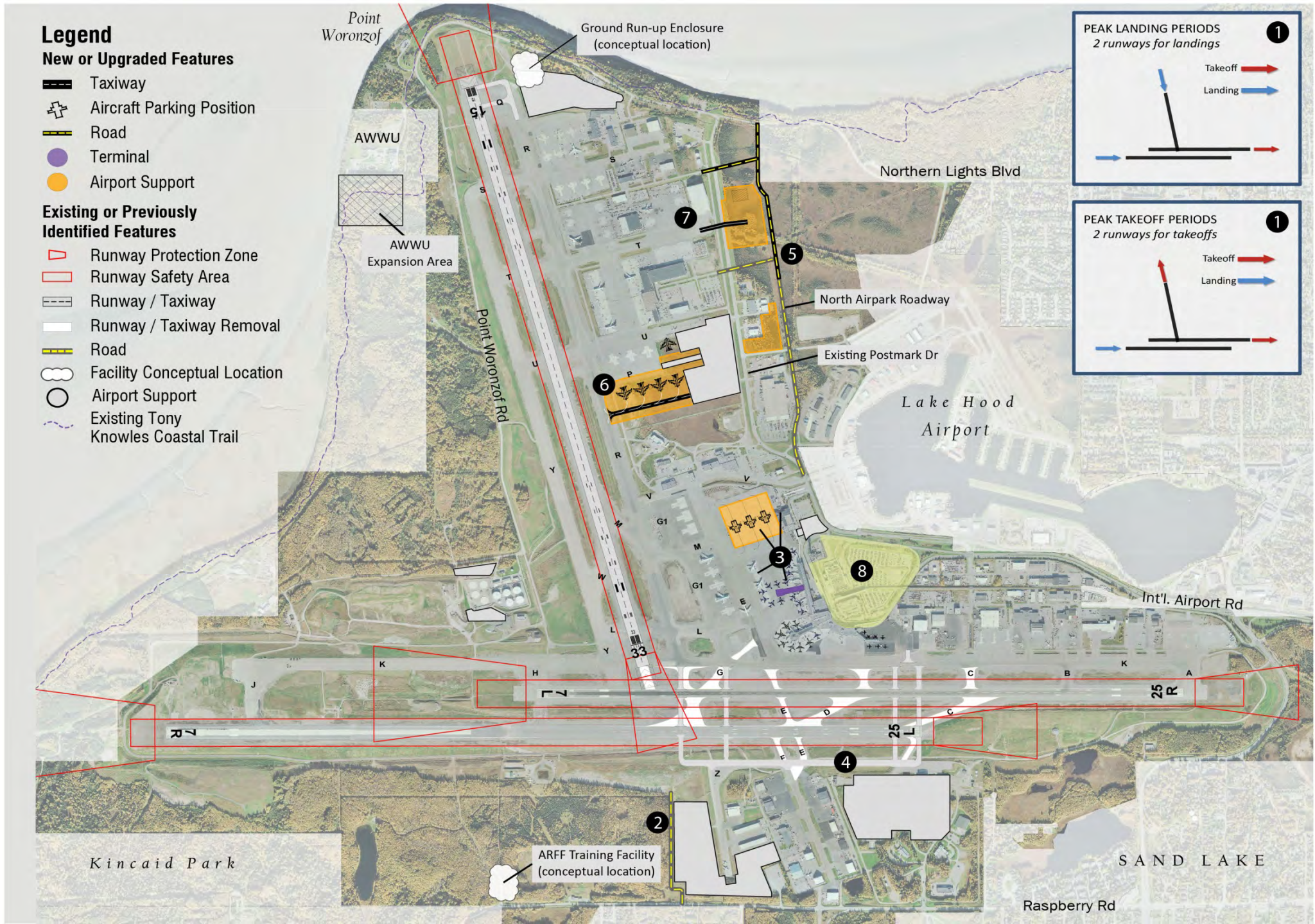
Source: RS&H, HDR, 2014.
Notes: ARFF = Aircraft Rescue and Fire Fighting, AWWU = Asplund Wastewater Treatment Facility, owned and operated by the Anchorage Water and Wastewater Utility.

Projects

- 1 Construct Ground Run-Up Enclosure
- 2 Construct ARFF Training Facility
- 3 Extend Taxiway R
- 4 Develop Hotel
- 5 Expand Fuel Farm
- 6 Realign Crossfield Taxiways
- 7 Decouple Runway 33, Widen Runway 15-33
- 8 Expand / Redevelop North and South Airparks

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Figure 6.2 Phase 2: Optimize ANC



Source: RS&H, HDR, 2014.
Notes: ARFF = Aircraft Rescue and Fire Fighting, AWWU = Asplund Wastewater Treatment Facility, owned and operated by the Anchorage Water and Wastewater Utility, RON = Remain Overnight.

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Figure 6.3 Phase 3: Optimize AIAS



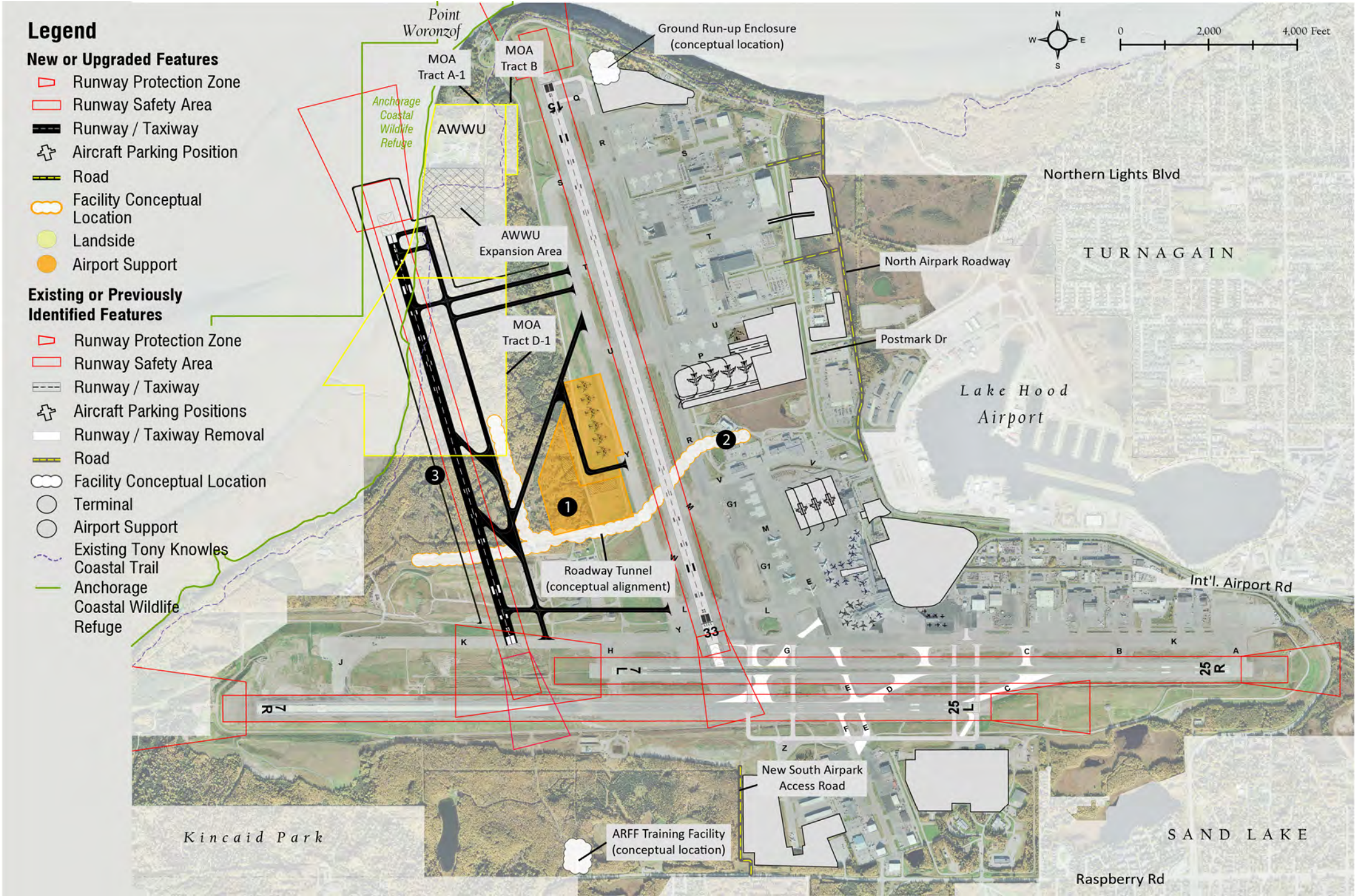
Projects

- 1 Enhance Use of Fairbanks International Airport for Technical Stop Cargo Flights (Optimize AIAS Strategy [OAIASS])
- 2 Implement Fairbanks International Airport Improvements

Source: RS&H, HDR, 2014.
Notes: AIAS = Alaska International Airport System, ARFF = Aircraft Rescue and Fire Fighting, AWWU = Asplund Wastewater Treatment Facility, owned and operated by the Anchorage Water and Wastewater Utility.

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Figure 6.4 Phase 4: Widely Spaced Runway



Source: RS&H, HDR, 2014.
Notes: ARFF = Aircraft Rescue and Fire Fighting, AWWU = Asplund Wastewater Treatment Facility, owned and operated by the Anchorage Water and Wastewater Utility, MOA = Municipality of Anchorage.

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SECTION 3

IMPLEMENTATION PLAN

It must be recognized that each recommended project may require additional planning, environmental documentation, design, and construction prior to its completion. **Section 3** presents a comprehensive list of recommended projects presented in **Section 2**, along with their associated elements. This includes project planning, environmental documentation, design, and construction efforts, as well as other elements necessary to change policy or monitor airport activity. The implementation plan is presented in **Table 6.2**.

The implementation dates shown in Table 6.2 reflect the year a project is planned for completion. The potential implementation year presented for each project shown in Table 6.2 was determined based on forecast demand. The year each project will be implemented will be based on actual demand. Some projects will be needed regardless of growth in demand. For example, the Airport will need to replace its aging Aircraft Rescue and Fire Fighting (ARFF) training facility regardless of changes in demand at the Airport. A discussion of project triggers is presented in **Section 4**.

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The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.2 Implementation Plan for Recommended Master Plan Update Projects

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
Ongoing	South Terminal Expansion Project (STEP) Activity Monitoring	This project includes monitoring passenger level of service, airline needs, cargo carrier needs, and project costs to better determine when to initiate STEP.	\$50,000	\$0	\$50,000	\$0
Ongoing	Annual Delay and Activity Performance Times (ADAPT) Monitoring	This project includes monitoring aircraft delay. This analysis is necessary in order to determine the need for an additional North / South Runway and / or other efficiency enhancements.	\$200,000	\$175,520	\$24,480	\$0
Ongoing	Optimize Alaska International Airport System Strategy (OAIASS)	This project includes Airport / airline coordination to develop a strategy for enhanced use of AIAS system assets (e.g., Airport and Fairbanks International Airport).	\$50,000	\$0	\$50,000	\$0
2015	Modification of the Preferential Runway Use Program (environmental documentation / policy change)	Modify the existing Airport Preferential Runway Use Program, Compendium of Operational Orders, and ATCT Standard Operating Procedures. The change would allow deviations from the preferred runway use to avoid unacceptable departure delays during daytime hours (7a.m. - 10 p.m.). The project includes potential NEPA documentation for modification of the preferential runway use program at the Airport (if considered a Federal action).	\$250,000	\$219,400	\$30,600	\$0
2015	Aircraft Rescue and Fire Fighting (ARFF) Training Facility (final site selection / environmental documentation / design / construction)	The project includes final site selection, potential NEPA documentation, design, and construction of an ARFF training facility with one burn pit located west of the South Airpark to replace the existing ARFF hydrocarbon fuel burn pit, meet applicable environmental regulations, and ensure conformance with applicable FAA AC's and FAR Part 139.	\$12,533,334	\$10,999,254	\$1,534,080	\$0
2015 - 2016	STEP (advanced planning / environmental documentation) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	STEP includes construction of a new South Terminal concourse with five new gates at the South Terminal to accommodate domestic and international operations and demolition of the North Terminal concourse. The advanced planning effort (an in-depth requirements and phasing analysis) will assess the impacts to domestic and international passenger flows, space allocations and impacts to airlines, impacts of construction activity on airport operations, impacts on apron areas and finalize phasing prior to design. Coordination between construction activity and Airport operations would also be considered during advanced planning. NEPA documentation may also be required.	\$1,070,000	\$939,032	\$130,968	\$0
2016	Hotel Site Development	The project includes development of a hotel near the North Terminal passenger processor. This project would be initiated by a private developer / tenant through an Airport issued Request for Proposal.		Cost of project borne by developer/ tenant		

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.2 Implementation Plan for
Recommended Master Plan Update
Projects (contd.)

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2018	Ground Run-up Enclosure (GRE) (site selection / environmental documentation / design / construction)	The project includes site selection, potential NEPA documentation, design, and construction of a GRE to mitigate noise generated during routine aircraft maintenance, decreasing noise impacts to the surrounding community.	\$6,000,000	\$5,265,600	\$734,400	\$0
2018	“Papa” Remain Overnight (RON) Apron Expansion and Postmark Bog Development (environmental documentation / design / construction)	The project includes potential NEPA documentation, design, and construction for expanding the “Papa” RON apron by adding five additional A380-capable parking positions, extending Taxilane P, and constructing a new taxilane south of Taxilane P. The project also includes expanding the Postmark Bog area. NEPA documentation, design and construction for the Postmark Bog development would be undertaken by the developer / tenant. The cost for expanding and developing the Postmark Bog area is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates. Earthwork costs (e.g., fill) are excluded. The cost estimates presented only reflect the cost for the “Papa” RON apron.	\$47,995,000	\$42,120,412	\$5,874,588	\$0
2018	STEP (design) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes the design for the STEP.	\$29,386,000	\$0	\$29,386,000	\$0
2018 - 2020	Runway 15-33 Widening and Decoupling, Taxiway R Extension, Taxiway Q Realignment, Taxiway Q1 Construction (environmental documentation / design / construction)	The project includes potential NEPA documentation, design, and construction for the 1) widening of Runway 15-33, 2) decoupling of Runway 33 to eliminate the intersection with Runway 7L-25R and overlapping RSAs, 3) extension of Taxiway R to the Runway 15 end, 4) realignment of Taxiway Q, and 5) construction of Taxiway Q1.	\$85,120,000	\$74,701,312	\$10,418,688	\$0
2019	East / West Parallel Taxiway and South Airpark Development (environmental documentation / design / construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	This project includes potential NEPA documentation, design, and construction for an extension of the East / West Parallel Taxiway (ADG-VI) to the east and west and for South Airpark development. NEPA documentation, design and construction would be undertaken by the developer / tenant. The cost for developing the existing South Airpark area (Kulis Business Park and in vacant areas along the north / south portion of Taxiway Z) is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates.	\$15,950,000	\$13,997,720	\$1,952,280	\$0
2019	STEP Phase 1 (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of STEP. This includes 1) relocating R2, R3, and R4 aircraft parking positions, 2) securing any necessary permits / clearances, 3) relocating passenger operations impacted by STEP temporarily to the North Terminal, and 4) constructing a new South Terminal concourse.	\$65,269,475	\$17,566,408	\$47,703,067	\$0

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.2 Implementation Plan for
Recommended Master Plan Update
Projects (contd.)

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2020	Land Acquisition (land acquisition) <i>The land to the west of the Airport may be acquired through purchase from or trade with the Municipality of Anchorage and other owners.</i>	The project would provide opportunity for land acquisition for the future development of the West Airpark via a land trade with the MOA or purchase from the MOA or other owners.		<i>Cost to be determined if / when necessary.</i>		
2020	Fuel Farm Expansion (design / construction)	The project includes design and construction of a tenant initiated fuel farm expansion. Design and construction would be undertaken by the developer / tenant. The cost for expanding the fuel farm is anticipated to be borne by the developer / tenant.		<i>Cost of project borne by developer/ tenant</i>		
2020	Fairbanks International Airport Improvements (planning / environmental documentation / design / construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i> <i>The project would accommodate a transfer of at least 50% of the technical cargo stop operations at Anchorage International Airport.</i>	The project includes planning, potential NEPA documentation, design, and construction for necessary improvements at Fairbanks International Airport. This project would be sponsored and funded by Fairbanks International Airport.		<i>Cost of project borne by Fairbanks International Airport</i>		
2020	Master Plan Update	The Master Plan Update is anticipated to validate previous Master Plan Update findings and update the implementation timeline for Airport development, including the potential North / South Runway.	\$1,000,000	\$877,600	\$122,400	\$0
2020 - 2034	Crossfield Taxiways Realignment (environmental documentation / design / construction) <i>Realignment of the crossfield taxiways would likely occur when Runway 7R-25L is reconstructed or when directed by FAA, whichever is sooner.</i>	The project includes potential NEPA documentation, design and construction to realign the crossfield taxiways perpendicular to the east-west runways in accordance with FAA standards (AC 150/5300-13A, Airport Design) and FAA coordination.	\$23,725,000	\$20,821,060	\$2,903,940	\$0
2021	STEP Phase 2 (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of STEP. This includes 1) relocating passenger operations to new South Terminal concourse, 2) demolishing the North Terminal concourse, and 3) upgrading the North Terminal processor.	\$37,652,966	\$3,304,424	\$34,348,542	\$0

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.2 Implementation Plan for
Recommended Master Plan Update
Projects (contd.)

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2021	Potential North / South Runway (advanced planning / environmental documentation) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes advanced planning and potential NEPA documentation for a potential North / South Runway and associated airfield improvements (e.g., taxiways, service roads, earthwork), and realignment of a contiguous Coastal Trail.	\$3,000,000	\$2,632,800	\$367,200	\$0
2021	New South Airpark Access Roadway (environmental documentation / design / construction)	The project includes potential NEPA documentation, design and construction of a roadway on the west side of the South Airpark to enable corporate and general aviation development at the west end of the existing South Airpark (near the north / south portion of Taxiway Z).	\$10,600,000	\$0	\$10,600,000	\$0
2022	STEP Phase 3 (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of STEP. This includes redeveloping the North Terminal apron for aircraft parking.	\$43,431,800	\$38,115,748	\$5,316,052	\$0
2024	North Airpark Roadway, Taxiway T Extension, and Eastward Expansion of the North Airpark (environmental documentation / design / construction)	This project includes potential NEPA documentation, design, and construction to include 1) construction of the North Airpark Roadway, 2) extension of Taxiway T, and 3) redevelopment / eastward expansion of the North Airpark for future development by tenants of the North Airpark. NEPA documentation and construction of the redevelopment / eastward expansion of the North Airpark would be undertaken by the developer / tenant. The cost for expanding and developing the North Airpark is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates.	\$10,950,000	\$0	\$10,950,000	\$0
2025	North Airpark Northward Expansion	The project includes cargo development to the north of the existing North Airpark boundary and toward Point Woronzof Drive by tenants of the North Airpark. The project would be undertaken by the developer / tenant. The cost for expanding and developing the North Airpark is anticipated to be borne by the developer / tenant.	Cost of project borne by developer / tenant			
2025	Potential North / South Runway (design) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes design of a potential North / South Runway, associated airfield improvements, and realignment of a contiguous Coastal Trail. Land acquisition costs are excluded.	\$118,512,100	\$104,006,219	\$14,505,881	\$0

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.2 Implementation Plan for
Recommended Master Plan
Update Projects (contd.)

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2027	Potential West Airpark Development (advanced planning / environmental documentation / design / construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes advanced planning, potential NEPA documentation, design, and construction for six A380-capable aircraft parking positions and associated taxiways in the West Airpark for the potential future development of the West Airpark. Advanced planning, NEPA documentation and construction of the West Airpark development would be undertaken by the developer / tenant. The cost for expanding and developing the West Airpark, excluding cargo parking positions, is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates. Earthwork costs (e.g., fill) are excluded.	\$64,650,000	\$56,736,840	\$7,913,160	\$0
2027	Tunnel to West Airpark (design / construction)	The project includes design and construction of a tunnel connecting the east and west sides of the Airport. A 4-lane tunnel, providing public and secure access would be constructed from Postmark Drive and run west under Taxiway R, Runway 15-33, and Taxiway Y to the West Airpark. The public access tunnel (2 lanes) would continue under the potential North / South Runway and associated taxiways. The secure access tunnel (2 lanes) would surface in the West Airpark between the existing and potential North / South Runways. Potential NEPA documentation could be completed as part of the Potential North / South Runway project or Potential West Airpark Development project.	\$156,050,000	\$136,949,480	\$19,100,520	\$0
2027	Public Parking Facilities Reconfiguration (environmental documentation / design / construction)	This project includes potential NEPA documentation, design, and construction to reconfigure and expand public parking facilities.	\$2,000,000	\$0	\$2,000,000	\$0
2028	Potential North / South Runway (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of a potential North / South Runway and associated airfield improvements. Land acquisition costs are excluded.	\$684,497,900	\$600,715,357	\$83,782,543	\$0
TBD	Deicing Chemical Collection Improvement (environmental documentation, design and construction) <i>The implementation of the deicing chemical collection improvement project is driven by the FAA and USEPA.</i>	The project includes potential NEPA documentation, design, and construction of an enhanced deicing chemical collection system based on regulatory changes.	\$30,000,000	\$26,328,000	\$3,672,000	\$0

Source: RS&H, 2014.
Notes: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.
Construction project costs include Alaska DOT&PF administrative costs of 3.89% of the total project costs as part of the Indirect Cost Allocation Program (ICAP).
Future tenant development costs are not presented as these costs are anticipated to be borne by the developer / tenant. These include project costs for environmental documentation, design, and construction activities.
See **Appendix J**, Cost Estimates for details regarding planning-level cost estimates.
AC = Advisory Circular, ADG = Airplane Design Group, ADAPT = Annual Delay and Activity Performance Times, AIAS = Alaska International Airport System, Airport = Ted Stevens Anchorage International Airport, ARFF = Aircraft Rescue and Fire Fighting, ATCT = Airport Traffic Control Tower, Coastal Trail = Tony Knowles Coastal Trail, FAA = Federal Aviation Administration, FAR = Federal Aviation Regulation, GRE = Ground Run-up Enclosure, Master Plan Update = Ted Stevens Anchorage International Airport Master Plan Update, MOA = Municipality of Anchorage, NEPA = National Environmental Policy Act, OAIASS = Optimize AIAS Strategy, RON = Remain Overnight, STEP = South Terminal Expansion Project, USEPA = U.S. Environmental Protection Agency

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SECTION 4

DEVELOPMENT DECISION GUIDES

Development decision guides were prepared for the following key projects or project groups:

- South Terminal Expansion Project (STEP) (Section 5)
- Potential North / South Runway (Section 6)
- North Airpark Development (Section 7)
- West Airpark Development (Section 8)
- South Airpark Development (Section 9)
- East Airpark Development (Section 10)

Each decision guide was developed to adhere to the demand-dependent, phased approach and to meet the Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update) Goals and Objectives.

4.1 DECISION GUIDE PURPOSE

The purpose of a decision guide is to aid Airport staff in determining when project elements need to be implemented for a given project or group of projects.

Trigger points are used to determine when a threshold is reached and an action is required to maintain the safe, efficient, and compliant operation of the Airport.

Monitoring helps Airport staff determine when certain thresholds or metrics are reached. The decision guide recommends a variety of ongoing monitoring activities Airport staff can use to determine when these thresholds or metrics are reached.

Once monitoring determines a threshold is reached, an action would then be required to determine if a project or project element is justified. Prior to implementation, monitoring should include validation of planned projects to determine whether or not to re-strategize the implementation plan for that project (i.e., proceed as planned or modify the implementation plan). The decision guide enables Airport staff in conducting the decision process. As an example, if monitoring indicates actual demand grows more slowly or faster than originally anticipated in the baseline forecast, Airport staff would need to decide to either defer or expedite, respectively, implementation of project elements.

4.2 DECISION GUIDE COMPONENTS

For organizational purposes, the decision guide includes the following components:

- General description of the key projects shown in Table 6.1, with their associated project elements
- The time required to complete all project elements
- Recommended monitoring activities (e.g., analysis of passengers, operations, aircraft delay, etc.)
- Trigger points to indicate what action is required to maintain the safe, efficient, and compliant operation of the Airport when a threshold is reached

4.3 PROJECT ELEMENTS AND TIMELINE

The implementation plan includes a list of project elements the Airport must undertake to complete a project. Project elements include advanced planning and environmental documentation (if applicable), design, and construction efforts. In addition, the time (years) required for completing planning, environmental documentation, design, and construction efforts is identified.

4.4 MONITORING ACTIVITIES

Several project elements are included in the implementation plan to monitor Airport activity and the thresholds required to implement a project. Activity monitoring is ongoing and should help Airport staff make project implementation decisions. Monitoring activities should include validation of anticipated outcomes that support a financially responsible and adaptable plan.

4.5 TRIGGER POINTS

Trigger points determine when a threshold is reached and an action is required to maintain the safe, efficient, and compliant operation of the Airport. Trigger points result from one or more of the following three categories:

- Growth and congestion
- Facility lifecycle
- Policy and regulation changes

A growth and congestion trigger point results when demand exceeds the capacity of the existing facilities. Measures of growth and congestion trigger points may include:

- Operations growth

- Passenger growth
- Cargo tonnage growth
- Airfield / airspace congestion
- Tenant demand to expand their operations and facilities
- Inadequate Levels of Service (i.e., facility space deficits)

Growth and congestion metrics can be obtained using demand / capacity analyses, delay savings calculations, and / or tenant surveys.

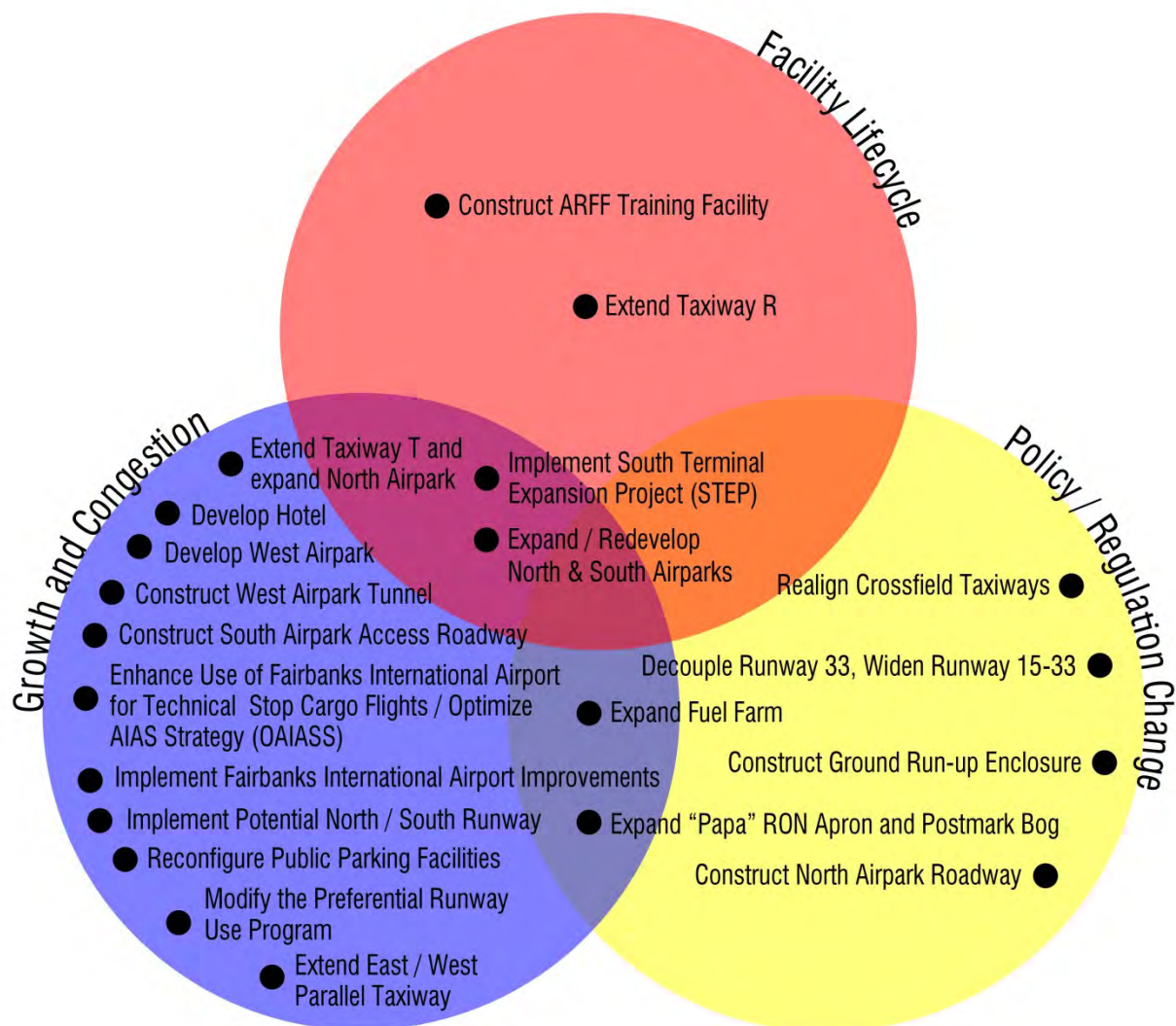
A facility lifecycle trigger point results when an existing facility reaches or exceeds its useful life (e.g., facility is in need of rehabilitation). A facility lifecycle trigger point can also occur when a facility no longer conveniently or efficiently serves its purpose (e.g., site reuse or lack of passenger amenities). Facility lifecycle metrics can be obtained from benefit-cost analyses and / or airline / tenant surveys.

A policy and regulation trigger point results when changes in policies and regulations trigger the need to replace or modify an existing facility (e.g., facility no longer meets design standards).

Policy and regulations changes may originate from local, State, or Federal regulatory bodies (e.g., U.S. Environmental Protection Agency [USEPA], Federal Aviation Administration [FAA]). New or updated regulations (e.g., updated FAA Advisory Circular on Airport Design) can also affect the way the Airport operates, possibly requiring capital improvement projects.

Each of the recommended Master Plan Update projects is categorized based on the type of trigger point in **Figure 6.5**. In some cases, projects can be triggered by more than one type of trigger point. For example, growth in aircraft operations would increase demand for additional fuel storage capabilities. Alternatively, an expansion may occur because of the policy decision to have bulk fuel delivery via oceangoing vessels that require increased fuel storage capacity.

Figure 6.5
 Trigger Points Diagram



Source: RS&H, 2014.

Notes: Tenant development and hotel is anticipated to be initiated / funded by a private developer / tenant.

Fairbanks International Airport improvements are anticipated to be funded by Fairbanks International Airport.

ARFF = Aircraft Rescue and Fire Fighting; AIAS = Alaska International Airport System; RON = Remain Overnight, OAIASS = Optimize AIAS Strategy, STEP = South Terminal Expansion Project

SECTION 5

SOUTH TERMINAL EXPANSION PROJECT DECISION GUIDE

5.1 INTRODUCTION

The South Terminal Expansion Project (STEP) includes a series of project elements that improve Level of Service for international passengers and consolidate operations in the South Terminal. Currently, international operations are handled out of the North Terminal building, which provides a very low Level of Service due to the aging equipment and building infrastructure. In addition, there is a lack of amenities such as concessions, and the building is isolated from the main terminal, making passenger connections difficult. STEP involves constructing a new South Terminal concourse to accommodate both international and domestic operations.

The new concourse would add five additional gates to the South Terminal. Three of the new gates would accommodate both international and domestic flights. The new concourse would require relocating aircraft positions R2, R3, and R4. The North Terminal concourse would be demolished and the main building core would be maintained for possible future use. It is anticipated that the North Terminal apron will be used to replace aircraft positions R2, R3, and R4. The North Terminal apron area could also be repurposed to accommodate regional carriers or deicing operations as demand warrants.

A decision guide was developed to aid Airport staff in determining when and under what circumstances implementation of STEP and its project elements should occur. The implementation timeline takes funding and regulatory hurdles into consideration but these variables (including demand) may affect the actual timing of these projects.

5.2 PROJECT ELEMENTS AND TIMELINE

The potential policy / construction implementation of the project elements for STEP are listed below. Applicable advanced planning, environmental, and design project elements would occur prior to implementation.

- **Ongoing** = Implementation of the STEP Activity Monitoring
- **2015** = Advanced Planning and Environmental Documentation for STEP
- **2018** = Design for STEP
- **2019** = Construction of STEP Phase I:
 - Relocate R2, R3, and R4 aircraft parking positions or initiate construction of four “Papa” Remain Overnight (RON) parking positions in the Postmark Bog
 - Secure any necessary permits and / or clearances

- Relocating passenger operations impacted by STEP temporarily to the North Terminal
- Construct new South Terminal concourse
- 2021 = Construction of STEP Phase 2:
 - Relocating passenger operations to new South Terminal concourse
 - Demolishing the North Terminal concourse
 - Upgrading the North Terminal processor
- 2022 = Construction of STEP Phase 3:
 - Redevelop North Terminal apron for aircraft parking
- 2023 = Completion of STEP

The implementation timeline for STEP anticipates durations of 2 years for advanced planning and environmental efforts, 1 year for design efforts, and 4 years for permitting / construction efforts. The project elements are presented in narrative below.

Advanced planning efforts would be necessary to help bridge the Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update) analysis and design work. Considerations for advanced planning include determining how to best finance the terminal project and completing detailed project phasing. This may include assessing impacts to domestic and international passenger flow, required space allocations, impacts to existing South Terminal activities, impacts to airline ground service equipment storage, impacts to cargo parking positions, and impacts of construction activity on Airport operations. In addition, efforts would be taken as part of the North Terminal tenant relocation plan to determine how to best relocate existing North Terminal tenants who would be affected by STEP. A National Environmental Policy Act process would be undertaken to conduct an assessment of potential environmental impacts.

Design efforts would include producing construction drawings for the new terminal and necessary apron work. It would also include developing demolition plans for the North Terminal concourse; apron parking positions R2, R3, and R4; and the hydrant fueling system. Permitting and other clearances would be required following design.

Construction efforts would include the demolition and relocation of R2, R3, and R4 (including the hydrant fueling system); construction of the South Terminal concourse; relocation of tenants; demolition of the North Terminal concourse, an update to the remaining North Terminal processor, and redevelopment of the North Terminal apron. Applicable permits and clearances will need to be acquired prior to construction. South Terminal construction efforts are recommended to be completed during off-peak times (daily and annually) to minimize disruption to operations to the extent practicable.

Once the new South Terminal concourse is constructed, international and domestic passenger operations would be consolidated in the expanded South Terminal. Also, Customs and other North Terminal tenant operations would be relocated to the expanded South Terminal. The North Terminal concourse would then be demolished. Finally, the North Terminal apron would be redeveloped to accommodate aircraft parking positions or another purpose as determined in advanced planning and / or the North Terminal tenant relocation plan efforts.

5.3 MONITORING ACTIVITIES

Three monitoring activities are recommended and described below.

5.3.1 COST ANALYSIS MONITORING

A high-level cost analysis was conducted for STEP. It concluded that construction of a new South Terminal concourse has a comparable cost to maintaining the North Terminal while providing a much higher Level of Service for passengers. Additional cost considerations pertaining to construction, maintenance and operational activities, Level of Service, mitigating any potential environmental impacts, potential air traffic control impacts, potential for airlines to remove or add service, and potential revenue gain not included in the Master Plan Update will be analyzed within the advanced planning effort. This effort would include a benefit / cost analysis to assist funding decisions.

5.3.2 AIRLINE NEEDS ASSESSMENT MONITORING

Continuous coordination with the airlines is required to determine their operational needs during peak times. The Airport currently has ongoing coordination with airline representatives regarding their summer flight schedules. The Airport should continue to determine airline gating needs and assess whether or not the Airport has enough gates to accommodate regional, domestic, and international operations. Continuous discussions can be made during scheduled meetings of the airlines with Airport staff (e.g., Airport Airline Affairs Committee [AAAC] meeting). Additional coordination efforts are recommended to begin in 2015 during the advanced planning phase and reassessed after the peak season in 2017, prior to the start of design efforts. Should airline demand indicate a need for additional gates that come close to or exceed available gating capacity, a decision would need to be made regarding implementing STEP. If airline demand does not indicate a need for additional gates, STEP implementation could be deferred.

In addition, the existing South Terminal airlines should be asked about other space needs within the terminal area (e.g., ticketing and baggage areas). If additional space is necessary, Airport staff should make a decision regarding whether or not it would be worthwhile to complete necessary expansions of existing domestic and regional operations separately or in conjunction with STEP.

Finally, the airlines should be asked about their needs pertaining to the removal of aircraft parking positions R2, R3, and R4. Their feedback may determine a more suitable location for replacing the removed parking positions.

5.3.3 PASSENGER ACTIVITY AND LEVEL OF SERVICE ASSESSMENT MONITORING

The South Terminal Level of Service is adequate today but should be monitored for deficiencies at the security checkpoint, concessions, and overall holdroom spaces. At a minimum, these assessments can be observationally collected. To get a detailed understanding of Level of Service, passenger intercept surveys are recommended.

5.4 TRIGGER POINTS

Three trigger points were identified to implement the STEP project elements.

5.4.1 FACILITY CONDITIONS TRIGGER – FACILITY LIFECYCLE

The Master Plan Update reviewed a facility study of the North Terminal. The study found that the North Terminal is in need of upgrades to its structure, façade, interior, mechanical, electrical, and plumbing infrastructure. The building is 32 years old and was designed to accommodate international transit passengers, a need that no longer exists. The facility is at the end of its design lifecycle and is in need of refurbishment or replacement. The lifecycle trigger for the North Terminal has occurred.

5.4.2 GROWTH AND CONGESTION TRIGGER – TERMINAL SPACE AND GATE REQUIREMENTS

The forecast used by the Master Plan Update anticipates Alaska's population to grow between 1.0% and 1.3% annually over the 20-year planning period. Likewise, Airport passenger boardings are anticipated to grow by about 1% annually. Approximately 2.3 million people boarded passenger flights at the Airport in 2010. The forecast anticipates about 2.8 million people will board passenger flights at the Airport in 2030.

Facility requirements analysis concluded that the anticipated increase of 500,000 passenger boardings by 2030 could be accommodated entirely at the existing South Terminal gates. This is, however, an assumption and is predicated on airlines adjusting their schedules to serve the demand during off-peak periods.

The Airport is characterized by both high seasonal peaks (e.g., more activity during the summer tourist season) and high daily peaks (e.g., more activity during the 10 p.m. to 2 a.m. period resulting from the Airport's geographic location). Recent summertime flight activity has resulted in doubts that airlines would be willing to substantially adjust

the time of day they serve the Airport. During the summer of 2013, peak late-night periods were challenging to accommodate, and most nights, there were periods when all jet gates on the B and C concourses at the South Terminal were occupied. This included placing a seasonal carrier on a preferentially leased gate, as is also planned during the 2014 summer season. While the technical analysis of gate requirements shows that airlines could accommodate demand during off-peak hours, the airlines ultimately decide how they will service demand in a given market. Airport staff should continue to engage airlines to determine airline gating and terminal space needs and assess whether or not there are sufficient gates to accommodate airline demand. Airport staff may also want to coordinate with airlines during scheduled airline meetings, such as the AAAC meeting held prior to the start of the peak summer season.

For decision-making purposes, passenger traffic during peak times is important. However, passenger traffic during off-peak periods should also be assessed. Should passenger activity become more spread out throughout the day, an assessment should be made regarding how this change in airline scheduling impacts processing facilities. STEP implementation could potentially be deferred if airlines spread their flight schedules.

The Master Plan Update team recommends periodic airline market surveys or assessments be completed. In addition to expressing the Airport's long-term plans for the terminal, these surveys would determine whether or not flights can be accommodated as desired. The airlines would be able to determine what their individual needs are and how those needs might change in the future. Should airlines indicate flights cannot be accommodated, STEP should be implemented.

Airport Operations should prepare a brief annual report summarizing the Airport's summertime airlines, schedules, and markets served. Airlines should be surveyed on an annual or biannual basis to ascertain whether they are / were able to serve the Airport in the manner they desired. Any reported airline perception that the Airport was unable to accommodate desired service should be highlighted and reported to the extent possible (e.g., with regard for airline / Airport confidentiality of planned service). This study would indicate both the unwillingness and incapability of airlines to adjust flight schedules and allocate more of their flights during off-peak periods.

5.4.3 GROWTH AND CONGESTION TRIGGER – PASSENGER LEVEL OF SERVICE

The North Terminal building is in need of extensive rehabilitation, and as a result passengers experience a lower Level of Service compared to passengers traveling through the South Terminal. While the North Terminal has the elements necessary to function as a passenger terminal, the very low Level of Service relative to the South Terminal has the potential to be a deterrent to air carriers who cannot be accommodated in the South Terminal. Further, the State has determined the level of

service offered to passengers in the North Terminal is below acceptable levels.

During this Master Plan Update, it was determined that the Level of Service in the North Terminal is unacceptable; therefore, this trigger point has been reached.

A passenger survey is recommended for the South Terminal, particularly at the security checkpoint, concessions, and holdroom. The existing South Terminal facilities may need to be upgraded during the implementation of STEP. If it is determined from the survey that the Level of Service falls below C, it may expedite the implementation of STEP. **Appendix H** includes more information about Level of Service.

SECTION 6

NORTH / SOUTH RUNWAY DECISION GUIDE

6.1 INTRODUCTION

Ted Stevens Anchorage International Airport (Airport) accommodated approximately 216,000 takeoffs and landings in 2010. The forecast anticipates that takeoffs and landings will increase at a rate of about 1.4% per year reaching almost 282,000 in 2030. Untenable levels of delay would occur when annual operations reach 258,000 according to the 2013 *Alaska International Airport System (AIAS) Planning Study*.

The North / South Runway decision guide includes three projects to be implemented in a phased manner with the purpose of mitigating airfield congestion through efficiency enhancements, demand management, and capacity enhancements. The projects include:

- Modified Preferential Runway Use Program
- Enhanced Use of Fairbanks International Airport
- North / South Runway Implementation

The implementation timeline takes funding and regulatory hurdles into consideration, but these variables (including demand) may affect the actual timing of these projects.

6.2 PROJECT ELEMENTS AND TIMELINE

The potential policy / construction implementation for the North / South Runway project elements are listed below. Applicable advanced planning, environmental, and design project elements would occur prior to implementation.

- **Ongoing** = Implementation of Annual Delay and Activity Performance Times (ADAPT)
- **Ongoing** = Implementation of Optimize AIAS Strategy (OAIASS)
- **2015** = Modification of the Preferential Runway Use Program
 - Revise Compendium of Operational Orders to enable greater airfield flexibility during peak periods to avoid delay
 - Revise Airport Traffic Control Tower (ATCT) Standard Operating Procedure Section 3.6.3 to allow temporary deviations from preferred runway use program to avoid unacceptable departure delays
- **2020** = Land Acquisition
- **2020** = Construction of Fairbanks International Airport Improvements (if OAIASS successful)
- **2020** = Update Airport Master Plan

- 2021 = Advanced Planning and Environmental Documentation for the Potential North / South Runway in Accordance with the National Environmental Policy Act (NEPA)
- 2025 = Design for the Potential North / South Runway
- 2027 = Construction of West Airpark Tunnel
- ≈2028 = Construction of the Potential North / South Runway
- ≈2032 = Completion of the Potential North / South Runway

Projects and project elements may begin immediately and occur concurrently. The demand dependent, phased approach should be considered a continuum of development. As an example, the Airport has already begun a program to encourage non-signatory airlines flying to Alaska to consider operating at Fairbanks International Airport by paying the signatory rate. Therefore, project elements of the Enhanced Use of Fairbanks International Airport are currently under way.

6.2.1 MODIFIED PREFERENTIAL RUNWAY USE PROGRAM PROJECT ELEMENTS

Modifying the Preferential Runway Use Program will enable a more efficient airfield operation by reducing departure delays. The Modified Preferential Runway Use Program includes four project elements.

NEPA documentation may potentially be required as determined by the FAA for modification of the Preferential Runway Use Program. This environmental documentation would identify impacts caused by the modification of the Preferential Runway Use Program. The NEPA document is expected to take 1 year to complete if required.

Revising the Airport's Compendium of Operational Orders is the second project element. The Airport's Compendium of Operational Orders would be revised to state that delay allows pilots to request a non-preferred runway during daytime hours (7 a.m. to 10 p.m.). Departures from Runway 33 would be preferred but in the event that delay occurs, departures from Runway 7L would be allowed to alleviate departure delay. The modification shall not apply to nighttime (10 p.m. to 7 a.m.) operations. Additionally, the use of Runway 7L for takeoffs shall only be used as necessary to manage congestion and only as demand increases during peak periods.

Revision of the ATCT Standard Operating Procedure Section 3.6.3 would give Air Traffic Controllers and pilots flexibly to select non-preferred runways (e.g., Runway 7L) during peak periods.

The fourth project element is the gradual increase in use of Runway 7L by Air Traffic Control during peak periods.

Challenges include potential problematic airspace interactions with other airports (e.g., Joint Base Elmendorf-Richardson) and constraints due to terrain (e.g., Chugach Mountains). As such, gradual

implementation would allow Air Traffic Controllers to work out inefficiencies that may be associated with the project.

6.2.2 ENHANCED USE OF FAIRBANKS INTERNATIONAL AIRPORT PROJECT ELEMENTS

Enhancing the use of Fairbanks International Airport encourages use of that airport for cargo technical stop flights through Alaska. The project includes shifting 50% or more technical stop traffic to Fairbanks International Airport. The project would require airfield enhancements at Fairbanks International Airport.

The Enhanced Use of Fairbanks International Airport includes two project elements.

The first project element is for Department of Transportation and Public Facilities (DOT&PF) officials to assist the signatory airlines with preparing the OAIASS. This strategy may include incentives designed to encourage cargo technical stop operators to use Fairbanks International Airport instead of the Airport. The project element would be developed in coordination with airline, Federal Aviation Administration (FAA), and DOT&PF representatives.

The second project element is to implement improvements recommended in the Fairbanks International Airport Master Plan Update (if OAIASS is successful). This would be sponsored and funded by Fairbanks International Airport.

6.2.3 NORTH / SOUTH RUNWAY IMPLEMENTATION PROJECT ELEMENTS

North / South Runway Implementation calls for the implementation of a north / south, widely spaced, parallel runway; connecting taxiways; roadway tunnel; addition of fill; and relocation of access roadways. The North / South Runway would also require realignment of the Tony Knowles Coastal Trail (Coastal Trail) and land acquisition. The goal would be to satisfy increased operational demand and reduce congestion.

The North / South Runway Implementation includes seven project elements.

The potential North / South Runway Implementation would require the Airport to acquire approximately 150 acres of land, excluding additional land areas created by fill. This land acquisition would require NEPA documentation. Airport staff should protect, preserve, and acquire the land necessary to enable the implementation of a new runway at a future point. This includes protection of Airport lands currently used for recreational purposes and compliance with FAA land use regulations.

The second project element is the completion of another master plan update for the Airport. The Airport should plan proactively to prepare

for the potential need for a new runway. As such, another master plan would be the most appropriate platform through which to validate the need for a new runway. The FAA recommends that master plans be updated every 5 to 10 years and it is possible that a number of these periods may elapse prior to a new runway being needed.

The third project element is the completion of advanced planning and NEPA documentation. Advanced planning is needed to refine the project's purpose and need in support of NEPA documentation. Advanced planning would determine how to best phase and finance the North / South Runway. The anticipated NEPA documentation for potential North / South Runway Implementation would include the runway, taxiways, roadways, and West Airpark tunnel. Options for maintaining a contiguous Coastal Trail would also be addressed in the advanced planning and environmental documentation efforts. The environmental documentation for the West Airpark tunnel may also occur with West Airpark Development if that project occurs prior to potential North / South Runway Implementation. Information developed as part of the master plan would feed into the advanced planning and NEPA documentation, and segue into the full-fledged design efforts.

The fourth project element is to initiate design efforts. This would include producing construction drawings for the new runway, connecting taxiways, West Airpark tunnel, adding land fill, and rerouting Point Woronzof Drive. Realignment of the Coastal Trail would also be addressed in the design effort.

The fifth project element is to design and construct the West Airpark tunnel. The project includes design and construction of a tunnel connecting the east and west sides of the Airport. A four-lane tunnel, providing public and secure access would be constructed from North Airpark Roadway and run west under Taxiway R, Runway 15-33, and Taxiway Y to the West Airpark. The public access tunnel (two lanes) would continue under the potential North / South Runway and associated taxiways. The secure access tunnel (two lanes) would surface in the West Airpark between the existing and potential North / South runways.

The sixth project element is to construct the potential North / South Runway. The appropriate permits and other clearances would need to be obtained prior to start of construction. Construction efforts are recommended to be phased to minimize the impacts to aircraft operations as well as impacts to trail users. This may be accomplished by performing construction during off-peak periods (daily and annually) and by ensuring minimal interruptions to trail usage.

The seventh project element in support for the potential North / South Runway project is to open the newly constructed airfield facilities. Once the new runway is constructed, aircraft could begin using the new runway to immediately relieve airfield congestion.

The anticipated timeline includes durations of 5 years for advanced planning and environmental efforts, 4 years for the design effort, and 4 years for permitting / construction efforts.

Implementation of the North / South Runway would require several enabling projects. Enabling projects would need to be completed before the North / South Runway can be implemented.

The location of the new runway was planned considering the impacts to the Asplund Wastewater Treatment Facility. The Airport will need to continue to coordinate with the Anchorage Water and Wastewater Utility prior to the implementation of the North / South Runway to ensure all impacts to the Asplund Wastewater Treatment Facility are considered and mitigated. This includes ensuring that the Asplund Wastewater Treatment Facility could be expanded to meet future demand and regulatory requirements.

Realignment of the Coastal Trail between Point Woronzof and Kincaid Park would need to be conducted to make the North / South Runway Implementation possible. The Airport remains committed to maintaining a contiguous Coastal Trail. As such, the Airport and FAA would coordinate with the Municipality of Anchorage and other community stakeholders to identify ways to mitigate impacts or enhance the Coastal Trail.

The North / South Runway Implementation may impact areas where there are resources of cultural significance. Prior to the implementation of this project, the Airport and FAA would review potential impacts to cultural resources under NEPA and Section 106 of the National Historic Preservation Act. These analyses would identify cultural resource sites and determine options to avoid, minimize, and mitigate impacts resulting from Airport development. This will also require Airport and FAA coordination with local Tribes.

6.3 MONITORING ACTIVITIES

Demand / capacity analyses were completed as part of the 2013 AIAS Planning Study and Ted Stevens Anchorage International Airport Master Plan Update (Master Plan Update). The AIAS Planning Study team determined that without any capacity-enhancing improvements, unacceptable delay conditions would occur at the Airport when aircraft operations reach 258,000 per year. At this point, airlines can anticipate delays in excess of 30 minutes of average peak hour delay more than 10% of the time during the critical hours of the day (between 11 a.m. and 7 p.m. with the peak hour at 3 p.m., and especially in the fall months when cargo operations are peaked). If the design compliance and safety enhancement projects are implemented (e.g., angled taxiway realignment) the Master Plan Update team determined that the untenable delay threshold may be reduced to 243,000 annual operations. This threshold would be reduced because the airfield efficiency would

decrease if the angled taxiways are realigned. As such, both untenable delay threshold annual operations figures are important.

Continuous and recurrent monitoring (rolling 3-year periods) of aviation activity and resultant congestion is recommended. The need for the Modified Preferential Runway Use Program, Enhanced Use of Fairbanks International Airport, and North / South Runway Implementation will result from continuing growth and congestion at the Airport.

Annual Delay and Activity Performance Times (ADAPT) monitoring is a project element that applies to each of the projects within the North / South Runway Decision Guide. ADAPT is essential for the Airport to monitor and assess airfield activity. The data could be used to publish annual reports on the number of operations using each runway and the fleet mix characteristics. The ADAPT monitoring activity will also enable the Airport to assess whether growth is occurring outside of the historic peak periods resulting in less delay than anticipated, in spite of additional growth.

Performance Data Analysis and Reporting System (PDARS) equipment is a powerful tool that the Airport may use to collect operational activity and assess current demand levels. The Master Plan Update team installed PDARS equipment in the Anchorage Terminal Radar Approach Control facility in January 2013 to help assess the current operational levels. This equipment collects flight plan and radar track data for the Anchorage area. The PDARS equipment will allow the Airport to collect accurate operational data and generate valuable statistical reports (e.g., demand / capacity analysis results) on a regular basis. This will help ensure that the Airport implements projects when needed to alleviate congestion. The Airport's ability to monitor traffic is greatly enhanced due to the PDARS data. The effectiveness of previously implemented projects, rate of operational growth compared to forecast demand, and impacts to peak period delay / congestion can be determined through this monitoring activity.

The Airport may also conduct a simpler delay analysis based on FAA delay information. The FAA Aviation System Performance Metrics (ASPM) database provides a robust picture of air traffic activity and airport efficiency. ASPM reports provide detailed data on flights to and from participating airports, runway configuration, and airport arrival / departure rates. Delay information is calculated for aircraft traveling in the air, taxiing, and parked at the gate. Airport staff may use the ASPM data to monitor and assess current demand at the Airport.

Close communication and coordination with airline representatives can also be indicative of growth and congestion. As such, the Airport should utilize surveys to assess airline perception of Airport congestion and demand. This would allow Airport staff to incorporate airline input to better meet their needs.

6.4 TRIGGER POINTS

6.4.1 MODIFIED PREFERENTIAL RUNWAY USE PROGRAM TRIGGER POINTS

Two trigger points were identified to implement the Modified Preferential Runway Use Program.

Policy and Regulation Change Trigger - Compendium of Operational Orders Revised

As was mentioned in Section 6.2.1, the Airport may update, as they see fit, the Compendium of Operational Orders in the near future. Updates to the Compendium of Operations Orders will trigger modifications to preferential runway use. Subsequent to this project element, the ATCT Standard Operating Procedure Section 3.6.3 would be revised to reflect the change in the Airport's Compendium of Operational Orders and give Air Traffic Controllers the flexibility to select non-preferential runways (e.g., Runway 7L) for departures in situations of peak period delay.

Growth and Congestion Trigger - Peak Period Delay

The update to the ATCT Standard Operating Procedures will trigger the modifications to preferential runway use, and Air Traffic Controllers may begin gradually increasing departures from Runway 7L during peak periods.

Demand / capacity analysis shows that the Modified Preferential Runway Use Program would reduce congestion during peak periods while in the modified Configuration 1.

This project does not affect the untenable peak delay threshold, is not triggered by annual operations growth, and may not defer the need to implement a new runway. This is because it can only occur during the Airport's most common configuration (72% of the time)—landing on Runway 7R / taking off on Runway 33 (and Runway 7L), but only when it is possible to operate in this configuration. That is, this project will reduce congestion most of the time but will not reduce congestion during the remaining 28% of the time.

The ADAPT monitoring activities should be undertaken to assess the success of the Modified Preferential Runway Use Program and determine the need to progress to other projects.

6.4.2 ENHANCED USE OF FAIRBANKS INTERNATIONAL AIRPORT TRIGGER POINTS

One trigger point was identified to implement the Enhanced Use of Fairbanks International Airport.

Growth and Congestion Trigger – Operations Growth

The Airport recognizes the need to maximize the use of existing infrastructure. As such, the AIAS has begun implementation of the Enhanced Use of Fairbanks International Airport. At the current time, non-signatory airlines are able to operate at Fairbanks International Airport and pay the lower signatory landing fees. As growth in operations continues, additional incentives may encourage increased use of Fairbanks International Airport for cargo technical stop operations.

The trigger for consideration of additional incentives by the AIAS must be timed appropriately to take advantage of growth in air cargo through Alaska. Aggregate operational growth of 10% to 15% would ultimately necessitate additional and more aggressive efforts in support of the Enhanced Use of Fairbanks International Airport. This would keep delays and congestion below the untenable delay threshold of 30 minutes during peak periods 10% or more of the time. OAIASS must be in place by the time the Airport experiences 20% growth to avoid untenable delays.

More aggressive incentives may be formulated as congestion increases at the Airport. The AIAS should prepare an incentive package after the completion of the AIAS Planning Study, Master Plan Update, and Fairbanks International Airport Master Plan Update. The goal, at this point, is to ensure that a plan is in place.

The Enhanced Use of Fairbanks International Airport would need to be successfully implemented prior to the Airport reaching 243,000 annual operations (this assumes that the Phase I safety enhancements have been implemented). Based upon forecast demand, the Enhanced Use of Fairbanks International Airport would need to be in place by 2019.

This trigger point is of particular importance because if the Enhanced Use of Fairbanks International Airport is ineffective, Airport staff would need to consider the North / South Runway Implementation as warranted by demand.

Results from the AIAS Planning Study demand / capacity analysis indicate that the Enhanced Use of Fairbanks International Airport could be an effective long-term solution to delay congestion. As an example, moving approximately 16 daily cargo technical stop flights to Fairbanks International Airport reduces the Airport's average peak hour delay as much as 10 minutes per operation. Use of both the Airport and Fairbanks International Airport would accommodate the highest forecast levels of demand—greater than 282,000 annual operations at the Airport. If successful, the Enhanced Use of Fairbanks International Airport could indefinitely defer the need for a new runway.

If this project is successful, infrastructure and facility enhancements at Fairbanks International Airport may be required.

Frequent monitoring of aircraft operations and airfield congestion at the Airport should be undertaken to assess the success of the Enhanced Use of Fairbanks International Airport and determine the need to progress to the North / South Runway Implementation.

6.4.3 NORTH / SOUTH RUNWAY IMPLEMENTATION TRIGGER POINTS

One trigger point was identified to implement the North / South Runway.

Growth and Congestion Trigger – Untenable Delay

Demonstrated and sustained airfield congestion would be a justification to begin implementation of the North / South Runway.

A demand / capacity analysis of the Airport was prepared under the 2013 *AIAS Planning Study* and the Master Plan Update. Analysts reviewed the unique operational environment of the Airport in greater detail than in previous planning studies. A focus on demand and congestion during peak periods was carefully examined while, for the first time, airlines were asked to share information about what would constitute untenable delays and congestion.

Airlines reported that consistent peak period delays exceeding 30 minutes would be untenable to their continued efficient operation. Demand / capacity analysts made the assumption that delays of this magnitude occurring greater than 10% of the time would constitute an unacceptable degree of consistency. Analysts noted that if the Airport were to reach the untenable delay threshold of 30 minutes more than 10% of the time, it would be too late to address the problem without putting the Airport's continued appeal as a cargo stopover point at substantial risk. This is a unique factor for the Airport as airlines have the ability to overfly and avoid a cargo technical stop at the Airport by accepting costly weight penalties. Therefore, it is recommended the Airport take the necessary countermeasures to prevent this type of situation from developing. Based upon forecast demand from the 2013 *AIAS Planning Study*, the North / South Runway Implementation would need to be in place by 2019. However, in consideration of actual growth between 2010 and 2013, which was lower than forecast, the untenable peak delay threshold of 243,000 operations would not be reached until 2025 to 2030. Regardless of the forecast, actual increasing congestion and delay will drive the need for a new runway, not an annual operations milestone or calendar year. After the North / South Runway project is complete, the untenable peak delay threshold would increase to 323,000 annual operations.

Ongoing monitoring and implementation of project elements will be required to ensure the untenable delay threshold is avoided. Increasing congestion will require continuous response by the Airport.

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SECTION 7

NORTH AIRPARK DEVELOPMENT DECISION GUIDE

7.1 INTRODUCTION

The North Airpark is bounded by Taxiway R on the west, Point Woronzof Drive / Northern Lights Boulevard on the north, and Taxiway V on the south, and extends into the Turnagain Bog to the east. North Airpark development includes any development made by Ted Stevens Anchorage International Airport (Airport) to accommodate existing or future tenant and airline needs. Airport-sponsored improvements include additional aircraft parking positions and taxiways to accommodate forecast cargo demand. Tenant development may include new tenants. This type of development is difficult to forecast as it is dependent upon market conditions. The implementation timeline takes funding and regulatory hurdles into consideration, but these variables (including demand) may affect the actual timing of these projects.

7.2 PROJECT ELEMENTS AND TIMELINE

The North Airpark development would occur as needed throughout the planning horizon. The potential policy / construction implementation of the project elements for 20+ year development of the North Airpark are listed below. Applicable advanced planning, environmental, and design project elements would occur prior to implementation.

- 2018 = Construction of the Ground Run-up Enclosure (GRE)
- 2018 = Construction of the “Papa” Remain Overnight (RON) Apron Expansion and Postmark Bog Development
- 2024 = Construction of the North Airpark Roadway, Taxiway T Extension, and Eastward Expansion of the North Airpark
- 2025 = North Airpark Northward Expansion

Ground Run-Up Enclosure

A Ground Run-Up Enclosure (GRE) has been considered as a potential mechanism for reducing noise generated by engine run-ups that occur at the Airport. A GRE may have the potential to reduce noise in neighborhoods near the Airport.

Airlines must regularly conduct maintenance or repairs on aircraft systems and engines. For certain types of aircraft maintenance, engine run-up tests are conducted to demonstrate that the aircraft’s in-flight systems are working properly before the aircraft can be put back into service. A run-up is a pre-flight test of the engine systems, where various levels of engine power are applied while the aircraft remains stationary. A substantial amount of noise can be created when run-up testing occurs, and through public coordination, this type of noise was identified as a public concern. A Ground Run-Up Enclosure (a three-

sided “hush-house” for the operation of aircraft run-ups) is included as a draft recommendation in the currently ongoing FAR Part 150 Noise Compatibility Study. The Study shows future abated single event noise levels (SEL) for four potential GRE sites that were examined in the study. A GRE at one of these sites could show up to a 100% reduction in the potential population exposed to run-up noise greater than the 60 Lmax at all four potential locations. If this recommendation is approved by the FAA, a GRE could be sited in one of a number of sites adjacent to an existing taxiway to enable aircraft to perform run-ups in a manner that reduces these single event noise impacts to nearby residents, however, the exact location of the GRE would be determined through a separate site selection study.

Construction of a GRE at the Airport would require advanced planning for project scope, airline approval, and Airport Improvement Program (AIP) funding approval. In addition, it would require a siting study to evaluate the most appropriate size, location, and orientation for the enclosure. The preferred location and orientation considerations include land use compatibility, location of aircraft maintenance activities, predominant wind direction, and location of noise sensitive receptors. Design can be undertaken soon after the site and orientation have been determined. Short taxiway connectors may need to be constructed to provide access to the enclosure depending on the preferred location and orientation. The Airport can subsequently obtain the proper permits once the siting study and environmental documentation is complete prior to Airport construction. The timeline for implementation is anticipated to be 1 to 2 years for siting and design, 1 year for environmental, and 1 year for construction.

“Papa” RON Apron Expansion and Postmark Bog Development

The need for the “Papa” RON Apron Expansion is based on peak period aircraft parking requirements and the replacement of cargo aircraft parking positions lost at the North Terminal and at positions R2, R3, and R4 in the event that the South Terminal Expansion Program is implemented. Further, these positions would accommodate Group VI aircraft including the Boeing 747-8F.

“Papa” RON Apron Expansion would include an extension of Taxilane P, construction of a second taxilane to the south of Taxilane P, and RON parking positions (potentially to replace the three RON parking positions that will be demolished through the South Terminal Expansion Project [STEP]). The extension of Taxilane P also serves as airfield access for tenant-developed apron and landside areas and buildings.

Implementation of this project element would require National Environmental Policy Act (NEPA) documentation. Design efforts would produce construction documents for the “Papa” RON Apron Expansion. The appropriate permits would be obtained after the environmental and design efforts. Construction efforts would include the eastward

extension of Taxilane P, the new taxilane south of Taxilane P, and basic utility infrastructure as warranted by demand.

The expansion of the “Papa” RON Apron Expansion includes the addition of five Group VI capable aircraft parking positions south of Taxilane P to fill the remainder of the Postmark Bog (the southern portion of the Postmark Bog, beyond the berm, cannot be developed because it is a contaminated snow retention basin). The extension of Taxilane P would provide access to these parking positions, and the additional taxilane south of Taxilane P would provide pull-through capabilities for the new parking positions.

Design efforts would produce construction documents for the aircraft parking apron, the Taxilane P extension, and the new taxilane south of Taxilane P. The appropriate permits would be obtained after the environmental and design efforts. Construction efforts would include the eastward extension of Taxilane P, the construction of a new parallel taxilane south of Taxilane P, and the construction of the aircraft parking apron. The timeline for implementation is anticipated to be 1 year for environmental documentation and design, and 1 year for construction.

Further development of the Postmark Bog to accommodate future tenant demand would be undertaken by developers and the tenant.

North Airpark Roadway Construction, Taxiway T Extension, and Eastward Expansion of North Airpark

The construction of the North Airpark Roadway would be implemented to allow the eastward expansion of the North Airpark and enhance the safety of ground service vehicles accessing the U.S. Post Office, located across the existing Postmark Drive from tenant leaseholds. Construction of North Airpark Roadway would also allow eastward extension of Taxiway T.

The Taxiway T extension would provide airside access to the buildings and apron area. The NEPA documentation would include the North Airpark Roadway Construction and Taxiway T Extension. Design of the North Airpark Roadway Construction and Taxiway T Extension would be accomplished after the environmental documentation is complete. The Airport can subsequently obtain the proper permits once environmental documentation and design is complete, prior to construction of the North Airpark Roadway and Taxiway T extension. The implementation phasing would be refined during the design efforts. The timeline for implementation is anticipated to be 1 year for environmental documentation, 1 year for design, and 2 years for construction.

The Taxiway T Extension would allow additional tenant airside development in the east portion of the North Airpark. The Eastward Expansion of the North Airpark would be undertaken by developers and tenants.

Northward Expansion of the North Airpark

The northern portion of the North Airpark could accommodate future tenant demand. The Northward Expansion of the North Airpark would be undertaken by developers and tenants.

7.3 MONITORING ACTIVITIES

Monitoring will determine when a trigger point is prompted and a decision will need to be made regarding a project element for the North Airpark development. North Airpark development would be driven by tenant demand. There are three notable exceptions:

- GRE
- “Papa” RON apron
- Construction of North Airpark Roadway

The Airport should coordinate with North Airpark tenants to monitor peak activity requirements for Airport-operated aircraft parking positions, tenant aircraft parking positions, cargo operation and tonnage statistics, and growth trends that may trigger North Airpark development.

7.4 TRIGGER POINTS

Three trigger points were identified for development of the North Airpark.

Growth and Congestion Trigger – Aircraft Parking Positions

A cargo apron and parking position analysis was completed in the Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update). Eight aircraft parking positions are required through the planning horizon. Construction of the “Papa” RON apron area and northward / eastward expansion of cargo areas within the North Airpark accommodates some of the forecast demand.

Cargo carrier input is recommended to assess cargo aircraft parking demand. If demand for apron areas grows beyond the approximately 125,000 square yards needed for apron area or the eight cargo aircraft parking positions, then Airport staff would determine whether or not to expand the North Airpark.

The Airport should work with cargo airlines and handlers annually to discuss schedules and peak operations to determine if and when additional apron parking would be required. The Airport should initiate design and implementation of additional apron parking when more than 80% of the existing public parking positions are occupied during peak periods.

Policy / Regulation Change Trigger – FAA Requires Compliance with Design Standards

The Airport currently has several Modifications of Standards. Should future development necessitate a change to or near areas where Modifications of Standards are in place, the Federal Aviation Administration (FAA) may require the Airport to comply with design standards in order to obtain FAA funding for any future developments.

The Modifications of Standards that currently impact the North Airpark are listed below. At any point, should FAA require the elimination of these Modifications of Standards, additional design efforts may be required to resolve non-standard conditions.

- Taxiway T is proposed to be used by the Airbus A380 Airplane Design Group (ADG)-VI. Based on guidance provided in FAA *Engineering Brief No. 63B*, Taxiways for Airbus A380 Taxiing Operations, Taxiway T is not designed to ADG-VI standards.
- Height restriction on tug roads of 14 feet are currently in place due to the deficient ADG-VI Taxiway Object Free Area on Taxiway R between Taxiway T and Taxiway Q.

Resolution of the Modifications of Standards may require infrastructure changes as the non-standard conditions may impact tenant properties. Resolving the non-standard conditions would require relocation of segments of the vehicle service roads and potential realignment of aircraft parking positions.

Growth and Congestion Trigger – Tenant Issues

North Airpark tenants noted the following potential improvements during the Master Plan Update inventory process:

- Safer tug vehicle access to the U.S. Post Office (i.e., elimination of the Postmark Drive crossing)
- Additional employee parking

The planned North Airpark development would include these tenant requested improvements. Future Airport-tenant coordination will validate the need for the above-mentioned improvements and identify additional tenant requested improvements.

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SECTION 8

WEST AIRPARK DEVELOPMENT DECISION GUIDE

8.1 INTRODUCTION

The West Airpark is bounded by the Ted Stevens Anchorage International Airport (Airport) property boundary on the west, Point Woronzof Drive / Northern Lights Boulevard on the north, Taxiway Y on the east, and Taxiway K on the south. West Airpark development includes any development made by the Airport in order to accommodate existing or future tenant and airline needs. Airport-sponsored improvements include additional aircraft parking positions to accommodate forecast cargo demand. Tenant development may include cargo transfer operations or cargo warehousing. This type of development is difficult to forecast as it is dependent upon market conditions. The implementation timeline takes funding and regulatory hurdles into consideration, but these variables (including demand) may affect the actual timing of these projects.

8.2 PROJECT ELEMENTS AND TIMELINE

The West Airpark development would occur as needed throughout the planning horizon. The potential policy / construction implementation of the project elements for 20+ year development of the West Airpark are listed below. Applicable advanced planning, environmental, and design project elements would occur prior to implementation.

- 2020 (or as determined by growth and congestion)
= Tenant Expansion of Fuel Farm
- 2027 (or as determined by growth and congestion)
= Construction of West Airpark
- 2027 (or as determined by growth and congestion)
= Construction of West Airpark Tunnel

The fuel farm expansion would be implemented to provide additional aircraft fuel storage capabilities. This would be a tenant-driven project. The Anchorage Fuel Service Corporation would need to coordinate with the Airport to lease additional land on which new fuel storage tanks would be constructed. The tenant would be responsible for the design and construction of the additional tanks. The timeline for implementation is anticipated to be 1 year for environmental and 1 year for permitting and construction.

The West Airpark development is independent of the need for and timing of the North / South Runway Implementation. The West Airpark development would include the access roadways (public and service), utility infrastructure to facilitate tenant development, and six additional Group VI-capable aircraft parking positions to be used primarily for cargo technical stop activity.

Advanced planning considerations would include the location of aircraft parking positions, access roadways, and basic infrastructure. The National Environmental Policy Act documentation for the West Airpark development would include the additional parking positions, West Airpark Tunnel, access roadways, and basic infrastructure. The environmental documentation for the West Airpark tunnel may also occur with potential North / South Runway Implementation if that project occurs prior to the West Airpark Development. The Airport can subsequently obtain the proper permits once the advanced planning and environmental documentation is complete.

The West Airpark Development design efforts would include producing construction documents for the parking positions, access roadways, and West Airpark Tunnel (if applicable). The appropriate permits and other clearances would need to be obtained prior to the start of construction. Construction efforts are recommended to be phased to minimize the impacts to aircraft operations. This may be accomplished by performing construction during off-peak periods (daily and annually). The timeline for implementation is anticipated to be 1 year for environmental and design, and 1 to 2 years for construction.

Other areas in the West Airpark would be used to accommodate future tenant demand. Additional expansion of the West Airpark would be undertaken by developers and tenants.

8.3 MONITORING ACTIVITIES

Monitoring will determine when a trigger point is prompted and a decision will need to be made regarding a project element for the West Airpark development. West Airpark development would be driven by tenant demand and growth and congestion in existing apron and ramp areas.

The Airport should coordinate with tenants to monitor peak activity requirements for Airport-operated aircraft parking positions, tenant aircraft parking positions, cargo operation and tonnage statistics, and growth trends that may trigger West Airpark development.

8.4 TRIGGER POINTS

One trigger point was identified for development of the West Airpark.

Growth and Congestion Trigger

Development of the West Airpark would be triggered by continued growth in cargo demand. Airport-tenant coordination will be necessary to determine appropriate timing of West Airpark development. Airport staff should also monitor cargo aircraft parking and taxiway congestion. If congestion grows in the North Airpark, the Airport should consider development of the West Airpark.

SECTION 9

SOUTH AIRPARK DEVELOPMENT DECISION GUIDE

9.1 INTRODUCTION

The South Airpark is bounded by the Ted Stevens Anchorage International Airport (Airport) property boundary on the west and east, Runway 7R-25L on the north, and Raspberry Road on the south. South Airpark development includes any development made by the Airport in order to accommodate existing or future airline needs, as well as development made by tenants. Tenant development would include infrastructure and utility development. The Airport implementation timeline takes funding and regulatory hurdles into consideration, but these variables (including demand) may affect the actual timing of these projects.

9.2 PROJECT ELEMENTS AND TIMELINE

The South Airpark development would occur as needed throughout the planning horizon. The potential policy / construction implementation of the project elements for 20+ year development of the South Airpark are listed below. Applicable advanced planning, environmental, and design project elements would occur prior to implementation.

- **2015** = Construction of a new Aircraft Rescue and Fire Fighting (ARFF) Training Facility
- **2019 (or as determined by growth and congestion)**
= Construction of East / West Parallel Taxiway and South Airpark Development
- **2021 (or as determined by growth and congestion)**
= Construction of New South Airpark Access Roadway

Development should expand west as occupation of the Kulis Business Park increases or greenfield sites are preferred by tenants. The only exception to this is with the construction of the new Aircraft Rescue and Fire Fighting (ARFF) training facility, which will be sited near the recently transferred Federal Communications Commission (FCC) property.

The ARFF Training Facility project includes final site selection, potential National Environmental Policy Act documentation, design, and construction. The ARFF Training Facility would include one burn pit located west of the South Airpark to replace the existing ARFF hydrocarbon fuel burn pit. The project would meet applicable environmental regulations and ensure conformance with applicable Federal Aviation Administration Advisory Circulars and Federal Aviation Regulation (FAR) Part 139. The timeline for ARFF training facility development would be 1 year for environmental documentation, design, and construction.

The South Airpark includes the Kulis Business Park. Many of the older, unusable buildings have been torn down. The water / wastewater system is being upgraded, including installation of water meters on each remaining building, and Anchorage Water and Wastewater Utility will take over maintenance and operation of the system. Also, necessary upgrades and repairs have been made to the remaining buildings. Approximately eight buildings remain that are in good condition and are available for lease. Tenants are able to access the airfield at Gates K1, K4, K7, K10, and K13.

Much of the planning for future growth was completed as part of the 2011 *Kulis Land Use Plan*. Three development options were identified, differing primarily in their taxiway layouts and land use configurations. A preferred option was not selected in the 2011 *Kulis Land Use Plan*. As part of the current Ted Stevens Anchorage International Airport Master Plan Update (Master Plan Update), the three options were re-evaluated, and Option 1 was selected as the preferred option. Option 1 aligns with future land uses; has the least potential noise / vibrational, aesthetic / visual, and vehicle traffic impacts; provides the safest and most efficient means of aircraft access; maximizes revenue potential; and is the most flexible option for change. In addition to the redevelopment option for the Kulis Business Park, the Master Plan Update team also recommended extending the East / West Parallel Taxiway in the South Airpark to the Kulis Business Park to provide better airfield access.

Overall, the Master Plan Update team agreed with the 2011 *Kulis Land Use Plan* that the Kulis Business Park is not well suited to accommodate widebody jet aircraft due to its proximity to residential development. The Master Plan Update team also agreed with the phased approach, concentrating aeronautical uses to the relatively flat north side first, and particularly the northwest side, where aeronautical facilities already exist. The hilly south side would first be limited to non-aeronautical uses, but as demand increases, it could be leveled and used for aeronautical uses. The Master Plan Update team added that priority be given to attracting tenants to the Kulis Business Park over expanding westward.

The overall recommended land development strategy is important to the strategic growth of the South Airpark and meeting long-term Airport needs. It will ensure adequate land area is available to accommodate the future growth of passengers, cargo, general aviation, and support functions.

The implementation timeline for the East / West Parallel Taxiway anticipates durations of 1 year for environmental documentation and design, and 2 years for construction efforts. South Airpark tenant expansion efforts would be completed separately by the developers / tenants. The implementation times for tenant-driven developments will vary.

The convey of the former FCC property and constructing a new South Airpark Access Road will aid in future westward expansion efforts, primarily to accommodate growth in corporate aviation, general aviation, and other support functions. The anticipated implementation timeline for the New South Airpark Access Roadway is 1 year for environmental documentation, design, and construction.

9.3 MONITORING ACTIVITIES

Monitoring will determine when a trigger point is prompted and a decision will need to be made regarding a project element for the South Airpark development. South Airpark development would be driven by tenant demand. Notable exceptions are the ARFF training facility and East / West Parallel Taxiway extension.

The Airport should coordinate with tenants to monitor peak activity requirements for tenant aircraft parking positions, regional and domestic cargo operation and tonnage statistics, and growth trends that may trigger South Airpark development.

9.4 TRIGGER POINTS

Two trigger points were identified for the development the South Airpark.

Facility Lifecycle Trigger – ARFF Training Facility Design Life

The existing ARFF live fire training facility has been in operation for close to 20 years and has exceeded its design life of 10 to 15 years. Specifically, the primary liner lacks the required hydrocarbon monitoring system.

A siting study was completed as part of the Master Plan Update process and recommended constructing a new facility. The preferred site is located southwest of the existing facility, east of Little Campbell Lake and adjacent to Raspberry Road. However, an alternate site may be selected at time of implementation.

Growth and Congestion Trigger – Tenant Issues

General aviation operations are forecast to grow at an average annual rate of 1.4% throughout the planning horizon, which translates into an anticipated requirement of approximately 7 additional acres. Existing facilities and land areas near Taxiway Z are expected to accommodate this growth throughout the planning horizon.

Cargo demand (international, regional, and domestic cargo) is forecast to grow throughout the planning horizon. Accommodation of growth in cargo demand requires approximately 90 additional acres for apron, building, and landside areas. International cargo growth is planned to be accommodated in the North Airpark and West Airpark. Some regional

and domestic cargo facilities are planned to be developed within the South Airpark. This demand can be accommodated within the existing boundary of the developed South Airpark (includes the Kulis Business Park on the east to Taxiway Z on the west).

Airport staff should continue coordination regarding tenant needs and should promote the South Airpark for new tenant development. Should a tenant express a desire to expand to the west, the Airport should then take appropriate measures to start developing west of the north / south portion of Taxiway Z (e.g., roadway access, additional taxiways, and utilities).

SECTION 10

EAST AIRPARK DEVELOPMENT DECISION GUIDE

The East Airpark is bounded by the passenger terminal complex on the west, International Airport Road on the north, Jewel Lake Road on the east, and Taxiway K on the south. The development decision guide for the East Airpark does not include distinct capital improvement projects. However, tenant redevelopment may still occur in the East Airpark, and the Ted Stevens Anchorage International Airport (Airport) should facilitate this redevelopment as necessary. The Airport should practice strategic land management and follow the land use plan for the East Airpark through active management of tenant leases.

At the outset of the Ted Stevens Anchorage International Airport Master Plan Update (Master Plan Update), one of the issues identified included a review of airfield access for ground handlers and other airline support operations. Several East Airpark ground handlers operate from facilities without direct airfield access. The Master Plan Update team identified a potential solution to improve airfield access.

The Master Plan Update team prepared concepts to increase airfield access to East Airpark parcels, including realignment of Old International Airport Road in order to increase the parcel size adjacent to the airfield.

Other concepts included reconfiguring or modernizing older facilities to maximize utility of lease lots adjacent to the airfield, acquiring and repurposing the Federal Aviation Administration in-holding parcel, and leasing parcels only to tenants with airfield access needs.

These concepts were not carried forward into the final plan as they were considered too costly to implement and not justified based on forecast demand for support facilities within the East Airpark. However, as demand for support functions grows, the Airport may reconsider these concepts.

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SECTION II

LAND USE PLAN

Revised land use classifications for Ted Stevens Anchorage International Airport (Airport) 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 the Federal Aviation Administration's (FAA's) definitions of Aeronautical and Nonaeronautical since FAA Grant Assurances predicate the appropriate use and enforcement of land uses. 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.

II.1 FEDERAL AVIATION ADMINISTRATION LAND USE DEFINITIONS

The FAA has rules and guidelines in place that regulate the use of airport real property. The FAA enforces these regulations to protect its investment in, and the integrity of, the national air transportation system. As such, the FAA regulates the use and activities allowed on airport land by classification as Aeronautical or Nonaeronautical.

Aeronautical Use

The FAA defines Aeronautical use as all activities that involve or are directly related to the operation of aircraft, including activities that make the operation of aircraft possible and safe. Services located on the Airport that are directly and substantially related to the movement of passengers, baggage, mail, and cargo are considered Aeronautical uses. Final determination of some Aeronautical uses may be made with FAA consultation.

Examples of Aeronautical use include, but are not limited to:

- Air taxi and charter operations
- Scheduled or non-scheduled air carrier services
- Pilot training
- Aircraft rental and sightseeing
- Aerial photography
- Crop dusting
- Aerial advertising and surveying
- Aircraft sales and service
- Aircraft storage

- Sale of aviation petroleum products
- Repair and maintenance of aircraft
- Sale of aircraft parts
- Parachute activities
- Ultralight activities
- Sport pilot activities
- Military flight operations

Nonaeronautical Use of the Airport

The FAA considers all on-airport uses not deemed to be Aeronautical to be Nonaeronautical. Aviation-related uses that do not need to be located on an airport, such as flight kitchens and airline reservation centers, are considered Nonaeronautical uses. Federal law and policy on reasonableness of fees and other terms of airport access do not apply to Nonaeronautical uses. Note that approval of an Airport Layout Plan does not necessarily constitute FAA approval to use land for Nonaeronautical purposes. However, for Nonaeronautical interim use per FAA Order 5190.6B, “the ADOs and regional airports divisions may consent to the interim use (not more than five (5) years) for nonaviation purposes of dedicated aeronautical land.”

Examples of Nonaeronautical use include, but are not limited to:

- Public parking
- Rental cars
- Ground transportation
- Terminal concessions (e.g., food and beverage sales, news and gift shops)
- Animal control facilities
- Non-airport vehicle and maintenance equipment storage
- Aircraft museums
- Municipal administrative offices
- Flight kitchen
- Airline reservation center

11.2 AIRPORT LAND USE DESIGNATIONS

The Airport 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 that differ from 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.

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 6.6. Land use classifications for the Lake Hood Airport will be addressed during the Master Plan Update for Lake Hood Airport and were not addressed during this Master Plan Update process.

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 Remain 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.

Domestic Cargo

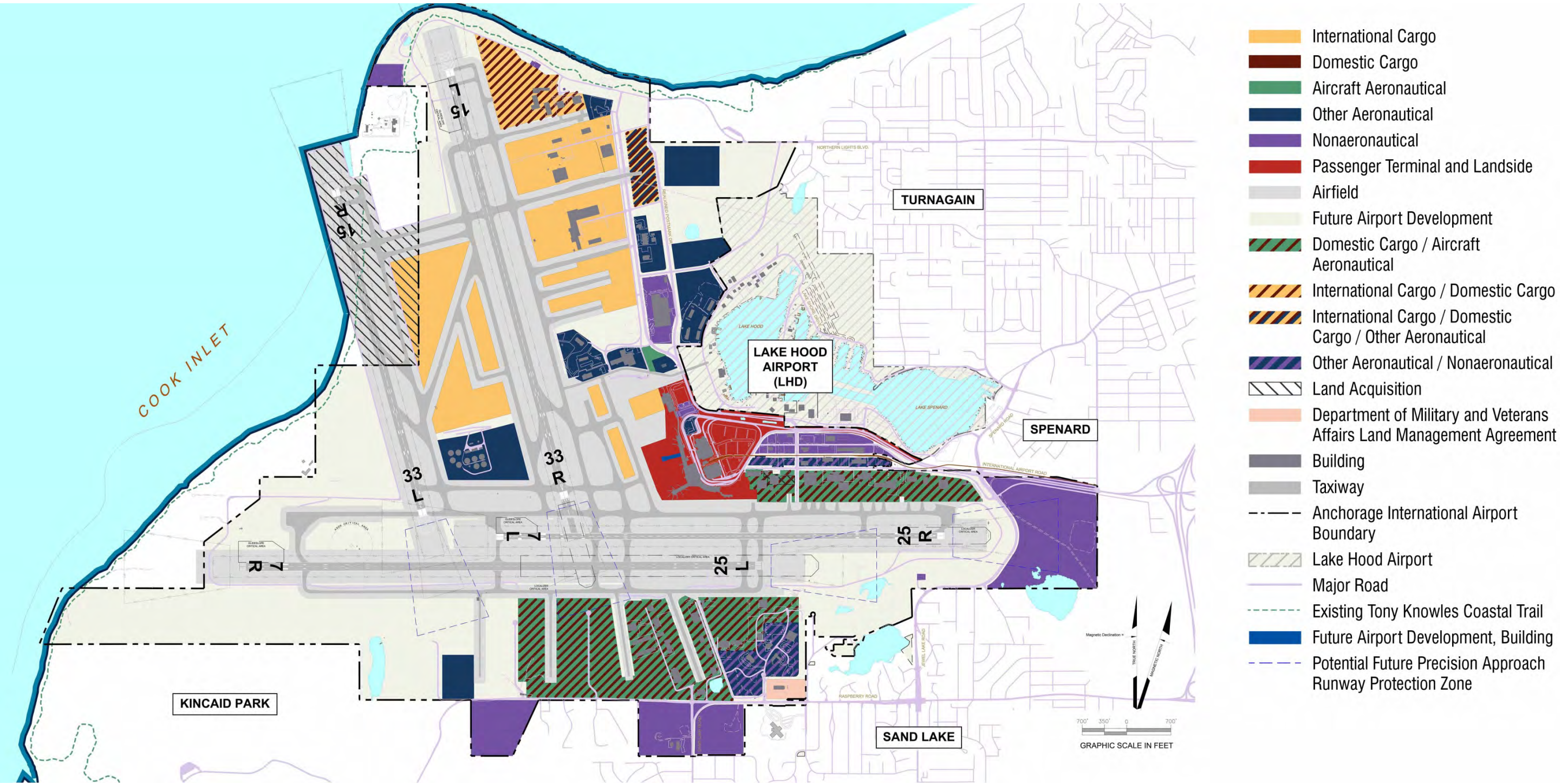
The Domestic Cargo land use classification includes Airport lands related to the accommodation of facilities for the handling and processing of domestic air cargo and air mail including apron areas for the loading, unloading, maintaining and servicing of domestic cargo aircraft with direct airfield access. Domestic Cargo encompasses activities classified as Regional Cargo and Other Domestic Cargo.

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 Anchorage 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.

Figure 6.6 Land Use Plan



Sources: RS&H, HDR, 2014.

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Aircraft Aeronautical

The Aircraft Aeronautical land use classification includes Aeronautical activities, other than International Cargo and Domestic Cargo, which require direct aircraft access to the airfield. This land use classification includes Airport lands related to the accommodation of 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, 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.

Other Aeronautical

The Other Aeronautical land use classification includes Airport lands related to the accommodation of facilities that do not require direct aircraft access to the airfield and are in support of the maintenance and operations of aircraft and the Airport.

Example facilities and activities include, but are not limited to, ground handling services, airfreight forwarding which 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. Also included in this classification are 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.

Domestic Cargo / Aircraft Aeronautical

This classification allows Domestic Cargo and Aircraft Aeronautical development as previously defined.

International Cargo / Domestic Cargo

This classification allows International Cargo and Domestic Cargo development as previously defined.

International Cargo / Domestic Cargo / Other Aeronautical

This classification allows International Cargo, Domestic Cargo, and Other Aeronautical development as previously defined.

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.

Nonaeronautical

The Nonaeronautical 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 Nonaeronautical commercial uses that are not required to be located on an airport for the business to operate. The maximum lease term for Nonaeronautical development is 35 years.

Areas designated as Nonaeronautical do not exclude Aeronautical use activities; Aeronautical users may lease within any area designated as Nonaeronautical. An Aeronautical user takes priority over a Nonaeronautical user in consideration of a lease.

Example facilities and activities include but are not limited to; freight forwarding (any forwarder that does not receive or send 100% of its freight via aircraft); car rental facilities, rental of vehicles that will not fit in the rental car facility; in-flight catering kitchens, restaurants; retail establishments; vehicle storage; manufacturing / testing / assembly; warehousing; United States Postal Service office; and administrative and corporate offices. Utility facilities are also Nonaeronautical.

Other Aeronautical / Nonaeronautical

This classification allows Other Aeronautical and Nonaeronautical development as previously defined. Applications for Aeronautical Support developments are prioritized over Nonaeronautical.

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 Nonaeronautical 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.

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.

Land Acquisition

The Land Acquisition land use includes 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.

Department of Military and Veterans Affairs Land Management Agreement

Areas operated by the State of Alaska, Department of Military and Veterans Affairs under an Interagency Land Management Agreement.

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SECTION 12

FINANCIAL PLAN

This section provides a financial overview of the proposed Ted Stevens Anchorage International Airport (Airport) Master Plan Update (Master Plan Update) capital improvement projects. Considerations when examining proposed capital improvements include the order of magnitude project cost estimates, the eligibility of the projects for funding (e.g., via Federal Aviation Administration [FAA] Airport Improvement Program [AIP] or Passenger Facility Charge [PFC] funds), and the general timing of the projects. In addition, it is appropriate to have an awareness of the unique nature of the Alaska International Airports System (AIAS) financial structure and other anticipated capital projects at the Airport that are not associated with the Master Plan Update. These other capital projects include major capital maintenance projects and other similar ongoing projects necessary for the day-to-day operation of the Airport. This section also includes an overview of the capital improvement process and typical responsibilities in undertaking capital projects.

12.1 ALASKA INTERNATIONAL AIRPORTS SYSTEM

The Airport and Fairbanks International Airport are owned by the State of Alaska and are together operated by the State of Alaska Department of Transportation and Public Facilities as an enterprise fund. The AIAS was established by Chapter 88 of the Session Laws of Alaska in 1961.

The AIAS is currently the State's largest enterprise fund and prepares its financial statements in accordance with generally accepted accounting principles applicable to State and local government entities. Because the accounting and financial reporting treatment applied to a fund is determined by its measurement focus, AIAS accounts are reported using the flow of economic resources measurement focus, which distinguishes operating activities from non-operating items.

AIAS produces independently audited stand-alone financial statements each year to meet several requirements, including its obligations to bondholders through its debt covenants and in conformance with its AIAS Passenger Terminal Lease and Operating Agreement obligations to its signatory airline customers.

AIAS financial statements are also included in the proprietary fund section of the State's comprehensive annual financial report and its accounts are also subject to annual single audit in conformity with the Single Audit Act of 1984 and the U.S. Office of Management and Budget's Circular A-133 requirements.

In addition to the State oversight, AIAS also operates under the regulations of the FAA. Key provisions of the FAA's financial regulations include the requirements that AIAS be as economically self-sustaining as

possible, enterprise fund revenues must not be transferred outside the AIAS, and AIP and PFC funds are limited to eligible projects only.

12.2 ALASKA INTERNATIONAL AIRPORT SYSTEM FINANCIAL STRUCTURE

As a sponsor that accepts FAA grants or receives Federal property for Airport purposes, the AIAS must conform with the financial management and operating regulations of the FAA Airport Compliance Program. *FAA Order 5190.6B, FAA Airport Compliance Manual*, details these rules and regulations. In addition, the Airport complies with State of Alaska regulations and prepares its financial statements in accordance with accounting principles generally accepted in the United States of America.

The AIAS is managed as a financially self-sustaining unit with revenues equal to or exceeding expenses over the long term. Within the parameters of its regulations and its approved State operating and capital budgets, the AIAS has the authority to set rental rates and charges for its tenants and users, as well as to control its own expenses. AIAS rates and fees are influenced by its debt service coverage ratio covenant, which requires that the airport have a minimum coverage ratio of 1.25. Additionally, the AIAS is authorized under its budgets to enter long-term contracts and through its statutes to borrow funds to finance capital projects.

Outside of FAA-administered programs, which provide significant capital project support (i.e., AIP and PFC), and occasional Transportation Security Administration (TSA)-funded security projects, AIAS does not receive support from Federal, State, or local tax revenues. It generally operates in a self-sufficient manner, producing sufficient revenues to cover operating and portions of its capital expenses. The FAA restricts the use of airport revenues to AIAS purposes only. Therefore, the AIAS may not use such funds for non-airport purposes as defined by the FAA.

In addition, the FAA also requires that AIAS aeronautical rates and charges be “reasonable.” This reasonableness test generally requires that the rates and charges be based on a methodology that is reasonably reflective of the Airport’s operating cost and that there is not an excessive accumulation of excess revenues over expenses, or the Airport’s airline customers agree to the imposition of such rates and charges.

FAA rules permit airports owned by the same entity to combine financially into one accounting unit. The Airport and the Fairbanks International Airport operate as a combined enterprise fund financially and as somewhat of an integral operating unit with respect to matters involving system planning, service levels, rates and fees, and airline diversion support. This means that neither airport has to be financially self-sufficient by itself. Consequently, the combined two-airport

organization has a goal of self-sufficiency, and can interact with respect to revenues and expense budgeting and capital funding requirements.

12.3 SOURCES OF CAPITAL FUNDS

A variety of sources are available for airports to fund capital projects. The section below identifies and briefly describes the principal sources of capital funds.

- **FAA AIP Entitlement Grants** –An important source of capital improvement project funding for airports is FAA entitlement grants. The Federal government taxes aviation users at the national level on tickets and fuel, as well as other items. This money is returned to airports in the form of Federal grants. The amount each airport receives in entitlement grants is based upon the number of passenger boardings and total landed weight of cargo aircraft. A brief summary of historical entitlement grant amounts is presented in **Table 6.3**. The grant funds can be used only on improvements that are eligible and approved by the FAA. FAA grants seldom fund the entire project cost and, therefore, local AIAS funds must contribute a portion of the cost.

Table 6.3
Annual Airport Improvement Program Entitlement Grant Fund
(in Millions)

Fiscal Year	Cargo Entitlement Funds	Enplaned Passenger Entitlement Funds
2009	\$15.4	\$3.5
2010	\$14.9	\$3.6
2011	\$14.5	\$3.4
2012	\$16.1	\$3.1
2013	\$14.8	\$3.3
2014	\$13.9	\$3.2

Source: Alaska International Airport System data, n.d.

- **FAA AIP Discretionary Grants** – Additional grant funds may be available for specific projects determined by the FAA to be high priority. Typically, the FAA offers discretionary grants for major airfield (runway and taxiway) projects. The AIAS receives FAA AIP discretionary grants in most years.
- **FAA Specialty Discretionary Grants** – Certain other types of FAA discretionary grants are occasionally available, such as those that fund unique noise mitigation and air pollution reduction initiatives. The Airport has received approximately \$3.0 million in discretionary noise mitigation grants per year for the last 10 years.

- **Other Federal Grants** – Other types of Federal grants (e.g., highway, environmental, economic stimulus, TSA security, etc.) for airports are occasionally available but are rare. For example, during the recent recession, numerous job-creation economic-stimulus grants were awarded to airports nationwide.
- **State or Economic Development Grants** – Individual states occasionally fund specific airport projects. States typically award such grants to stimulate jobs, help depressed areas, or for other specific purposes. The applicability of these types of grants to the AIAS varies according to the unique circumstances of each potential project.
- **Passenger Facility Charges** – The FAA permits airports to charge up to \$4.50 per enplaned passenger to fund specific, pre-approved capital projects. The currently approved FAA applications authorize the AIAS to collect a PFC (\$3.00 per enplanement at the Airport and \$4.50 per enplanement at Fairbanks International Airport), from which AIAS obtains approximately \$4.3 million at the Airport and \$1.2 million at Fairbanks International Airport annually. The AIAS applies its annual Airport PFC collections to offset existing debt service associated with previous Airport terminal improvement projects and currently plans to use at least the current level of receipts through approximately 2026. If the level of annual PFC revenue receipts were to increase substantially due to increased FAA collection rates or significant growth in passenger enplanements, AIAS will review use of the increased amounts as they occur.
- **Customer Facility Charges** – A private developer constructed a consolidated rental car facility on Airport property, which opened in 2007. The Alaska Industrial Development and Export Authority issued conduit financing bonds to fund the construction of the facility and customer facility charges (CFCs) are imposed on rental car customers by the car rental agencies. The CFCs collected are not Airport funds, but are deposited into funds overseen by an independent bond trustee for payment of operating and capital expenses. While the State reviews the proposed CFC rates imposed on rental car customers, the conduit bonds sold to finance the facility are not obligations of AIAS or the State of Alaska.
- **Airport Operating Revenue** – Almost all types of grants require a local match or contribution. Furthermore, projects and portions of projects that do not qualify for Federal funding must be paid in full with Airport funds. Thus, operating revenue generated by Airport users and tenants becomes a vital funding element for virtually all capital projects.
- **Private or Tenant Funds** – Airport users and tenants fund their own capital improvements. Examples include airline office upgrades, concession equipment, and aircraft hangars.

- **Airport Revenue Bonds** – The AIAS also borrows funds to make capital improvements by issuing General Airport Revenue Bonds. While borrowing is often cited as a source of capital funding, in reality, the borrowing is repaid chiefly by Airport operating revenue and PFCs described above.

The AIAS capital borrowing program is generally similar to the plan of capital borrowing at other major airports. The predominance of funds borrowed to date have been needed to fund very large and non-recurring capital projects, primarily passenger terminal renovations. The subsequent debt service (principal and interest payments) is paid using a combination of Airport revenues, and PFCs.

The FAA maintains a data base of financial information on U.S. commercial service airports through its Compliance Activity Tracking System (CATS). This summary financial information is self-reported by the airports in predetermined categories and is accessible to the public. CATS data for Calendar Year 2012 for the 36 medium hub airports and the Airport are compared in Table 6.4.

Table 6.4
Generalized Long-Term Debt Comparison (in Millions)

	2012
Long-Term Debt (typically bonds):	
Average for 36 Medium Hub Airports	\$361.5
Alaska International Airport System	\$579.6
Annual Debt Service (principal and interest)	
Average for 36 Medium Hub Airports	\$31.7
Alaska International Airport System	\$41.2

Source: Federal Aviation Administration, *Compliance Activity Tracking System (CATS)* website, <http://cats.airports.faa.gov/>, n.d.

The Airport's debt situation is reflective of its recent terminal expansion program. Given that the majority of the 36 medium hub airports in Table 6.4 have not recently undertaken an extensive terminal program (which requires a sizable debt load), it is expected that Airport debt and debt service would be somewhat greater than the average. The underlying structure of AIAS debt is such that the annual debt service will rise to approximately \$51 million per year by 2018, remain relatively constant for the next 10 years, and fall significantly in 2029 (assuming that the debt is not restructured or retired early). The general conclusion relative to the Master Plan Update is that an aggressive plan of additional borrowing prior to 2029 without significant restructuring of the existing outstanding debt would move the Airport further away from the averages exhibited by the 36 medium hub airports, would place considerable pressure on Airport operating revenues and PFCs to service

the debt, and would likely result in the need to proportionately increase airline charges and other tenants' and users' fees and rents.

12.4 IMPLEMENTATION PROCESS OVERVIEW

Actual implementation of projects listed in this Implementation Plan will be proposed as levels of operations or demand justify them. As each project is proposed for implementation, more detailed planning, design efforts, environmental reviews, and other reviews will be undertaken.

12.5 PROJECT RESPONSIBILITIES

Airport projects are typically closely coordinated with the FAA, particularly when AIP funding or NEPA documentation is required. In general, for each project the Airport will be responsible for the following:

- Verifying the justification supporting the project and request FAA participation for projects using AIP funding
- Assuring accomplishment of the necessary environmental documentation
- Preparing and submitting grant applications for AIP funding
- Preparing and issuing a Request For Qualifications and selecting a consultant / engineer for the project planning, design, construction administration, or environmental analysis, as applicable
- Preparing and issuing a Request For Bid Proposal(s) and company selection(s) for project construction, management, and related construction services
- Including project administration, efforts including FAA grant maintenance and close out

Regular coordination with the FAA is important to facilitate these responsibilities.

12.6 CAPITAL IMPROVEMENT PLAN FOR RECOMMENDED MASTER PLAN PROJECTS

The recommended Master Plan Update capital improvement projects and planned projects are summarized in **Table 6.5** based upon the Airport's priorities and the projects' funding eligibilities. The projects are generally listed in the order that the project would need to be implemented or constructed. The year(s) of design and implementation / construction are also listed. Excluded from **Table 6.5** are other projects currently on the Airport spending plan, unless those projects are also recommended in the Master Plan Update.

Costs for the Master Plan Update recommended projects were determined and are presented in **Table 6.5**. Details of the order of magnitude cost estimates are presented in **Appendix I**. All costs include

costs that may be potentially borne by the Airport only and are presented in 2013 dollars.

Finally, for planning purposes, assumptions were made relating to the funding source of each capital improvement. Projects that may be eligible for FAA funding were assumed to carry an 87.76% Federal share of the total project costs. In some cases, the assumed Federal share was lower to reflect projects where only portions of the project were assumed to be AIP-ineligible. This would occur for some terminal and landside work and equipment purchases. Other funds pertain to funding sources such as PFCs, CFCs, or TSA funds. The funding split is provided based upon current eligibility standards and does not guarantee that these projects will be funded due to changing Federal and State priority ratings or other state and national needs. The projected costs, along with their likely funding sources for each of the capital improvement projects, are presented in Table 6.5.

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The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.5 Implementation Plan for
Recommended Master Plan Update
Projects with Estimated Costs
(2014 – 2018+)

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
Ongoing	South Terminal Expansion Project (STEP) Activity Monitoring	This project includes monitoring passenger level of service, airline needs, cargo carrier needs, and project costs to better determine when to initiate STEP.	\$50,000	\$0	\$50,000	\$0
Ongoing	Annual Delay and Activity Performance Times (ADAPT) Monitoring	This project includes monitoring aircraft delay. This analysis is necessary in order to determine the need for an additional North / South Runway and / or other efficiency enhancements.	\$200,000	\$175,520	\$24,480	\$0
Ongoing	Optimize Alaska International Airport System Strategy (OAIASS)	This project includes Airport / airline coordination to develop a strategy for enhanced use of AIAS system assets (e.g., Airport and Fairbanks International Airport).	\$50,000	\$0	\$50,000	\$0
2015	Modification of the Preferential Runway Use Program (environmental documentation / policy change)	Modify the existing Airport Preferential Runway Use Program, Compendium of Operational Orders, and ATCT Standard Operating Procedures. The change would allow deviations from the preferred runway use to avoid unacceptable departure delays during daytime hours (7a.m. - 10 p.m.). The project includes potential NEPA documentation for modification of the preferential runway use program at the Airport (if considered a Federal action).	\$250,000	\$219,400	\$30,600	\$0
2015	Aircraft Rescue and Fire Fighting (ARFF) Training Facility (final site selection / environmental documentation / design / construction)	The project includes final site selection, potential NEPA documentation, design, and construction of an ARFF training facility with one burn pit located west of the South Airpark to replace the existing ARFF hydrocarbon fuel burn pit, meet applicable environmental regulations, and ensure conformance with applicable FAA AC's and FAR Part 139.	\$12,533,334	\$10,999,254	\$1,534,080	\$0
2015 - 2016	STEP (advanced planning / environmental documentation) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	STEP includes construction of a new South Terminal concourse with five new gates at the South Terminal to accommodate domestic and international operations and demolition of the North Terminal concourse. The advanced planning effort (an in-depth requirements and phasing analysis) will assess the impacts to domestic and international passenger flows, space allocations and impacts to airlines, impacts of construction activity on airport operations, impacts on apron areas and finalize phasing prior to design. Coordination between construction activity and Airport operations would also be considered during advanced planning. NEPA documentation may also be required.	\$1,070,000	\$939,032	\$130,968	\$0
2016	Hotel Site Development	The project includes development of a hotel near the North Terminal passenger processor. This project would be initiated by a private developer / tenant through an Airport issued Request for Proposal.		Cost of project borne by developer/ tenant		

note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.5 Implementation Plan for
Recommended Master Plan Update
Projects with Estimated Costs
(2014 – 2018+) (contd.)

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2018	Ground Run-up Enclosure (GRE) (site selection / environmental documentation / design / construction)	The project includes site selection, potential NEPA documentation, design, and construction of a GRE to mitigate noise generated during routine aircraft maintenance, decreasing noise impacts to the surrounding community.	\$6,000,000	\$5,265,600	\$734,400	\$0
2018	“Papa” Remain Overnight (RON) Apron Expansion and Postmark Bog Development (environmental documentation / design / construction)	The project includes potential NEPA documentation, design, and construction for expanding the “Papa” RON apron by adding five additional A380-capable parking positions, extending Taxilane P, and constructing a new taxilane south of Taxilane P. The project also includes expanding the Postmark Bog area. NEPA documentation, design and construction for the Postmark Bog development would be undertaken by the developer / tenant. The cost for expanding and developing the Postmark Bog area is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates. Earthwork costs (e.g., fill) are excluded. The cost estimates presented only reflect the cost for the “Papa” RON apron.	\$47,995,000	\$42,120,412	\$5,874,588	\$0
2018	STEP (design) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes the design for the STEP.	\$29,386,000	\$0	\$29,386,000	\$0
2018 - 2020	Runway 15-33 Widening and Decoupling, Taxiway R Extension, Taxiway Q Realignment, Taxiway Q1 Construction (environmental documentation / design / construction)	The project includes potential NEPA documentation, design, and construction for the 1) widening of Runway 15-33, 2) decoupling of Runway 33 to eliminate the intersection with Runway 7L-25R and overlapping RSAs, 3) extension of Taxiway R to the Runway 15 end, 4) realignment of Taxiway Q, and 5) construction of Taxiway Q1.	\$85,120,000	\$74,701,312	\$10,418,688	\$0
2019	East / West Parallel Taxiway and South Airpark Development (environmental documentation / design / construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	This project includes potential NEPA documentation, design, and construction for an extension of the East / West Parallel Taxiway (ADG-VI) to the east and west and for South Airpark development. NEPA documentation, design and construction would be undertaken by the developer / tenant. The cost for developing the existing South Airpark area (Kulis Business Park and in vacant areas along the north / south portion of Taxiway Z) is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates.	\$15,950,000	\$13,997,720	\$1,952,280	\$0
2019	STEP Phase 1 (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of STEP. This includes 1) relocating R2, R3, and R4 aircraft parking positions, 2) securing any necessary permits / clearances, 3) relocating passenger operations impacted by STEP temporarily to the North Terminal, and 4) constructing a new South Terminal concourse.	\$65,269,475	\$17,566,408	\$47,703,067	\$0

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.5 Implementation Plan for
Recommended Master Plan Update
Projects with Estimated Costs
(2014 – 2018+) (contd.)

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2020	Land Acquisition (land acquisition) <i>The land to the west of the Airport may be acquired through purchase from or trade with the Municipality of Anchorage and other owners.</i>	The project would provide opportunity for land acquisition for the future development of the West Airpark via a land trade with the MOA or purchase from the MOA or other owners.		<i>Cost to be determined if / when necessary.</i>		
2020	Fuel Farm Expansion (design / construction)	The project includes design and construction of a tenant initiated fuel farm expansion. Design and construction would be undertaken by the developer / tenant. The cost for expanding the fuel farm is anticipated to be borne by the developer / tenant.		<i>Cost of project borne by developer/ tenant</i>		
2020	Fairbanks International Airport Improvements (planning / environmental documentation / design / construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i> <i>The project would accommodate a transfer of at least 50% of the technical cargo stop operations at Anchorage International Airport.</i>	The project includes planning, potential NEPA documentation, design, and construction for necessary improvements at Fairbanks International Airport. This project would be sponsored and funded by Fairbanks International Airport.		<i>Cost of project borne by Fairbanks International Airport</i>		
2020	Master Plan Update	The Master Plan Update is anticipated to validate previous Master Plan Update findings and update the implementation timeline for Airport development, including the potential North / South Runway.	\$1,000,000	\$877,600	\$122,400	\$0
2020 - 2034	Crossfield Taxiways Realignment (environmental documentation / design / construction) <i>Realignment of the crossfield taxiways would likely occur when Runway 7R-25L is reconstructed or when directed by FAA, whichever is sooner.</i>	The project includes potential NEPA documentation, design and construction to realign the crossfield taxiways perpendicular to the east-west runways in accordance with FAA standards (AC 150/5300-13A, Airport Design) and FAA coordination.	\$23,725,000	\$20,821,060	\$2,903,940	\$0
2021	STEP Phase 2 (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of STEP. This includes 1) relocating passenger operations to new South Terminal concourse, 2) demolishing the North Terminal concourse, and 3) upgrading the North Terminal processor.	\$37,652,966	\$3,304,424	\$34,348,542	\$0

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.5 Implementation Plan for
Recommended Master Plan Update
Projects with Estimated Costs
(2014 – 2018+) (contd.)

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2021	Potential North / South Runway (advanced planning / environmental documentation) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes advanced planning and potential NEPA documentation for a potential North / South Runway and associated airfield improvements (e.g., taxiways, service roads, earthwork), and realignment of a contiguous Coastal Trail.	\$3,000,000	\$2,632,800	\$367,200	\$0
2021	New South Airpark Access Roadway (environmental documentation / design / construction)	The project includes potential NEPA documentation, design and construction of a roadway on the west side of the South Airpark to enable corporate and general aviation development at the west end of the existing South Airpark (near the north / south portion of Taxiway Z).	\$10,600,000	\$0	\$10,600,000	\$0
2022	STEP Phase 3 (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of STEP. This includes redeveloping the North Terminal apron for aircraft parking.	\$43,431,800	\$38,115,748	\$5,316,052	\$0
2024	North Airpark Roadway, Taxiway T Extension, and Eastward Expansion of the North Airpark (environmental documentation / design / construction)	This project includes potential NEPA documentation, design, and construction to include 1) construction of the North Airpark Roadway, 2) extension of Taxiway T, and 3) redevelopment / eastward expansion of the North Airpark for future development by tenants of the North Airpark. NEPA documentation and construction of the redevelopment / eastward expansion of the North Airpark would be undertaken by the developer / tenant. The cost for expanding and developing the North Airpark is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates.	\$10,950,000	\$0	\$10,950,000	\$0
2025	North Airpark Northward Expansion	The project includes cargo development to the north of the existing North Airpark boundary and toward Point Woronzof Drive by tenants of the North Airpark. The project would be undertaken by the developer / tenant. The cost for expanding and developing the North Airpark is anticipated to be borne by the developer / tenant.	Cost of project borne by developer/ tenant			
2025	Potential North / South Runway (design) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes design of a potential North / South Runway, associated airfield improvements, and realignment of a contiguous Coastal Trail. Land acquisition costs are excluded.	\$118,512,100	\$104,006,219	\$14,505,881	\$0

Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Table 6.5 Implementation Plan for
Recommended Master Plan Update
Projects with Estimated Costs
(2014 – 2018+) (contd.)

The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.

Potential Policy / Construction Implementation Year	Project Element	Description	Estimated Total Cost (in 2013 dollars)	Federal FAA Funds (in 2013 dollars)	Local Airport Funds (in 2013 dollars)	Funded By Others (in 2013 dollars)
2027	Potential West Airpark Development (advanced planning / environmental documentation / design / construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes advanced planning, potential NEPA documentation, design, and construction for six A380-capable aircraft parking positions and associated taxiways in the West Airpark for the potential future development of the West Airpark. Advanced planning, NEPA documentation and construction of the West Airpark development would be undertaken by the developer / tenant. The cost for expanding and developing the West Airpark, excluding cargo parking positions, is anticipated to be borne by the developer / tenant, and not reflected in the presented cost estimates. Earthwork costs (e.g., fill) are excluded.	\$64,650,000	\$56,736,840	\$7,913,160	\$0
2027	Tunnel to West Airpark (design / construction)	The project includes design and construction of a tunnel connecting the east and west sides of the Airport. A 4-lane tunnel, providing public and secure access would be constructed from Postmark Drive and run west under Taxiway R, Runway 15-33, and Taxiway Y to the West Airpark. The public access tunnel (2 lanes) would continue under the potential North / South Runway and associated taxiways. The secure access tunnel (2 lanes) would surface in the West Airpark between the existing and potential North / South Runways. Potential NEPA documentation could be completed as part of the Potential North / South Runway project or Potential West Airpark Development project.	\$156,050,000	\$136,949,480	\$19,100,520	\$0
2027	Public Parking Facilities Reconfiguration (environmental documentation / design / construction)	This project includes potential NEPA documentation, design, and construction to reconfigure and expand public parking facilities.	\$2,000,000	\$0	\$2,000,000	\$0
2028	Potential North / South Runway (construction) <i>The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.</i>	The project includes construction of a potential North / South Runway and associated airfield improvements. Land acquisition costs are excluded.	\$684,497,900	\$600,715,357	\$83,782,543	\$0
TBD	Deicing Chemical Collection Improvement (environmental documentation, design and construction) <i>The implementation of the deicing chemical collection improvement project is driven by the FAA and USEPA.</i>	The project includes potential NEPA documentation, design, and construction of an enhanced deicing chemical collection system based on regulatory changes.	\$30,000,000	\$26,328,000	\$3,672,000	\$0

Source: RS&H, 2014.
Note: The potential implementation year presented for each project was determined based on forecast demand. The year each project will be implemented will be based on actual demand.
Construction project costs include Alaska DOT&PF administrative costs of 3.89% of the total project costs as part of the Indirect Cost Allocation Program (ICAP).
Future tenant development costs are not presented as these costs are anticipated to be borne by the developer / tenant. These include project costs for environmental documentation, design, and construction activities.
See **Appendix J**, Cost Estimates for details regarding planning-level cost estimates.
AC = Advisory Circular, ADG = Airplane Design Group, ADAPT = Annual Delay and Activity Performance Times, AIAS = Alaska International Airport System, Airport = Ted Stevens Anchorage International Airport, ARFF = Aircraft Rescue and Fire Fighting, ATCT = Airport Traffic Control Tower, Coastal Trail = Tony Knowles Coastal Trail, FAA = Federal Aviation Administration, FAR = Federal Aviation Regulation, GRE = Ground Run-up Enclosure, Master Plan Update = Ted Stevens Anchorage International Airport Master Plan Update, MOA = Municipality of Anchorage, NEPA = National Environmental Policy Act, OAIASS = Optimize AIAS Strategy, RON = Remain Overnight, STEP = South Terminal Expansion Project, USEPA = U.S. Environmental Protection Agency

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