



# PHASE II EXECUTIVE SUMMARY

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#### Department of Transportation and Public Facilities

STATEWIDE AVIATION

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From the desk of Deputy Commissioner Binder:

I am pleased to present the *Alaska Aviation System Plan Executive Summary: 2013-2018.* This summary captures and highlights key accomplishments from Phase II of the State of Alaska's aviation system planning process. Throughout this phase, the Alaska Aviation System Plan (AASP) developed and surpassed significant milestones to support safety and efficient management of Alaska's airport system. It is worthwhile to showcase the work accomplished thus far and look forward to future opportunities to use the AASP as a tool for aviation related issues.

The AASP is grant funded by the Federal Aviation Administration (FAA) and provides additional resources to state aviation stakeholders working to build and maintain a safe and efficient aviation system. This continuous planning approach allows for the ongoing evaluation and development of strategies that meet present topics while ensuring we are poised to address the needs, challenges, and opportunities of the future. Creation of new tools, such as the Capital Improvement and Maintenance Program- i.e. CIMP, allow assessment of the system to ensure planners understand ongoing needs and designate projects to fix them.

In the past five years, the FAA Alaska Region distributed over \$1.0B to airport sponsors across Alaska to support airport infrastructure and capital improvement projects. Continued wise stewardship of the existing system and thoughtful investment in future development are essential to sustaining critical aviation infrastructure that, in many cases, is a lifeline to Alaska communities. The AASP provides priorities and guidance to proficiently use resources dedicated to the development, operation, and maintenance of airports across the state. The Alaska Department of Transportation and Public Facilities is committed to the continuation of effective planning and fiscal responsibility that guide the growth and development of our aviation system.

I encourage you to visit the official AASP website (<u>www.AlaskaASP.com</u>) to review the full Phase II (2013-2018) report, the facility inventory, and other studies and resources that will enhance your knowledge and appreciation for the largest aviation system in the country.

Sincerely,

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John R. Binder III, A.A.E. Deputy Commissioner of Aviation

"Keep Alaska Moving through service and infrastructure."

## 2013-2018 Executive Summary

### Introduction

The Alaska Aviation System Plan (AASP) is a continuous planning study conducted by the Alaska Department of Transportation and Public Facilities (DOT&PF) with guidance from the FAA. The plan sets longterm vision for aviation in Alaska through a variety of objectives, such as existing conditions classification, goal and performance measure identification, future project prioritization, asset management, and aviation policy reviews.

Phase II of the AASP began in mid-2013 and concluded in early 2019. This phase of the plan achieved several milestones through ongoing planning efforts aimed to improve the safety and efficiency of Alaska's airport network. Various special studies provide documentation enabling the DOT&PF to find new ways to operate, maintain, and manage airports. A few key accomplishments are:

- Developed a Strategic Plan
- Improved tracking and prioritization of airport needs through the Capital Improvement and Maintenance Program (CIMP) both maintenance and capital needs
- Revised the CIMP application for Microsoft and Apple iOS platforms
- Revised AASP performance measures and automated scorecards
- Prioritized airports for improved instrument approaches
- Improved performance reports with airport need data, performance measures information, and inspection reporting
- Determined priority locations for future weather reporting equipment
- Prepared a Rural Aviation Rates and Fees Study
- Documented the value of backcountry airstrips to the airport system
- Digitized the capital improvement project evaluation and prioritization process
- Started preliminary research on an Adopt an Airport Program
- Updated the 2011 Economic Impact Study

The following executive summary captures Phase II task accomplishments. To learn more about the AASP, visit the project website at www.AlaskaAsp.com.

The AASP is managed by DOT&PF's Division of Statewide Aviation and primarily funded through the Federal Aviation Administration's (FAA) Airport Improvement Program (AIP).

Phase I, conducted from 2008-2012, focused on creation of a centralized, system-wide, airport database while Phase II expanded that information and implemented new digital policies to improve efficiency and prioritize future needs.

## **Economic Impact**

The Economic Contribution of the Aviation Industry to Alaska's Economy provides an update from the prior 2011 study and includes information regarding aviation in Alaska, a synopsis of the importance of Alaska's airport system to its residents, and a comparison between Alaska and remote airports in the western United States. The update is based on 2017 statistical data and a survey targeting all public airports, managed by DOT&PF as well as other local sponsors, private airports, leaseholders, and nearly 800 residents across the state, most who have flown in within the past 12 months. In addition, the report examines access to healthcare, tourism and remote access, and air cargo industry trends; the value of Alaska Bypass Mail Service and Essential Air Service to small communities: current trends in aviation activity and technology; and future challenges for the aviation industry in Alaska.

Analysis indicates the aviation industry generated nearly \$3.8 billion in economic activity throughout Alaska's airport system—an amount equal to 7.1 percent of the state's \$52.8 billion gross state product (GSP) in 2017. This is down from 8 percent in 2007, likely due to the national economic recession of 2007 – 2010. The total economic contribution is comprised of the "on-site" (such as payroll and maintenance and operations) and "off-site" (spin-off spending like aviation employees and businesses that support the on-site entities) expenditures.

#### Figure 1. Aviation Economic Contribution in Alaska



Alaskans are often required to travel more by air for business, medical, and recreational trips than residents of the Lower 48, making airports a critical component of the social, economic, and cultural welfare of Alaska's communities. Healthcare often relies on aviation, with rural area residents flying to a larger hub for appointments and procedures. Over 80 percent of the state's communities are inaccessible by road, meaning that Alaskans rely on air medical operators for both transport and access to routine care and surgery. Tourism generated an estimated **1.85 million** out-of-state visitors came to Alaska in 2016. The state is home to **6 of the 10** largest national parks in the nation. Twenty-two airports located within the boundaries of Alaska's national parks and preserves provide these tourists access to the State's natural wonders. Several of these airports are located within the 13 million acres of the Wrangell - St. Elias National Park and Preserve. In total, 176 public airports, seaplane bases, and heliports are located inside or within 50 miles of a national park or preserve boundary.



Source: Alaska Department of Transportation and Public Facilities (DOT&PF), 2018.

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In addition to supporting intrastate activity, Alaska is located less than nine hours from most of the industrialized world, giving it one of the most unique air cargo environments in the United States and possibly the world. The fifth busiest cargo airport in the world, Ted Stevens Anchorage International Airport is a crucial through point for cargo traveling between Asia and the Americas.

The study identified several trends:

- Passenger enplanements and air cargo have recovered and grown past pre-recession levels, while general aviation (GA) operations and new aircraft shipments continue a steady decline.
- The national pilot population is declining at an average annual rate of 1.61 percent from 2008 through 2017. This trend results from new regulations greatly increasing flight training costs as well as aircraft, fuel, and insurance prices.
- Elements of NextGen, such as ADS-B, are becoming increasingly prevalent and will soon be required for certain airspaces.

- The reach of wide area augmentation services (WAAS)/GPS into Alaska has expanded substantially in recent years, allowing additional instrument approaches throughout the state.
- Leaded aviation fuel is becoming less readily available.
- The changing climate may also affect the degradation and safety of Alaska's airports. Several airport managers noted having difficulty with runway slumping or settling.
- Airport leaseholders are concerned about a shortage of qualified labor and the cost of aircraft fuel.

Aviation contributes significantly to economic activity, employment and to the quality of life throughout Alaska. Air transportation will continue to be the most efficient means for moving people, goods, and materials into and out of remote communities for the foreseeable future. Looking ahead, the future is not without challenges but continued reliance on air transportation and continued improvements in aviation safety are anticipated.



## Website

## **Centralized Airport Database**

Expansion of the centralized airport database became a major focus of the second phase of the AASP. Due to the amount of information continuously collected, new tools and features required design in the website. The site has both a public facing side and an internal project related side that contains specific airport information. The public site contains a great deal of information. For example, it pulls from the State's E-Docs system to make airport documentation publicly available (such as project as-builts, master plans, and airport layout plans), displays AASP documents, and contains facility information. The internal website is the gateway for all aviation data, tracking systemwide needs, future airport projects, and facility reporting to assist airport sponsors with system evaluation over time. New website functionality throughout this phase increases staff efficiency and reduces redundancy, allowing all data tracking in the same location.

## **Facility Information Directory**

The Facility Information Directory contains inventory data for over 700 airports in Alaska. This data is provided through direct links to the Airport Form 5010 database and the U.S. Department of Transportation T-100 database. Community information pulls from the State of Alaska Department of Commerce, Community and Economic Development (DCCED). The addition of new data fields throughout this phase allows for better automation and less legwork for airport planners. Other new datasets are now managed by staff, allowing updates as often as needed. Documenting airport information in a centralized location and automating many data fields reduces discrepancies and provides a valuable resource for facility information. The inventory is available on both the public (www.AlaskaAsp. com) and internal AASP (internal.AlaskaAsp.com) sites.

### Reporting

The AASP internal website now features reporting on inspection deficiencies, needs, performance measures, statistics and much more. Generating reports from real data within the site creates effective tools for DOT&PF and local sponsors to track the performance of an individual airport, group of airports or the system.

## **CIMP Inspections**

Created in 2012, the CIMP program aims to identify airport needs, both capital and maintenance related, and document current conditions across the airport system. The program is designed to provide a process to document the overall condition of Alaska's airport network in a consistent manner and through a systemic process. A customized inspection application, available on Microsoft Surface Pro and iOS devices, collects inspection results, data, and photos for evaluation within the internal AASP website.

### **New Features!**

 A step-by-step user manual guides inspectors how to conduct an inspection and is available on the website.



- Past inspection information can be downloaded for comparison and use in the field.
- Useful tips on the left side of each checklist provide clarity on questions and an airport sketch is also viewable.

### **Application Evolution**

- The AASP team began development of an inspection application, specifically for use on Microsoft Surface Pro tablets.
- Multiple inspections were conducted on the tablets, with the addition of several new checklists for leasing, fueling, road access, and seaplane bases.
- With continual advancement in technology, DOT&PF explored the idea of expanding the program to the iOS platform. With the ease of the Apple store, updates can be pushed out effortlessly and iPads can connect to both wireless internet and cell service providers for better connectivity.
- The CIMP is now compatible for iPads!

#### Figure 3. Needs by Category



### **Needs Directory**

The internal website features a Needs Directory, that details each facility and its associated needs, in a comprehensive document. The current category breakdown, based only on work eligible for federal funding, is shown in Figure 2. Airport needs are determined by CIMP inspections, department or local airport staff, issues identified by the community, and planning studies. These needs, whether it be a minor maintenance issue or a large scale capital project, are entered into the website under each specific facility. The directory automatically updates whenever new needs are added in and is exportable. This new feature reduces project duplication by creating a common location to input all information.

### **Airport Project Evaluation Board (APEB)**

The process for the compiling, evaluating, and submitting capital airport projects is now streamlined within the internal AASP website portal. By digitizing pieces of the application, such as direct database pulls from federal sources, the AASP simplifies the process for DOT&PF planners to prioritize capital projects. The system accepts both individual or multiple airport projects and tracks nominations as the process moves forward. Planners work together digitally to compile information and submit projects that are reviewed and scored by the APEB, using the website. This process occurs several times per year as needs arise.

### **Spending Plan**

Once reviewed and scored by the APEB, projects are added into the DOT&PF Spending Plan, or CIP. Managed by the Division of Statewide Aviation, the multi-year Spending Plan manages projects and funding allocations to ensure projects are delivered on time. This information is now available on the internal web portal and improves staff communication while promoting consistency, transparency and efficiency throughout the project process. Tracking projects from inception to completion is easier than ever!

## **Special Studies**

## **Rural Rates & Fees Study**

DOT&PF examined the rural airport system's rates and fees structure to ensure fair market value (FMV) is charged on non-aeronautical land rents. Rate review aligns with the FAA's policy of striving toward a self-sufficient airport system and responsible airport management.

Operating cost across the rural system are often very high due to high cost of living and expensive labor and materials. Most rural airports do not have onsite managers and contract out, operations are low and few airports have based aircraft or tenant leases.

Based upon the study, the Department adopted an increased rate schedule for 2017-2022 with a maximum increase of 10% per year, per state regulations. This schedule establishes separate rates for aeronautical and non-aeronautical land uses.

## **Improving Approaches**

Both Phase I and Phase II of the AASP examined the need for additional GPS approaches at airports throughout Alaska. Phase II took the work underway in Phase I and continued to prioritize airports for aeronautical surveys and approaches. Those airports with existing aeronautical surveys, runway lighting, minimum runway length, and availability of weather reporting were recommended to the Regional Airspace Procedures Team (RAPT) for approach development. The most common requirement airports are lacking is weather reporting on-site or within 75 nautical miles of the airport. The group determined that expanding weather reporting equipment throughout the state was the next priority for the AASP.

## **Weather Work Group**

A severe shortage of certified weather stations exists in Alaska. According to the FAA, only 135 certified weather stations are currently operating across a state with the land mass of approximately one fifth the size of the contiguous 48 states. In contrast, the Continental United States has over 1,800 certified weather stations. The AASP Weather Work Group included stakeholders and organizations from the industry, DOT&PF staff, and federal partners like the FAA and National Oceanic and Atmospheric Administration (NOAA)/National Weather Service (NWS). The following work was completed:

- Identified approved (certified) and unapproved (supplemental) weather sources in Alaska.
- Administered a pilot survey to identify priority airports.
- Developed cost information related to the development of approved weather stations.
- Created an equation and a prioritized list of airports needing on-site approved weather if funding becomes available.





### **Backcountry Airstrips**

Alaska's backcountry airstrips are improved public use aircraft landing areas generally located in remote areas without onsite management. These airstrips may be available year-round or seasonally and usually support activities such as remote residential, recreational or industrial use. Identification and inventorying of the airstrips is less important than the overall goal of the work group to ensure they are preserved and their importance understood. Fifty backcountry airstrips were identified, although more exist. Through input from pilots via survey, the AASP was able to document the most concerning issues such as lack of maintenance and lack of information about the airstrips. Fifty-six percent of respondents indicated backcountry airstrips need maintenance and 79% stated interest in volunteering to help maintain the system.

### **Adopt an Airport Program**

The backcountry airstrips survey indicated a strong interest in volunteering to assist in maintaining the airport system. As a result, a new work group was formed, aimed at developing an alternative way to provide maintenance and enhance Alaska's airport network. The AASP team researched similar existing programs in both Alaska and other states to help mold an Adopt an Airport program. The work group targeted airports eligible for the program and created a task list, participation forms, and program materials. Phase III of the AASP will implement the program fully. More information on Adopt an Airport is available at www.AlaskaAsp.com/documents.

## Q: Approximately how often do you land at backcountry airstrips?







With so incredibly few roads in our vast mostly inaccessible state, airstrips and off-airport landing sites are one of the few options to really know Alaska.

## **Mission & Goals**

Five key goals were developed from Phase I of the AASP that support the mission of providing safe and efficient movement of people and goods through the development, maintenance, operation, and management of Alaska's airport system, including:



**Safety and Service:** Develop, operate, and maintain an airport system that contributes to aviation safety and meets user needs.



**Fiscal Responsibility:** Develop, operate, and maintain airport facilities and services in a cost effective and sustainable way.



**Communication:** Provide opportunities for public involvement to ensure effective communications.



**Management:** Effectively implement plan policies and guidance for management, planning, design, maintenance, and operation of aviation facilities.

Phase II continued this mission by:

- Prioritizing airports for instrument approaches and expanding weather equipment opportunities
- Communicating the importance of back country strips for preservation
- Initiating development of the Alaska Adopt an Airport program
- Examining rural rates and fees
- Conducting CIMP inspections and documenting needs across the system
- Modernizing and expanding the website
- Producing e-newsletters and summaries and updating Phase I's economic study
- Revising classifications and performance measures and automating reporting through the internal website

## **Key Takeaways**

Over the past five years the AASP reviewed and studied current events, created and expanded programs and work groups, analyzed existing conditions across Alaska's airports, and created new tools to improve airport planning within the state. Two main sets of recommendations derive from this phase, one focusing on improving the plan itself, and the other specifically on the betterment of Alaska's aviation system, using data derived from the project.

### Figure 5. Top Seven M&O Needs on AASP



## Improving the Alaska Aviation System Plan AASP

After review of Phase II, several key recommendations for planning and managing Alaska's airport system plan are:

### igoplus To continue expanding the website's capabilities

The AASP website is an important tool for planners, designers, maintenance staff, and local airport sponsor personnel to adequately understand existing conditions across the state. Continual expansion of both the public and private portals assists multiple stakeholders in project prioritizing and long term project tracking, including a new section for LOC, LOI, and TSA needs. Designing new reports that analyze already collected data is important. With more accurate data from Phase II updates, Phase III can better focus on analyzing system capacity.

### O To support the CIMP program and Needs List

Continuing deficiency analysis and need collection ensures airport sponsors can accurately assess current problems and plan for the future. Creation of additional resources to assist inspectors would be beneficial, including but not limited to basic handouts, update process manual, or new policy and procedure (P&P) guidance. Defining a program schedule is also needed. Ensuring the airport facility needs list continues to receive updates as new deficiencies arise is important to the success of the entire project process. With all needs located in a centralized location, duplications are minimized and all staff see the same list grow and change over time.

#### To conduct a full Pavement Management Study

This component should build on current evaluations to forecast future needs across the system.

## To evaluate Phase II digital processes and evaluate functionality

Updates may be needed to ensure components are complimenting one another and working correctly on the website. The APEB project priority system and Spending Plan require time to see what problems arise or edits are needed. Additional updates should be evaluated later in Phase III.

#### To implement routine data tracking

Determine tracking processes for performance measures, needs and deficiency reporting through planner and stakeholder coordination.

These five recommendations aim to improve the AASP to become a better tool for airport planners and sponsors to use. Phase III will continue to progress and capture aviation issues across the system.





## Strategizing for Alaska's Aviation System

The second set of recommendations relate to future planning of Alaska's airport system, with a focus on:

### System Safety & Efficiency

- To continue to focus on safety and efficiency: ensuring the traveling public, pilots, and all other transportation users can safely travel to their destinations remains essential.
- To use CIMP inspections and deficiency data to highlight problems and work to fix them.

### Prioritizing Federal Funding

- Use trend analysis to determine if the highest priority deficiencies across the system are receiving adequate portions of AIP funding.
- Prioritize federal AIP funds on highest needs using the APEB process and data from the Airport Needs Book and CIMP inspections.
- Maximize AIP entitlement funding.

#### Finding Opportunities for Partnership

- To find opportunities to partner with airport stakeholders and improve communication, maintenance and safety across Alaska's rural airport system.
- To collaboratively identify and prioritize airport system priorities from a user, customer, and operator perspective.
- Finalize the Adopt-an-Airport program and implement.

### b) To Determine Data Gaps within the System

 To determine existing aviation data gaps and decide how to collect information. Data expansion would allow local sponsors to better plan for future improvements and understand capacity constraints at their airports.

Each recommendation recognizes ways to increase information and better plan for the future of aviation in Alaska. Because Alaska's system is so large and rather complicated, a variety of tasks provide the opportunity for growth of both the airport system and the plan studying it. As technology advances, priorities change and new needs arise, the AASP is ready to tackle pertinent issues and work to improve aviation across the state of Alaska.



For more information, contact us at: statewideaviation@alaska.gov or visit: www.AlaskaASP.com

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