

ALASKA

Aviation System Plan



The Continuous Aviation System Planning Process, 2014

EXECUTIVE SUMMARY



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Transportation and Public Facilities

STATEWIDE AVIATION

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From the desk of Deputy Commissioner Binder

With more than 700 public use airport and hundreds of private airports spanning well over 600,000 square miles, aviation is a vital lifeline for Alaska. With aviation such an important mode of transportation within the State of Alaska, it is imperative that the entire system be cared for, studied, and modified as needed to address the never-ending challenges and advancements made in the aviation industry. The Alaska Aviation System Plan (AASP) is a continuous planning process that helps us to understand and define key issues, plan for a way to help mitigate the potential problems, and ensure a healthy and vibrant aviation system.

It is with great pleasure that I present the "2014 Alaska Aviation System Plan Executive Summary". This summary demonstrates the efforts completed in the first year of a five-year effort that commenced in late 2013. Work in 2014 included an update to the AASP facility information directory, performance measure analysis, additional airport need inspections, website updates and enhancements, a public outreach. We are at an important point in the development of our aviation system and the AASP will help us identify and prioritize our needs to ensure our aviation system is prepared to serve the State of Alaska for the next twenty-years.

We invite you to visit the AASP website at www.AlaskaASP.com and view our facility information directory, documents, and other valuable resources. We also invite you to provide feedback through the website or to statewideaviation@alaska.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "John R. Binder III".

John R. Binder III, C.M.
Deputy Commissioner of Aviation

"Keep Alaska Moving through service and infrastructure."

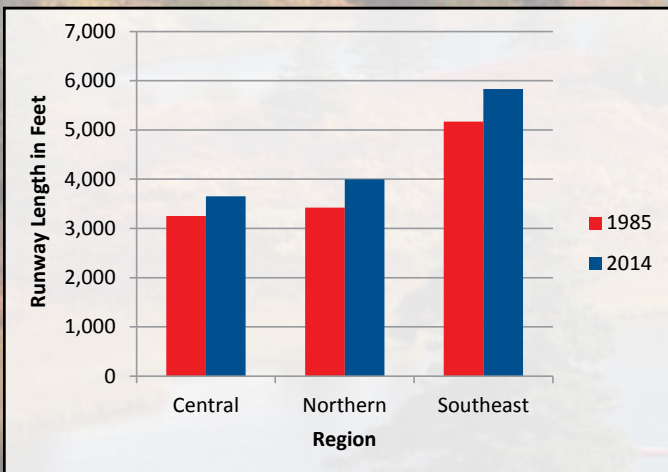
EVOLUTION OF THE

Alaska's aviation system is one of the largest and most unique aviation systems in the country. Aviation serves as a lifeline to communities across Alaska and contributes a significant economic impact to the state. Since the first Alaska Aviation System Plan, created 30 years ago, the aviation system has expanded to include more runways, longer runways, increased enplanements, and more sophisticated weather monitoring systems, as summarized below:

- ◆ **Average Runway Length** – average length increased by 492 feet, with greatest increases at Community Off-Road Airports
- ◆ **Runway Surface** – 11 more paved airports from 1985 to 2014
- ◆ **Weather Stations** – automated stations increased by 53 stations while human observers decreased from 1985 to 2014
- ◆ **Flight Service Stations** – decreased from 27 full service stations in 1981 to only 3 full service and 14 satellite stations today
- ◆ **Population** – nearly doubled from 1980 to 2014
- ◆ **Ranking of Top Airports** – Bethel, Kenai, Sitka, Barrow, Deadhorse, and Homer moved up in statewide enplanement level ranking
- ◆ **M&O Costs** – Average M&O costs tripled at Regional airports and quadrupled at Community Off-Road airports

Runway Length

As shown below, average runway length increased significantly in all regions in the past 30 years. Many airports were initially constructed with shorter runways due to funding constraints or aircraft demand. More recently economic growth and technological and aircraft fleet changes have contributed to a need for increased runway length. Southeast Region has the longest runways and the largest average gain in runway length.



Average Runway Length – All Airport Classes

- ◆ 230 airports statewide were examined, excluding seaplane bases.

Region	1985	2014	Change
Central	3,253	3,652	399
Northern	3,424	3,999	575
Southeast	5,171	5,831	660
Statewide Average	3,434	3,926	492

ALASKA AVIATION SYSTEM

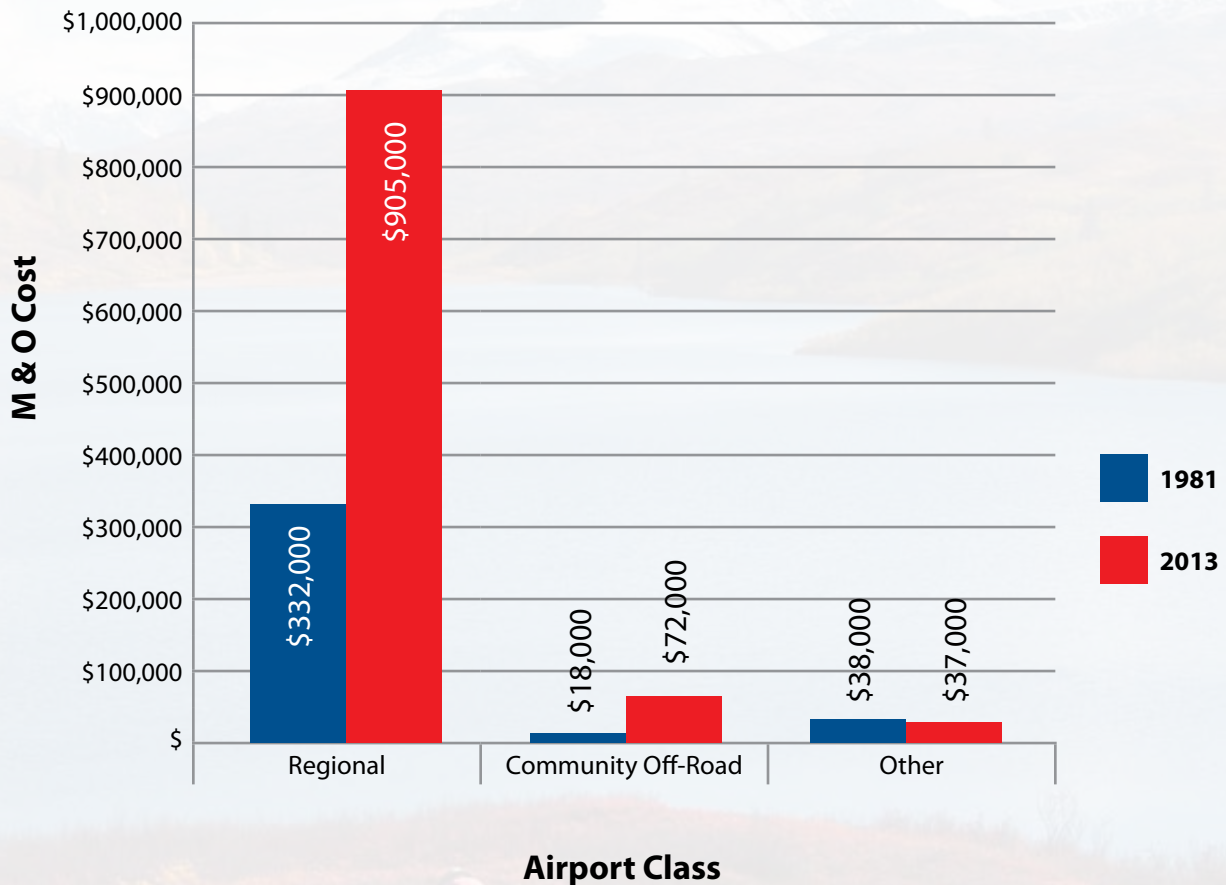
Maintenance and Operations Costs

The cost of airport maintenance has grown dramatically from 1981 to 2013. As shown, Regional airports average maintenance and operations (M&O) costs have nearly tripled over that time-frame. M&O costs at Community Off-Road airports have grown approximately four-fold from 1981 to 2013. Average costs at Community Off-Road airports have soared from an average of \$18,000 per airport in 1981 to an average of \$72,000 per airport in 2013.

Significant items resulting in cost increase are listed below:

- ◆ Runway extensions to meet FAA design standards and community needs
- ◆ Aircraft operators changing types of aircraft, increasing the need for longer runways, better surfaces and approaches
- ◆ Maintaining and operating larger equipment and storage facilities to support snow removal operations
- ◆ Increases in wages, utilities, materials, equipment and other contractual costs to support increased airport requirements

Average M & O Costs at Regional, Community Off-Road and Other Airports 1981 & 2013



* Includes only DOT&PF - owned airports

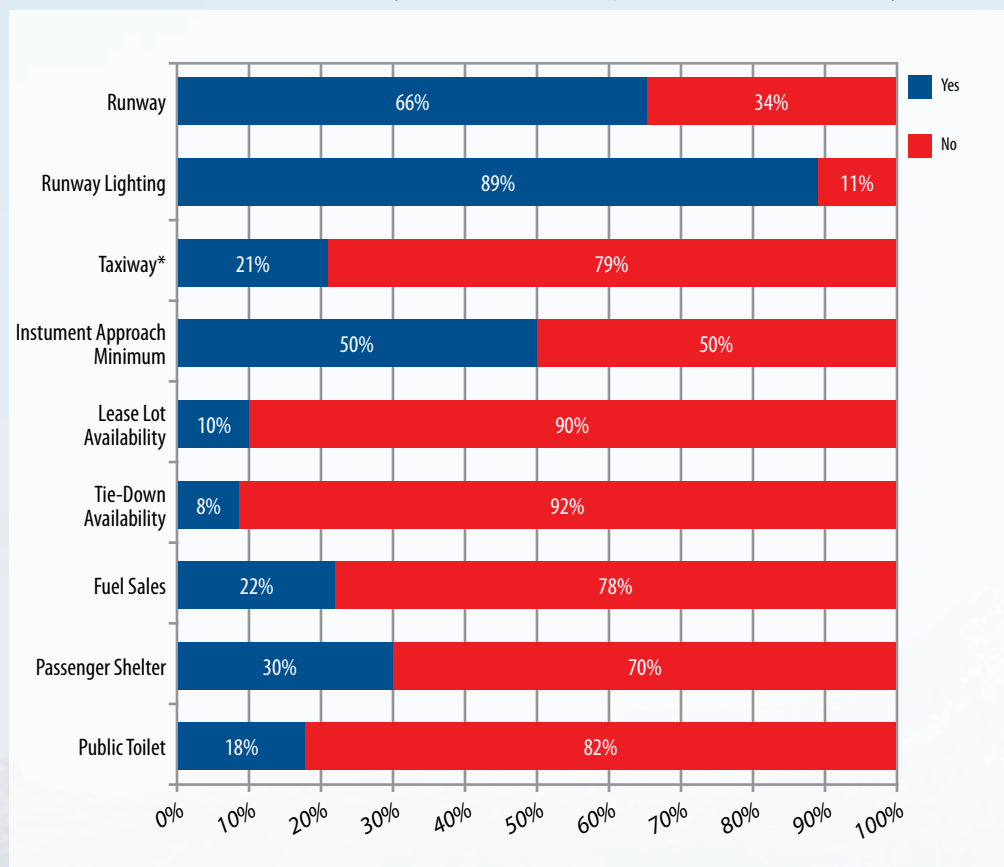
HOW ARE ALASKA'S

Performance measures not only provide useful information about the current system, but allow for the tracking of improvements over a period of time. In 2011, Phase I of the Alaska Aviation System Plan defined performance measures and created a baseline measurement to use for comparison. In 2014, after the Facility Information Directory update, performance measures were run to determine how Alaska's airports have improved since 2011. Summary scorecards display this information in an easily readable format as shown below. To see how individual airports are performing, visit www.AlaskaAsp.com/Documents.

AASP Airport Service Standards

Service Indices are a specific set of performance measures for the 177 Alaska airports (not including seaplane bases) in the Regional and Community classifications. These measures are aimed at calculating each airport's effectiveness in providing the services and facilities needed for their respective markets.

Scorecard of Service Index Objectives at All Regional and Community Airports



Source: CDM Smith, DOWL

*Only applies to Regional airports

The scorecard above summarizes the Service Indices for all airports in the Regional, Community Off-Road, and Community On-Road classifications. Overall, these airports are best meeting their classification objectives for runway and runway lighting facilities. Lease lot and tie-down availability are the least met objectives, with only 10 percent and 8 percent of airports meeting the objective, respectively.

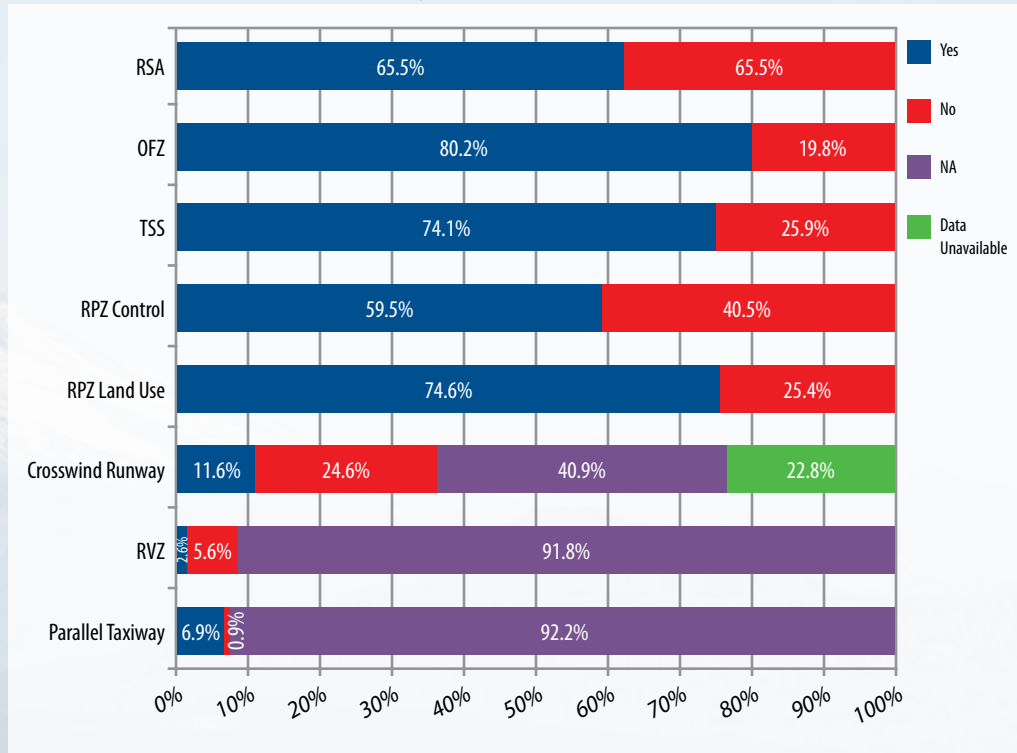
AIRPORTS PERFORMING

AASP Airport Design Standards

The Design Standards Index measures whether Alaska airports are in compliance with various FAA airport design standards. This index applies to 233 Alaskan airports and measures the compliance of FAA airport design standards as listed below. Each standard was given a weighted percentage of the total, adding up to a possible 100 percent at each airport.

- ◆ **Runway Safety Area (RSA):** The RSA is part of an airport’s geometry and is a rectangular area centered on and surrounding the runway. RSA standards apply to the primary runways at all airports included in this index.
- ◆ **Obstacle Free Zone (OFZ):** The OFZ is airspace centered on the runway centerline and extending 200 feet beyond each runway end. OFZ standards apply to the primary runways of all airports included in this index.
- ◆ **Threshold Siting Surface (TSS):** The TSS is an imaginary airspace surface sloping up from the runway threshold. A compliant TSS is free of objects. TSS standards apply to the primary runways of all airports included in this index.
- ◆ **Runway Protection Zone (RPZ):** The RPZ is a trapezoidal area extending from the runway ends, designed to enhance the protection of people and property on the ground. All airports in this index were evaluated for both control of their RPZs and for compatible land uses. RPZ standards apply only to primary runways.
- ◆ **Crosswind Coverage:** If wind coverage for a single runway is under 95%, the FAA recommends that the airport has a crosswind runway. All airports with a crosswind runway meet this standard. This standard is shown as “not applicable” (NA) for airports with 95% or better wind coverage, but do not have a crosswind runway. Those with neither 95% wind coverage nor a crosswind runway do not meet this standard. Wind data is not available for 55 airports in the AASP and is shown as data unavailable.
- ◆ **Runway Visibility Zone (RVZ):** The RVZ is an area between intersecting runways where an unobstructed line of sight between points five feet above each runway is required. This standard only applies to airports with intersecting runways, and is shown as NA at other airports.
- ◆ **Parallel Taxiway:** The standard in this index is for airports with at least 20,000 annual operations to have a parallel taxiway, either full or partial. This standard is shown as NA at airports with fewer than 20,000 annual operations.

Scorecard of Design Standard Indices at all AASP Airports



Source: CDM Smith, DOWL



Work Groups

Flight Procedures Coordination Work Group

The Flight Procedures Coordination Work Group was formed in 2011 with a mission to provide statewide guidance for airport survey/flight procedures to the lowest possible minimums. The Work Group updated the prioritization equation and recommended 58 airports for Localizer Performance (LP)/Localizer Performance with Vertical Guidance (LPV) approaches. In early 2015, the Work Group will seek stakeholder input to recommend airports for surveys in preparation for LP/LPV approaches. The Work Group has identified lack of weather equipment as the largest constraint for additional airports to receive an LP/LPV approach.

Backcountry Airstrip Work Group

When it comes to aviation, the words bush flying and backcountry airstrips are synonymous with Alaska. The mission of AASP Backcountry Airstrip Work Group is to identify backcountry airstrips and guide future preservation decisions.

Backcountry airstrips are an important component of Alaska's aviation system, yet information about them individually and collectively can be hard to find. This lack of information makes it hard to categorize, assess, and ultimately ascertain the condition and needs for these unique airports. The Work Group understands the importance and significance of backcountry airstrips and is working to understand this element of Alaska's aviation system.

A Backcountry Airstrip Work Group was formed in late 2014. The Work Group is tasked with the following items:

- ◆ Define backcountry airstrips in Alaska.
- ◆ Develop an inventory of backcountry airstrips.
- ◆ Identify future preservation decisions in relation to backcountry airstrips
- ◆ Determine the process needed to ensure the safe and efficient use and maintenance of Alaska's backcountry airstrips.

Capital Improvement and Maintenance Program (CIMP) Inspections

CIMP inspections are performed to identify and prioritize both capital and maintenance needs at an airport. The use of detailed checklists and example photos, on an AASP inspection tablet application, ensures each airport is evaluated equally, whether it is on the Aleutian Chain or the North Slope. After each inspection, a CIMP is created for the airport and stored in the AASP internal website. The CIMP will guide the airport sponsor in planning future projects and maintaining the airport.

Rural Aviation Rates and Fees Study

DOT&PF is updating its land rental rates - rates that were last updated in 2008. An airport land rental rate study is anticipated to be conducted in 2015 with rate updates implemented in 2016. The Federal Aviation Administration (FAA) requires DOT&PF's rural airport system to strive towards financial self-sustainability. This requirement includes charging Fair Market Rental rates, which will be determined through the study.

HOW TO CONDUCT AN AIRPORT IMPROVEMENT AND MAINTENANCE PROGRAM (CIMP) INSPECTION

Select airport for inspection. Collect related documents and identify existing needs.

- ◆ AASP Airport Needs List
- ◆ Alaska Airport Needs Directory
- ◆ Airport Layout Plan (ALP)
- ◆ Master Plan
- ◆ 5010
- ◆ AASP Performance Measure Scorecard
- ◆ Statewide Equipment Fleet List
- ◆ Spending Plan
- ◆ Deferred Maintenance List
- ◆ Pavement Classification Index (PCI) Reports
- ◆ FAA Letters of Correction

Analyze for duplicate needs and consolidate.

Document existing needs on the internal AASP website's AASP Airport Needs List.

- ◆ Maintenance & Operations (M&O)
- ◆ Planning
- ◆ Design
- ◆ Facilities
- ◆ Statewide Equipment Fleet
- ◆ Leasing
- ◆ Statewide Aviation
- ◆ Pavement Management

Interview two key stakeholders and document any needs or concerns in AASP Airport Needs List.

Coordinate inspection travel with DOT&PF sections.

Review existing needs/projects.

Conduct inspection using tablet.

Identify and report critical safety issues found during inspection.

Upload inspection information to the AASP website.

Inspector reviews and finalizes inspection.

Run deficiency report and associate each deficiency with a need.

DOT&PF staff and airport manager review inspection.

Develop planning level cost estimates for non-M&O projects.

Inspection reviewed by DOT&PF Management. M&O project cost estimates developed.

2014 Strategic Initiatives

In 2013 and 2014, the AASP assisted the DOT&PF, Statewide Aviation section to write a Rural Aviation Strategic Plan. The purpose of the plan is to sustain and improve the quality of life throughout Alaska. In 2014, three key strategic initiatives and two improvement projects, based upon four core values, were created to guide all activities and staff throughout the year. These core values are integrity, innovation, excellence, and respect; and guided DOT&PF through the following tasks:

- ◆ **Resource Optimization** – develop a formula-based methodology for optimizing use of funds for projects and explore software-based decision making tools to develop criteria to prioritize and fund projects. This initiative has been extended through 2015.
- ◆ **External Communication** – become more data driven for investment in the system, expend resources to develop and deliver messaging, and implement a risk assessment tool to improve the understanding of the mission, accomplishments, and challenges among stakeholders and sources of funding for DOT&PF. A good plan was instituted to insure success in raising public awareness and engaging stakeholders with key messages.
- ◆ **Airport Database** – define aviation needs within the DOT&PF's Geographic Information Systems (GIS) initiative, inventory existing databases and how to integrate them, and convert from paper to digital records to build a DOT&PF supported and managed, GIS-based airport database. This effort has been extended through 2015.
- ◆ **Performance Scorecard** – pull together existing measures and develop an annual report to recognize and celebrate successful performance. Metrics and items to measure are still being created. This project has been extended through 2015.
- ◆ **Staff Training** – establish training goals, share opportunities, develop a training strategy, and codify methods to improve access to and the quality of training within DOT&PF. Airport training requirements were identified and mandatory training was highlighted and reviewed, along with training opportunities to expand the professional development of airport staff.

Looking Ahead 2015-2018



Additional Airport Needs Inspections—up to 45 per year



Establishment of a Weather Work Group



**Continued Backcountry
Airstrip Work Group**



Additional Website Improvements



Strategic Plan Support



Annual Performance Measurement

ALASKA

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