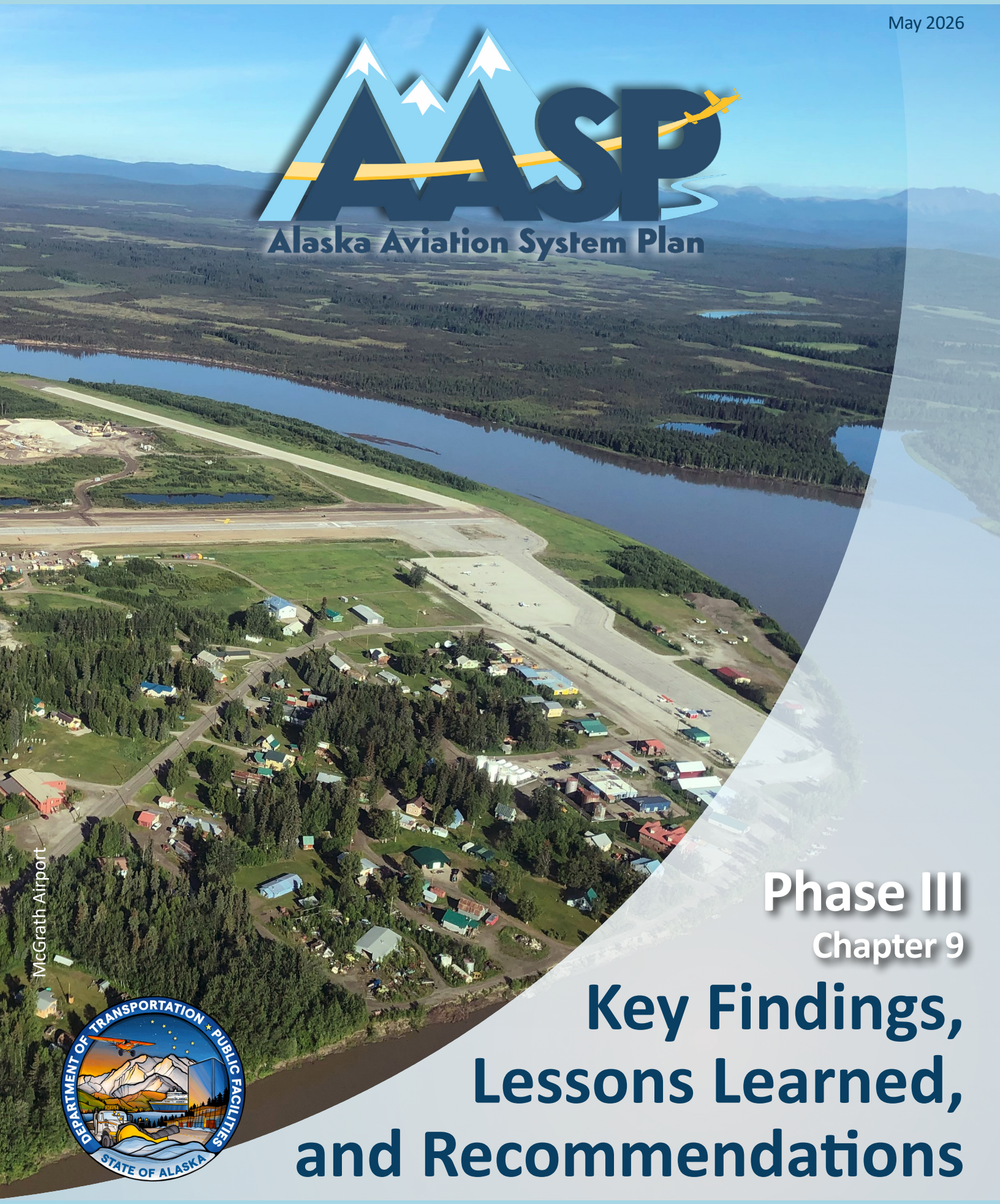
May 2026

AASP

Alaska Aviation System Plan



McGrath Airport

DEPARTMENT OF TRANSPORTATION + PUBLIC FACILITIES
STATE OF ALASKA

Phase III

Chapter 9

Key Findings, Lessons Learned, and Recommendations

Alaska Aviation System Plan

Project No. CFAPT00484 | AIP 3-02-0000-033-2024

Commonly Used Acronyms

AASP	**Alaska Aviation System Plan**
AC	**Advisory Circular**
ACIP	**Airport Capital Improvement Program**
ADIP	**Airport Data and Information Portal**
ADS-B	**Automatic Dependent Surveillance - Broadcast**
AGIS	**Airport Geographic Information System**
AI	**Artificial Intelligence**
AIP	**Airport Improvement Program**
APEB	**Aviation Project Evaluation Board**
CBR	**California Bearing Ratio**
CIMP	**Capital Improvement and Maintenance Program**
DCP	**Dynamic Cone Penetration**
DOT&PF	**Department of Transportation and Public Facilities**
FAA	**Federal Aviation Administration**
GCI	**Gravel Condition Index**
GIS	**Geographic Information System**
ISER	**Institute of Social and Economic Research**
LOC	**Letter of Correction**
LOI	**Letter of Investigation**
MRS	**Management Reporting System**
NPIAS	**National Plan of Integrated Airport Systems**
OE/AAA	**Obstruction Evaluation / Airport Airspace Analysis**
PCI	**Pavement Condition Index**
R-PGL	**Reauthorization Program Guidance Letter**
SPT	**Standard Penetration Test**
TAC	**Technical Advisory Committee**
TSA	**Transportation Security Administration**
UAA	**University of Alaska – Anchorage**

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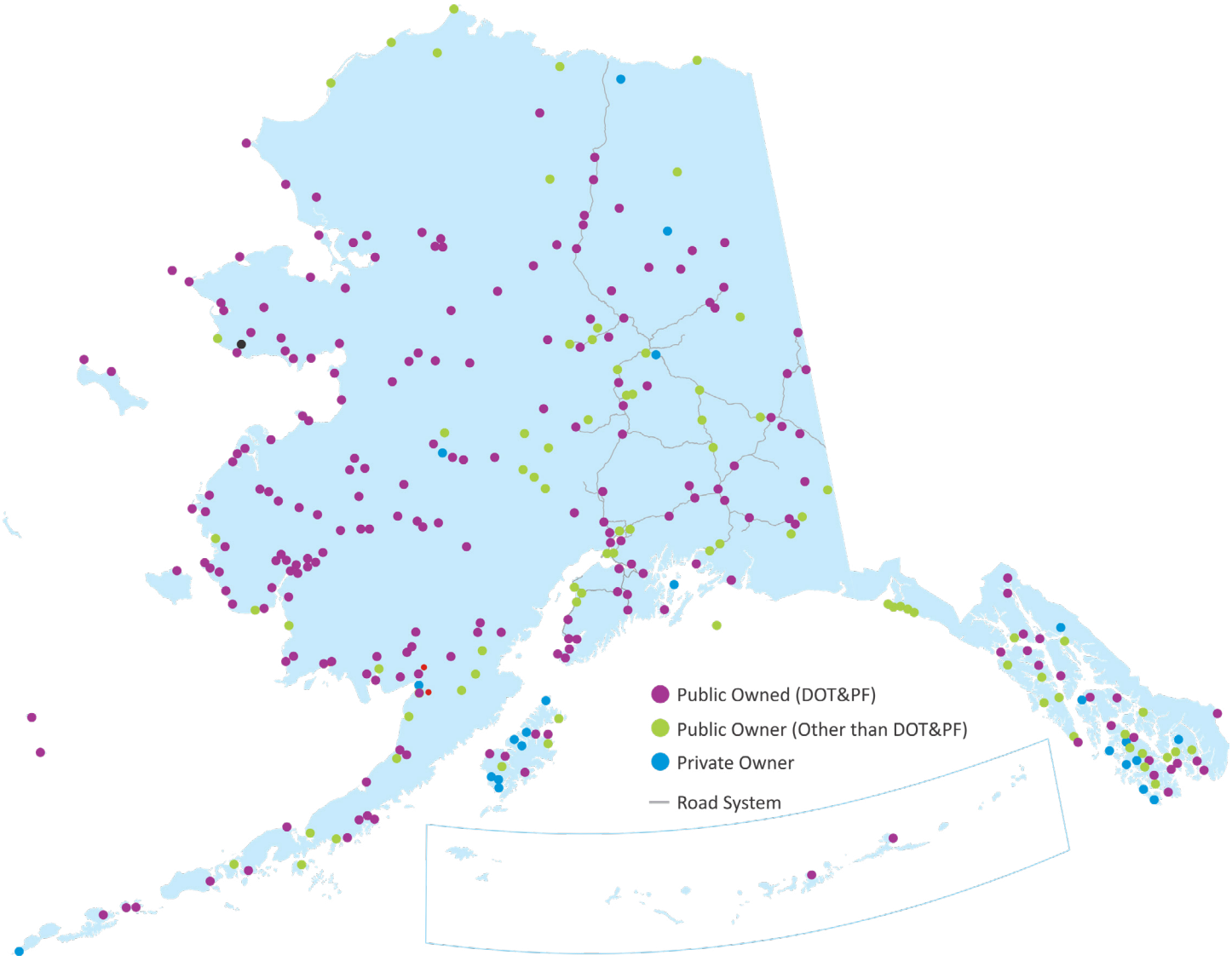
I. Introduction

The Alaska Aviation System Plan (AASP) is the long-term strategic planning process used by the Alaska Department of Transportation and Public Facilities (DOT&PF) to manage the largest single aviation system in North America. The purpose of system planning is to develop information and guidance "to decide the extent, kind, location, and timing of airport development needed in a specific area to establish a viable, balanced, and integrated system of public-use airports," according to 49 U.S. Code § 47102(9).

The AASP tracks information about all Alaska airports included in the National Plan of Integrated Airport Systems (NPIAS) as well as all other DOT&PF-owned and most non-DOT&PF public-use airports; monitors and evaluates issues, trends, and challenges; and develops tools and materials to keep planners, policymakers, and the public informed. The AASP is implemented in accordance with the Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5070-7, The Airport System Planning Process. Phase III of the AASP (2020–2026) oversaw updates to the tools and processes used to implement the plan and ensure the process remains flexible, dynamic, and modern.



II. Key Findings and Accomplishments

The AASP team created dozens of new tools and resources, revised planning processes, and used the ever-expanding database to continually assess the Alaska aviation system. The streamlined Capital Improvement and Maintenance Program (CIMP) application and inspection process and the full lifecycle of a need process were especially significant accomplishments that support system planning by collecting and updating facility information, identifying deficiencies, and tracking needs from when they are first recorded until they are addressed. Continuing to build and expand on the digital Airport Project Evaluation Board (APEB) process and the digital Airport Capital Improvement Program (ACIP) supported shared information and better tracking across large datasets. A few other highlights include:

Public Involvement

Created fact sheets, newsletters, videos, and maps and attended in-person events to support public engagement and education.

Prior Phase Evaluation

Identified gaps, assessed AASP mission and goals, and engaged stakeholder to develop the Phase III work plan.

Classifications & Performance Measures

Redefined airport classifications and performance measures to accurately and meaningfully define and assess the Alaska aviation system.

Capital Improvement & Maintenance Program

Overhauled the CIMP checklists and mobile application to increase efficiency and consistency.

Inventory & Needs Update

Updated the needs process, verified and expanded the inventory database and reporting capabilities, improved the Needs List and Needs Directory, and completed the need lifecycle to ensure DOT&PF has accurate, up-to-date information for decision-making and project development.

Western Alaska Airport Resiliency Study

Evaluated 35 airports to understand common physical and safety issues and develop recommendations to increase resiliency of Alaska's airports.

System Planning Database Innovation

Developed new reports, tools, and features to allow DOT&PF to carry out planning activities and provide public access and transparency.

Special Studies and Targeted Research

Created nine white papers on topics ranging from critical aircraft determination to weather reporting to the rural airport leasing program.

Phase II included 16 recommendations to improve the aviation system and 15 recommendations to improve the AASP and its programs. Phase III fully or partially implemented 19 recommendations, and an additional 6 were addressed outside the project. Table 1 summarizes the implementation of each Phase II recommendation in Phase III.

Table 1. Phase III Implementation of Phase II Recommendations

Implemented *Partially implemented* *Not implemented* *External*

Capital Improvement and Maintenance Program	
Phase II Recommendations	**Phase III Implementation**
Continue to improve the overall process and adequately educate staff using the application and the website.	The CIMP checklists, iPad application, and integration with the AASP website were significantly updated during Phase III to improve efficiency, clarity, and usability. *See Chapter 4: Capital Maintenance & Improvement Program and Chapter 7: System Planning Database Innovation*
Consider if other platforms are needed in the future and what additional IT collaboration would be required.	Phase III explored whether additional platforms would be beneficial (e.g., iPhone or Android phone applications) and determined that this would be costly, cumbersome, and provide minimal benefit. *See the Capital Improvement and Maintenance Program section of this chapter*
Define the process once capital improvement projects are constructed and deficiencies fixed. Who should conduct an inspection update? Does it need to be added to the project closeout checklist? Noting which deficiencies were corrected during capital improvement projects and providing a reporting mechanism need consideration. Data can shed light on existing funding allocations in relation to different types of projects. For example, it could determine how many runway rehabilitations occurred over five years or how many taxiway light projects were completed last year.	The "Close the Loop" process allows DOT&PF to track when needs (deficiencies) are addressed by prompting planners to complete a validation process when an FAA grant is marked closed. This closeout process includes verifying which needs were addressed by the project, adding needs that were identified during the project, and adding closeout photos. *See Chapter 5: Inventory & Needs Update*
Outline CIMP inspection schedule and determine how often inspections should occur to provide important input on existing conditions.	Responses to the CIMP survey suggested that CIMP inspections should occur every 3 years. Functionality was added to the internal website to allow users to request a CIMP inspection be scheduled. A systemwide schedule for carrying out CIMP inspections was not developed because this will be explored outside of the project through internal budget discussions. *See Chapter 4: Capital Maintenance & Improvement Program*
Promote the application to other public airport sponsors in Alaska and ensure sponsors are aware of this tool and the training videos and manual.	The AASP team contacted local sponsor airports to explain what the CIMP application is and that it can be used by non-DOT&PF-owned public airport sponsors. The team also offered to meet with the sponsors to provide a tutorial.

Website Innovation	
Continue to reevaluate and expand the website with usable information. Review relevance of two AASP websites and determine if combining all data would be more useful to all airport sponsors across the state.	This phase rebranded the website; added data, reports, work products, and external resource links to the public and internal websites; and created a Public Airport Comment Map. The website serves as a one-stop shop for data, educational material, contact information, and all other things Alaska aviation. *See Chapter 7: System Planning Database Innovation*
Make more airport information available for airport stakeholders across DOT&PF and Alaska's airport system.	The new public-facing Reports tab and updates to the Search AK Airports tab provide access to airport information. Phase III created new public-facing reports like the Airport Needs Directory, and made contact information easy to find. Public users can review ACIP information, search air carriers, and other documentation. *See Chapter 7: System Planning Database Innovation*
Determine existing data gaps or other enhancements to improve communication and data sharing.	The team reviewed and expanded the database through a comprehensive inventory update and created new data connections to allow users to access and export the data. *See Chapter 5: Inventory & Needs Update and Chapter 7: System Planning Database Innovation*
Expand the database to include a module containing LOCs, LOIs, and TSA data and build reporting tools to track trends.	This module was not created. The Letters of Correction (LOC) database is currently in development outside of this project.
Evaluate gravel surface condition across the system and determine what, if any, additional data sharing or reporting would be beneficial to airport users.	The AASP team developed a process for rating gravel condition based on CIMP inspections to allow for a more standardized analysis of runway conditions across the system. Further analysis is recommended to determine how to tie the process to existing inspections without burdening staff.
Make airport specific contact information available and easy to access.	The new Contacts report and Facilities subtab allow users to quickly access airport, municipal, and Tribal contact information. *See Chapter 7: System Planning Database Innovation*

Facility Needs & Deficiency Collection	
Facility information only remains accurate when it is continually reviewed and updated by staff. Outlining specific database ownership, by department and section as needed, is an essential component to ensure information is not only accurate, but current. Further coordination is required to verify the accuracy of all facility information.	The team reviewed and verified facility information through the inventory update and added connections to external databases to automatically update data, when possible. The inventory process also included identifying the source of each data element so future updates can be done more efficiently. A Data Dictionary was created to document information about each inventory element for future reference. *See Chapter 5: Inventory & Needs Update and Chapter 7: System Planning Database Innovation*
Consider funding additional equipment. This need far outweighs any other AIP eligible M&O categories across the system.	This recommendation was resolved outside the project and through the ACIP.
Continue to use the needs database to plan the airport AIP program. This information is a valuable tool to understand problem areas and funding gaps across Alaska's airport system.	Phase III included reviewing the Needs List to remove duplicates and standardize naming conventions, and updating the needs inputting and tracking processes to track the complete lifecycle of each need. *See Chapter 5: Inventory & Needs Update*
Review data gap and expand data collection to accurately depict leasing issues. Improving accuracy on this type of need will assist in the planning of future capital funding and be beneficial to airport tenants and stakeholders.	The CIMP leasing checklist was revised, and a leasing-only inspection option was created to improve data collection. The new Leasing subtab under Facilities allows approved users to access this data.
Digital Project Prioritization Updates	
Add all projects and past nominations into the website and begin using the new tools to improve communication, system tracking, and project prioritization.	Past project information was not added to the database.
After full year of project input and tracking, review system and determine if changes or improvements are needed to accurately and efficiently capture information.	This was accomplished outside this project.
In Phase III, the plan should consider if existing project tracking system (Management Reporting System, MRS) can link to the AASP, creating an even better "one-stop shop" for aviation project data.	This data connection was originally planned in Phase III but was not completed because of other efforts occurring within DOT&PF.
After several funding cycles, compare planned, programmed and newly constructed projects to needs across the system. Is funding allocated to problem areas? Assessment of the system will provide informative input on how well capital improvement projects are helping enhance the system.	Phase III did not include this analysis, but the cleaned-up Needs List, more standardized inputting and tracking processes, and new reporting options can be used for this assessment in Phase IV.
Consider future website expansion to include CIP information for local sponsor airports.	The database was not expanded to include external CIP information. It does, however, include all AIP grant information, for both DOT&PF and other local sponsors.

Airport Performance Measure Implementation	
Ensure data is continually updated to reflect most recent existing conditions and establish a baseline to track trends.	A Technical Advisory Committee (TAC) was established to refine performance measures and identify more reliable, regularly updated data sources. *See Chapter 3: Classifications & Performance Measures*
Determine process or policy to establish trends.	This was not accomplished in Phase III.
Review fuel sales performance measures. The availability of aviation fuel is one of the most basic services an airport can provide its users. While DOT&PF does not directly offer this service, airport tenants can obtain permits to do so. The AASP's performance measures evaluate this metric for the Regional and Community classifications only. Compliance numbers are very low on this service index. Do opportunities exist to improve available services across the system?	Phase III did not address this question; groups outside of DOT&PF are exploring it.
Determine if seaplane base measures, created in Phase II, need tracking on the website.	Phase III performance measures do not include the seaplane base-specific measures developed during Phase II. The TAC determined that the seaplane base performance measures from Phase II should be reviewed and updated separately. Current measures do not include items like weather cameras or reporting, and several bases have gained approaches. *See Chapter 3: Classifications & Performance Measures*

Work Groups	
Recommend continuation of further work group topics as aviation issues arise across the state. This task, as part of the AASP, allows essential topics to be evaluated by aviation stakeholders and experts in the industry as well as department staff and local airport sponsors.	Phase III included the Adopt-an-Airport, Aviation System Videos, and Western Alaska Airport Resiliency Study work groups, as well as CIMP and System Condition and Needs TACs. *See Chapter 1: Public Involvement, Chapter 4: Capital Maintenance & Improvement Program, Chapter 5: Inventory & Needs Update, and Chapter 6: Western Alaska Airport Resiliency Study*
Review information from Phase II's Adopt-an-Airport task and implement the program. Final program recommendations should consider expanding the program to all types of airports across the state.	The Adopt-an-Airport concept was briefly explored at the beginning of Phase III. The plan proposed in Phase II was deemed infeasible because of the time required to legally establish the program; the COVID-19 pandemic was expected to prolong this process.
Consider new tools to capture essential issues across the system. In Phase I several videos captured how aviation is "Alaska's lifeline" and provides access and necessities to remote residents. Review if other topics specific to Alaska could be used as educational tools, such as certified weather, airport vandalism or operations.	The team created five new videos during Phase III to serve as educational and outreach tools. Videos include "Alaska's Aviation System: Lifeline of the Last Frontier," "Medevac Operations in Alaska," "Alaska DOT&PF Rural Airport Contractors," "Alaska DOT&PF Airport Rescue Fire Fighting," and "Managing Alaska's Part 139 Airports." *See Chapter 1: Public Involvement*
Pavement	
Expand on Alaska's current pavement condition and conduct a full pavement management plan.	DOT&PF developed the *Alaska Airport Pavement Management Plan* under a separate project in 2022 and continues to update it annually.
Assess problem areas and determine programming schedule for paved airports.	This was included in DOT&PF's *Alaska Airport Pavement Management Plan*.
Area Plans, Special Studies, and Contribution to the Economy Update	
Phase II recommends continuation of area studies in future phases, especially in places with outdated information or with significant changes occurring, and in combination with other transportation modes.	Various special studies were funded under the AASP umbrella, but outside this project.
Find ways to provide a better understanding to communities, legislators, and other stakeholders across the state on the importance of the aviation system to Alaska and continue to highlight its significance using plan tools, documents, and database information.	The team created many newsletters, fact sheets, white papers, maps, and reports to communicate the importance of aviation in Alaska and highlight components of the Alaska aviation system.

III. Recommendations

The following recommendations are intended to guide the development of the Phase IV scope and work plan, based on AC 150/5070-7 and work completed on the AASP to date. Recommendations were developed based on lessons learned from Phase IV, the End of Phase III Survey (results in Appendix A), discussions with DOT&PF staff, and input from the FAA. Key activities in Phase IV include conducting an economic impact study, creating a standard methodology for activity forecasting, and developing tools to support grant obligation tracking.

Addressing Data Gaps in the System

Incomplete and inconsistent data across the system constrain comprehensive planning, performance evaluation, and investment prioritization. Phase IV of the AASP will focus on identifying, refining, and implementing targeted data collection efforts to close these gaps and strengthen system-level decision-making.

Federal Obligation Tracking

- Expand existing AIP grant module to systematically track federal obligations.

Phase III developed and populated a new AIP grant module to record key milestones and funding totals by work code. Phase IV will explore the next step with this information, including periods of performance and projecting grant obligation timelines split by component (e.g., building, surfacing, rehabilitation, preservation). This tool will include all AIP-funded land purchases (1982 to present) but will likely include a more recent subset of other AIP-funded projects and equipment purchases. The tool will also include a review of how FAA work codes are integrated into the AASP database and identify areas for improvement.

Useful Life Tracking

- Develop a tool to track the minimum useful life and the actual useful life of airport project components.

Phase IV will consider developing a tool to track the expected and actual useful life of AIP-funded airport project components. This tool will likely include the start and end dates of construction (or purchase and deployment dates of equipment), inspection dates, and minimum useful life as defined by the FAA. This tool will be used to:

- Inform long-term planning by identifying tentative project needs based on the minimum useful life and condition.
- Analyze trends in actual useful lifespans, which will help planners better anticipate when airport components are likely to need rehabilitation, reconstruction, or replacement in Alaska, which supports long-range planning efforts on an aging system.
- Understand the level of funding required to adequately maintain the system, if cost estimates are included.
- Provide information on whether Alaska airport projects meet the same useful life standards when compared to airport projects in the lower 48 states.

Section 3-12 and Table 3-7 of Order 5100.38D – Airport Improvement Program Handbook[1] identify the minimum useful life for different project types (projects funded before the adoption of Order 5100.38D are subject to separate expectations). Automatically determining the minimum useful life of a project based on standardized project details (e.g., category or work code) may be complicated, so this tool will begin with a small number of project types to establish the process and determine the benefits such a tool could provide for big-picture airport planning.

Although this tool cannot be used as the sole justification for project nominations, it will help provide a systemwide summary of potential needs and trends. The tool will also provide project life tracking information in a more digestible way than simply a summary of datasets. FAA involvement in the development of this tool will be necessary to ensure compliance with regulations and expectations.

1 https://www.faa.gov/documentLibrary/media/Order/AIP-Handbook-Order-5100-38D-Chg1.pdf

Funding and Needs Comparison

- Compare allocated funding with identified needs across the system.

Phase II included a recommendation to "compare planned, programmed, and newly constructed projects to needs across the system" to help understand "how well capital improvement projects are helping enhance the system." While Phase III did not include this analysis, improvements to the Needs List and reporting functionality now make it achievable. These enhancements support a more comprehensive understanding of systemwide needs and position DOT&PF to define the true level of capital investment required to maintain the Rural Airport System in a state of good repair. Phase IV will include this analysis and consider developing new reports or performance measures to support regular assessments.

Forecasting and Operational Count Methodology

- Establish standard methodologies for tracking operational counts and conducting activity forecasts.

Operational counts are needed for forecasting and critical aircraft determination, but many DOT&PF airports do not have the means to track operations because they are non-towered, unstaffed, and do not require T-100 reporting[2]. The Phase IV AASP team will develop and propose a methodology to capture operational data for use in forecasts and analysis of system activity. Simultaneously, the team will consider establishing a forecast methodology that aligns with the operational count methodology and accounts for any remaining data gaps.

Operational count methodologies might include developing an artificial intelligence (AI) program to track airport operations based on weather camera footage or identifying a system that can autonomously track airport activity (e.g., Automatic Dependent Surveillance-Broadcast [ADS-B] or acoustical counters).

Because the Alaska aviation system is so vast and remote, it may be appropriate to identify airports by classification that can serve as "model" airports. In this strategy, the counting methodology would be deployed only at the model airports, and the data would be extrapolated for use at the remaining airports, minimizing the expense of purchasing and deploying technology while still allowing DOT&PF to develop forecasts.

Air Carrier Route Maps

- Expand the GIS module to include air carrier route information, leveraging innovative data sources and tracking methods.

Static air carrier route maps were added to the Air Carriers tab of the public and internal websites during Phase III. Phase IV will expand this effort into a dynamic GIS-based analysis tool that not only maps routes, but also identifies the airports that support commercial aviation, the aircraft they accommodate, and where infrastructure constraints limit or prevent service. This expanded capability would allow DOT&PF to move beyond visualization and begin evaluating system performance—highlighting gaps in connectivity, identifying communities with limited or constrained access, and linking those gaps to specific infrastructure deficiencies (runway length, surface condition, lighting, or weather reporting). This tool will support planning decisions, rather than merely illustrate existing conditions.

Data sources may include publicly available scheduled service data, survey and interview responses, and satellite data. External planning efforts, such as the Statewide Freight Plan, may have or develop useful data to inform the route maps, as well. Preparation for this task will include an assessment of the level of effort required to obtain and analyze data versus how well the data fills in gaps left by only including public scheduled service routes.

2 https://www.alaskaasp.com/media/4587/2024_02_29_final_critical_aircraft_final.pdf

Construction Closeout Questionnaire

- Develop a standard closeout questionnaire for construction projects.

The Western Alaska Airport Resiliency Study developed many recommendations for improving resiliency in the Alaska aviation system. The End of Phase III Survey asked DOT&PF staff and consultants to rate the feasibility of implementing several key recommendations; developing a construction closeout questionnaire was rated as highly feasible.

A significant obstacle in developing more resilient airports is the lack of data about historical decisions and performance. For example, decisions are often made during construction that deviate from a project's intended design (e.g., if excavation reveals an unexpected ice lens), but these decisions are not formally documented. Phase IV will explore developing and deploying a construction closeout questionnaire to collect data about assumptions, constraints, design choices, and on-the-ground alterations, which would make future evaluation easier and more accurate. This checklist will also capture project-specific steps that may support closeout, such as early coordination and scheduling of FAA flight checks for lighting systems or N/A at Night approaches. Building that coordination into the closeout process will reduce operational delays, improve accountability, and ensure continued coordination from start to finish. Using the questionnaire to record the final inspection date will also support minimum useful life tracking, as minimum useful life is determined based on the date a facility is placed into service (i.e., once the final inspection is completed).

Gravel Rating

- Conduct a gravel rating study, develop a standard gravel condition scoring system, and integrate the system with the CIMP process.

According to information from the Airport Data and Information Portal (ADIP), approximately 772 gravel runways exist in the United States, 399 of which are in Alaska, as shown in Figure 1. DOT&PF owns and operates 180 of these gravel runways, making the State of Alaska the steward of nearly half of the nation's gravel runway infrastructure.

Developing a consistent method to track surface condition through a standardized rating system, similar in concept to how Pavement Condition Index (PCI) is assessed, helps DOT&PF evaluate gravel runway performance across the statewide network. Because gravel surfaces deteriorate differently than paved runways, through erosion, rutting, material loss, and freeze/thaw impacts, a uniform condition rating provides planners and maintenance staff with clearer systemwide data to compare facilities, prioritize maintenance and rehabilitation, and better forecast long-term infrastructure needs.

In addition to surface condition, load-bearing capacity helps DOT&PF understand an airport's capabilities and allows air carriers to determine which airports can support their operations. Tracking load-bearing capacity over time will also allow DOT&PF to track long-term performance and trends.

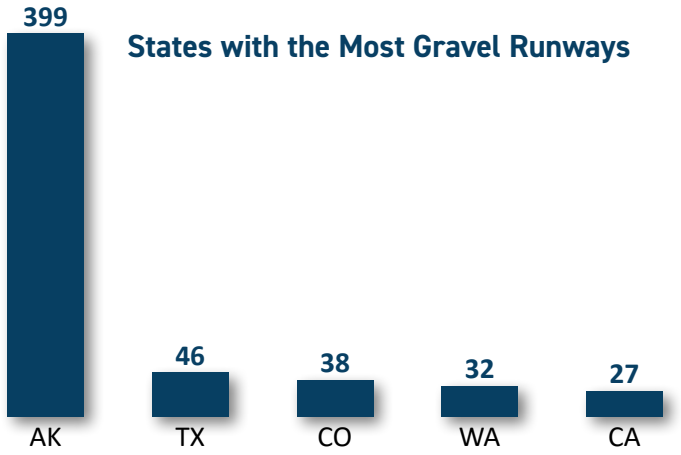


Figure 1. Alaska has twice as many gravel runways as the next four states combined.

Comprehensive Gravel Rating Study

Dynamic cone penetration (DCP) testing is a simple way to characterize the top course of gravel surfaces, and the results can be correlated with California Bearing Ratio (CBR) and Standard Penetration Test (SPT) values. The relative simplicity of DCP testing means DOT&PF staff can be trained to conduct the tests, allowing for more regular, cost-effective data collection than if a specialized consultant was required for each test. Recording and reporting test results will assist air carriers to assess which aircraft can land at a given airport and allow DOT&PF staff to prioritize maintenance and capital projects.

This study could expand to assess other aspects of gravel runways, such as the impact of side slopes and design (e.g., standard versus barn shape) or gravel stabilization techniques and products on the long-term resiliency of the runway. Understanding the long-term consequences of different design choices and stabilization choices will help DOT&PF make planning and design decisions that maximize longevity and cost-effectiveness.

Gravel Condition Index

A standardized Gravel Condition Index (GCI) would inform the allocation of maintenance and capital improvement resources among gravel runways in Alaska, improving their safety and reliability. This component of the special study would focus on the following:

- The impact of climatic and seasonal variations on the conditions of gravel runways.
- The impact of various maintenance techniques and schedules on the deterioration and condition of gravel runways.
- The use of geotechnical field and laboratory analysis to monitor the condition of a variety of gravel runways.
- The collection of data from previous CIMP inspections, as well as the research of the preceding points, and using it to create a method of predicting the deterioration of gravel runways, determining best practices with respect to maintenance and operation, and establishing a schedule for rehabilitation and reconstruction.

Automatic Scoring in the CIMP Application

The Phase III scoring rubric (and any future changes to the rubric) will be incorporated into the AASP website automatically when an inspection uploads. The score then appears in the PCI/Surface Condition subtab of Facilities and a new Airport Asset report, like PCI. Because this functionality can operate entirely in the background without requiring additional user input, it offers an efficient path toward building a consistent statewide database of gravel surface conditions—significantly improving systemwide understanding of gravel runway performance without increasing inspection workload.

Takotna Airport

Performance Measure Gaps

- Identify new performance measures, remove unnecessary measures, and develop a process for regularly assessing trends.

New data became available since the performance measures module was updated early in Phase III, creating an opportunity in Phase IV to reassess how well current data sources support meaningful systemwide metrics. This includes evaluating whether additional measures, such as clear approaches, weather reporting, and Instrument Flight Rules capability, can be supported with available data, and identifying any existing measures that no longer provide value. This phase recommends revisiting seaplane performance measures to determine how they integrate with the current system rather than remaining standalone.

Phase IV will also expand this effort to better reflect operational and compliance-driven metrics across the system. Incorporating trends from the Part 139 certification program and airport security requirements, such as tracking Part 139 LOCs, corrective action responses, and Letters of Investigation (LOIs), will provide a more complete picture of system performance and recurring issues. Establishing a consistent way to capture and analyze this information across a large airport system will help identify patterns, improve response times, and inform future planning and development priorities for a system of this scale.

Additionally, the Phase II recommendation to establish a "process or policy to identify trends" did not move forward in Phase III. Phase IV can close that gap by leveraging the database's reporting tools to routinely assess system status, turning existing data into actionable insight rather than static records. These trends would also help identify whether airports should remain within the NPIAS.

Systemwide Approach Assessment

- Conduct a systemwide assessment of airport approaches and possible obstruction mitigation.

Conduct a systemwide assessment of airport approaches and potential obstruction mitigation. A system planning lens is critical because approach limitations and airspace obstructions are not isolated issues—these constraints influence access, reliability, and safety across a network of airports that function interdependently, particularly in Alaska's hub-and-spoke system. Evaluating these conditions collectively allows DOT&PF to identify recurring constraints, prioritize investments based on system impact rather than individual airport needs, and better align planning decisions with actual operational use, including medevac, cargo, and seasonal demand.

Once planned site mitigation is complete, Phase IV can expand this effort to identify remaining gaps in approach capability and determine where additional mitigation or procedural improvements would provide the greatest systemwide benefit. This work can build on parallel efforts underway outside the AASP, including the Don Young Alaska Aviation Safety Initiative, ensuring consistency with ongoing obstruction analyses and leveraging existing data rather than duplicating it. Integrating these efforts will strengthen coordination, improve decision-making, and support a more strategic, data-driven approach to managing airspace and access across the system.

Kotlik Airport

Capital Improvement and Maintenance Program

Phase III completely overhauled the CIMP process. Each question in each inspection checklist was reviewed and refined to make the inspection process more straightforward and the results more useful and consistent. The iPad application was updated to reflect the new checklists and questions, be more user friendly, and include in-application guidance. The connection between the application and the website was improved to ensure data and photos are correctly added to the database during the syncing process.

Phase IV will consider how to improve the photo management system within the application.

Improved Application Photo Management

→ Adjust user controls and application functions to address photo management challenges.

Photo handling within the application is identified as one of the most common challenges faced by inspectors. A focus on stabilizing the universal photo gallery, adding batch editing capabilities, improving metadata capture (e.g., location, checklist linkages, timestamps), refining rules for required photos, and implementing more robust error handling to prevent lost or corrupted images in Phase IV will bolster the updates completed in Phase III. These improvements will increase the reliability of visual documentation, strengthen the evidentiary basis for project scoping, and reduce the administrative burden during post-field review.

Expanding to iPhone Application (NOT Recommended)

→ Do not develop a CIMP iPhone application.

The Phase III team received multiple requests for an iPhone CIMP application. The team advises against attempting to develop an iPhone application for several reasons:

- **Screen Real Estate**: iPads have significantly larger displays (typically 10–13 inches) compared to phones (5–7 inches). The CIMP application designed for the iPad leverages this space with multipane layouts, sidebars, and complex navigation structures that simply won't fit or function well on a phone screen. Forcing a cramped layout onto a smaller display degrades usability and could make the CIMP application feel broken.
- **Input Method Expectations**: iPad users often expect ease of input. Converting to a phone could impact core functionality, reduce button size, and frustrate the user with imprecise controls.
- **Features**: The CIMP iPad application includes more comprehensive features because users expect tablet applications to offer experiences closer to desktop experiences. Compressing these features into a phone application can lead to slower performance on less powerful hardware and a confusing user experience where advanced features become inaccessible.
- **iPhone Application Perception**: A CIMP iPhone application requires maintaining separate codebases and building a purpose-built phone version rather than using a compromised "scaled down" experience.
- **Cost**: Creating an iPhone application would cost a significant amount of time and money. Given the challenges an iPhone application would create, the cost would not justify the benefit.

Converting the CIMP iPad application to Android would also introduce substantial technical challenges beyond just screen size differences. iOS and Android have fundamentally different development frameworks, user interfaces, and API ecosystems. Building a true Android CIMP version requires maintaining separate codebases, testing across device configurations, and navigating different application store requirements. This doubles development costs and the maintenance burden. Therefore, an Android phone application is also not recommended.

Database Innovation

Additional Sitewide Search Functionality

- Improve the internal search function and expand to the public-facing website.

The internal AASP website includes a help feature known as “Ask Roger” that provides users with answers and links to useful materials based on keyword searches. Much of the information already built into the Ask Roger feature would also be useful for users of the public-facing website, such as definitions of common terms. Phase IV will evaluate adapting Ask Roger for the public-facing website to improve public access to airport information. Additionally, the Ask Roger feature could expand to help users locate information, reports, help videos, and other resources throughout the website.

GIS Modules

- Continue developing the DOT&PF Airport GIS System.

Phase IV will continue to develop modules that allow public and internal website users to access the Airport GIS System, a centralized system under development by DOT&PF. AASP’s integration with this system allows users to access, visualize, and analyze geospatial datasets to support infrastructure planning and airport design workflows.

Property boundaries, available lease lots, and obstruction data will be prioritized for public-facing GIS, because these were the most requested in the End of Phase III Survey.

Airport Layout Plan (ALP) linework and property boundaries will be prioritized for the internal GIS module, because these were the most requested in the End of Phase III Survey.

Airport Boundary Data Conversion

- Convert critical airport linework and data points to shapefiles and share with the FAA, particularly for the Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) system.

Phase IV will convert critical linework and data points, such as public airport boundaries, and consider converting safety areas, object-free areas, obstacle-free zones, runway visual zone boundaries, runway threshold points, and airport reference points from CAD to shapefiles for use in GIS. All datasets should be schema-standardized (e.g., consistent field names, domains, and projections) to support seamless integration into the AASP GIS module and downstream systems. Where applicable, data will align with FAA requirements for the Airport GIS (AGIS) Program and the OE/AAA system.

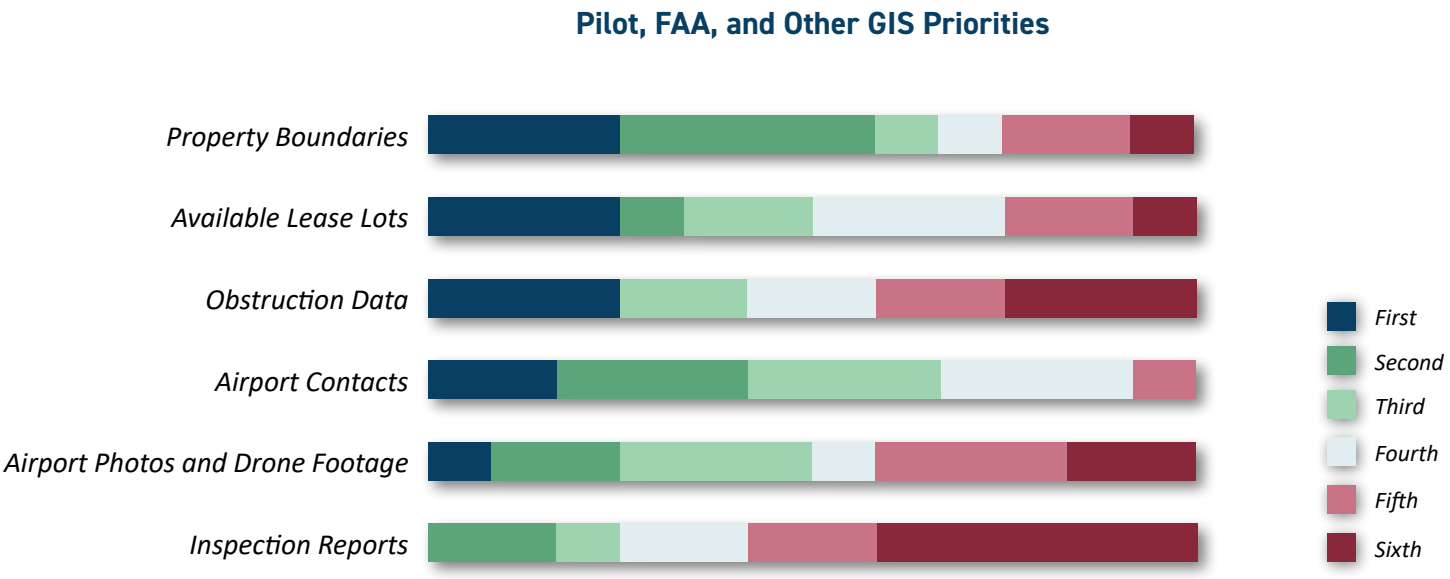


Figure 2. End of Phase III Survey responses indicated property boundary shapefiles were a high priority.

Mobile-Friendly Public Website

→ Consider improving the mobile user experience for the Facilities tab of the public-facing website.

Several requests were made for an AASP mobile application or a more mobile-friendly website format to help users access AASP information. The AASP team recommends evaluating the feasibility of creating a mobile-friendly version of the Facilities tab, with consideration for the following:

- **Accessibility**: The AASP must comply with accessibility standards. Mobile conversion introduces new accessibility challenges—screen reader compatibility, touch target sizing, keyboard navigation, and color contrast on smaller screens.
- **Access**: The AASP site must work reliably across a wide spectrum of user abilities.
- **User Experience**: A poorly executed mobile conversion that breaks, slows load times, or creates navigation confusion could prevent users from accessing information. Additionally, a mobile-friendly site requires ongoing updates for new devices, operating system versions, and security patches. Underestimating ongoing costs can lead to technical debt and degraded service over time.
- **Key Technology Challenges**: Adapting the AASP from a fixed desktop experience to mobile requires rethinking layout, navigation, and interaction. Content must scale to smaller screens, replace hover-based actions with touch-friendly design, and streamline workflows so users can navigate easily without losing functionality. At the same time, performance and compatibility remain major challenges, because the site must load efficiently on slower networks and function reliably across a wide range of devices and platforms.

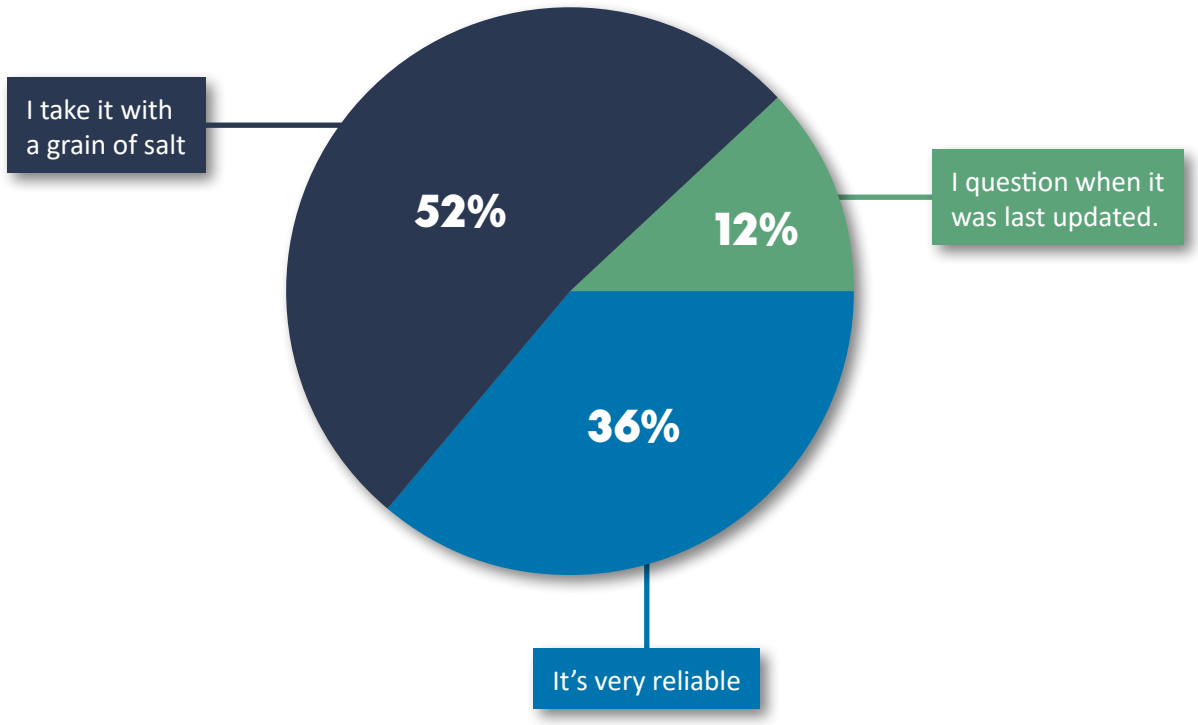


Figure 3. Only 36% of DOT&PF staff and consultants are confident in the Facilities tab data.

Training and Awareness

➔ Conduct internal and external training and outreach to share the AASP database.

Many responses to the End of Phase III Survey indicate that current and potential users of the AASP website (including DOT&PF staff) are unaware of the many datasets and tools available or are unsure how to use the website and database to support their work. Targeted outreach and training would improve collaboration and consistency within DOT&PF and support public and interagency coordination. These efforts will include an explanation of how data is maintained and verified to increase user confidence in the database. Training for DOT&PF staff may include an overview of what FAA work codes are and how they are used within the AASP database.

- **Internal Outreach**: Develop "aviation minute" tips and distribute them to department heads to include in meetings like "safety minute" items.
- **Internal Training**: Offer short one-on-one and small group meetings to walk staff through the website and answer questions about how to use features for specific tasks.
- **External Outreach**: Create "Did You Know?" style social media posts to highlight aspects of the AASP and database; continue to distribute AASP materials to other DOT&PF groups for non-aviation conferences and events.
- **External Training**: Offer small group meetings with industry groups (e.g., Alaska Airmen's Association, Aircraft Owners and Pilots Association), Tribes, local sponsor airports, and other interested parties to walk them through the website and answer questions.

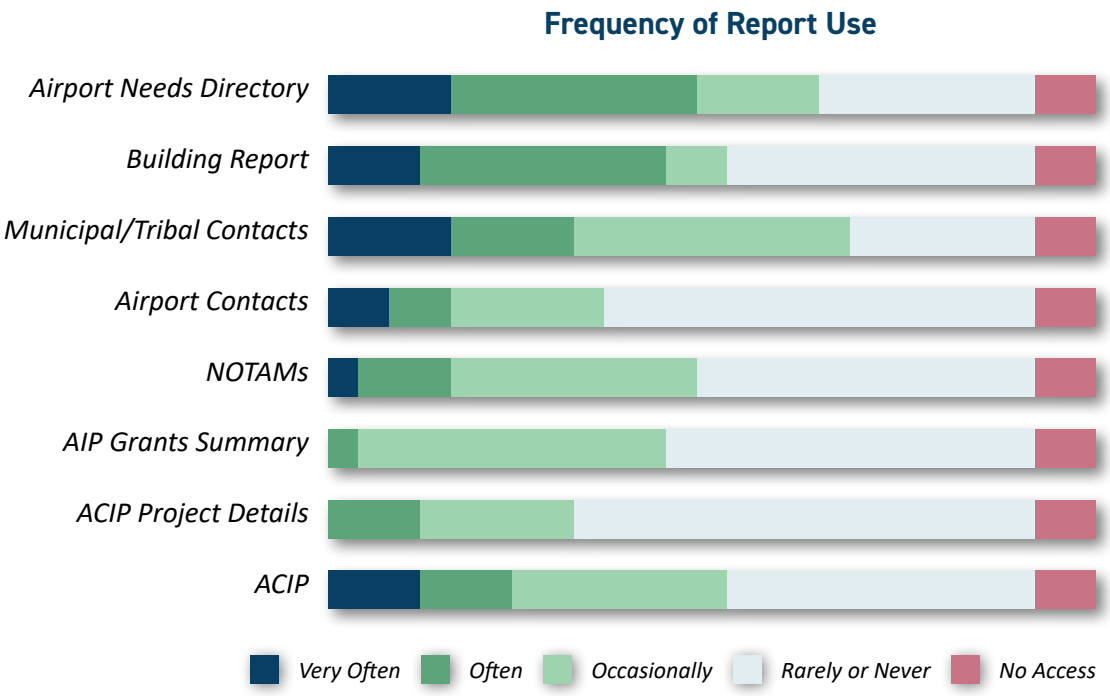


Figure 4. Some survey respondents said they did not have access to reports, even though their permission settings provide them access.

Query Tool

➔ Make the query tool more user friendly.

The query tool, though very useful, is not intuitive or user-friendly. Phase IV will consider a comprehensive assessment of the tool to improve usability and identify gaps in available reports and data pulls.

Airport Layout Plan Tracking

➔ Develop a tool to more visibly track ALPs.

An ALP subtab on the AASP website will allow users to easily view the history of ALP updates at each airport, including documentation of why each change occurred. In a system where multiple projects and operational activities occur simultaneously, this centralized record will provide critical context, reducing redundancy, improving coordination, and supporting more informed decision-making.

Implementing this feature will require an initial effort to compile historical ALP data, and Phase IV will need to define a reasonable time frame for inclusion to balance the level of effort with the long-term value. A TAC with representation from the three DOT&PF regions may provide a useful forum to coordinate and align the proposed ALP tracking process with each region's operational approach.

Other Reports and Features

The End of Phase III Survey Results in Appendix A include ideas from website users for new reports and features.

Economic Impact Study

➔ Conduct a comprehensive study of the aviation industry's contribution to Alaska's economy.

Alaska DOT&PF's most recent aviation economic impact study was completed in 2019, based on 2017 data. Updating the analysis in the next phase of the AASP will provide current economic data that reflects today's aviation activity and the critical roles both the International Airport System and the Rural Airport System play in supporting Alaska's communities, cargo movement, and essential services. Phase IV will include a comprehensive economic impact study, including a review of the 2019 study; an assessment of the impacts of COVID-19 on aviation and industry recovery over time; aviation impacts on employment and job creation; cargo, passenger, and tourism trends; and identification of emerging aviation-related opportunities and challenges that may affect Alaska's economy, such as unmanned aerial systems, artificial intelligence, and electric and hybrid aviation. The study will assess both the Rural Airport System and the Alaska International Airport System, recognizing their interdependence and the distinct impact each has on the overall aviation system.

The University of Alaska – Anchorage (UAA) Institute of Social and Economic Research (ISER) may be a valuable partner in this study, because ISER is already conducting aviation-related research and maintains data resources and analytical expertise to strengthen the analysis. The DOT&PF Statewide Freight Plan is also anticipated to begin in 2026 and may result in data and analyses that can be incorporated into the AASP economic impact study.

Bethel Airport

Operational Drivers of Runway Length in Rural Alaska

Runway length for federally funded projects is based on the airport's critical aircraft, but many airports across Alaska have unique needs not captured through typical FAA requirements. In recognition of this, the May 2025 Reauthorization Program Guidance Letter (R-PGL) 25-08 stated that other conditions may be used to determine runway length. Phase IV will include a systemwide analysis of the four condition types noted in the R-PGL. The analysis will include an initial stage to assess the system as a whole and a secondary stage focusing on specific airports. The analysis will also incorporate any changes to AC 150/5325-4B when the update is released.

Stage 1: Systemwide Analysis of Rural Runway Uses

- Conduct a systemwide analysis of the operational drivers that may impact runway length and other airport design choices.

Many Alaska communities rely on large aircraft that do not meet annual operation thresholds for critical aircraft determination. These aircraft are necessary for fuel deliveries, fish hauls, and cargo shipments to and from communities that have limited transportation alternatives. Additionally, many remote communities lack local medical services and depend on medevac flights to access care, making reliable lighting, weather reporting, and runway conditions essential to those operations. Strengthening these capabilities also supports response and recovery efforts following major storm events when airports often serve as the primary access point for emergency services and community resupply.

R-PGL 25-08 identified four conditions that may be used to determine runway length instead of the current or future critical aircraft:

- Arrival runway length and width needed by aircraft to deliver necessary cargo, including heating fuel and gasoline, to the community served by the airport.
- Takeoff runway length and width needed by aircraft to ship necessary cargo, such as fish hauls to market.
- Takeoff or landing length needed for aeromedical aircraft for patient pickup and transport.
- Takeoff or landing length needed for firefighting aircraft from Alaska Department of Natural Resources bases with stored retardant.

Wales Airport

Phase IV will consider a comprehensive analysis of the system and document the results in a technical memorandum and corresponding GIS database, to determine:

1. What data is required to establish runway length needs (e.g., freight data, medevac fleet mixes, fire base locations) and how to obtain this data.
2. Which airports cannot feasibly be extended because of geographical or other constraints (and document these conditions).
3. Which airports cannot or should not use critical aircraft determination to establish runway length (e.g., airports where the largest operationally necessary aircraft does not meet the FAA 500 annual operations threshold).
4. For each of those airports, which of the four conditions identified in R-PGL 25-08 may be applicable.

This task would benefit from a TAC comprising, at a minimum, the FAA, air carriers, medevac operators, municipal and Tribal representatives, and DOT&PF divisions.

Additional relevant factors may need to be identified during this analysis, documented, and discussed with the TAC. For example, communities with prolonged periods of darkness in the winter may require longer runways to support safe approaches, especially for medevac operations, and coastal communities are at high risk of requiring emergency evacuations because of storms, which require larger aircraft. Exploring the following may be beneficial in Phase IV: whether communities that receive frequent mail and freight deliveries with small aircraft would be better served by less frequent deliveries by larger aircraft, how wind coverage impacts need, and how the presence or absence of a community clinic impacts the support of medevac operations.

Stage 2: Runway Extension Identification and Cost Estimation

- Identify NPIAS airports that may benefit from extension. Where applicable, determine recommended runway length and develop planning-level cost estimates.

Once the analysis is complete, Phase IV will identify which NPIAS airports may benefit from an extension based on the R-PGL 25-08 conditions. Identified runways will be based on several factors, such as current length, air carrier or public comments about capacity restrictions, airport manager or DOT&PF staff input, and oversight from the TAC. The team will then determine the appropriate length according to each condition in the PGL. If multiple conditions apply to a single runway and result in differing length requirements, the TAC can determine whether to adopt the longest length (to accommodate all needs) or establish a defensible minimum. A planning-level cost estimate will be developed for each runway extension project according to these analyses. These cost estimates and project justifications will be captured within the Needs List, and all relevant data will be used to refresh facility inventories within the AASP database.

This effort will provide a clear picture of systemwide needs across remote Alaska, including gaps in available funding. A rough order of magnitude cost estimate based on 2020–2025 DOT&PF project bid data determined that gravel runway extensions would cost an estimated $10,000 per linear foot, including all associated work (e.g., extending runway safety areas). Based on this estimate, a very high-level estimate to extend all DOT&PF gravel runways to 4,000 feet (the minimum requested by air carriers in a Phase III survey) would cost $1.8 billion. By determining extension locations, developing cost estimates, and capturing them in the Needs List, DOT&PF will be able to incorporate these needs into existing project development and prioritization processes. The recommendations from this analysis will not replace standard design processes, but will supplement design efforts and eligibility discussions with the FAA.

Close the Loop Assessment and Integration

Phase III saw the development of the Close the Loop process, which defined the whole lifecycle of a need. This process was fully implemented at the end of the phase, so comprehensive review, testing, and broader integration into system plan workflows is incomplete.

Process and Project Workflow Review

- Assess the "Close the Loop" process and align the need lifecycle with project workflows.

Phase III introduced significant changes to needs input, tracking, and closeout; reviewing and reporting on the full lifecycle of a need, after at least one year of use, provides insight into user experience, gaps, issues, and opportunities. Because needs and projects are tightly integrated within the AASP database, reviewing the Projects tab and associated processes ensures consistency with updated need processes and terminology (e.g., Need Status names) and supports effective integration of FAA work codes into project development. This task will also add database functionality, such as increased flexibility to edit needs within a project and record edits over time.

Process Improvements

Adjustments to internal processes during Phase IV may improve efficiency, reduce frustration, and result in more comprehensive, cohesive work products.

Progress Documentation

- Create annual work summaries to document AASP developments.

Phase IV of the AASP will consider the development of annual work summaries. These summaries will outline accomplishments and their support of aviation planning; note task changes, challenges, or lessons learned; and highlight other notable accomplishments. The summaries will capture a "point in time" view of the AASP (e.g., the Airport Needs Directory as a PDF and Excel file, screenshots of the website) to support better documentation of efforts. This will also support development of the final report, help maintain a clear record of changes and developments, and minimize disruptions and loss of institutional knowledge in the event of staff changes.

Draft Recommendations

- Develop draft recommendations as tasks are completed.

The development of Phase III recommendations occurred predominantly at the end of the phase, years after several tasks had been completed. To reduce dependence on the team's collective memory and mitigate challenges resulting from staff turnover, the team should draft recommendations for future phases during and immediately following each task, rather than waiting until the end of the phase.

IV. Lessons Learned

Phase III included many successes and learning opportunities. A key takeaway from Phase III is the need for consultation with stakeholders and subject matter experts.

Tasks with strong TAC or work group involvement (e.g., the CIMP updates) were generally more effective in clearly identifying requirements and refining work products. Tasks that did not include regular engagement with the external advisory body (e.g., the Aviation in Alaska video series) struggled more to develop consensus around priorities and overall direction. Regular input from subject matter experts who are not involved in the minutiae of a task can provide perspective and guidance that keeps work moving forward and results in higher quality deliverables.

The Public Airport Comment Map was developed to address feedback from the public that a tool was needed to facilitate the easy submission of airport-specific comments to DOT&PF. Despite being a requested tool, the comment map has seen little use. Likely users (such as pilots) were not consulted in the development of the tool, and post-rollout feedback indicated that some people would have preferred a phone-based tool rather than a desktop-based one.

Thoughtful timing, including consideration for reviews and revisions, is also key to successful task implementation. For example, updating the database often requires multiple iterations of testing to ensure all new features are working. When the team held predeployment meetings and implemented changes in the test environment before going live, fewer challenges and frustrations arose than when changes were posted directly to the live environment. The Aviation in Alaska video task also experienced timing challenges; the team collected footage before all scripts were finalized, leading to unused footage and gaps in needed material. If future phases include video production, the task should begin with the development of a detailed production timeline and clear triggers for beginning each component of the task.

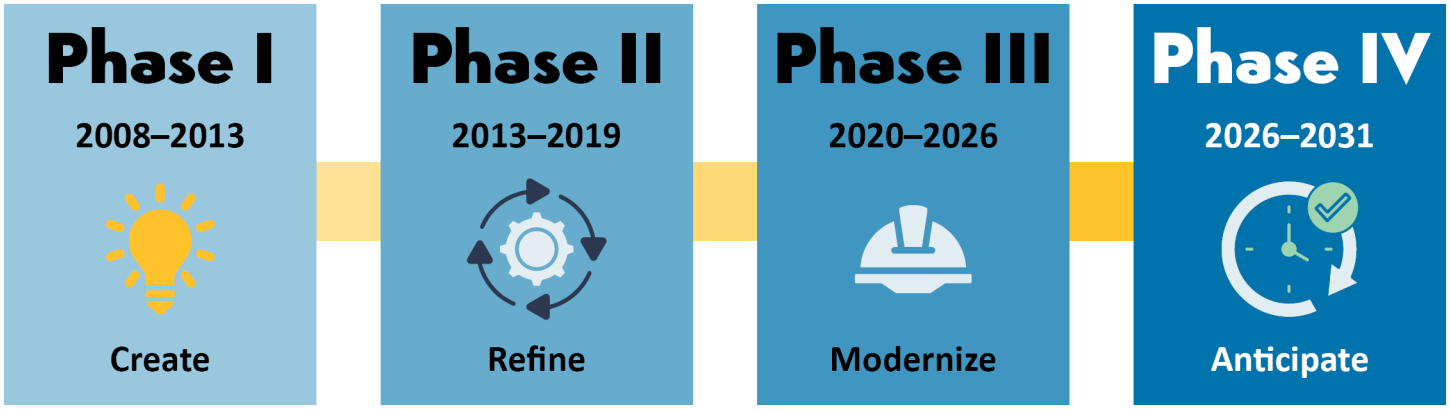
Phase III created many templates to streamline formatting and ensure cohesive branding. The upfront effort to develop templates was worthwhile to improve efficiency and consistency when developing public materials.

The inventory verification effort and revisions to data collection standards undertaken during Phase III improved the accuracy and consistency of systemwide data. These improvements help with reporting and data sharing; for example, updates to data formatting allowed Phase III to streamline the process for completing Capital Improvement Program Datasheets by aligning data categories and labels.

Old Harbor Airport

V. Next Steps

Phase IV of the AASP will build on the work of the previous three phases, beginning with a Prior Phase Evaluation to comprehensively understand the current state of the system and planning efforts to date. As with previous phases, this evaluation will be used in conjunction with the recommendations herein to develop a work plan for Phase IV.



The AASP will continue to be led by DOT&PF Statewide Aviation with support from a consultant and guidance from the Aviation Advisory Board. Local sponsor airports, community members, aviation industry organizations, and other key stakeholders will be consulted as appropriate to ensure the plan is benefiting all users to the greatest extent possible.


Buckland Airport

VI. Conclusion

Phase III accomplished a great deal of work with the help of many individuals and organizations. Thank you to everyone who supported the AASP in the last 6 years, whether you filled out a survey or dedicated many hours to participating on a TAC.

Phase IV will continue to build on the work that began in 2008 with the first iteration of the AASP, carrying out the system's mission to plan and provide for the safe and efficient movement of people and goods and the delivery of services, through the development, maintenance, operation, and management of Alaska's airport system.

Murphy's Pullout

Alaska Aviation System Plan

Prepared for:

With a grant from:

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Prepared for:
State of Alaska
Department of Transportation and Public Facilities
Division of Statewide Aviation
4111 Aviation Avenue
Anchorage, Alaska 99502

For more information contact:
statewideaviation@alaska.gov
or visit the AASP website at
www.alaskaasp.com

Prepared by:
RESPEC Company, LLC
2700 Gambell St., Suite 500
Anchorage, Alaska 99503

In association with:
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