FAA ALASKA AVIATION SAFETY INITIATIVE (FAASI) FY21 FINAL REPORT

Aviation in Alaska is a way of life and an absolute necessity for much of the state. The FAA has teamed with the flying community to develop a document to improve aviation safety in Alaska. A plan for managing current, planned and new approaches is discussed.

September 30, 2021

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Executive Summary

The Federal Aviation Administration Alaska Aviation Safety Initiative (FAASI) has its origins in the September 2019 National Transportation Safety Board (NTSB) Part 135 Roundtable discussion held at the University of Alaska Anchorage (UAA). During that discussion, the participants focused on the relatively high accident rate in the Federal Aviation Regulation (FAR) Part 135 aviation community. Subsequently, the NTSB recommended the FAA should move towards a less "stove-piped" and more interdisciplinary approach to safety in Alaska to foster coordination between the various FAA Lines of Business (LOBs). In addition, the NTSB recommended the FAA consider input from external parties in developing its safety strategy in Alaska.

Thereafter the Administrator directed the Alaskan Region Regional Administrator (RA) to lead a panel of experts drawn across FAA LOBs to focus on safety issues specific to Alaska. The RA and this panel, the FAASI team, were instructed to analyze how the FAA is deploying resources, the effectiveness of those resources, and how the FAA can improve delivery of services and prioritize its available resources. To fully execute on the additional directive and to consider external Stakeholders' concerns and knowledge, the FAASI team produced an Interim Report including an analysis of the multiple safety challenges and the current and planned programs to address those challenges. The agency then used the Interim Report as the foundation for discussions with external Stakeholders.

The FAASI team presented the Interim Report to external Stakeholders through a webinar held May 6, 2021 and in advance of the webinar via web link. Approximately 100 individual and organizational Stakeholders participated in the webinar.

The FAASI team created a calendar for 18 Stakeholder sessions to offer individuals and organizations an opportunity to provide feedback in individualized settings and to ensure the team garnered the most robust and diverse portfolio of views and inputs The respective LOBs provided subject matter experts to attend these sessions to accurately understand, capture and document the feedback. After receipt of requests for participation, the FAASI team hosted 12 individualized virtual sessions with airmen, industry, airport sponsors, aviation interest organizations, and also held some sessions with multiple external Stakeholders who shared related interests.

The FAASI team then integrated the information gathered through the Stakeholder events to develop both immediate refinements of current programs and strategic conclusions and recommendations for future planning.

Introduction

Alaska's population density is the lowest in the United States, with 82 percent of the communities in Alaska accessible only by air. Alaska spans nearly 600,000 square miles, has 14 mountain ranges, and is more than twice the size of Texas. The mountainous terrain and high latitude weather patterns create significant logistical environmental challenges for safe air travel. With most of the communities accessible only by air, annual enplanements in Alaska are 7.1 times the state population compared to 2.8 times the population in the Contiguous United States (CONUS). This results in a dependence on aviation which significantly exceeds the rest of the United States.

As of December 2020, Alaska has 396 public use airports (284 land based, 4 heliports, and 108 seaplane bases). The nature of public airports varies considerably, from sophisticated, contemporary airports near major population centers, to small village airports with gravel operational areas and few to no weather stations or instrument approaches. Even urban airports have their own operational challenges because of terrain and the environment, some with no practical ability to use radar and others burdened by extreme weather conditions during the Arctic winter seasons.

Alaskan aviation stakeholders repeatedly conveyed that the mountainous terrain and high latitude weather in Alaska underscore the need for reliable weather reporting/forecasts and improved route structure. Additionally, they underscored the importance of the associated communications infrastructure which supports both Instrument Flight Rules (IFR) in low altitude airspace and Visual Flight Rules (VFR) operations.

The discussions with Stakeholders crossed a wide-range of issues, some of which were not identified in the Interim Report published in May 2021. To ensure transparency, *all* Stakeholder input was catalogued and documented in Appendix 3 of this report. Stakeholder input was categorized by subject area and, to the extent possible, expressed verbatim to provide both transparency, future reference, and relative emphasis as reflected by repetition amongst Stakeholders. The FAASI team then further categorized and discussed the most prevalent issues in the body of the report to include the following subject matter areas:

    a. Environment
    b. Fleet
    c. Infrastructure: Communications, Navigation, Surveillance (CNS)
    d. Operations Safety Management

After the Stakeholder engagement sessions, three LOBs with operational safety management, infrastructure deployment, and support responsibilities (Office of Aviation Safety (AVS), Air Traffic Organization (ATO), and Office of Airports (ARP)) compiled individual summaries of their programs in response to Stakeholder comments. The summaries are found in Section 2.0 of this document and identify the most salient issues, planning, and priorities related to the Stakeholder comments.

AVS, ATO, and ARP then conducted a series of discussions to create an integrated series of findings and conclusions regarding the most pressing and prevalent safety issues with associated recommendations for moving forward to address those issues. This Final Report transmits these conclusions and recommendations to the Administrator.

The RA, in consultation with the FAASI team members and leadership in the Office of Policy, Environment and International Affairs (APL), also created a plan for next steps within the FAASI process. After the transmission of the Final Report, the FAASI Team will facilitate continued interface with external Stakeholders and develop a roadmap for execution of the recommendations contained in the Final Report.

1.0 Stakeholder Comments

Following the release of the FAASI Interim Report in May, 2021, the FAASI team conducted 12 separate Stakeholder feedback sessions by video conference which were often supplemented by written input from other Stakeholders. Although not identified by name or company, the Stakeholder input is diverse and informative of challenges, efforts, and investment by Stakeholders. Please see Appendix 3 for a complete list of feedback from Stakeholders. Most segments of the aviation community were represented, including Part 91 pilots and operators, Part 135 operators, along with industry associations, the University of Alaska, and the Alaska Department of Transportation and Public Facilities. Given the focus of the FAASI study, Part 121 carriers did not participate.

1.1 Environment

With only a small fraction of the State served by roads, aviation is considered a primary transportation mode. Since weather plays such a significant role in aviation it was not surprising that much of the Stakeholder feedback focused on weather-related issues. For Alaskan aviators, "environment" usually boils down to two elements: weather and terrain, the latter static and the former ever-changing. The lack of available weather reports was a running theme through most of the interview sessions with generally strong user support for new and existing systems.

Alaska has fewer weather observation systems than the contiguous 48 states (CONUS) and those which do exist are situated at greater distances from each other. This presents a myriad of challenges for both Part 135 and other general aviation operators. As noted by the FAASI team and again by almost all Stakeholders who participated in the process, most rural airports do not have weather observation systems. Without certified weather reporting, or an approved alternative with adequate fidelity, by regulation, Part 135 operators cannot conduct IFR operations into these airports.

The relative sparsity of weather reporting stations also inhibits forecasting models as more locations and a greater quantity of weather reports lead to more robust and reliable forecasts. Across the entire range of VFR operations, increased en route weather reporting and forecasting allows for better pre-flight planning and encourages pilots and operators to make smart "go/no-

go" decisions using safety risk management tools before initiation of flight rather than making such decisions en route by individual pilots.

One program which received extensive positive recognition was the Weather Camera Program. Stakeholders all agreed the cameras and the ease of access to the information have become a vital part of flight planning across the state. One Stakeholder, with a broad history of Part 91, Part 135, and corporate operations across Alaska, noted, "One of the best things FAA has done." Similar comments regarding the Weather Camera Program were repeated across the Stakeholder sessions. While the Weather Camera Program has received widely favorable recognition, there are still many limitations identified by industry. Future improvement requests include adding more sites, expanding information offerings, and increasing access to information by airmen while in flight.

Stakeholders also acknowledge how valuable and necessary the Automated Weather Observing System (AWOS) is to flight planning. Many comments were made requesting more AWOS coverage across the state. For instance, an air carrier serving the Alaska Peninsula stated, "The Perryville airport is one of the most dangerous for our company. They have to fly using Visual Flight Rules (VFR) because of the lack of infrastructure. There is an approach at Perryville, but the operators can't use it due to the lack of weather." AWOS comments also included outage concerns and inquiries regarding telecommunications upgrades to existing systems. The air carrier community was very uniform in their on-going concern about how the FAA identifies and manages outages. One carrier emphasized, "Telecommunication issues aren't reported by the FAA as a broken AWOS. From an operator standpoint, if an AWOS has a partial outage or a telco issue then the operators can't fly because they don't have the information needed." Real world examples such as this assist in building a business case for future projects. As reported in other areas of this document, an initiative is underway to increase the number of AWOS units across the state.

In addition to AWOS services, Stakeholders were very interested in the Visual Weather Observation System (VWOS) currently being developed and tested at four key sites. More information on this system was requested.

Stakeholders indicated a very focused desire to move forward with alternatives to AWOS systems where cost or design make it unlikely the AWOS system would be installed at a given airport. One very active member of the general aviation community underlined his feelings and that of others: "The current Alaska weather systems aren't approved as replacements for Automated Weather Observing System/Automated Surface Observing Systems (AWOS /ASOS). A pilot can't fly if there isn't legal weather data prior to the start of flight. The lack of legal weather data is an issue." Stakeholders are encouraged by the products and systems available but stated that the FAA needs to energize and move forward with approving alternative weather sources in accordance with Section 322 of the FAA Reauthorization Act of 2018 for Part 135 operators and to similarly increase safety for general aviation.

1.2 Fleet

The FAASI Interim Report described a number of factors considered by aircraft owners and operators when selecting aircraft for their fleet. Responses noted some agreement with the Interim Report observations and challenged other statements.

Several responses dispute the assertation of a reluctance of operators to install IFR equipment. Specifically, Part 135 Stakeholders challenged the Interim Report depiction, "The fleet is most often comprised of single and small multi-engine general aviation aircraft. Many of these aircraft are not equipped for IFR flight and are not equipped with aircraft deicing equipment." Part 135 operators and an industry association felt that the FAA did not fully capture the carriers' investments in upgrading avionics in order to expand IFR capabilities. One carrier noted, *"Our company has 14 planes that are IFR only and 7 that are not yet IFR. To date, we have spent $2.5 million to upgrade our fleet for Wide Area Augmentation System (WAAS) approaches."* The FAASI team recognizes this statement is significant and emblematic of many carriers' commitment to an IFR-capable fleet.

Many responders also indicate a willingness to commit their own resources to equip carrier aircraft with ADS-B equipment even though many do not operate in airspace where the equipment is required by rule. As an example, one commenter with both private and state governmental aviation experience captured the general observations of a large number of participants by stating, "If the weather coverage, communications, and ADS-B coverage improved statewide, then CFIT and mid-air collisions would decrease.*"* Notably, the majority of comments supporting ADS-B came from carriers who operate scheduled, commuter operations, the subgroup of Part 135 operations which transports the largest percentage of passengers within Alaska to remote locations.

Nonetheless, several participants mentioned the financial limitations smaller operators may have equipping their aircraft with new capabilities and corresponding safety enhancements. One Stakeholder opined that the demise of government-sponsored avionics programs has had notable negative impacts on parts of the Part 135 industry, "Under Capstone, the Chelton radio equipment was popular. The equipment is costly and most of the smaller operators can't afford it. This is really good equipment for mountain passes and preventing CFIT. It would drive fidelity to a narrower band. It is better than the Garmin package a lot of smaller operators are using."

The discontinued Capstone Program received praise from other Stakeholders, a number of whom requested to see it continued or reinstituted. This program was initially a research and development project with phased FAA-financed equipage of program aircraft with ADS-B based avionics. The FAA communicated to Stakeholders the agency has no plans to reintroduce that program.

1.3 Infrastructure: Communications, Navigation, Surveillance (CNS)

Comments from Stakeholders addressed the same issue identified in the FAASI Interim Report regarding outdated infrastructure when it was stated, "Infrastructure in Alaska is decades behind the rest of the country." As an example of frustration, one individual Stakeholder noted the difference in surveillance capabilities by Air Traffic compared to the Continental United States, "The best way to improve safety in Alaska is to improve infrastructure. Specifically, radar and preventing blackout areas."

As stated in the Interim Report, "Adding ADS-B Ground Based Transmitters (GBT) and associated Remote Communications Air to Ground (RCAG) would enable increased PBN IFR operations in the remote areas of Alaska increasing safety for VFR operations." It was acknowledged, however, this would be "… difficult due to the high cost of installing, maintaining, and sustaining the ground based infrastructure in remote areas." One carrier mirrored the Interim Report conclusion affirming from its perspective that "ADS-B has been installed on their aircraft, but there isn't reliable coverage throughout Alaska."

Stakeholders stated significant support for developing more effective Area Navigation (RNAV) Terminal Transition Routes (T-routes). Because of the limitations/sparsity of ground based navigation in remote areas, Global Positioning System-Wide Area Augmentation System (GPS-WAAS) is viewed as a necessary alternative to allow lower flight altitudes for IFR operations suitable for smaller, less complex aircraft. However, the Stakeholders identified the very same limitation and challenge as the FAA has identified – communication and surveillance gaps where navigation is feasible but other necessary elements for safe operations are not.

At least one Stakeholder voiced support for other forms of CNS capabilities but to also pair it with increased regulatory requirements for all aircraft operators. "Alaska's airspace is mostly Class G. ADS-B and radio equipment are optional at most airports. There are planes that fly without any form of communication, not even a radio. ADS-B needs to be fully implemented in Alaska and a requirement no matter the age of the aircraft. At a minimum, radios should be required." The FAASI team captured this input in the report but advised all participating Stakeholders the study and report process did not include initiation of rule-making.

1.4 Operations Safety Management

The FAA emphasizes safety culture, training, operational planning and management oversight processes as foundational to reducing accident rates in Alaska. Stakeholder responses to the FAASI Interim Report indicate a number of concerns. These include the experience level and training of pilots, the ability to accurately assess weather, less than optimal IFR Flight Procedures, and the need to improve and expand charting information, including VFR mountain routes.

Many of the participants noted a trend of newer, less-experienced pilots in the airspace. Stakeholders noted that unlike pilots in the Part 121 environment, Part 91 and 135 pilots often

have much less experience and corresponding diminished exposure to comprehensive training programs.

Some Stakeholders expressed concern with the intermittent and inconsistent availability of Pilot Reports (PIREPS) and their accuracy. They suggested the FAA make these valuable real-time weather observations more formal. PIREPS, particularly outside of the airport areas, are considered very important in assessing the safety of VFR flight and also detecting adverse, unsafe conditions for any flight whether IFR or VFR. Their accuracy and availability depends on pilot participation, accuracy of reported information, and effective capture and dissemination of the information by the FAA.

Part 135 Stakeholders commended the value of charts and the information provided by FAA process, but questioned the location and altitudes of flight procedure fixes and routes. General Aviation participants stated "R" Routes and mountain pass charting continue to be critical needs. One Stakeholder also asserted the FAA needs to reinstate publications which target certain areas of operation with special airspace or procedures, such as a former publication directed at operations in southeast Alaska.

Some Stakeholders raised concerns about airport design criteria contained in FAA Advisory Circular 150/5300-13A, Change 1, as well as runway length requirements for airport design under Advisory Circular 15-/5325-4B, with particular reference to critical aircraft determination and associated runway length standards.

The participants stated that continued communications between the industry and the FAA are necessary to implement proactive, rather than reactive, fixes after an accident. Respondents considered previous Safety Initiatives such as Aviation Safety Action Program (ASAP) / Medallion Program / Compliance Program as still having value.

2.0 Individual FAA Lines of Business Summaries

2.1 Aviation Safety (AVS) Summary

The FAA Alaskan Region is responsible for providing safety oversight, infrastructure support and air traffic services over an area that is roughly one-fifth the size of the lower 48 states combined. There are many communities in Alaska where commercial aircraft provide the only means of delivery for essential goods and services. Most of the communities are served by air carriers who conduct operations under CFR 14 Part 135 and typically fly small, single engine piston type aircraft in the low altitude environment. Many of the aircraft used for 14 CFR Part 135 operations in Alaska are only equipped for VFR flight. Often the operators serve destinations which are not supported by terminal instrument procedures, such as seaplane bases, off airport destinations, and more rural airports which either lack an established terminal approach or weather reporting to support use of an established terminal approach. However,

though smaller in number of actual aircraft, the companies that perform the majority of the operations and flight hours are those that are equipped to operate IFR.

Often, 14 CFR Part 135 operators that are equipped to fly IFR will opt to fly VFR. There are a variety of barriers which, if eliminated or reduced, would likely encourage these operators to operate in the IFR environment. These barriers include unavailability of weather reporting and forecasts, restrictive en route structure, unavailability of terminal instrument approach procedures, and unclear authorization and eligibility requirements for IFR operations and equipment.

During the FAASI stakeholder engagement process, external stakeholders continually verbalized one primary obstacle to safer operations; the absence of adequate weather reporting infrastructure at most rural Alaska airports and the associated inadequacy of weather forecasts in current forms for so many areas.

External stakeholders were relatively uniform in their desire for a more expansive ability to operate to remote locations IFR, with the attendant need for the FAA to provide not only required weather reporting capability, but more useable low altitude route structures appropriate to smaller aircraft which do not operate at higher altitudes. There was a corresponding request that the FAA add additional instrument approaches and consider modifications where appropriate to allow for lower landing minima at some airports.

Weather Reporting and IFR Capabilities

The lack of certified weather reporting and forecasts is a significant impediment to aviation operations in Alaska. Currently, there are 133 automated weather reporting stations compared to roughly 1,800 for the lower 48 states. Analysis indicates approximately 157 airports are without a Terminal Aerodrome Forecast (TAF). Several airports have instrument approach procedures, but do not have a weather source at the airport as required by regulation for IFR commercial operations, preventing IFR operations to that airport.

Section 322 of the FAA Reauthorization Act of 2018 ("Section 322") was intended to allow certificate holders to fly IFR to destinations with approved approach procedures but which lack AWOS/ASOS facilities or certified weather observers and have enough fuel to fly to an alternate fully-IFR capable airport. The FAA interpretation of this statutory provision is that operators still require adequate, reliable destination weather reporting to conduct instrument approaches at a given airport and that the Section does not create a deviation to current Part 135 rules. While the FAA desires flexibility in approving alternative weather sources, this legislative direction has been extremely difficult to implement, as the rural nature of the communities served precludes reliable, trained weather observers or special weather equipment.

Weather cameras are a potential tool to achieve the requirement of adequate weather observations. They are used extensively to assist both IFR and VFR go/no-go decisions throughout Alaska due to the absence of a road system and additional data. This infrastructure is critical, but was not initially installed with the goal of satisfying Section 322. The regulatory

structure related to Section 322 would allow the use of weather cameras when destination weather is not available, but this requires vertical and horizontal landmarks appropriate to the approach minimums being used. Many areas in Alaska are flat and have no such landmarks precluding the use of weather cameras alone as a reliable mechanism to gauge ceilings and visibility with acceptable fidelity.

The FAA Weather Camera Program is currently conducting development of its new VWOS. VWOS is an emerging technology which may address shortcomings of the traditional weather observation systems, including sensor redundancy and lower cost. The ATO Summary discusses the program in detail. The final analysis phase of its development is expected to be complete in March 2022.

Route Structure and Management

Published routes are designed and approved using multiple factors, including terrain and obstacle clearance, ATC surveillance capabilities and communication coverage. The topography in Alaska may require the minimum en route altitudes to exceed the performance capability of the smaller aircraft typically used in Alaska and the higher altitudes may also put the operators at more risk of icing conditions. Some existing routes have communication gaps, often Air Traffic Control (ATC) is aware of this issue but it is unknown to the pilots since they are not charted.

There are 112 airports in Alaska which do not have instrument approach procedures; many of these airports are serving communities that receive daily commercial service for basic needs. Flight Standards approves and authorizes special instrument procedures which are developed by the FAA or can be developed by non-FAA service providers. Non-FAA service provider services, however, can be costly.

IFR equipment regulations and associated Operations Specifications are often difficult to understand and from an industry standpoint lack clarity. Gaining greater clarity and direction for operators who wish to maximize their ability to operate IFR using both land and space-based systems will assist in their strategic planning for fleet equipage and encourage the corresponding investment by those operators.

Operational Safety Management

The FAA continues to move forward to transition and expand programs previously provided by the Medallion Foundation. Flight Standards continues a process to expand the ASAP and to create a paradigm that works effectively for small operators so prevalent in the Alaska aviation industry. Flight Standards is committed to effective safety mitigation development through robust communications with carriers/operators and the concurrent sharing of information between certified entities.

Similarly, and for all users, Flight Standards shares the desire expressed by Stakeholders to improve and increase waypoint charting for mountain passes and improve education and

community outreach through on-line methodology and more traditional education methods employed by the FAA Safety Team (FAAST). Flight Standards believes better charting and education all serve the same purpose, to improve the situational awareness and knowledge of pilots as they operate in given area, be it a mountainous area or an airport area with its own topography, operational procedures, or locally-established voluntary procedures.

Some Stakeholders expressed concerns about several regulatory prohibitions, such as instrument flight planning requirements (prohibition on filing to a point in space) and concerns about FAA internal guidance change and use by principal inspectors assigned to oversee carriers/operators. While not devaluing those concerns, they are outside the initial scope of the FAASI directive and/or would involve regulatory change. These concerns are documented in the report and will be communicated to the appropriate policy offices or possibly addressed through follow-on phases of FAASI.

2.2 Air Traffic (ATO) Summary

Following the release of the Interim report, the FAA held numerous Stakeholder feedback sessions to hear the questions and concerns of the Alaska flying community. These sessions were an invaluable way to ensure the FAA understands the needs of the aviation community it serves. During these sessions Stakeholders reported a number of concerns including a need for additional approved weather data sources, expanded use and availability of ADS-B, improvements to the Notice(s) to Airmen (NOTAMs) system, more frequent and complete pilot weather reporting, and a more robust and better maintained National Airspace System (NAS) infrastructure. The following paragraphs summarize the actions the FAA is currently taking to address many of these concerns. They are organized into six categories: Weather Reporting, Navigation, Communication, Surveillance, and Safety Management.

Weather Reporting

The most common concern brought forth during Stakeholder meetings was the lack of available weather reporting data to support both VFR and IFR operations. Without current weather data, pilots cannot make an informed and safe decision whether to "go, or no-go". Additionally, Stakeholders indicated that, "Many rural airports have instrument approaches approved but are unusable because there is no weather reporting at those airports." Approaches without local weather reporting are a greater risk for all operators. The lack of a usable approach inhibits flying under IFR. The approaches are technically usable for aircraft flying under Part 91, but an approach without available weather reporting is a greater risk for all operators. This concern is valid and efforts to rectify this situation remain a very high priority for the FAA. For example, the FAA has engaged in the following initiatives to improve the availability of weather reporting data. An additional important consideration is that surface communications with the weather reporting station are critical since the station cannot be used for preflight planning or for forecasting if its surface communication link is not operating.

Automated Weather Observing Systems

From 2015 through 2017, the FAA implemented technical refresh upgrades at all 89 FAA AWOS sites in Alaska to improve performance and extend the system service life. All Automated Weather Sensor System(s) (AWSS) were replaced by AWOS. The improvements included both new computer hardware and meteorological sensors. The FAA has already begun planning for the next AWOS technical refresh effort which will start in 2025 and extend system service life beyond 2030.

Prior to 2018, airport sponsors were hesitant to purchase new AWOS units utilizing Airport Improvement Program (AIP) funding. This was partly due to the requirement for a cost/benefit analysis and the high maintenance costs the airport operator would incur. These concerns were eliminated by the FAA Reauthorization Act of 2018 which removed the requirement for a benefit/cost analysis in low population density states, including Alaska, and required the FAA to assume operation and ownership of AWOS units that meet FAA specifications.

In collaboration with the Alaska Air Carriers Association (AACA), airport sponsors, and other external Stakeholders, the FAA has identified 35 potential locations for new AWOS installations. The initial installation and commissioning of eight units is currently underway and is scheduled to be complete by September 2022. These AWOS units will be installed at Akiachak, Crooked Creek, Nulato, Tok, Coldfoot, Kotlik, Perryville, and Tununak.

Weather Camera Program

The FAA has also worked to address the high cost and technical challenges of traditional AWOS installations. One such example is the FAA Weather Camera Program. This program's extensive network provides added benefits in aviation access, safety, and efficiency in the NAS. The aim is to improve pilot situational awareness and flight decision-making, resulting in the reduction of weather-related aviation accidents and flight interruptions. The program manages more than 230 camera sites in Alaska, Hawaii, and the CONUS, and it plans to expand the number of systems in the coming years. The weather camera system is a low cost, innovative technical design that produces high value aviation data products which are delivered to pilots and aviation users via its public website: https://weathercams.faa.gov. The program serves a wide variety of users including pilots, dispatchers, helicopter operators, military, emergency response, and the National Weather Service (NWS), which uses the weather camera images and weather data to improve its weather forecasts and graphical weather models. The weather cameras have solar and wind solutions that can provide alternate power sources.

Visual Weather Observation System

The FAA Weather Camera Program is conducting analysis of its new VWOS. The VWOS is an advanced low-cost, advisory weather station that combines 360-degree camera images with

quality weather sensors to provide pilots and users with both visual and textual weather observations. This system provides winds, temperatures, ceiling, visibility, pressure, cloud and other important weather information necessary to support aviation operations in the NAS. The design includes automated, self-validating processes to ensure accuracy and dependability of sensor operations and data outputs. The FAA is seeking to install VWOS at Alaska airports where AWOS/ASOS and Meteorological Terminal Air Reports (METARs) are not available. The system is currently under final test and analysis at four Alaska airports: Palmer, Tatitlek, Healy River, and Eek. The final analysis phase of its development is expected to be complete in March 2022.

This planned expansion of additional weather systems and infrastructure will increase safety, efficiency, and access to numerous locations where certified METARs do not exist. The VWOS has a strong potential to support future advanced aviation technologies such as drone operations. Additionally, the observations collected by the VWOS will be shared with the NWS to significantly benefit Area Forecasts and automated forecast products such as the Alaska Aviation Guidance (AAG) and Local Aviation Model Output Statistics (LAMP).

Runway Visual Range System

The Runway Visual Range (RVR) system provides pilots and air traffic controllers with a measurement of the visibility at key points along a runway. That data is used to decide whether it is safe to take off or land during limited visibility conditions and to continue operations under reduced visibility Category I/ II/III conditions. Fourteen PC-based Runway Visual Range (PC-RVR) systems will replace the obsolete equipment of the New Generation (NG) RVR systems improving precision approach service reliability by 2026. The FAA has a funded program, Alaska RVR Refresh, to replace all Alaska RVR systems with newer PC-based RVRs in 2026.

AWOS Maintenance and Notices to Airmen System

During the Stakeholder meetings, the FAA also heard concerns related to the maintenance of AWOS units, the frequency of outages, long restoral times, and a desire for improvement in the NOTAM system used to disseminate the operational status of the equipment to users. These concerns also include surface communications outages which prevent the use of AWOS for preflight planning and for weather forecasting.

FAA Technical Operations (Tech Ops) is responsible for status monitoring, NOTAM issuances, maintenance, and restoration of all AWOS systems in Alaska. The NWS is similarly responsible for all ASOS systems in Alaska, although Tech Ops supports the modem and telecommunications lines that connect these units to the FAA weather database, making the information available to pilots, air carriers, weather forecasters, and other users of the data via the internet. This connectivity to the FAA weather database is called Service-A. Analysis of the performance of these systems shows some degradation in overall system reliability, especially a trend toward more frequent and longer interruptions of Service-A reporting.

Analysis of the Service-A failures points to several issues all related to aging technology. The data transport used is serial data over traditional dedicated voice grade telephone lines. The modems used to encode/decode this data are obsolete and well beyond service life. The voice grade analog telephone lines used are also very old and obsolete. The communications companies that own them struggle to keep them operational and have little incentive to add resources to support technology which has almost no market. This means there is no investment in new infrastructure or technician training to maintain the existing failing architecture.

The COVID-19 pandemic created the perfect storm of issues for supporting AWOS/ASOS data products. Many of the mandates implemented for employee safety created further challenges to both the FAA and the telecommunications providers. It became very difficult to travel to any remote site and even more difficult to execute joint trips with telecommunications providers that are needed to resolve Service-A issues. Automated weather report outages increased in duration and in numbers as repair efforts were delayed or deferred.

The FAA is aware of, and is working to correct, the obsolescence issues with AWOS/ASOS Service-A and many other services that are regularly transported via serial/analog circuits. The FAA engineering teams are working multiple initiatives to address what is a national concern. There is a team dedicated to developing technology to bridge the gap between the outdated Time-division multiplexing (TDM) communications protocols used by FAA systems to the modern Internet Protocol (IP) technology broadly used by telecommunications service providers. These TDM to IP conversion devices will be designed to provide interim solutions until a broader, system-wide solution is implemented with FAA Enterprise Network Services (FENS) (Replacement for FAA Telecommunications Infrastructure (FTI)). These solutions are still in development and most have a common issue of data security. All of the services mentioned interface with the live NAS network and data security and integrity must be guaranteed.

One solution the Technical Operations Anchorage District is considering to address the Service-A issue in Alaska involves the use of cellular LTE technology for data transport. The Program Management Organization, Network Deployment Services Team is working with a Tech Ops engineering team to explore the option of implementing this LTE technology in Alaska on a trial basis. Not every AWOS/ASOS location in Alaska has a cellular carrier in range, but most sites will have coverage. If this initiative can be implemented as a pilot program, there is great promise for much-improved Service-A performance.

Analysis of AWOS system reliability does indicate a trend of decreasing reliability of individual sensors and overall system performance. As this system ages and nears end-of-life, these changes in reliability are expected as even solid state equipment degrades in time. Spare parts and components are also becoming increasingly difficult to maintain. As will all equipment systems, the FAA continues to manage lifecycle performance through technical refresh programs and individual projects to replace systems, as required.

Another issue discovered during a review of the Stakeholder concerns is a gap in how the FAA reports AWOS/ASOS Service-A status to the users. The FAA provides data from these weather stations to the users via three methods: Service-A (Automated to Internet), Dial-up (user initiated

to a site), and VHF (radio receiver must be in range of the station). National NOTAM policy requires NOTAMs for failed weather sensors, a full failure of the weather station, or a failure of the VHF radio transmission capability. However, NOTAM policy does not permit a NOTAM to advertise a failure of only the Service-A communications or the dial-up service. Users can only determine the operability of Service-A by assumption when the data is not available via the internet.

Navigation

Stakeholders expressed concern related to a perceived lack of a back-up navigation system to address GPS outages, including when Department of Defense GPS Testing exercises are ongoing. The FAA acknowledges and has addressed this concern by intentionally excluding Alaska from current efforts to reduce the overall footprint of the Very High Frequency Omni-directional Range (VOR) network within the CONUS to a Minimum Operating Network (MON), known as the VOR MON program. Additionally, the FAA works very closely with the Department of Defense to assess potential impacts related to GPS testing exercises, disseminate the information within the affected areas, and monitor operations to ensure there are no unacceptable impacts to the Air Traffic Control system. If anomalies are detected that impact air traffic operations, mitigations are immediately taken.

However, the FAA does acknowledge that when navigational aids experience unexpected failures or outages, it sometimes takes longer than desired to return that equipment to service for various reasons. One example is the Galena VOR.

The Galena VOR was damaged beyond repair due to a river ice jam and subsequent flooding in 2013. This catastrophic natural disaster presented a funding challenge which was not budgeted, or resolved through disaster funding. The FAA budgetary process usually requires many years to develop, prioritize, and fund such a large project while accomplishing the other essential projects to sustain the NAS. Rebuilding the VOR site has been an FAA collaborative effort among the various FAA programs, to fund and oversee the numerous components of the project. The challenges included safely clearing the site, establishing communications and electrical power over 4.5 miles through remote and inhospitable terrain, designing and constructing the site to meet the unique challenges of permafrost, and Alaska's limited construction seasons. The estimated total project cost is approximately $5 million and the target project completion/commissioning is September 2022.

Based partially on the lessons learned from the Galena VOR experience and difficulty in developing the proper channels to fund a key re-establishment of a major, very costly navigational aid, the FAA established the DME, VOR, and TACAN (DVT) Program. This program provides funds to sustain these navigational aids and enters into contracts with Industry to provide navigation services.

The FAA has also made it a priority to sustain the VOR infrastructure in Alaska. Three recent examples are the efforts to sustain the VORs at Annette (ANN), Level Island (LVD), and Fort Yukon (FYU). All three of these projects are scheduled to be completed before calendar year

2022. Additionally, major renovations were planned for the Kenai (ENA) VOR in FY21, but a contract award protest resulted in construction delays to FY22.

T-Routes and Instrument Approaches

Stakeholders also commented on the need for continued development of T-routes for GPS/WAAS-equipped aircraft and alternative procedures where communication capabilities are unavailable in some parts of a route. Other comments were related to a perceived need for development of more instrument approaches at rural airports that do not currently have them. The FAA's efforts related to T-route development demonstrate our commitment to increasing and modernizing the NAS route structure in Alaska to better serve system users.

Current NAS Low Frequency/Medium Frequency (LF/MF) airways that utilize ground-based Non-Directional Beacon (NDB) navigational aids are no longer sustainable in Alaska. However, these airways have provided air taxi and general aviation operators the routes needed to support over 80% of the communities throughout Alaska for several decades. The low minimum en route altitudes (MEAs) established on such airways are critical to ensure the safest and most efficient way of delivering personnel and cargo throughout Alaska. With NDBs being decommissioned throughout Alaska and CONUS, a new and safe airway structure is needed to support Alaska aviation. The T-route structure is a long-term solution to this challenge.

Since such routes are not limited by ground-based equipment, T-routes are being developed to suit Alaska's current needs for a safe, low altitude airway structure along the most desirable routing corridors. Currently, 56 such T-routes have been developed. Though flight inspection is not yet completed, the expectation is that these routes will have the same or more advantageous MEAs than the previous structure without the reliance on obsolete equipment. Also, these routes would avoid the high costs and logistical challenges of maintaining a ground-based system. The T-route development process is also collaborative, where system users work closely with the FAA to ensure the designs meet user needs.

The Stakeholders recognize that satellite-based navigation, while powerful and continuing to rapidly evolve across both the safety and efficiency spectra, is not publishing the needed number of instrument approaches at rural airports. Consequently, the FAA is engaging in the following initiatives to increase and/or improve the development of more instrument approaches at rural airports:

1) Published a total of 143 WAAS-based Localizer Performance (LP), and LP with Vertical Guidance (LPV) approaches in Alaska as of December 2020, including point-in-space procedures for seaplanes.

2) Collaborating with stakeholders and the State of Alaska Department of Transportation and Public Facilities to identify and prioritize rural airports that qualify for WAAS LPV/LP approaches.

3) Developing and applying new WAAS RNP 0.3 criteria to increase safety and facilitate more LPV/LP approaches at airports with challenging obstacles.

4) Improving satellite-based navigation and facilitating better service in Alaska by increasing coverage by geosynchronous orbit (GEO) satellites.

5) Transitioning WAAS ground stations from terrestrial to satellite communications for improved reliability.

6) Improving WAAS aircraft antenna placement for lower GEO elevations angles.

7) Increasing the number of GPS and WAAS safety assessments.

8) Planning to publish WAAS LPV/LP approaches to every qualified runway end in the NAS, including Alaska, for fixed-wing and helicopter point-in-space approaches, and special Required Navigation Performance (RNP) approaches.

9) Modifying the design criteria for LPV approaches to allow more runways to qualify.

10) Transitioning WAAS to dual-frequency operation, which should improve instrument approach availability in Alaska.

Stakeholders also commented on the need for continued development of R-route concepts and T-routes for GPS/WAAS-equipped aircraft and alternative procedures where communication capabilities are unavailable in some parts of a route.

The Capstone-era R-routes are outdated, have not been reviewed in years, and are essentially obsolete because only outdated Electronic Flight Instrument System (EFIS) equipment can fly them. Many avid users of the R-routes started their company 15+ years ago using IFR and the Capstone R-routes as key components of their business plan. These R-routes allow them to safely operate IFR in Southeast Alaska at much lower altitudes, keeping their aircraft below icing conditions much of the time. The FAA has initiated outreach to this select group of operators to evaluate any changes to improving utility and, further, to gauge their contemporary use and dependence by those operators.

Stakeholders also questioned how the FAA prioritizes the development of instrument approaches, specifically the approval and authorization of special instrument procedures which are a valuable tool in Alaska. Special instrument procedures can be developed where standard criteria may be difficult or impossible to apply, or a special procedure may be developed for private-use airports. Special procedures are often developed and funded by the FAA, however, they may also be developed by non-FAA service providers as proprietary.

Visual Guidance Navigational Aids

The FAA is improving ground-based navigation in Alaska. For example, the FAA will continue to improve NAVAIDs that give visual guidance to pilots during the approach and landing phases of flight. All NAVAID sustainment/establishment efforts include the installation of new equipment.

Stakeholders have recommended the FAA continue to develop and integrate LED-lighted NAVAIDs into the Alaska infrastructure to increase safety, reliability, and visibility while reducing life cycle and maintenance costs.

Planned Visual Guidance Lighting Systems (VGLS) improvements include the following:

(1)   The FAA is planning projects to replace 23 existing unsupportable Visual Approach Slope Indicators (VASI) systems with LED Precision Approach Path Indicators (PAPI). LED lighting technology has demonstrated brighter and more easily distinguishable visual guidance to pilots during the approach and landing phases of flight over the legacy incandescent lighting systems. This provides an International Civil Aviation Organization (ICAO)-compliant visual NAVAID, which is more distinguishable, more reliable, and has an energy savings of 62% over the incandescent VASI system.

(2)   The FAA is upgrading Medium Intensity Approach Lighting Systems with Runway Alignment Indicator Lights (MALSRs) to include LED technology through the replacement of the existing incandescent lamps. This effort is slated to begin in FY23. From October 2017 to January 2018, the Juneau International Airport (JNU) was one of the first sites to operationally evaluate the LED MALSR lamp technology. The evaluation determined the LEDs MALSR was brighter and easier to see in Instrument Meteorological Conditions (IMC).

(3)   The FAA is also replacing Runway End Identifier Lights (REIL) with the latest modifications will standardize the configuration and address moisture intrusion issues which will reduce maintenance.

Communication

The FAA's Program Management Organization (PMO), Air/Ground Voice Communications Office has three programs addressing Communications in Alaska. The Self-Sustaining Outlet (SSO) Replacement Program, the Next Generation Air/Ground Communications (NEXCOM) Program and the Communication Facility Sustainment (CFS) Program. All three programs address improving safety in Alaska through air/ground voice communications (controller to pilot communications).

1)   SSO Program – This program replaced and established 14 remote facilities with modern facilities operating with solar panels and batteries in areas that have no infrastructure. These facilities provide critical voice communications to pilots in some of the most remote locations. The fourteenth remaining SSO at Finger Mountain, Alaska was completed on July 7, 2021 and is currently in service, completing the technical refresh effort.

2)   NEXCOM Program – This program is replacing all the air/ground voice communication radios in all the RCAGs, Backup Emergency Communications Systems (BUECs), Remote Transmitter Receivers (RTRs) and Remote Communications Outlets

(RCOs) throughout Alaska. This program is providing the latest radio equipment in the NAS to Alaska that is fully supported at a national level with training and logistics.

3) CFS Program – This program is providing new air/ground voice communication frequencies and facilities to Alaska. This program improves safety in Alaska by filling required voice communications gaps in coverage, providing seamless voice coverage in the airspace.

Additionally, the FAA completed the Alaskan Satellite Telecommunications Infrastructure (ASTI) Modernization in September 2019. Forty-one Alaskan NAS Interfacility Communications System (ANICS) sites were modernized to ASTI. ASTI has improved system availability, information system security, and life cycle support. In 2021, the FAA started a project to replace the ASTI antenna and antenna controllers, with an estimated project completion of 2023.

Surveillance

Another area of significant interest expressed by our aviation Stakeholders was a desire for the FAA to expand ADS-B coverage. Also, some users commented that the FAA should put more emphasis on ADS-B and weather in the cockpit.

The FAA plans to expand ADS-B services in the state of Alaska. As part of the FAA's continued planning for the Surveillance and Broadcast Services (SBS) Future Segment in FY20-FY25, the FAA analyzed the potential to expand ADS-B infrastructure to include the remaining five Alaska Service Volumes not covered by the SBS Capstone Statewide Plan which defined ADS-B ground infrastructure deployments and aircraft equipage plans throughout the state.

As a brief background, in August of 2007, the FAA, in concert with Alaska aviation industry Stakeholders, developed and jointly approved the "Surveillance and Broadcast Services Capstone Statewide Plan". This plan identified 14 Service Volumes (SV) along with the aircraft equipage rates necessary to provide a benefit-to-cost ratio with positive net benefits to the FAA and industry. Nine of these SVs were implemented as part of the baseline SBS Program and five were not implemented because they did not attain the necessary aircraft equipage levels for a positive net benefit at that time. In 2017, the Aircraft Owners and Pilots Association (AOPA) requested an expansion of ADS-B radio station coverage, with Alaska being one of the main points of focus. The FAA then began coordinating with the Alaska aviation industry and other Stakeholders on deploying ADS-B services for the five non-implemented SVs listed in the original SBS Capstone Plan in a manner which provided coverage of current major air routes in Alaska. The FAA, working with industry and Alaska Stakeholders, has developed a priority set of locations for ADS-B deployments and is working diligently towards the approval of funding for this effort while simultaneously encouraging the continued increase in aircraft ADS-B equipage in Alaska to leverage the new infrastructure.

Emphasis on the delivery of valuable flight information to the cockpit via Flight Information System Broadcast (FIS-B) is also a high priority and was a driving factor in the FAA's decision

to increase the look-ahead range of all available FIS-B products in the state. This allows appropriately equipped aircraft to access critical data such as regional Next Generation Weather Radar (NEXRAD), METARs, Terminal Area Forecast (TAFs), and PIREPs at a distance of 500 NM (nautical miles), effectively doubling the previous distance of availability.

Safety Management

Stakeholders voiced some concerns that could be categorized as Safety Management issues. These issues are related to the systems FAA has in place to ensure safety is maintained, risks are identified, information is disseminated, and/or mitigations are in place.

One example is the concern that the FAA must address and improve the effectiveness of the NOTAM System. The concerns were related to the following two areas:

(1) NOTAM cancellation - Under the FAA NOTAM Modernization initiative, efforts are underway to transition FAA Order 7930.2, National Policy for NOTAM over to the ICAO Standard. Targeted for full implementation in the fourth quarter FY2024, the new ICAO Order ushers in significant improvements governing the current US NOTAM operations supporting the NAS. This also harmonizes current US NOTAM Policy with the ICAO Standards and Recommended Practices (SARPS). Additionally, a modern and efficient automation platform replaces the current legacy system, USNS (US NOTAM System), to improve the timely processing and global distribution of US NOTAMs.

(2) Verification limitations for conversion of PIREPS to NOTAMS where a Flight Service Station or other suitable FAA facility is not co-located on the airport.

Federal Flight Service Stations (Alaska only)

FAA Flight Service strives to increase safety in all of its programs, with particular interest in Alaska, due to its extreme terrain and weather that disproportionally impacts accident and fatality rates. Flight Service in Alaska is focused on modernizing facility infrastructure that will meet current industry standards. These efforts include modernization of the automation and voice switch capability to improve safety sustainability and accessibility for the aviation community. Along with the Weather Camera Program (already discussed), Flight Service is focusing on the Enhanced Special Reporting Service (eSRS).

Enhanced Special Reporting Service (eSRS)

Over the last several years, the FAA has fine-tuned the eSRS that provides situational awareness and helps to expedite search and rescue (SAR) operations in Alaska. Pilots must establish a master flight plan with Flight Service and set up their satellite/GPS tracking device to participate in the program. The FAA begins search and rescue action upon receipt of a distress message

from one of these satellite/GPS tracking devices. The tracking device augments the normal VFR/IFR flight plan search and rescue process, allows a quicker response, and reduces the total search time by providing a known track or location from the distress message.

An eSRS internal baseline release is anticipated for 2022, which will enhance the service with two-way text communications between Flight Service Specialists and pilots. The enhancement will also enable pilots who have registered with Flight Service through the master flight plan program to communicate via two-way texting enabling flight movement messaging and other communications needs in otherwise underserved voice communication areas outside of the eSRS program.

Bethel Work Group

The Bethel, Alaska, Aviation Work Group was established in 2018 to mitigate and reduce the safety events in the airspace surrounding the Bethel Airport. Safety events and instances of Near Mid-Air Collisions (NMACs) have been significantly reduced by the enhanced use of beacon codes and ADS-B for position determination by controllers and pilots. Events have been reduced as follows:

> 2018 - 66 events, of which 12 were NMACs
>
> 2019 - 90 events, of which 4 were NMACs
>
> 2020 - 40 events, of which 2 were NMACs
>
> 2021 – 28 events with no reported NMACs

In December 2018, the Bethel (BET) Air Traffic Control Tower (ATCT) and the Anchorage Air Route Traffic Control Center (ARTCC) established a Beacon Code Letter of Agreement (LOA) which authorized BET ATCT to use beacon codes to enhance situational awareness in determining aircraft position. In October 2019, the FAA and Stakeholders established the BET Airport Frequent Flyer Program which uses pre-assigned codes for each aircraft of signatory users. These procedures increased safety by providing air traffic controllers and pilots the same information as a basis for determining the position of aircraft. The workgroup continues with the focus transitioning to surface safety of the Airport Operations Area.

The Bethel Aviation Work Group meets quarterly and now includes runway safety topics, elevating the airport users awareness of surface safety related issues and concerns when operating in the movement area.

Runway Safety Action Team

The Runway Safety Action Team (RSAT) convenes to discuss surface movement issues and concerns at a particular airport and formulate a Runway Safety Action Plan (RSAP) to address those concerns. Regional and local RSATs include personnel from the ATCT and airport operator and may include personnel from various FAA LOBs (including Runway Safety) and

interested users of the airport. Composition of special focus teams vary. All attendees at the RSAT meeting are considered to be part of the RSAT. A Regional RSAT is led by Runway Safety and local RSAT is led by the ATCT manager.

Outreach to General Aviation Pilots

FAA Runway Safety provides videos (specifically, **From the Flight Deck** and **Runway Safety Pilot Simulator** videos) to improve pilot awareness for taking off, landing, and operating in the airport movement area.

The **From the Flight Deck** video series provides pilots with actual runway approach and airport taxiway footage captured with cockpit-mounted cameras, combined with diagrams and visual graphics to clearly identify hot spots and other safety-sensitive items.

FAA's **Runway Safety Pilot Simulator** video series is a self-guided resource to assist flight instructors with teaching student pilots surface safety best practices before the students enter the cockpit. It allows student pilots to navigate on airport surfaces while communicating with ATC and following instructions provided. The scenarios are interactive and allow viewers to make decisions based on ATC instructions.

Pilot/Controller Forums are venues that provide two-way communications regarding aviation safety issues. The goal of the meeting is to elevate pilots and controllers awareness of safety issues and concerns on and around airports.

Mountain Pass Working Group

The ATO continues to improve Alaska VFR sectional charts with over 50 mountain passes either added, verified, or locationally corrected, with standardizing names and the addition of Alaskan mountain pass elevations. By verifying charted information and adding elevations to mountain passes, chart users have more complete information when navigating through mountainous terrain.

Alaska Chart Supplement

The ATO is establishing a Stakeholder workgroup to examine the current Alaska Chart Supplement content, currency, and accuracy and make recommendations to improve the publication's Notice and Supplementary information. The workgroup will define the roles of the FAA Western Service Area and the Aeronautical Information Services offices with maintaining and updating content in the chart supplement product. The workgroup's effort will result in identifying and prioritizing Stakeholder recommendations which the FAA will use to modernize the Alaska Chart Supplement. The end result of this collaborative effort will be to define Stakeholder content need and establish processes for Alaska Chart Supplement's continuous review and update.

The above programs provide a summary of ATO initiatives in Alaska for the past and coming years. Appendix 1 also provides a full listing of programs. However, more effort is needed to further reduce the accident rate in Alaska, and outlines of these efforts will be provided in later sections of this report.

2.3 Office of Airports (ARP) Summary

In the FAASI Interim Report, the Office of Airports (ARP) – specifically, the Alaskan Region Airports Division (Airports Region Office) – anticipated Alaska-specific airport Stakeholder focal points to include:

> (1) the extensive financial investments ARP enables via federal funding provided to airport sponsors through the AIP and related supplemental funding as well as specific, timely airport revenue replacement and capital infrastructure improvement funding legislation related to the COVID pandemic;

> (2) the importance of the 14 CFR Part 139 airport certification and safety program;

> (3) new provisions contained in Section 147 of the FAA Reauthorization Act of 2018 related to the transfer of airport sponsor-owned AWOS units to the FAA, and

> (4) collaboration with internal and external Stakeholders to promulgate value-added airport infrastructure improvements and development opportunities.

Indeed, throughout the FAASI Stakeholder collaborative process, these four principles were the collective subjects of a significant amount of discussion.

Equally as important, Stakeholders also raised the following related points:

> (1) VWOS research and development, the status of FAA certification, and airport sponsor acquisition and installation;

> (2) airport sponsor-issued NOTAM specifically concerning airfield condition reporting and associated issuance delays and hindrances;

> (3) FAA airport design and runway length and width criteria at airports in Alaska, specifically shortening runway lengths to meet FAA design standards, and

> (4) an interest in elimination of 14 CFR Part 139.1(c)(3) which directs Part 139 applicability in Alaska to airports during periods of scheduled air carrier service using aircraft configured with 31 or more passenger seats as compared to Part 139's applicability to aircraft configured with 10 or more passenger seats as is the case in the rest of the United States.

<u>Federal funding</u>

In FY21, the Airports Region Office anticipates award of a total of $346M of combined federal funding in Alaska. The funding is provided via the Airport Improvement Program (AIP),

Coronavirus Response and Relief Supplemental Act 2021, and the American Rescue Plan Act of 2021. These funds are awarded directly to airport owners and operators (FAA-recognized "airport sponsors") to effect airport infrastructure improvements and development projects which constitute a number of airports-related recommendations within this Final Report.

14 CFR Part 139

Any change to apply certification standards for scheduled operations conducted in aircraft configured for ten or more passenger seats or supplemental operations conducted in aircraft configured for 31 passenger seats or more would require congressional action to amend 49 USC 44104(b)(3) and thereafter require the FAA to conduct rule-making to amend 14 CFR 139.1 and 14 CFR 121.590. The FAA has not recommended to Congress any modification to the existing regulatory structure.

AWOS and VWOS Deployment

Section 147 of the FAA Reauthorization Act of 2018 establishes the provision for the transfer of eligible air traffic systems or equipment (specifically AWOS units, among other systems) to the FAA. The Airports Region Office administers the Section 147-responsive AWOS procurement and airport sponsor installation initiatives in Alaska by working with Airport sponsors and the FAA Technical Operations (Tech Ops) for integration into the National Airspace System (NAS). Tech Ops is the division of FAA responsible for effecting unit transfers to FAA ownership and maintenance.

The deployment of AIP-funded AWOS units is a multi-phased process. Individual airport sponsors make their own policy and financial determination whether to apply for AIP funding for construction of an AWOS at an individual airport. Thereafter, the Airports Region Office reviews the application and, if funded, the airport sponsor is responsible for oversight of the construction and installation. If a sponsor determines other priorities dictate against application for AWOS-related funds, then the FAA does not simply fund an AWOS unit out of its operational funds. Thus, the deployment is somewhat dependent on airport sponsor prioritizations.

If funded and constructed, the sponsor will then work with Tech Ops for any transfer to the FAA and the corresponding assumption of maintenance and quality assurance for the units.

Regarding Stakeholder interest in VWOS units, as of the date of this Final Report, VWOS unit procurement and installation funding is not eligible under the Airport Improvement Program. Congressional approval is a necessary element for the use of AIP funds. Should such approval be enacted, the Office of Airports would then develop policy guidance for award of AIP funds to sponsors. Because VWOS is in a developmental stage, other LOBs (ATO and AVS) are currently evaluating its fidelity, feasibility and potential for use by air carriers.

Airfield condition NOTAMs

The Airports Region Office has added airport sponsor-issued airfield condition NOTAMs to its focal point discussions with sponsors to not only impress NOTAM importance, but also to identify and offer corrective solutions to reporting delays and hindrances.

Airport design/runway length criteria

The FAASI Stakeholder collaboration process prompted a discussion of airport design criteria contained in FAA Advisory Circular 150/5300-13A, Change 1, as well as runway length requirements for airport design under Advisory Circular 15-/5325-4B with particular reference to critical aircraft determination and associated runway length standards. The Airports Region Office is responsible for communications and oversight of implementation of both advisory circulars by airport sponsors related to airport and airfield design. Collaboration continues to be the focal method for airport design integrating the Airports Region Office, airport sponsors, engineers and the needs of the aviation industry and operators.

The Airports Region Office values its multiple roles in facilitating the improvement of public-use airport infrastructure in the FAA Alaskan Region. The Region Office fully supports the FAASI initiative and is vested in the favorable outcomes of numerous communications, meetings, and collaborations with airport sponsors and other Stakeholders.

3.0 Conclusions and Recommendations to the FAA Administrator

Considering the content of both this Final Report and the previously-issued Interim Report, with particular reference to Stakeholder input and LOB summaries, the FAASI presents the following 11 recommendations to the FAA Administrator:

1. **Weather Reporting Enhancements (AWOS/VWOS)**

One of the primary focal points of FAASI is the requirement for additional and enhanced weather reporting capability via ground-based systems such as AWOS and VWOS.

> **Recommendation 1.1:** Continue FAA focus on new-installation AWOS units at airports for which the airport sponsor requests unit acquisition, installation, and FAA certification with funding under the Airport Improvement Program. Consistent with Section 147 of the FAA Reauthorization Act of 2018, complete each of the initial eight AWOS unit transfers at Alaskan airports (Kotlik, Tok Junction, Coldfoot, Nulato, Perryville, Crooked Creek, Tununak, and Akiachak) to the FAA by October 2022. Optimize the process to transfer AWOS units from airport sponsor ownership to the FAA, enabling seamless completion of the same in a more timely manner.
>
> Stakeholder feedback also expressed concern about the FAA's timely acknowledgment and repair of existing FAA-owned AWOS/ASOS units which experience frequent service

outages, including associated surface communication outages. FAA should conduct a study to examine the root cause of "Service A" outages and associated impacts and identify alternative mitigations which could include infrastructure improvement recommendations, alternate notification procedures, and/or the issuance of NOTAMs advising of outages. FAA should consider any necessary changes to FAA Joint Order 7900.5 Surface Weather Observing and FAA Order 7930.2 Notices to Airmen (NOTAM).

Recommendation 1.2: Continue testing and evaluating VWOS systems at four Alaskan airports (Palmer, Healy River, Tatitlek, and Eek) with the goal of completion by August 2022. FAA has developed standards for air carrier use during testing and validation of the VWOS units and will develop standards for non-sensor visual-based weather information to support gridded weather analysis information currently available from the National Weather Service.

Upon successful completion of the evaluation, the FAA seek funding for VWOS unit acquisition and installation at airports throughout the state of Alaska where AWOS and/or ASOS units do not exist. Aircraft operators intending to utilize VWOS technology to support IFR operations are required to submit a program for acceptance to their FAA Principal Operations Inspector to grant modification of FAA-issued Operations Specifications.

2. Navigation Strategy Development

Collaboration with Stakeholders prompted a significant amount of discussion related to development of an Alaska airspace navigation strategy, associated policy for lower-altitude operations, and plans for GPS resiliency. Specific points of reference centered on equipment requirements when using GPS for navigation and optimizing/enabling lower-altitude direct flight paths.

Recommendation 2.1: The FAA evaluate and clarify aircraft operator authorization and eligibility requirements for commercial aircraft operations under Instrument Flight Rules. Specifically, FAA should update the policy and guidance related to equipment requirements for commercial operators when using GPS for navigation.

Recommendation 2.2: The FAA evaluate a potential policy change permitting communication gaps on routes where communication capability is the determining factor for the minimum enroute altitude. This would allow flexibility for aircraft operators with performance limitations or icing concerns while still maintaining acceptable terrain and obstacle clearance.

Recommendation 2.3: The FAA develop strategies to address GPS backup resiliency in Alaska. These strategies may include plans for retention and long-term support for conventional navigation aids.

Recommendation 2.4: The FAA continue the development of T-routes as a replacement for Low Frequency/Medium Frequency (LF/MF) and other conventional airways by 2025.

3. Aeronautical Charting

The importance of accurate and relevant aeronautical charting, given the extent of topographical and geographical challenges in Alaska, was discussed intently during the FAASI process.

Recommendation 3.1: The FAA continue the Mountain Pass Working Group initiative and partnership with the Aircraft Owners and Pilots Association aimed at verifying existing mountain pass information and adding additional mountain passes to the Alaska VFR sectional charts as coordinated through the Service Center and as information becomes available.

Recommendation 3.2: Aeronautical Charting Meetings (ACM) are held bi-annually to identify issues concerning safety and usefulness of aeronautical charts and flight information products/services. To ensure adequate focus is placed on this initiative, FAA should ensure time is reserved at every future meeting to specifically address Alaska-specific charting needs that may be different than the continental United States.

4. Surveillance

Stakeholder discussions and FAASI internal conversations often revolved around the need for additional air traffic surveillance capability, particularly given the number of recent aircraft incidents, accidents, and near mid-air collisions in Alaska. ADS-B equipage and coverage was a frequent topic.

Recommendation 4.1: The FAA continue education and outreach with Stakeholders related to the requirement for equipage of ADS-B Out within certain airspace in Alaska, with a focus on the safety-enhancing benefits of aircraft position notification/display for users within all airspace. Indeed, a large number of Alaska operators have independently equipped with ADS-B Out and In or were participants in the FAA Capstone upgrade program which replaced first-generation equipment on approximately 400 aircraft with rule-compliant equipment. And, the extensive usage of it demonstrates the positive safety impact not only in airspace for which ADS-B is required, but also where the system is not required.

Recommendation 4.2: The FAA continue its efforts to deploy ADS-B services for the five non-implemented service volumes in a manner that will provide coverage along major air routes in Alaska.

5. Safety Outreach

The FAASI team and Stakeholders both repeatedly recognized the value of safety programs and, importantly, the opportunity to conduct them jointly while realizing the resultant synergistic value.

Recommendation 5.1: The FAA continue the various safety programs already underway and seek to maximize adjacent opportunities for program integration. For example, FAA sponsors and/or participates in numerous programs such as Runway Safety Action Team meetings, the Aviation Safety Action Program, and Alaska-specific working groups including the Bethel Work Group and the AOPA-sponsored Mountain Pass Working Group. There are opportunities for FAA LOBs to conduct safety outreach efforts jointly among each other and via these program initiatives to address an entire realm of operational and environmental safety requirements and best practices. One such opportunity may exist at the Bethel Airport (BET). The FAA should explore combining efforts between AVS, ATO, and ARP utilizing the BET as a pilot program that addresses runway safety, local air traffic and traffic pattern safety, Class D airspace requirements, and accident/incident analysis and discussion utilizing a shared set of safety data. FAA-derived data and subject matter expert presentation material would become even more meaningful and would be more apt to be cohesively delivered in prospective multi-meeting settings.

4.0 Next Steps

Reducing fatal and serious injury accidents and increasing system efficiency remains the focus of FAASI. During FY22, the FAASI team will be expanded to include additional FAA LOBs. Specifically, the Office of Hazardous Materials Safety (ASH) will join the FAASI effort. This expanded team will develop a roadmap for near- and mid-term implementation of FAASI recommendations. The roadmap will focus on initiatives with the greatest benefit to safety and will emphasize achievable, cost-effective implementation.

The FAA will continue Stakeholder engagement concentrated on the needs of the national airspace system and specifically the Alaskan aviation community. The FAA will share the draft roadmap and implementation plans and solicit information from appropriate external Stakeholders. External engagement will remain essential and continuous. This will not change or replace the normal collaboration related to day-to-day agency operations.

Milestones for this effort will include:

1. The FAA shall establish a cross-organization "tiger team" to develop the roadmap based on the recommendations in the FAASI Final Report with a prioritized emphasis

on those recommendations that may be quickly integrated in the national airspace system. Team composition and designation shall occur on or before January 15, 2022.

2. The tiger team shall develop an initial draft of the roadmap by February 15, 2022.
3. The roadmap shall be presented to the external Stakeholders and associated engagement with those Stakeholders will be completed by May 30, 2022.
4. The FAA will commence implementation of roadmap initiatives.
5. The tiger team, supplemented by other FAASI elements of the agency, will incorporate Stakeholder feedback into a FAASI progress report released to the Stakeholders no later than September 30, 2022.

In addition to the broader research and reporting standards outlined above, two specific goals will be incorporated into FAASI efforts in FY22:

1. Support increased testing and potential deployment of VWOS in underserved locations.
2. Commission the eight newly-deployed AWOS in Alaska by September 30, 2022.

Measureable progress will remain an integral part of FAASI both in terms of achieving meaningful improvement to the safety of the NAS in Alaska and public confidence that the FAASI process was intended to achieve meaningful results.

List of Appendices

Appendix 1: **Prioritized List of Initial Efforts**

Appendix 2: **Glossary of Terms**

Appendix 3: **Table of Stakeholder Comments**

Appendix 4: **Links to Reference Documents**

Appendix 1: Prioritized List of Initial Efforts

AIR TRAFFIC ORGANIZATION

ATO Efforts	Description	Category
Weather		
AWOS, SWS, and SAWS Upgrades	Will upgrade weather systems to extend service life.	Ongoing
Weather Camera Expansion – VWOS	The Weather Camera Program is conducting a business case analysis to fund up to 160 new camera facilities at locations throughout the state of Alaska where services are determined to be beneficial to aviation operations. The analysis will be completed in early FY23 and installations will follow. The installed systems will be a combination of WCAMs and VWOS systems depending upon the locations and needs of the intended location, increasing aviation safety and efficiency throughout Alaska.	Ongoing
NEXRAD Pedestal Refurbishment	These projects are efforts to sustain the weather sensing RADAR sites across Alaska. These sites are typically in remote, harsh areas with punishing weather that takes a toll on this equipment. Sustainment efforts on these important systems were completed at all 7 Alaska sites.	Ongoing
PIREPs	FAA Flight Service is collaborating with stakeholders to increase the quality and quantity of PIREPs throughout the NAS, including in Alaska. These efforts will assess an electronic feedback mechanism on the FAA weather camera website and the Leidos web portal and evaluate for effective communication regarding PIREPs. Efforts to improve and modernize the PIREP system include exploring how voice-to-text technology and machine learning might be used to alleviate issues with PIREP submission and retrieval. Options to incentive PIREP use are being discussed.	Ongoing
Alaska RVR Refresh	The FAA has a funded program to replace all Alaska RVR systems with newer PC based RVRs by 2026.	Ongoing
Navigation		
Galena VOR Replacement Project	The Galena VOR was damaged beyond repair due to an ice jam and flooding in 2013. Construction is underway and is estimated to complete by Winter 2021-2022.	Ongoing

ATO Efforts	Description	Category
Sustainment of DME, VOR, and TACAN (DVT) Program	Program is being established to sustain these navigational aids and enter into contracts or partnerships with industry to provide navigation services.	Ongoing
Publish WAAS LPV/LP Approaches to Every Qualified Runway End	Developing and applying new WAAS RNP 0.3 criteria to increase safety and incentivize WAAS equipage.	Ongoing
WAAS Procedures	Collaborating on Certificate of Authorization with specific focus on airspace planning, route structure, and transitioning airspace to and from approved and unimproved landing zones, airports and austere locations.	Ongoing
PAPI Installations	Installation of PAPIs at 19 additional locations is planned by 2026.	Medium
Communications		
Self-Sustaining Outlet Replacement Program	The fourteenth remaining SSO at Finger Mountain, Alaska was replaced in July 2021, completing the technical refresh effort.	Ongoing
Anchorage Fiber Optic Telecommunications System	Anchorage replacement/establishment project has been an ongoing effort for the last five years. The entire FOTS will be established along with the new ATCT project; estimated completion 2029.	Ongoing
Replace all VHF/UHF Radios at RTR & RCO Facilities	Planned radio replacement at all 118 RCOs in Alaska by December 2026.	Medium
Establish RCO/RTR Facilities/ Frequency	The FAA has funded projects to establish/replace RCOs at three locations (Golovin, Chignik, Swentna), the Fairbanks RTR, Lake Clarke SSO. Additionally, the following projects are seed funded and awaiting full project development and funding: Klawock RCAG, McCarthy RCO, Galbraith Lake RCO.	High
Surveillance		
Frequent Flyer Program	Assigns discrete transponder codes to individual general/commercial aviation aircraft at several locations throughout Alaska. Improves situational awareness for pilots and controllers.	Ongoing
ADS-B Radio Station Service Volumes	FAA anticipates an imminent funding decision for new ADS-B service volumes which would supply additional coverage within five areas.	High

ATO Efforts	Description	Category
ASSC	The implementation of Airport Surface Surveillance Capability (ASSC) has increased safety at Anchorage ATCT by providing controllers a real-time picture of traffic on and in the immediate vicinity of the runways and taxiways. Installed in July of 2021, it has added situational awareness over Airport Surface Detection Equipment (ASDE) / Airport Movement Area and Display (AMASS) – aircraft and vehicles are tagged with call signs and conflict detection and alerts are provided aurally and visually to controllers. The ability to display closed portions of taxiways will prevent unwanted aircraft movement on closed or unsafe surfaces during construction. Additionally, these new capabilities will be invaluable during inclement weather and snow removal operations. Finally, ASSC Taxiway Arrival Prediction (ATAP) is slated to be installed in the near future and will provide an even greater level of safety by detecting aircraft aligned with a taxiway. Wrong surface landings are a current ATO focus item as they are often difficult to detect only through manual scan in a timely fashion.	High
Safety Management		
Alaska Chart Supplement	A workgroup has been established to decide ownership of Alaska Chart Supplement data and to analyze currency and accuracy of the information as well as establish processes for its continuous review and update.	Ongoing
Aeronautical Charting Meetings	Aeronautical Charting Meetings (ACM) are held bi-annually to identify issues concerning safety and usefulness of aeronautical charts and flight information products/services.	Ongoing
Mountain Pass Working Group	This group is working on standardizing the names and locations of the Alaskan mountain passes for VFR sectional charts.	Ongoing
Bethel Tower Work Group	The efforts of this work group are ongoing, and aimed at improving pilot and air traffic controller situational awareness.	Ongoing

ATO Efforts	Description	Category
Airport Construction Advisory Council	The Airport Construction Advisory Council (ACAC) is dedicated to ensuring the safety of all stakeholders operating in the NAS during all runway and taxiway construction projects. The ACAC is tasked with developing strategies and risk mitigations, for Air Traffic Managers (ATMs) to employ, that will enhance surface safety and ensure that communication is complete and consistent.	Ongoing
Air Traffic Services Public Outreach Programs	Includes the Alaska Civil Military Aviation Council, Aviation Industry Council, Alaska Aviation Coordination Council, pilot/air traffic controller forums, RSAT meetings, numerous working groups, and collaboration with AOPA and the AACA.	Ongoing
Flight Service Station Pilot Outreach Safety Meetings	Pilot Safety meetings are held at airports collocated with an active Flight Service Station.	Ongoing
FAAST	Disseminates aviation notices and information (such as Temporary Flight Restrictions, etc.) to general aviation pilots in Alaska.	Ongoing
RSAT Meetings	RSAT convenes to discuss surface movement issues and concerns at a particular airport and formulate a Runway Safety Action Plan (RSAP) to address those concerns.	Ongoing
Runway Safety Outreach to GA Pilots	From the Flight Deck Videos and Pilot Simulator. Utilizing online resources and social media, Runway Safety provides videos and interactive pilot simulations to improve pilot awareness for taking off, landing, and operating in the airport movement area.	Ongoing
Review of Alaskan Offshore Airspace	An effort is underway to examine compliance with FAA orders and directives related to offshore airspace including limiting domestic airspace outside of 12 nautical miles from the shore.	Ongoing
Clear Air Force Station Airspace Proposal	The USAF is proposing to establish/modify restricted area airspace over Clear Air Force Station to provide the protective airspace required for a new Long Range Discrimination Radar.	Ongoing
Anchorage Terminal Area Airspace and Procedures Study (ATAAPS)	The goal of the ATAAPS is to consider all aspects of aviation in the Anchorage area and align air traffic flows and associated delegated airspace to produce a more efficient, safe and predictable operation for all users. This effort will produce detailed standard operating procedures and agreements between affected facilities.	

ATO Efforts	Description	Category
Anchorage ATCT Replacement Project	The FAA is in the design phase to replace the ATCT at the Ted Steven International Airport. This replacement will improve air traffic controller visual line of sight at both Ted Stevens and the Lake Hood Seaplane Base.	High
Alaska Flight Service Student Academy	The FAA established the Alaska Flight Service Training Academy (AFSTA) in Kenai, Alaska in 2011 to train the federal workforce unique to Alaska. The FAA recently refurbished and expanded AFSTA and continues to hire and train new Flight Service specialists. The new facilities enhance simulation lab instruction and allow for further expansion of class size and student throughput. In addition, five new instructors were hired to ensure the continued success and exceptional training remain the standard for future Flight Service controllers in the years to come. Technical Training (AJI) is working with AFSTA to create a new, revised training course. The course runs over four months and is the longest initial qualification course in Air Traffic. The revision effort is underway with a completion date expected in 2023. There is a current "local hire" effort underway to recruit Alaskans who are interested in aviation and demonstrate the necessary aptitude for this type of work.	Ongoing
Automation		
eSRS	This enhancement will provide registered pilots with a means to communicate with Flight Service via two-way texting and enable them to activate, close, or amend their flight plans and other communications needs in otherwise underserved voice communication areas outside of the eSRS program. An eSRS internal baseline release is anticipated for 2022.	Ongoing
ASTI Sustainment	An antenna and antenna controller replacement project will commence in 2021 and is scheduled to complete in 2023.	Medium
ERAM	This system, if approved, would be implemented in 2025-2026 and will replace the aging MEARTS and FDPS at Anchorage.	Medium
Advanced Technologies Oceanic Procedures Expansion	Currently have a group working on contingency procedures that will allow Oakland, CA and Anchorage the ability to assume either facility's airspace.	Ongoing

ATO Efforts	Description	Category
Standard Terminal Automation Replacement System Standardization	Planned upgrade of STARS standardized components at five ATCT to the latest hardware baseline.	Ongoing

OFFICE OF AIRPORTS

ARP Efforts	Description	Category
Internal Collaboration	Collaborating with all FAA LOBs to enhance understandings of coordinating processes, procedures, and priorities.	Ongoing
External Collaboration	Collaborating with airport sponsors; airport stakeholders; aviation advocacy organizations; aviation interest groups; other federal, state, and local regulatory entities, and the general public engaging in strategic discussions/meetings regarding airport/airfield strategic development, airport system planning, airport planning and capacity initiatives, and best practices related to airport fiscal planning.	Ongoing
Airport Improvement Program (AIP)	Leading and implementing the regional AIP with a particular focus on funding capital development and infrastructure improvements meeting the unique needs of Alaskan airports, seaplane bases, and heliports.	Ongoing
Airports Capital Improvement Program	Identifying and prioritizing eligible development projects and initiatives within the constraints of available federal funding and project eligibility and justification criterion.	Ongoing
Airports Environmental Management Program	Consistent with the National Environmental Policy Act and other federal environmental laws and regulations, working with airport sponsors and other interested parties to make environmental determinations which serve as a foundation for execution of capital development projects.	Ongoing
Airports Compliance Program	Oversight of airport sponsor adherence with federal AIP grant assurances requiring sponsors to maintain and operate their facilities safely and efficiently and in accordance with specified conditions.	Ongoing
Alaskan Region Airport Safety Program	Oversight of general aviation airport safety, runway safety, and airports certificated under Part 139 regulations	Ongoing
AWOS AIP Grants	Collaboration with airport sponsors to procure AWOS utilizing AIP funding.	Ongoing

AVIATION SAFETY

AVS Efforts	Description	Category
ASAP Part 135 outreach	Expand the ASAP Initiative to attain 100% outreach with Part 135 Operators.	Ongoing
Weight and Balance Program Revisions	The FAA has amended the templates for OpSpecs/MSpecs/LOAs to ensure operators use updated information in maintaining FAA approval of their WBPs.	Ongoing
CFIT Accident Prevention Initiative	Outreach and education to reduce CFIT accidents.	Ongoing
FAAST Outreach	FAAST safety seminars, WINGS safety program, IA Seminars, and outreach activities.	Ongoing
HR 302 Section 322 approval process improvements	Continue to approve the stipulation in HR 302 Section 322 that allows operators to operate into airports without weather reporting systems.	Ongoing
Aircraft safety enhancing equipment and modifications outreach	Promoting the certification of several safety enhancing equipment and modifications.	Ongoing
DeHavilland Operators International Working Group	Lead for the DeHavilland Operators International Group	Ongoing
Operational safety oversight of aircraft fleet	Monitor Alaska's aviation fleet to promote continued operational safety of aircraft	Ongoing
ADS-B certification and approval process	Streamline the ADS-B certification and approval process.	Ongoing
VFR/GPS routes in Alaska mountain passes	Implementing VFR/GPS routes for Alaska mountain passes for high risk on demand carrier including Flight Risk Profiles/Dispatch Procedures.	Ongoing
Special procedures to remote Alaskan airports	Approve and manage special procedures to provide IFR access to remote airports in Alaska.	Ongoing
SMGCS approvals	Surface Movement Guidance Control Systems (SMGCS) approval at Anchorage and Fairbanks	Ongoing
Alaska Mountain Pass Waypoint Charting initiative	Leading an effort for the resolution on the Alaska Mountain Pass Waypoint Charting initiative.	Ongoing
Voluntary Safety Reporting Program expansion	Expansion of Voluntary Safety Reporting Programs to incorporate Safety Management System principles.	Ongoing
Navigation equipment and surveillance requirements clarification study	Identify opportunities to increase IFR operations to identified barriers for Part 135 operators.	Ongoing

AVS Efforts	Description	Category
Communication gaps and minimum IFR altitudes study	Identify regulatory, infrastructure, and equipage barriers to low altitude IFR operations for Part 135 operators.	Ongoing
Non-Part 95 Capstone Routes and Minimum En Route Altitudes	Normalize the Non-95 Capstone Routes through the waiver process or increased Minimum En route Altitudes	Ongoing
ASAP Initiative Expansion	Expand the ASAP initiative to include operators under all FAR parts.	Ongoing
ASAP Part 135 outreach	Expand the ASAP Initiative to attain 100% outreach with Part 135 Operators.	Ongoing

Appendix 2: Glossary of Terms

AACA - Alaska Air Carriers Association
ADS-B – Automatic Dependent Surveillance Broadcast
ARP – FAA Airports
ASAP – Aviation Safety Action Program
ASTI – Alaska Satellite Telecommunications Infrastructure
ATC – Air Traffic Control
ATO – FAA Air Traffic Organization
AVS – FAA Aviation Safety
ASOS – Automated Surface Observing Systems
AWOS – Automated Weather Observing Systems
CFIT – Controlled Flight into Terrain
CNS – Communications, Navigation, Surveillance
CONUS – Contiguous United States
CTAF – Common Frequency Advisory Frequency
eSRS – Enhanced Special Reporting Services
EFIS – Electronic Flight Instrument System
FAA – Federal Aviation Administration
FAASI – FAA Alaska Aviation Safety Initiative
FAAST – FAA Safety Team
FCN – Field Condition NOTAM
FIS-B - Flight Information System Broadcast
GA – General Aviation
GPS – Global Positioning System
ICAO - International Civil Aviation Organization
IFR – Instrument Flight Rules
IMC – Instrument Meteorological Conditions
LF/MF - Low Frequency/Medium Frequency
LOB – Lines of Business
LP – Localizer Performance
LPV – LP with Vertical Guidance
NAS – National Airspace System
NAVAIDs – Navigational Aids
NTSB – National Transportation Safety Board
PIREP – Pilot Report
RA – Alaskan Region Regional Administrator
RCO – Remote Communications Outlet
RTR – Remote Transmitter/Receiver
RVR - Runway Visual Range
SBS - Surveillance and Broadcast Services
T-routes – RNAV Terminal Transition Routs
UAS – Unmanned Aircraft System
VFR – Visual Flight Rules
VOR – VHF Omni-directional Radio Range
VWOS – Visual Weather Observation Systems
WAAS – Wide Area Augmentation System

Appendix 3: Table of Stakeholder Comments

FAA Topic	Stakeholder Comments
Alaska Supplement	The Southeast Alaska publication document for low level routes hasn't been updated since 2002 or 2003. It is very out of date. We (industry member) have visiting pilots from out of state a lot in this area in the summer and the FAA can't push out up to date information. Online information would be better. Is the Alaska Chart Supplement changing? Will there be the ability to print off the chart supplements? The paper copies have a lot of useful information in them. They are also useful when assisting with emergency response requests. Participant agreed there is some repetitive information that can be removed. Recommend the FAA fast track the chart supplement update and make this a priority. VFR is sticking around in Alaska. We need to maximize our support, including supporting the chart supplement. The confined terrain and coastal weather conditions in South East Alaska tend to concentrate low-level VFR traffic along specific routes. Part 135 operators have worked out routes and procedures in this region of the state, yet Part 91 pilots--either new to the area or transient--are not aware of these routes or protocols. The FAA used to publish a pamphlet titled "Alaska Aviation Information" jointly authored by Juneau Flight Standards, Air Traffic Control, and Flight Service. This publication was last updated in 2002 and is no longer in print. Updated information of this nature, whether published in hard-copy, online or both, is another tool that could help improve situational awareness across the aviation community and improve safety. Requests by industry to update this publication have so far yielded no action, and again there is no mechanism for obtaining feedback or an update on the status of these requests by the FAA.
eSRS	The Interim Report discusses the eSRS for expedited search and rescue. What is the timeline for implementing this system? Is there anything 70 North can do to take advantage of this? The Interim Report mentions an option for two way text communication between pilots and Flight Services

Frequent Flyer Program	Report page 17, last paragraph – The Frequent Flyer Program has no teeth to it. Industry member is ADS-B equipped, but other Bethel based operations aren't. A major issue in the Bethel area are "ghost aircraft". Industry member had an issue yesterday where an incident was averted due to an observant pilot. Industry member had been given clearance for take-off, but luckily the pilot saw a ghost aircraft landing and held off the take-off until the ghost plane was out of the way.
PIREPs	If the PIREP system was more accurate, it could help with the ADS-B issue. PIREPs are a snapshot of the weather at a given time and location. Not all pilots will submit a PIREP.
	If the FAA paid pilots for the PIREPs (recommend between $20 - $30 per report) they would get more reports. This would be a salvation to the weather data in Alaska and make a significant improvement to safety. A survey of some pilots in the Fairbanks area by participant shows more PIREPs would be filed if the pilots were getting paid.
	A commenter recommends moving the PIREPs away from Flight Services and having a commercial vendor manage these. Per this commenter, Flight Services isn't interested in the PIREPs and Flight Services is "useless". The value of the PIREP data is better than the information Flight Services is providing. The PIREPs aren't the job of Flight Services and they don't want to do it.
	On a recent flight to Anchorage, one commenter flew through bad weather that was reported by another pilot and should have been a PIREP, but Flight Services didn't issue the PIREP. Had this shown up when it was reported, the commenter might have been able to avoid the bad weather.
	Page 12 of the Interim Report in the last paragraph where "the FAA conducted focus group discussions with stakeholders to obtain feedback on the PIREPS". Strategy #1 (Encourage pilots to file more PIREPs) – a commenter sees this as an example of a research focus group that isn't defined. The FAA doesn't describe what the focus group was, what information was gathered, or what evaluations came out of the focus group. Are we gathering the same information because we are researching the same ways with the same requests? What operational research is happening to ensure new results are provided about issues and challenges? -Strategy #3 (Improve knowledge of PIREP processes, tools, and system impacts through ATC training and education) – What operations research is the FAA doing? Is the research being done appropriate for Alaska? We had the Medallion Foundation in the past, but that didn't move the needle. The ADS-B program started in Alaska, but still needs a

	lot of work. What research is the FAA drawing from when determining the initiatives it acts on? How can UAA help with that research? Internally, the industry needs to encourage each other to file PIREPs. This is something that should be pushed by AACA and the other pilot organizations. This isn't something the FAA can fix. Suggested the FAA develop programs to encourage PIREPs, especially at small airports.
Publish WAAS LPV/LP Approaches to Every Qualified Runway End	One operator has a CASA and a twin Otter that they fly. They are currently working on a low level waiver to fly the CASA below 12,000 feet due to icing conditions. The typical flights are only 5 to 12 miles in distance. There aren't approaches at all locations the operator flies to. It would save fuel costs and would help with deicing if there was.

Airport Improvement Program (AIP)	**Surface Improvements**
	
	The AIP Handbook allows runway markings to be painted only once every three years. Alaska airports have heavy snow that must be plowed routinely to ensure safe braking action for jet traffic. The runway markings are degraded annually and should be repainted annually. AIP Handbook prohibits funding the annual painting of runway markings.
	
	Snow Removal Equipment Building (SREB) and Airport Rescue and Fire Fighting (ARFF), and Training and Living Space
	
	The logistics of rural and remote airports that have limitations based on staffing and location. Rural and remote airports are required to have SREBs to house necessary maintenance equipment, and larger rural airports with a Part 139 certificate also have ARFFs; these two buildings can be combined into one structure (FAA, 2019, pp. O-5 – O-6). Training and living space, including restrooms, near the airport can be difficult to find or non-existent at rural and remote airports, lengthening staff emergency response time.
	
	The *AIP Handbook* has the following limitations for SREBs (FAA, 2019, p. C-12):
	    1. Personnel Quarters
	    2. Training Space
	    3. Restrooms
	    4. Offices
	These four limitations can critically impact maintenance personnel at rural and remote airports. Smaller airports can be miles away from the nearest community. This means emergencies cannot be responded to quickly and critical infrastructure can't be maintained in a timely manner

because staff must travel to the airport to respond to an emergency or access snow removal equipment after a storm. Encouraging staff to stay at the airport with training and office space keeps staff available for maintenance situations.

For storm events or maintenance work that requires hours to resolve at non-Part 139 airports, staff must travel back into town to use restrooms. Restrooms are defined in the *AIP Handbook* as "a dedicated room for toilet and wash basin facilities. Restrooms do not include bathing facilities such as a shower or tub" (FAA, 2019, p. A-13). This adds time to the work and puts an unnecessary burden on the sponsor to pay wages for the employee to drive into town to use a toilet.

ARFF facilities are only sized to be the "…minimum structure to house and protect the grant funded ARFF vehicle…" (FAA, 2019, p. O-1). The *AIP Handbook* does not currently allow dorm rooms or day rooms for ARFF facilities that do not require 24/7 access; FAA claims these facilities are not appropriate (FAA, 2019, p. 3-7). However, smaller communities that have airports located away from the community may not be able to respond within three minutes (Title 14, CFR Part 139, §139.319) to a crash due to the time for personnel to travel to the airport, change into gear, and drive to the crash site. Allowing staff to remain on-site when an unanticipated plane meeting Part 139 requirements is expected benefits the airport, air carriers, and passengers because ARFF staff is immediately available in the case of an emergency.

Proposed Solution

FAA should allow minimal training (e.g. office space) and living (e.g. day rooms and dorm rooms) facilities in rural and remote airports that have a clearly defined need due to distance between the airport and the community. Training and living space can be combined into one room to decrease the space requirement. This allows staff to stay on airport to facilitate staff response time during emergencies, storm events, and maintenance that requires more than several hours. Allowing restroom facilities in SREBs decreases storm event clearing time and general maintenance time as well as decreases sponsor payroll by keeping staff close by the airport.

Driveways off Airport Access Roads

Rural and remote airports are frequently surrounded by parcels that may not be accessed by other, if any, roads. Restricting the use of driveways on an airport access road limits the local population's willingness for

airport improvements. Lot use by private landowners varies, which defines the amount of use for a given driveway.

FAA's Reauthorization Act of 2018 (FAA, 2018, §162(3)) provides a short-term solution for Alaska and Hawaii for development of airport access roads that meet the following criteria:

1. Is not located in a contiguous state
2. Is less than five miles long
3. Connects to public roadways of a maximum of two closest places, as defined by the census
4. May provide incidental use for public or private land adjacent to the road that does not have any other access.

This use is temporary, however, and will expire in 2023. A permanent solution should be developed that allows for not only these four criteria, but for all National Plan of Integrated Airport Systems (NPIAS) airports and an extension for census areas that are defined as rural by the Federal Highway Administration (FHWA). The FHWA definition should be used instead of the FAA's definition as it restricts the number of eligible airports: "According to definitions in 23 U.S.C. 101(a)(33), areas of population greater than 5,000 qualify as urban for transportation purposes in contrast to the Census Bureau's threshold of 2,500" (FHWA, 2013, ¶10).

Land Considerations

Land available for airports and airport expansion is becoming increasingly difficult to find. Expanding or relocating an airport can lead to cutting off sections of land that are still economically viable and are therefore not eligible to be bought with AIP funds, but no longer have road access to the smaller parcel. Other parcels could be landlocked until an airport access road is developed, providing access to previously inaccessible land for private owners and native allotment owners.

Proposed Solution

Denying legal access to these landowners sets up conflict between the airport sponsor who is trying to meet their grant assurances and the landowner. It also decreases the chances of adjacent landowners to support airport improvements during the National Environmental Policy Act (NEPA) process. The FAA should pursue a permanent solution that incorporates the FAA's Reauthorization Act of 2018 allowances for all NPIAS airports and FHWA's definition of rural communities to allow airport sponsors to meet their federal obligations and be a good neighbor for adjacent landowners.

	Rolling Stock, Including Graders and Front-end Loaders Alaskan bush communities typically have small populations and few resources. Furthermore, 82% of Alaska communities are not connected to the road system. As a result, the airport's grader and front-end loaders are the only large rolling stock equipment in the villages. The AIP Handbook does not allow a local tribe or village to rent the rolling stock, or even move it off airport property.
Airports Compliance Program	The FAA made improvements to the Nenana airport. These improvements resulted in the runway being shorter.
Alaska Airports	Part 139 is a large contributor to safety in Alaska. This doesn't apply to Alaska like the rest of the US since Alaska has an exemption. Alaska is missing out because this doesn't apply to many of our airports. With Grant Assurance 19, there is a significant gap in Alaska. Airports aren't maintained in the winter or they aren't maintained very well in the summer. Better maintenance would lead to better safety. Better staffing at the airports would help too. Understands the role of AK DOT at the airport operator. Hoping this can be a forum to lobby for some improvements to be made on the DOT side such as better maintenance and snow removal. The Grant Assurance is an FAA issue on the Part 139 airport side. AK DOT doesn't have the resources to go beyond the bare minimum. This does create some compliance challenges. AK DOT manages 200+ airports in Alaska. Runways get closed because of ice on the runway, but airports can't get the temperatures above 40 degrees. This is a requirement that leads to runway closures. Some airports can treat the runway with sand or take other measures that would allow the runway to be open for small aircraft. Unfortunately, opening the runway to small aircraft in this situation isn't allowed by regulations. This leads to some small aircraft operating on closed runways and taking extra risk. Small airports operate like large commercial airports, even though the FAA doesn't classify them as commercial airports. These locations lack weather and NOTAMs. Airports comments: There have been some runway reductions, specifically at Galena. We have Part 121 operators flying to Galena but now they have to fly lighter

	cargo and more frequent flights due to the shorter runway. NAVAIDs have been taken out also which increases safety risk (ex: PAPIs). The airport design criteria isn't working for Alaska. The aircraft being used in the state can't be fully utilized at airports with the new designs. There are a lot of heavy aircraft in the Anchorage area that are mixing with small planes. This is causing wake turbulence issues.
AWOS/ASOS	We need more AWOS and we need more funding for aviation. Report page 4, first paragraph – The FAA claims to have a strategic focus to work with airport sponsors to install more AWOS using AIP funding. The air carriers are being told the new AWOS have been deferred for a new communication system that is in the development stages. We won't see any change here for at least two years. AWOS is very important in Alaska. Why can't we get the AWOS installed while the new communication system is being tested? The Perryville airport is one of the most dangerous for one operator. They have to fly VFR because of the lack of infrastructure. There is an approach at Perryville, but the operators can't use it due to the lack of weather. AWOS needs to be moved to a high priority for the FAA. There have been a lot of AWOS outages in the YK Delta. Operators are being told by the FAA that parts supply is an issue that leads to the outages being extended. Would like to see AWOS outages and reliability added to the report. The FAA needs to change their approach to AWOS outages. If it is broke, it's broke. The FAA doesn't consider an AWOS broke if it is a partial outage. Telecommunication issues aren't reported by the FAA as a broken AWOS. From an operator standpoint, if an AWOS has a partial outage or a telco issue then the operators can't fly because they don't have the information needed. With the FAA not considering a partial outage or telco issue as a broke AWOS, their data is being skewed so the issue isn't being addressed. Fully agrees with the AWOS if it's broke, it's broke statement. If the telco issue means the pilots can't get the data, then the AWOS is broke because the pilots can't fly without the data. The AWOS aren't necessarily being installed in the most useful places for the operators. How is it determined where an AWOS will be installed?

When AWOS Service A is not operating per the National Weather Service due to outages, it is considered a telco issue. Is there a way to improve the telco issues with the next AWOS tech refresh?

We are using outdated technology. If the Telco isn't working then the AWOS isn't working and it needs to be recorded as an outage. This should be a high priority in the report.

Fort Yukon has an ASOS, but the villages around it don't. Pilots are required to fly to Fort Yukon using the ASOS and then have to drop down in elevation to fly to the surrounding villages in the area.

One carrier operates on the North Slope. They fly VFR and IFR cargo and IFR passenger flights. AWOS project is very important to them. They are encouraged by the effort. Minimal terrain issues, but a lot of weather issues on the North Slope. It is a day/night operation.

Requested additional information regarding the AWOS take-overs and specifics on the North Slope and Deadhorse areas.

Is the North Slope Borough aware of the process for obtaining an AWOS?

AWOS comments: There is an upcoming tech refresh on the AWOS Service A. Service A is the largest safety issue in Alaska.
 Part 135 operators fly to the small airports for the same reason that Alaska Air and Delta fly to the large airports; medical appointments, passengers visiting friends/family, and grocery shopping. The small airports need reliable weather programs and we don't have it.
 Service A is not reliable. This is needed for pilots to fly. It isn't optional to fly without Service A. Weather is also needed and so are NOTAMs. The lack of Service A is causing safety issues.
Commenter would like to see improvements with the Service a tech refresh.
 In Alaska, Tech Ops is allowed to determine the AWOS availability and reliability.
 Operators have contracts with USPS and are required to provide x number of flights or they lose the contract. If they can't fly due to AWOS outages then they can still lose their contract.

Recommends the FAA prioritize AWOS and ground based radio transmitters.

| CFIT Accident Prevention Initiative | CFIT is a big safety issue in Alaska.

Incorporate CFIT accident prevention initiative into all aviation meetings.

There was a glancing blow regarding the ADS-B moving display. This ties directly into CFIT. Basic thing is approximately $85 million has already been spent to develop the digital model that is an upgrade from the 1920s paper topographic maps. The digital map updates aren't being used by the FAA in the moving maps and is it causing CFIT accidents. The 2016 crash of a Ravn flight outside of Togaik is an example where the updated information could have saved three lives.

The excuse from the FAA for not using the updated digital maps is that the FAA can't update the system until they have updated 100% of the locations. Currently, the FAA says they are only at 95% completion. |
|---|---|
| Operational safety oversight of aircraft fleet | Transport operations should all be transferred to Part 135 operations. The seasonal lodges don't fall under Part 135 regulations, but they should since they fly passengers. |
| Voluntary Safety Reporting Program expansion | The voluntary safety reporting program for Part 121 sounds nice, but we have had these come and go in the past. Is there a way to broaden this and include non-certificated carriers?

A commenter expressed interest in the voluntary program. Sees a benefit for the whole industry. |
| Navigation and surveillance | |
| Communication gaps and minimum IFR altitudes study * | Some T-Route restrictions are forcing aircraft into known icing conditions which makes it unsafe. This is especially true for the 1000 foot VFR ceiling requirement.

High frequency, satellite based LAN communications are not reliable. There is no backup for this.

There are gaps in ground to ground communication that need to be addressed.

A commenter stated he worked hard to get a T-route approved from Fairbanks to Kaltag four years ago. That T-route is worthless because ATC won't let you fly low enough. The T-route MEA (Minimum Enroute Altitude) has a height of 3200 to 4200, but ATC in Anchorage |

	Center won't let pilots fly lower than 6000 due to lack of comms and weather data. Flying this high will put a pilot in icing conditions.
	With regard to the low level T-route on the North Slope, are there any plans to update the surveillance in the North Slope area? Or the communications?
	In Section 3.2.1 of the report, it talks about the FAA considering whether to allow communication gaps on some routes. For this non-135/121 operator, there is an internal training program and an internal waiver pilots have to obtain to fly the routes with communications gaps.
Non-Part 95 Capstone Routes and Minimum En Route Altitudes	Low level IFR routing through Anaktuvuk Pass would be helpful for this carrier from an IFR flight plan standpoint.
	Under Capstone, the Shelton radio equipment was popular. It would allow pilots to get down to 1 mile safety area. The equipment is costly and most smaller operators can't afford it. This is really good equipment for mountain passes and preventing CFIT. A commenter recommends the FAA embrace the technology. It would drive fidelity to a narrower band. It is better than the Garmin package a lot of smaller operators are using.
	It would be good if the FAA could embrace the R-Route option (like the one in Juneau) and let the market drive improvements. Having more R-routes would be useful so the pilots could add them to their Garmins.
	Capstone was a useful initiative, but is was never finished. The Capstone era R routes are in a no man's land right now. They're outdated, haven't been reviewed in years, and essentially orphaned because only the Chelton Flight Systems EFIS equipment can fly them. As you may know we started our company 14 years ago using IFR as the backbone of our business plan and a key component of our business plan is or was the Capstone R routes. These R routes allow us to safely operate IFR in Southeast Alaska at much lower altitudes keeping our aircraft below icing conditions much of the time.
	Chelton gave us notice about 1.5 years ago that they will no longer support or repair the Chelton EFIS systems that many of the operators currently have installed in their aircraft. Chelton stated the equipment has reached the end of their service life. We have tried to gather as many of these units on the used market as we can but with the maintenance issues these units frequently have after 20+ years in service it's just not cost effective or reliable enough to continue using this equipment in our operation. The new version of Chelton is four times as expensive as a

full Garmin G600/ GTN750 suite so basically Chelton has priced themselves out of the commercial market and clearly are concentrated on helicopters and military aircraft.

For the past year we have been upgrading our fleet to all Garmin avionics suites (G600Xi, GTN 750Xi, GTN650Xi, GFC600 digital autopilots) and they have been fantastic to maintain and for pilots to operate. Chelton was and is the ONLY system approved for Capstone Phase II in Alaska but due to the challenges stated we have been forced to switch to equipment that can no longer operate on the R routes. The Chelton system is setup to scale to RNP 1.0 in the enroute phase of flight. The Garmin units default to RNP 2.0 but can very easily be scaled down to RNP .3 by the pilot. Once scaled down the scaling remains scaled down, never requiring it to be scaled down again even after the units are powered down so it's really a onetime process that only requires pilots to verify the scaling is set as a checklist item. When scaled down to RNP .3 the Garmin suite with the digital autopilot is truly a game changer, extremely precise and stable in a phases of flight.

Commenter's suggestion to the FAA would be allow users with GPS units capable of auto or manual scaling (with an approved training program similar to what Island Air Express has developed for our tailored procedures) to add the R routes to their tailored NavDB. Having this ability would allow operators to stop being held hostage to end of service life avionics equipment, continue providing the safety of not having to fly aircraft at altitudes that produce icing conditions much more frequently than the R routes do, and preserve the valued R routes the FAA developed years ago.

Thank you for reaching out to us and asking about this important subject, I hope this info helps shed light onto the Capstone/ R route issues.

These routes need to be approved for other equipment than the extremely outdated Chelton Flight Systems EFIS.

ASAP Initiative Expansion	Web-Based Application Tool (WBAT) Safety is looking at ways to pick up some of the pieces from the old Medallion initiative and to get operators back on board with Aviation Safety Action Program (ASAP). WBAT is a contractor who can run he ASAP program from the individual operators. The Interim Report mentions there is money available for some projects. Would like to see some of that money put towards implementing ASAP across the whole state.

	Not all of the operators can afford ASAP or a safety program. Medallion was the solution to that hurdle in the past, but that isn't an option anymore.

Currently, WBAT runs approximately half of the Alaska Memorandums of Understanding (MOUs) for ASAP. WBAT has the ability to provide additional support.

The operators commenter has spoken with don't have the funding or the personnel to implement ASAP. They are waiting to see how the FAA replaces Medallion before they take any action.

WBAT requested this meeting to help make sure they are talking with the right group of people to help get the word out about ASAP.

One option for the single pilot operations is to combine them into one ASAP instead of separate ASAPs.

Clarified that for this purpose, buy-in was trust and not funding. Both would be needed.

The single operators lack the time, system knowledge, and funding to make ASAP happen for them.

WBAT only has comments on the ASAP program. |
| **Added Topic Categories** ||
| FAA Staffing in Alaska | Expressed concern over the continual disassembling of the FAA within Alaska and moving those positions out of state. Fewer local employees means there is less understanding within the FAA on the Alaska specific challenges.

The FAA used to have an online employee directory the stakeholders could use. That has gone away. It is hard for industry to know who to contact in the FAA and how (phone number or correct e-mail address). Would like to see this directory come back. There have been times when FAA employees reach out to the stakeholders to ask the stakeholders who the FAA can contact within the FAA for something.

There are some concerns regarding the Flight Standards staffing in Alaska. Is the staffing adequate? One operator recently received a letter telling them about a new inspector being assigned when they never even met the old inspector. |

There is the appearance that the current moral within the FAA is the lowest ever seen. This is a concern being expressed within the industry along with the increase in retirements.

The decrease in moral is leading to the FAA saying no more and not thinking out of the box.

In general when it comes to safety culture, there has been a disconnect over time. After Ted Steven's death the FAA moved employees out of Alaska and reorganized things to the WSA. There is less of a DC connection now and aviation safety is suffering.

Alaska DOT has had to go directly to the Alaskan Congressional delegation to change the FAA regulations to add Alaska specific language. It was necessary for the AK DOT to go around the FAA to get FAA regulations change because AK DOT couldn't get help from the FAA. There is a disconnect with DC FAA not understanding the local FAA needs. There is a "feeling of no love" from the WSA since they are all outside of Alaska and they don't prioritize Alaska needs.

The current points of contact, roles, positions, and responsibilities within the FAA are not transparent. In the past, the FAA published an online employee directory, a much-used tool that helped industry locate staff contact information, and where they fit in the organization. If it is not possible to restore this tool, the FAA Regional Administrators office should at a minimum develop and maintain an organization chart for the different lines of business that operate in Alaska and include key staff members for the different lines of business, along with their contact information.

We understand from anecdotal comments by different operators that turnover among Principal Operations Inspectors (POIs) is an issue, resulting in a lack of continuity, limited communications, and potential gaps in regulatory oversight between operators and Flight Standards. One operator went so far as to observe that they received a letter announcing a new inspector yet had never met the currently assigned POI for their operation. The FAA should do an analysis of their POI turnover. This staffing issue may have also carried over to the FAA staff responsible for interacting with the public, as pilots have reported difficulty in accessing flight standards representatives for questions. Instances are reported of messages left, calls not returned, and no process for verifying where the disconnect occurs.

An assessment of the FAA's staffing issues should be applied to define the staffing problem, identify the causes of the problem, develop and test interventions, implement the interventions, and evaluate the

	interventions. Each of these steps can be documented, a matrix can be developed and made available for use in other regions as well as Alaska, and attempts at improvement can be quantified. This method of analysis is transparent and can be used to document efforts, justify funding, and demonstrate good faith attempts to provide operators and pilots with regulatory oversight and guidance.
Aviation Dependence	In approximately eight or nine years, 80% of the areas this Part 91 operator will be operating in will have no road access. Aviation is essential to the continued operation of the oil fields in Alaska and will become even more important in the near future. Pilots will push the limits of weather and approaches for emergencies since the only way to get to some villages is by plane.
Weather Reporting	There have been issues in the past where Part 135 operators couldn't travel to some locations due to the lack of weather reporting. En route weather reporting is an issue. Is the FAA still installing weather stations and turning them over to DOT for maintenance? The weather reporting in the villages improves in the summer when there is nothing but daylight. In the winter, a weather report from a village might be nothing but a report of "dark" because there is no daylight and no technology. Instrument approach procedures are being held up due to lack of weather. This shouldn't be happening. Pilots aren't able to get weather reports for the villages. Some villages have forecasts, but not actual weather reports. The NWS (National Weather Service) forecasts aren't always accurate. The NWS forecasts are supplemental weather information and not approved for flight determinations. The weather issues related to NextGen are not working. The current Alaska weather systems aren't approved as replacements for AWOS/ASOS. A pilot can't fly if there isn't legal weather data prior to the start of flight. The lack of legal weather data is an issue. The FAA likes to use the word "soon" to push projects off. Pilots keep being promised that the Galena VOR will be replaced "soon". The FAA keeps promising a weather approach through Anaktuvuk Pass "soon". Fort Yukon, Beaver, and other areas don't have any weather data. Pilots are flying "scud runs" to those locations and are being told by the FAA that they will have improvements "soon".

At one location the on-site weather reporter died six years ago and hasn't been replaced. When will a new on-site weather reporter be hired? There used to be 12 or 13 places where there was a person on-site to provide weather reports. That went away with Capstone and wasn't replaced with anything.

For Nenana, uncontrolled approaches can't be used at night due to no weather. The entire month of December is "night" since there isn't any daylight. That means pilots can't fly uncontrolled approaches to Nenana in December and they are limited all winter.

Alaska needs a central broadcasting system for weather updates in flight. Pilots use iPads during flight to get weather updates. Sometimes the PIREPs show up in the system and sometimes they don't. There isn't consistency.

The ultimate goal is to fly from Fairbanks to Juneau and know what weather he will encounter on the way. This pilot often comes across unidentified weather such as thunderstorms. He notifies Flight Standards of the weather, but the response is "it isn't on the model from the NWS so it isn't there".

Weather is the main challenge for flying in Alaska. For this 135 carrier, weather is more important than ADS-B. Would like to see weather improvements as a higher priority.

When flying to a location with no weather that is close enough for you to see and you can see the weather is clear, it is frustrating that you can't land at that location because it doesn't have any official weather data. It would be nice to have a common sense approach for a solution to this. Understands this wouldn't work when flying to a location you can't see prior to take-off.

Terminal forecasts are not at all locations, just areas forecasts. There are some issues with that.

More weather data is needed by pilots. The pilots can't start a flight unless weather is above minimums at the expected time of arrival. There isn't enough weather data for pilots to make this decision at a lot of locations.

There is some difficulty in forecasting weather so the National Weather Service will include that there is a chance of incremental weather. This blanket statement prevents flights from taking off.

	This pilot has been flying in Alaska since 1982 and currently works for a 135 carrier. The carrier flies twin-turbo prop, IFR capable aircraft for cargo service. The lack of weather forecasts means flights can't take off since the weather "might" not be above minimums. The regulations prevent the pilot from starting the flight and turning back if the weather doesn't meet the minimums at the destination. In the YK Delta, there was a former initiative to setup weather stations that hasn't made any traction. Weather in the area is frequently marginal, but there is no weather data for pilots. Continue to support development of a standard for a low-cost weather station to use for VFR flight operations. Lowering the cost to acquire, install and maintain aviation weather reporting stations is essential to increase the density of reporting stations in Alaska. While the results of this effort will have impacts for the rest of the country, conducting the needed demonstration and evaluation in Alaska is appropriate based on the lack of certified weather stations.
Navaids and GPS	A big issue in Alaska is the lack of Navigational Aids (NAVAIDs) and the lack of power for the NAVAIDs. GPS jamming from the military can be an issue. Sometimes a pilot's GPS will suddenly jump and show they are flying over Hawaii when they are actually in Alaska. Will there be a backup to GPS and WAAS? NDBs are going out of fashion and are being decommissioned. The NDBs are reliable and should be kept. A big issue in Alaska is the lack of NAVAIDs and the lack of power for the NAVAIDs.
Medallion	The Medallion program was a great opportunity, especially for the smaller operations when it comes to an SMS program. The smaller operations can't afford to send pilots to training on their own. Having a local product was much more cost effective. Would like to see industry collaborate together to bring back Medallion and fund it. The operators need external support. Something like the Medallion Foundation or Capstone that had a technical focus to help everyone improve.

	Recommends the FAA Safety Team (FAASTeam) revives the Medallion initiatives. Are there any plans to address the functions of Medallion and pick that up somehow? Wasn't expecting Medallion to be reincarnated. Would like to see some of the programs come back and keep pushing the safety aspect. Understand the funding issue.
Pilot Experience	The aviation industry is seeing more inexperienced pilots in Alaska since the more experienced pilots have retired during COVID. There needs to be a way to mitigate the lack of experience. Alaska has some unique terrain and the lack of experience can be deadly. Aviation in Alaska is literally life and death for the oil fields and for a lot of villages. If there is an accident at an oil field or village the only way to get the injured person to medical help is by plane. If a village is in critical need of food, water, or medication the help arrives by plane. Knowing that aviation is life and death leads pilots to take more risks in marginal weather and to push the approach limits. With more and more inexperienced pilots flying in Alaska and making life and death flights the system is being setup for a catastrophic event to happen. This operator is standing up an internal pilot training and mentoring program to bring the less experienced pilots up to the higher standards. This is very important with the critical nature of aviation in the oil fields. Encourages the other operators in the state to implement a similar program and to implement some pilot mentoring. There is an increasing number of new, inexperienced pilots moving to regional airlines. The increase in new pilots is an issue. How can UAA assist with research for new/incoming pilots to help things change?
Alaska Aviation Infrastructure	The 2005 Capstone project is a model for how to address infrastructure related issues. Capstone was a concentrated effort in the FAA to bring everyone together to the address the needs. Unfortunately, Capstone didn't finish and was left unfunded. The commenter would like to see this project completed. There have been many recommendations to improve safety in Alaska throughout the years that haven't been implemented. These include the 23 recommendations from the RTCA report and numerous NTSB recommendations.

The commenter would like to see the FAA develop a plan to implement change. That plan will need to come with funding.

Progress has been made since the 2005 Capstone project, but more needs to be done. AIP money needs to be allocated to improve runways, NOTAMs need to be improved to include weather conditions, and the requirements to operate airports needs to be improved.

Appendix 1 – The FAA priority list shows the FAA only considers something a high priority if it has already received approval to implement and is already funded. The FAA needs to identify projects to move up to a high priority and work to get those projects funded. An example of something to move to a high priority are infrastructure projects, especially IFR related.

For reference, one carrier provides service to 160 destinations. From the Bethel area, only 30 of those destinations have IFR. Another carrier noted it provides service to 70 – 74 service areas. He reports the same proportionate lack of IFR capabilities at airports his carrier services.

Infrastructure in Alaska is decades behind the rest of the country.

The lack of roads in Alaska means we rely more on aviation for travel. This leads to more accidents.

We need more ATCTs. Understands there is an expense and logistics aspect to this. There are lots of busy airports in Alaska that don't have ATCT. If those airports were in the lower 48, they would already have an ATCT. Virtual and remote ATCTs is a good option for some locations. We are fortunate to have Flight Services at some locations (ex. Deadhorse) that can take the place of the ATCT.

The best way to improve safety in Alaska is to improve infrastructure. Specifically, radar and preventing blackout areas.

Alaska relies on aviation and cargo flights. The FAA formula for airport/runway design doesn't really apply to Alaska with the aircraft that are being flown in the state. It would be nice to have some longer runways.

If the weather coverage, communications, and ADS-B coverage improved statewide, then CFIT and mid-air collisions would decrease.

Most pilots with Aircraft Owners and Pilots Association (AOPA) and Alaska Airmen don't fly IFR, but Alaska does need an IFR infrastructure.

More T-routes are needed at lower altitudes due to icing on aircraft at the higher altitudes. This will reduce crashes and increase safety.

If the infrastructure improvements are available and the equipment costs are low, then the combined safety impact will been seen. Pilots will install the equipment when this happens. (If you build it, they will come approach.)

Rural Alaska is dependent on aviation. They don't have the infrastructure equal to the lower 48.

The medivac operations in Alaska are very different than the lower 48. In Alaska, we land on gravel or ice covered airstrips. One size fits all requirements don't apply to the Alaska conditions.

The FAA uses the excuse that a lot of improvement projects don't have the needed ROI (return on investment) to be implemented. The ROI determination doesn't account for the lack of road access and the lack of communications for IFR structure.

The terrain in Alaska impedes IFR coverage. Funding for improvements impedes coverage.

General aviation relies on VFR more than IFR.

There is a resistance of aviators to invest in IFR and avionics due to the low ROI at some airports.

If the airports have spotty or no coverage then the pilots will revert back to VFR.

There is a circle that the aviators need to invest in equipment, but they don't want to pay the expense when the FAA doesn't invest in the infrastructure. The FAA doesn't want to invest in the infrastructure until the aviators equip their aircraft. Need to find a solution to the circle so both the FAA and aviators can move forward.

Suggested the FAA look at demographics to make its decisions instead of looking at ROI by airport.

The FAA should explore a partnership with the FCC (Federal Communications Commission) and satellite companies to expand

	internet and wifi hotspots in Alaska. Pilots use iPads for communications and the lack of wifi is a problem in rural areas. Recommends the FAA partner with native corporations. It is the natives who are being affected and their projects and their people. A partnership with the native corporations would help identify some options for infrastructure.
Comments of FAASI Interim Report	There is some frustration on the part of the aviation industry. We have been here before and haven't seen change. What is the purpose of FAASI? That isn't clear in the report. Is this a strategic plan for the FAA? The FAA needs a tactical plan and needs to implement it now. What are we doing now to improve safety? What can be done today, not years from now? The report doesn't talk about today and how to change things right now. It focuses on what the FAA might do years from now. Report page 9, last paragraph – Takes exception to this entire paragraph, especially the statement about operators not installing IFR equipment. The industry has spent millions of dollars to equip their fleet and now the FAA isn't installing the infrastructure to support the new fleet equipment. The operators and POIs weren't included in the report or asked for their input. This is an FAA only report. Report section 3.2.2, first paragraph – There is only 1 GEO approved. Appreciates knowing this is part of the process and that the stakeholders input will be included in the Final Report. Strongly agrees with another commenter about being frustrated. "We have been here before and nothing has changed. " Report page 2, second paragraph – "The Administrator directed the Alaskan Region Regional Administrator (RA) to lead a cross-agency group of FAA experts to focus on safety issues specific to Alaska and to determine how the FAA is deploying resources, their effectiveness, and how the FAA can improve in delivering services and how to prioritize the delivery of the resources." Is this the purpose of the report? Didn't see much in the report on the effectiveness of the FAA programs or how to improve.

Report page 3 – "The fleet is most often comprised of single and small multi-engine general aviation aircraft. Many of these aircraft are not equipped for IFR flight and are not equipped with aircraft deicing equipment." Did the FAA look at all the Part 135 operators in the state or the number of flights? The larger air carriers who conduct a large number of flights have already upgraded their fleet. One carrier has 14 planes that are IFR only and seven that are not yet IFR. To date, the carrier has spent $2.5 million to upgrade their fleet for WAAS approaches. This is an opinionated statement by the FAA and needs some factual data behind it if this remains in the report.

Report page 9, second to last paragraph – "The majority of these aircraft are equipped only for VFR flight…" This is too broad of a statement. Did the FAA include the seasonal only operations in "the majority" of the fleet? This doesn't account for the year round operations conducting the majority of the flights.

Report page 9, last paragraph – Very strongly recommends removing this entire paragraph, especially the last sentence which reads "a substantial segment of Part 135 operations in Alaska will remain VFR centric regardless of FAA efforts to enhance the use of IFR routes and suitably equipped aircraft". This is an opinion statement by the FAA that the operators won't equip their fleet. This isn't true. One carrier has spent millions of dollars to upgrade their fleet. Why would the FAA consider funding improvements in aviation safety when their own report claims, falsely, that the aviation operators won't do their part?

Most of the report is covered fairly well. Recognized the work that went into the report.

The way the report is written is very opinionated by the FAA and paints a 1975 – 1980 image of Alaska. This doesn't reflect current flying conditions in the state. The FAA needs to remove their opinions and stick to fact based information.

Report page 9, last paragraph – This is an FAA opinion that if the FAA installs the infrastructure then operators won't use it. This is simply not true and is not a fact based statement. Operators in Alaska are upgrading their equipment and investing in their fleet. Like previous commenters have already said, X Company has also invested in their fleet to upgrade the equipment and keep their pilots safe. Alaska isn't the wild west of aviation that the FAA is portraying in the report. Operators are upgrading and want to keep their pilots safe.

| | The report has a heavy emphasis on General Aviation and not the rest of the operators. The report needs to differentiate between General Aviation and the smaller operators in the summaries.

The whole fleet section of the report is very opinionated by the FAA. This entire section needs to switch to presenting fact based information only.

Overall, this is a decent report, but the priorities need to be realigned.

This should be a tactile planning report and not a strategic report.

Need to cover what can be done NOW and not wait for technology improvements before trying to improve aviation safety.

Appreciate the ability to share candid thoughts and feedback.

The more feedback that is incorporated into the report from the industry the better.

This discussion has been helpful for the stakeholders to understand this is a process and the report isn't the final point.

Would like to see more support from the top down within the FAA.

The comments can be summed up with section 3.2.2 of the report and what needs to change.

The report appears to be the same research and the same programs/initiatives conducted and reported in the past. There isn't any new information being researched or reported. Why is the FAA looking at the same thing again?

The UAA is great at research and can assist the FAA on these strategies.

A deep dive into the data on what is causing the accidents and how they can be overcome should be completed.

What can UAA do to help out with this? Is anyone looking to see what isn't being said by the data?

Didn't see much in the Interim Report on aircraft maintenance. There is a lot of discussion on airport maintenance, but not aircraft. Is this a low priority in Alaska, specifically for the GA and Part 135? |

UAA is asking where the FAA focus is derived from and how this will be implemented from an educational standpoint.

Have we reached critical mass where UAA is matching what is going on in the field?

Looking at the report to see where UAA might need to adjust their program for what is coming from the FAA.

UAA has approximately 100 flying and maintenance students at one time.

Alaska flying isn't the same as the lower 48. We need approaches and data from people in Alaska who know flying in Alaska.

Thank you for the effort that went into the report. It is encouraging to see what the FAA is working on.

The infrastructure programs in the Interim Report all look impressive.

How long has the FAASI been around? Is this a 2 year program?

The Interim Report didn't cover how the process would change or be updated. Is there a mechanism for improvement?

Transparency keeps being brought up in conversations. Summer is a hard time for operators to provide feedback. It is frustrating to some operators who feel their voice won't be heard.

It is good to see the FAA stepping up to address some of the NTSB recommendations.

One question to ask ourselves is if the FAA is trying this hard to update the rules, do we really need to do this? If it is something everyone wants and would make a difference, why is it so hard?

There are some statements in the report about improving charting and Common Traffic Advisory Frequency (CTAF) on sectional charts. Those statements aren't accurate.
VFR GPS routes and Mountain Pass Waypoint should be combined since they are the same thing.

Need to add the continued development of low cost weather for VFR.

Communication improvements need to be moved to a high priority.

The FAA needs to collaborate with a 3rd party to improve safety.

Expressed thanks for all of the FAASI efforts. What is in the report is there because FAASI is pushing it.

There are some questions about phraseology and grammar. Commenters will submit these questions in writing.

The stakeholders today are on-demand freight and passenger airlines. One also flies medivacs.
This is the start of the discussion to make the safety changes we all know are needed, especially in rural Alaska.

Report page 5, paragraph 1 states the "annual enplanements in Alaska are 7.1 times the state population compared to 2.8 times the population in the CONUS". Is this based on commercial or Part 121?

Report page 6, paragraph 1 states: "The February 2020 NTSB Report ASR-20-02, notes that during the period from 2008 to 2017, the total accident rate in Alaska was 2.35 times higher than the rest of the United States with the fatal accident rate in Alaska being 1.34 times higher." Is this based on all accidents or Part 121?

One size doesn't fit all for Alaska. The lower 48 rules don't apply here.

The report purpose is to discuss the problems being brought up.

The report doesn't identify the needs and the needs categories. Recommend adding that and aligning it with Appendix 1.

Recommends adding to the report a comprehensive list of aviation organizations in Alaska and indicate if the FAA is a member.

Understands the document isn't going to fix all problems.

A great overall document will come from this process. Not convinced it will address the real issues. Understands there are some constraints.

The Interim Report does identify that VFR flight will continue into the future.

The FAA should integrate the terrain updates into the moving map display (Digital Elevation Model).
The report title is specific to Alaska. The accident rate in the report is specific to Alaska. The FAA gets tired of hearing how special Alaska is.

Are there amendments that can be made to the AIP handbook to address the specific needs of Alaska?

Acknowledge the challenge of breaking down the stovepipes and addressing the stakeholder feedback.

Hopes the feedback is implemented.

Aviation is a team sport.

One of the recommendations that NTSB made based on the 2019 Roundtable was to create a "focal point" within the FAA to work with the different lines of business inside the agency and industry stakeholders to ensure that safety programs were implemented. While the interim report outlines activities of a number of FAA lines of business and includes a list of projects, we do not see any mechanism or process described or proposed to improve coordination internally and externally.

Evaluation of Safety Programs Emphasis needs to be placed on determining which efforts and initiatives have been successful. An approach that incorporates the problem definition, causes of the problem, intervention implementation, and evaluation of the interventions should be adopted. This final step in evaluation of programs or products is required to make improvements where necessary and ensure efficient use of funds. Improvements can be made to the interventions and ideally the cycle is repeated to routinely evaluate and improve programs.

The FAA needs to evaluate the effectiveness of safety programs and procedures after implementation by developing metrics for measurement, goals for success, and assessments for changes to existing programs and procedures. For example, evaluation of use and changes to T-routes, use of weather cameras, and legacy infrastructure should be conducted to optimize efforts and funding spent on these systems and programs. Engaging the assistance of MITRE, CAMI, or other organizations to conduct studies or surveys for assistance with evaluation should be utilized to determine the results of activities, use of resources, and inform needs for further change or discontinuation of ineffective programs. Consultation with stakeholders and publication of the measures used for evaluation and the assessment findings will help ensure transparency and the adherence to the measurement metrics.

P2: If *"The goal is to deliver a fully-integrated report to the Administrator regarding safety program needs and priorities throughout Alaska"* why is the Civil Aerospace Medical Institute (CAMI) not

included as one of the lines of business? As the research, education, and occupational health wing of the FAA, their expertise could give credence to analyses and recommendations on the needs of pilots in Alaska.

P2: "*As a reference, the teams used information contained in multiple studies by the FAA and external entities related to aviation safety in Alaska.*" Please include a list of the referenced studies and any available internet links to those documents.

P3: Human factors, human error, and human performance should be included in the areas of emphasis developed by the FAA interdisciplinary team. Research on pilot behavior is needed to address several key themes in crashes in Alaska, such as why pilots are not using all of the available resources to avoid VFR into Instrument Meteorological Conditions (IMC) and crashes due to CFIT.

P4: "*The FAA is also evaluating the deployment of the Visual Weather Observation Systems (VWOS), a new technology to provide non-certified weather reports and allow its use by Part 135 operators for both IFR and VFR flight planning.*" Use by Part 91 operators is also important and should be included in guidance for using this new system.

P4: "*Alaska-based Part 135 operators continue to evolve away from dated aircraft designs, and as more capable, complex aircraft predominate, airport operational needs change in order to make safe and efficient services available for rural communities.*" A complex aircraft as defined by the FAA is an airplane that has a retractable landing gear, flaps, and a controllable pitch propeller. Do you mean technologically advanced aircraft?

P5: "*Alaska has approximately 763 recorded landing areas in addition to the public use airports.*" According to the FAA 5010 Airport Master Record database, Alaska has 761 registered airports, of those 393 are public use. There appears to be a disparity between these numbers and the claim that these are "in addition to the public use airports."

P5: "*These are commonly used for intrastate transportation of goods and passengers within Alaska by both commercial operators and prevalent Part 91 operations.*" Please define prevalent Part 91 operations.

P6: "*The RA is to work with Alaskan stakeholders to gain insight into the effectiveness of such programs.*" Does this mean the effectiveness of the FAA programs will be evaluated by subjective Alaskan stakeholders? Suggest the FAA develop an objective, science-based,

fact-driven methodology for evaluation of program effectiveness and share with the stakeholders prior to implementation.

P8: "*Alaska has almost twice as many landing areas as public use airports*" According to the Airport Master Record database, just over half the registered airports in Alaska are public use. Are there additional "landing areas" not included in this database? And if so, where are these documented?

P8: "*Figure 2 reflects the remoteness and varying topography that limits the usability of ground- based navigation aids in the low altitude environment used for intrastate air commerce.*" Intrastate commerce also uses the high-altitude environment, and not all users of the low altitude environment are commercial. General aviation, Part 91 operations are also conducted in the low altitude environment and should be included.

P8: "*Satellite based navigation, while powerful and continuing to rapidly evolve across both the safety and efficiency spectra, is only available to aircraft equipped with modern avionics.*" This is not true. Handheld GPS technology was widespread in the early 1990s. Perhaps edit language to specify satellite-based navigation using panel-mounted avionics meeting FAA certification requirements.

P9: "*Aircraft operator fleet selections determine the critical aircraft at each airport, and the subsequent AIP designations determine federal funding eligibility.*" Please define or explain what critical aircraft are.

P9: "*However, of all Alaskan flight operations, there is still a significant number of IFR flights conducted. As a result, operators often elect not to install IFR equipment since it would provide minimal benefit at great cost due to limited availability of more accessible instrument procedures and the inability to fly into known icing conditions.*" These sentences contradict each other. Please edit for clarity.

P11: We anecdotally understand that Part 135 operators are plagued by a revolving door of Flight Standards Principal Operations Inspectors (POI), making it difficult for these operators to maintain continuity regarding oversight of their operations. One operator indicated that they received a letter introducing a new POI, yet had not met the inspector currently assigned. Individual pilots also report difficulty in accessing Flight Standards staff for questions and guidance. The FAA should conduct a review of Flight Standards staffing turn over and related issues that may be contributing to this situation.

P12: "Additionally, the FAA Alaska PIREP Improvement Workgroup is holding routine meetings to continue this discussion in an effort to develop a strong network of members to establish goals and milestones." Please include these goals and milestones in the report.

P14: "*The FAA and Part 121 operators are cooperating to obtain authorizations for special terminal operations procedures. To date, these procedure authorizations have been obtained for three Part 121 operators.*" Please include the list of Part 121 operators who hold these authorizations.

P14: "*This initiative has also led to improved charting and accuracy of flight frequencies on VFR sectional charts.*" This statement does not appear to be accurate. The 'CTAF Areas' now defined for some specific areas in Alaska are not charted on VFR sectional maps as defined areas. In one location they are depicted in an inset on the Anchorage Terminal Area Chart, however this case is not extensible to other areas in the state that have defined CTAF Areas.

P14: "Alaska currently has 33 requirements related to expanding communication coverage, two of which have received funding." Please list the two requirements that have received funding.

P15: Many of the route segments in the proposed T-routes project have Minimum Enroute Altitudes (MEA) that are higher than required based on terrain, due to lack of communications. Unless either (a) additional RCAG stations are installed to allow lower MEA's or (b) waivers for COM gaps are established, the resulting MEA's will place the very aircraft mentioned in this report as most in need of protection, outside of an altitude range they can use, either due to icing or performance issues. Addressing this issue is of critical importance to encourage increased IFR operations and the resulting safety associated with them.

P15: "*The Special Use Airspace Information Service (SUAIS) consists of frequencies used by GA pilots while transiting special use airspace under VFR.*" Commercial pilots also use this service. Or is this statement intended to mean non-military? Please clarify.

P16: *"The Alaska Mountain Pass Waypoint Charting initiative supports pilot situational awareness when flying in remote and mountainous areas and decreases CFIT incidences. The Mountain Pass Working Group consists of FAA, regulatory, and stakeholder representatives. The goals of the initiative are to identify mountain passes that should be charted, establish VFR waypoints to identify mountain pass entry and exit points, and remove unsafe or unused mountain passes from VFR sectionals. The group is recommending that altitude and terrain*

elevation data be incorporated into aviation charts to enhance pilot awareness."

In currently charted mountain passes (where an FAA pass symbol is depicted) the working group has asked that the elevation of the pass be added to the charts, as is currently the practice for charted mountain passes in the CONUS. The group is **not** making any request to define or include altitude data for aircraft flying these passes, which would vary depending on the type of aircraft, prevailing weather, and experience of the pilot.

P16: "*The goals of the initiative are to identify mountain passes that should be charted, establish VFR waypoints to **identify mountain pass entry and exit points**, and remove unsafe or unused mountain passes from VFR sectionals.*" This initiative is broader than charting mountain passes and the establishment of entry and exit points. It includes adding elements to improve pilot situational awareness along mountain routes for VFR navigation and communication.

P 19: "*The FAA is considering whether to allow communication gaps on some published routes. Allowing communication gaps on some routes would significantly lower the minimum IFR altitudes, while still providing obstacle clearance. This would provide flexibility for pilots that may have performance limitation or flight into known icing conditions restrictions. Additionally, the FAA is evaluating the feasibility of advanced communication equipment for aeronautical communications.*"

This section either needs to be moved to section 2.2.2 or cross-referenced there so that the reader has a complete picture of the situation.

P19: This section discusses improvements to navigation infrastructure based on WAAS. The section needs to include information on how Part 91 operators may use and benefit from proposed changes mentioned in this section.

General Note: Please add the organization names associated with the internal FAA codes to the document so that readers will better be able to understand what part of the FAA is being referenced. For example, summary sections that start with 4.2 AVS should mention the line of business by name associated with the letter code.

P20: These options listed are all considerations, not actual plans or initiatives.

P22: "*AIR leads many user groups, such as the deHavilland Beaver/Otter group, to increase communication on airworthiness*

concerns, as well as conducting an extensive outreach program." This is the summary section, please list user groups and detail the outreach program in the appropriate section.

Comments on the Prioritized List of Initial Efforts (Appendix 1):
In the interests of improving involvement across lines of business, the projects listed should include a field that indicates which FAA organizations (or industry partners, where appropriate) are involved in each project, including what group or entity is the lead. Analyzing the degree of involvement across the lines of business and with industry may also help identify opportunities for stakeholder engagement and overall safety improvement.
-A prioritized list implies efforts have been ranked in some degree of importance, urgency, or precedence. This table appears to be are more of a list of ongoing efforts. A field should be added to indicate where the effort falls in a ranked system, such as high medium or low, or 1, 2, or 3 with an explanation provided of what these designations mean. If the category field is an attempt to do so, it should be revised to be clear. Many of the efforts have no ranking and are confused with the state of the activity, or contain a ranking and an activity level or only one term. Please revise for clarity.

-This list includes activities like the Mountain Pass Working Group, which clearly are safety projects in development. Also included are standard FAA programs or functions, such as the FAAST Team disseminating notices, or the Runway Safety Team holding routine meetings, and ongoing infrastructure refurbishment (replacing a NEXRAD pedestal or sustaining VORs, etc.). These three types of activities should at least be separated into different lists, to allow the reader to clearly see what new, developing efforts are under development, separate from routine ongoing activities and maintenance programs.

-The list includes an item labeled "Internal Collaboration." Elaborating on how the FAA is planning to enhance this should be a significant part of this report. While each of the lines of business have provided a list of their activities, closer examination of how these activities will be integrated, communicated, and coordinated within the lines of business would be helpful in demonstrating sincere efforts to improve aviation safety in Alaska. Endeavors to involve other lines of business within the FAA, such as CAMI, should also be addressed.

-The AVS section of this appendix list includes an entry "VFR/GPS routes in Alaska mountain passes" and another "Alaska Mountain Pass Waypoint Charting initiative." If these are not two separate items, they should be combined. If they are separate efforts, more detail is needed to

	describe and differentiate them. A third reference to this working group exists in the ATO section of the appendix. We appreciate the goal of this Alaska safety initiative process, and the work done to date toward that objective.
VWOS	When it comes to the AWOS and VWOS and the non-certified weather and cameras, why can't we get the non-certified weather certified? Why can't it be used for aviation? Why can't we get approval for this? Alaska needs better weather reporting and we should be using all of our options. The FAA needs to invest in more VWOS. These provide more information than AWOS, especially when paired with cameras. The FAA still needs to move forward with AWOS, but VWOS should be the highest priority and pairing these with cameras. This needs to be moved up on the FAA priority list. Agree that the AWOS/VWOS needs to be moved to a high priority and needs to be funded. We need more systems in Alaska. The upgrade to the system is amazing and if we can get more funded for the upgrade it would make a big difference. 160 VWOS stations are needed in Alaska to support General Aviation, tour operations, smaller operations, and everyone else. For the VWOS test case, the commenter has heard nothing but positive comments from his pilots. Alaska needs reliable weather data for the pilots. Are ASOS/AWOS the best option? Would VWOS paired with a weather camera be better in some areas? The FAA regulations have adapted to changes in technology so we can't utilize other options that are out there. The report mentions VWOS projects. How are the VWOS different from the AWOS? The Interim Report briefly discusses AWOS. The Barter Island AWOS isn't always reported as inoperable when it isn't fully functioning. Is someone with the FAA tracking the AWOS outage reporting? Please continue to support the VWOS program. It is an amazing advancement.

Safety Management System (SMS)	SMS is a great program, but if we don't have the infrastructure it isn't helpful. SMS – This will help provide some improvements. There are dozens and dozens of pages for the operators to go through, which is unrealistic for small operations. Can this be pared down for the Part 135 operations instead of having each individual operator have to do it themselves?
Alaska Aviation Safety	There has been a lot of work done to improve safety in Alaska, but we have a long way to go still. In 2019, 35 people died in aviation crashes in Alaska. The important information isn't getting to the pilots. Flying in Alaska is way different than the lower 48. The need to improve safety in Alaska isn't the hard part. The need is there. The hard part is funding and developing an implementation plan. Recommends the FAA develop programs to raise awareness in rural communities to promote aviation safety. This could be similar to the education campaign in rural villages to address the destruction of runway lights. Alaska has a significantly smaller population than the Pacific. If a plane crashes in Alaska, there is a significantly larger impact to the community. Especially when an entire family is lost. Recommends the FAA examine other areas in the country with significant uncontrolled airspace (example: North Dakota or Montana) and see what they are doing to improve safety.
Multiple Government Agency Requirements	Government to government communications isn't addressed. Different agencies are putting more stringent rules in place that make it harder on operators when you combine all the rules. Examples are more FAA regulations, increasing TSA requirements, stricter Postal Service requirements.
NOTAMS	When it comes to runway conditions, DOT maintains the reports, but they aren't always educated enough to provide proper NOTAMs. There is a possible delay in issuance from Flight Service due to a contract in place. There seems to be a lack of education on issuance of NOTAMS throughout management, or no connectivity for education to management of NOTAMS which creates a lag time from the system to

| | the users. Can the FAA help with the lag or provide the education needed?

It's a statewide delay with the system, more information can be researched and provided. (Good suggestion) Can we provide additional training to airport operators?

The main issue with the NOTAMs is an issue with Field Condition NOTAM (FCN) cancelling after 24 hours.

If there is no FCN then the runway is supposed to be clear, dry, and uncontaminated. The reality is it usually means the airport runway hasn't been inspected and could be contaminated.

Page 30 of the report (Appendix 1, AVS Efforts) identifies an effort for "communication gaps and minimum IFR altitudes study". Regarding this, pilots need a better NOTAM system with timely NOTAMs. This is especially true for runway closures. Pilots sometimes find out about runway closures when they are going to land their plane.

The airport was closed due to snow removal not being completed, but the NOTAM didn't mention the runway closed. The pilot flew to the airport and saw the issue prior to attempting the landing. Flight Services in Kenai was notified and they didn't know the runway was closed.

There have been issues at other airports where the runway closure won't be posted in the NOTAM for days. Then, when the runway is open, the NOTAM isn't updated to remove the closure. This means that once the runway is finally useable, the pilots can't legally use it because the NOTAM says the runway is closed when it isn't. |
|---|---|
| Instrument Approach Procedures | Is it possible to cluster some of the approaches? If so, it would be beneficial to have operator input and involvement for this process.

The FAA is building approaches that aren't useful. They are too high for the aircraft to utilize them and are based off NDBs. There is a private contractor that can develop an approach to get pilots down to 300 feet for Coldfoot, but the FAA approach will only allow a 2,000 foot approach.

The FAA needs to take a look from the top down and overhaul the data they are using to make decisions. The data isn't reflecting actual conditions for pilots.

Adding instrument approaches should be a high priority in the report. |

	What is the process for determining where new approaches go?
	There currently aren't any approved approaches for Nenana, but the airport is used anyway. This is an important runway in the Fairbanks area. This is the alternate landing location for Fairbanks and is used if someone can't get into Fairbanks International and doesn't have enough fuel to divert to Anchorage. An official approach here will prevent accidents since pilots will go to the approved alternate.
	The decision height for the Fairbanks International airport isn't appropriate for pilot decisions, especially if the area is socked in with smoke. The last time this happened, Fairbanks wasn't clear but Nenana was.
	When pilots fly somewhere in Alaska that doesn't have weather reporting, it would be nice to have established let down areas. That way a pilot who encountered unexpected bad weather had a safe option to land.
	Page 29 of the report (Appendix 1, AVS Efforts) identifies an effort for "VFR/GPS routes in Alaska mountain passes". Pilots are flying VFR routes to Fort Glenn and they use satellite phones for communications. A GPS approach in this location would be safer. Is there a better way to get approaches approved and flight tested? It currently takes too long to complete this process.
	Requested clarification if the approaches were different than the special approaches the oil fields are getting.
	There is a lodge operator who tried to get an AWOS installed, but he gave up after four years because he couldn't get a special approach approved.
	The approaches need to evaluate the impact to the community. The communities need the airports for medivacs, but the low population means a high cost for few people. The current guidelines being used for evaluation don't take into account that these are roadless communities and it would cost far more for DOT to build a road than it would for the FAA to put in an approach. The safety impact for the individual community should be a deciding factor and not just the cost per person.
ADS-B	ADS-B has been installed on their aircraft, but there isn't reliable coverage throughout Alaska.
	When flying from Fairbanks to Anaktuvuk Pass there isn't coverage.

How does the FAA determine where new ADS-B infrastructure is installed?

The FAA is working on a plan to install additional infrastructure in service areas being used with no coverage. The project will have a final funding decision made next month. If approved, the plan is to start the installation in the 2022 construction season. The Alaska construction season will impact when these can be installed. Per Contributor – This should be moved to a high priority in the report.

ADS-B coverage is a big issue for pilots. Pilots like the ADS-B and they want to see improvements in the coverage.

The ADS-B needs more coverage so it can used by the pilots.

We only need ADS-B in Anchorage, not the rest of the state. How do we get word out to pilots outside of Anchorage? ADS-B is not in the airman certification standards and we are not testing pilots on this.

Some planes have ADS-B In installed, some have ADS-B Out, and some have both In and Out. Because of the difference, not all planes are showing up on the technology for pilots. A pilot can be flying right next to another plane and the second plane could be invisible because they don't have the same equipment installed.

Asking as both airport management as well as a newly licensed private pilot; as a private pilot, I've noticed there is a lot of air traffic and the traffic is growing over time, there is not a mandate for ADS-B and it's important to get coverage to avoid aircraft collisions due to the abundance of traffic.

Alaska's airspace is mostly Class G. ADS-B and radio equipment are optional at most airports. There are planes that fly without any form of communication, not even a radio. ADS-B needs to be fully implemented in Alaska and a requirement no matter the age of the aircraft. At a minimum, radios should be required.

When it comes to IFR, if you don't have ADS-B Out for IFR then you don't have anything.

Suggested the FAA start with reinvigorating the ADS-B retrofit funding from Capstone.

The FAA needs to deploy an ADS-B infrastructure in Alaska. Are satellite communications taking over ADS-B?

	The FAA claims the benefit/cost ration doesn't work for ADS-B to be installed in urban areas. This isn't true. It feels like Alaska is getting the short end because the infrastructure isn't there. The "other side" of the FAA is unplugging NDBs and leaving Alaska with nothing because we still rely on the legacy NDBs due to the lack of ADS-B.
Alaska Communications Requirements Meeting	Report page 14, second to last paragraph (section 2.2.1) – The report references an "annual Alaska Communications Requirements Meeting where stakeholders have the opportunity to present new requests and give feedback." Alaska Air Carriers Association (AACA) hasn't heard of this annual meeting before. Can someone provide additional information on this? Requested clarification on the FAA's plan to improve communications in Alaska. We believe that significant challenges have been encountered that are attributable to a lack of clear communications between the FAA's lines of business at the regional level. This adds extra time and steps to development of interventions, safety improvements, and changes to systems. Included in these challenges are the lack of visibility in points of contact in the FAA, within the lines of business, and in managing regional issues. Highlighting and publicizing relationships between lines of business and points of contact would encourage feedback and participation in safety interventions from the public and operators.
Workgroups	The Interim Report section 2.3 Operations Safety Management references various committees and workgroups (Bethel Tower Workgroup, RSAT, FAAST, ASAP, and the CFIT Accident Prevention Initiative). What is being done differently this time from what has been done in the past? How is the FAA encouraging GA participation in those committees and workgroups? What does the FAA have in place to evaluate the effectiveness of those committees and workgroups? The existing communication tools of the FAA Industry Council and Alaska Coordination Council are good for information sharing, but not all FAA LOBs participate in these monthly meetings. Recommends the FAA become involved in the quarterly air carrier meetings. Participated in many workgroups for Alaska. There is a history of a long lag time from when changes are made to when they actually show up in the official documents.

	Alaska has an FAA Industry Council, which we believe is an effective forum to exchange information both across lines of business and with industry. Yet participation by the different FAA lines of business is not consistent. Increasing regular participation in this forum by the lines of business would help keep internal and external stakeholders involved and provide a venue for industry to be informed regarding FAA programs and activities. Collaborate with CAMI researchers in the evaluation of Alaska's existing aviation initiatives. Understanding why pilots continue to fly VFR into IMC and evaluating weather cameras and other weather resources from a human factors, human error, and human performance perspective can lead to improvements or modifications to increase their usage and improve pilot decision-making abilities.
FAA Outreach	How is the FAA utilizing social media for outreach and communications? UAA conducted a test by putting out a message via e-mail only and a separate time putting out a message via Instagram only. The e-mail only message didn't reach many students since they just don't use e-mail. The Instagram only message had a significantly higher response rate. Today's students (new pilots and mechanics) are using the various social media platforms such as Twitter and Instagram for communications and not e-mail. How is the FAA adjusting our communications for the new generation? The report includes a significant amount of equipment and future projects (ADS-B, T-routes, etc.), but there is nothing that addresses training, teaching, or outreach to GA pilots. Recommends the FAA increase its social media presence. Create a public dashboard with a description of the different Alaska aviation safety initiatives, their status, schedule for implementation, and points of contact for each project or program. This will help improve transparency externally as well as internally across the FAA lines of business.
FAR Part 147	Here in Alaska, maintenance is approached different due to Part 147. Congress ordered the FAA to issue a final rule on Part 147, but the FAA is still sitting on the updates. The FAA inaction is holding back the industry on maintenance updates. It is time for a change and we need the rule updated to make the change.

Weather Cameras	Weather cameras aren't as good as ground-based systems. There is no in-flight Wi-Fi for the pilots which means the pilot can't use the weather cameras for updates during flight. Alaska didn't get enough ADS-B and ASOS installed. Instead, weather cameras were substituted for the infrastructure. Weather cameras are commonly referenced during preflight, however they aren't helpful while in-flight. The weather camera program is excellent. It is one of the best things the FAA has ever done. It is a good alternative to an actual person on the ground. Alaska could use more weather cameras and more VWOS. A commenter agrees that the places that need them don't have the infrastructure for the power. It would be great to have these, but a solution to the power issue needs to be found. Weather cameras would be helpful if they included a windsock in the video. It would also be nice to have a camera on the ramp area. This would be a helpful feature if a pilot forgets to close IFR. This way it can be verified that they flight did land safely. Understands there are some privacy issues with putting a camera on the ramp area.
Flight Service	A recent memo was sent to pilots directing them to "brief themselves" before a flight and "not bother Flight Services". This is an example of the lack of interest pilots are getting from Flight Services. Kudos to Flight Services in the Deadhorse area. They are easy to work with and the 70 North pilots have no issues with them. One commenter operates 2 Part 91 airplanes. He recently had to fly to Spokane for some maintenance repairs. While trying to find information for filing his flight plan, commenter had a very hard time finding the information for his Ketchikan fuel stop and the Part 93 rules. Ketchikan Flight Services required a written letter through the USPS and then they would mail back, via USPS, the flight procedures. This is 2021. Why can't pilots get this information electronically? Why isn't the information published? The requirement to use the USPS and then sit by your mailbox and wait for a reply prohibits pilots from getting the needed information. The average pilot won't bother with this process.
FAR Part 139	On the whole it is important for FAA rule making for the nine seats or more to have required inspections and rescue personnel on stand-by, currently it is for 30 seats or more when the smaller aircraft hold the same valued loved ones. (Re: Part 139 exemption)

	The exemption is a "mis-advertisement" only operating part 139 airport not at all times-is that level of service only necessary for a 737? It should be just as important for the smaller aircraft as well.

From the student pilot perspective: There is an issue with airports that don't report frequent conditions. If they are obligated airports they could issue a NOTAM to inform pilots of same day conditions.

Airports (Deadhorse) justify traffic for funding a tower? We could start counting the amount of traffic in areas to provide justification for the need of a dedicated tower to areas that need one. |
| SMS | Wanted to express support for SMS for airports and wants to see it continue as it is very important.

Commenter sees the increase in SMS and the utilization of the flight assessment tool. In the FAAST Talk (2015 – 2016) there was talk of developing a flight risk assessment tool. Using a tool from United Airlines doesn't apply to the small operations. It would be better to have a tool developed for the small operations that can be universally used in Alaska.

One commenter stated that Alaskan carriers are working to collect data and information on this. It would be helpful for the operators to have a tool to use. We need a starting place. A lot of programs are already in place. The SMS is over 1000 pages and not appropriate, or practical, for the small operators to implement.
A flight assessment tool from Dallas, Texas has very different needs than a flight assessment tool for Bethel, Alaska. The weight and balance program applies differently in Alaska with the different aircraft being flown in the state. |
| Military Operations Areas | Military Operations areas of restrictions across mainly the northern areas of Alaska in particular are growing with the multitude of exercises.
One solution might be to plan cooperation with public and private flying stakeholders during restricted times and areas.
Enhance communications in the areas that will be effected during scheduled exercises.

Fairbanks commercial air carriers are effected as they have windows for arrival and departures during the exercise times or they will be grounded to wait until they are clear of the time or will be diverted around the area of military operation. |

	A commenter was curious about the "share the airspace" solution in AK. And, is there a "master plan" for airspace in AK?
CTAF	There used to be a working group for CTAF usage and mid-air collision avoidance. This coordination/collaboration went away in 2017. Requests since then, such as the one at Kenai, have gone unanswered. In Fairbanks, a chart notice appeared one day telling pilots to use a CTAF frequency that isn't used in the Fairbanks area. This caused a lot of confusion for pilots. It would have been helpful to have a forum to address changes like this and avoid the confusion. The Mat-Su CTAF change is still causing tension with pilots regarding that decision that was made. There was a fatal mid-air collision in the Kenai Peninsula in July 2020, hopefully the investigation doesn't find that CTAF was a contributing factor. One commenter stated his operations are based out of Fairbanks. The Fairbanks CTAF change is confusing pilots since it isn't the frequency used in that area. The pilot's understanding is the change was made at the request of the military. Most of Alaska lacks sufficient ATC radar coverage to provide Flight Following services. The FAA and industry worked collaboratively to evaluate and revise the use of Common Traffic Advisory Frequencies in specific regions of the state as one strategy to mitigate mid-air collisions. A request was made by an industry group in the Kenai Peninsula regarding changes to CTAF frequencies in their local area on January 25, 2017. Employees in several key positions have been made aware of the risks of mid-air collisions in this area due to overlapping frequencies and pilots and industry have asked for assistance in remedying the discrepancies. To our knowledge the FAA hasn't addressed this issue and has not provided feedback on the status of this request. In a different location, in Interior Alaska, a chart notice of an "area CTAF" frequency was placed on the Fairbanks sectional advising pilots to use a CTAF frequency that is assigned for a different area, causing a potential reduction in pilots actually using a common frequency when making traffic reports in this area. No notification of the change was publicized to the local pilot community, nor was there an FAA point of contact provided for questions or feedback on this confusing notice.

	The lack of communication and coordination across the FAA lines of business, and lack of a specific point of contact for these issues appear to contribute to these and potentially other situations regarding the use of CTAFs.
VFR Routes	There is a lot of time being spent on instrument improvement/weather and VFR. There is significant VFR traffic in Alaska. There is currently no formal process to identify VFR routes in the state. This would help to identify weather camera locations and help with flight restrictions. VFR isn't considered when flight restrictions are issued. ADS-B coverage, specifically satellite ADS-B, would help define these routes. VFR routes aren't published on a chart, but they are how a pilot normally flies from A to B with GPS direct. The terrain doesn't always allow a straight line flight to occur. The voluntary 1090 out has helped to identify the preferred routes that pilots are flying. The purpose of the information is where to install weather cameras and identify possible choke points, not to add everything back to the charts. The information might be helpful for identifying infrastructure needs and not adding more routes. We aren't looking to tell people how to go from A to B, we are looking at how they are already getting there to identify the needs along the most used routes. While significant attention is being devoted to the improvement of instrument flight rules infrastructure, we anticipate that the lack of deicing capabilities for smaller general aviation aircraft will result in the majority of flight operations in Alaska continuing to be conducted under visual flight rules. These aircraft types are used both in Part 135 and Part 91 operations. Pilots flying under VFR also have needs for infrastructure, such as Remote Communication Outlets to communicate with Flight Service, a broader network of weather reporting stations to make informed operational decisions, and additional weather cameras to aid pilot decision making for VFR flights. To plan and continue a build out of infrastructure to support VFR operations in an efficient manner, the FAA needs to define the major VFR routes across the state for planning purposes. Knowledge of

	major VFR routes would assist with organization and scheduling of infrastructure development and optimize the use of resources. This would provide the basis for justifying where additional weather cameras are needed, as well as lower cost weather reporting stations that are being prototyped presently, to fill gaps in the observational network. The FAA should work with industry to identify and understand the major VFR routes in Alaska to help site infrastructure specific to the needs of the VFR operators. Better understanding of VFR routes would also inform the design of airspace when considering military training areas, restricted areas, and temporary flight restrictions, etc.
Deicing	Larger companies have to file carbon footprint and deicing reports with other federal agencies. Any measures the FAA could implement to help operators reduce their carbon footprint and reduce the amount of deicer they use the better. Even when larger companies operating more sophisticated aircraft can fund de-icing at remote airports, it isn't always feasible to establish the deicing options due to regulations regarding chemical usage in environmentally sensitive areas. The current Presidential Administration has increased the reporting on carbon emissions and chemical usage. Reduction of these is a big item for the Administration.
NEXRAD	NEXRAD is lacking in Alaska.
RCAG and RCO	RCAG (Remote Communication Air/Ground): The infrastructure has been out of service for a long time (inoperable). Need new fiber optics but it hasn't been funded. Give high priority to continued development and testing of innovative technology to increase the number of RCO and RCAGs and improve communications with Flight Service and Air Traffic Control. This should provide more access to IFR infrastructure, in the form of lower MEAs on T-Routes, as well as giving VFR pilots more opportunities to use FSS and ATC services.
Aviation Accidents	It is important to note that not all accidents in Alaska are being reported. Especially in remote locations.
Federal Aviation Regulations	The FAA takes too long to change regulations so the FAA writes a handbook on how to interpret the regulations instead.

	The local Flight Standards District Office (FSDO) has interpreted regulations wrong in the past. It is all up to interpretation.

An update was released for 49 USC last week. How long has that been in the works?

The Alaska exemption in the regulations hasn't been widely known or the operators would have been using it. This highlights the issue that it takes the FAA too long to make a rule and update the regulations. By the time the guidance gets to the operators, it is too late to make a difference.

The 89 guidance was written by Part 139 operators who didn't know how this really applies in Alaska.

We have a lot of legacy aircraft here. There are flight manuals from the 1970s still being used. Operators are being told by FAA inspectors that the manuals don't cover the required items because they are too old. The aircraft are older, but they are very reliable for the needs in Alaska. The FAA has an obligation to operate for all system users, not just the lower 48 larger operations.

The DC rule makers don't understand that 82% of Alaskan communities are off the road system and rely on aviation. |
| NTSB Recommendations | Recommends the FAA track the NTSB findings and provides regular updates on the progress of meeting this recommendations.

There is the appearance that the NTSB recommendations aren't being fully embraced by the FAA.

Some of the issues being raised are systemic and enduring. Rich found and NTSB study from 1995 regarding aviation safety in Alaska. That study had the same chronic issues we are talking about today.

There needs to be a systematic way to address the issues.

Understands the NTSB has an advisory role and is not an enforcement agency. |
| UAS | The FAA should explore ways to leverage UAF (University of Alaska Fairbanks) and partner with ACUASI (Alaska Center for Unmanned Aircraft System Integration). There are 3 UAS (unmanned aircraft systems) programs ongoing and UAF is the only group with a seat at the table for all 3 groups. |

	UAS is working to map airports to identify obstructions. A better partnership with the FAA and UAS would improve safety. Alaska DOT has an airport mapping challenge at Nenana on August 25th. Contractors will be flying UAS over the airport and showing off what the technology can do. Encouraged the FAA to participate in the event. Recommends the FAA encourage and support UAS in rural Alaska. This would save in AIP funding. Recommends the FAA keep UAS in mind when they are developing airport infrastructure for rural Alaska. Cargo deliveries are in the R&D stage with plans to install hubs at rural locations.

Appendix 4: Links to Reference Documents and Reports

NTSB Report and Safety Recommendations

NTSB Report ASR-20-02 can be found at the following website:
https://www.ntsb.gov/investigations/AccidentReports/Reports/ASR2002.pdf NTSB Safety

Recommendation can be found at the following website:
https://www.ntsb.gov/_layouts/ntsb.recsearch/Recommendation.aspx?Rec=A-20-011

14 Code of Federal Regulations: Parts 91, 119, 121, 135 and 139

14 CFR – Part 91 GENERAL OPERATING AND FLIGHT RULES
https://www.ecfr.gov/cgi-bin/textidx?c=ecfr&sid=3efaad1b0a259d4e48f1150a34d1aa77&rgn=div5&view=text&node=14:2.0.1.3. 10&idno=14

14 CFR – Part 119 CERTIFICATION: AIR CARRIERS AND COMMERCIAL OPERATORS https://www.ecfr.gov/cgi-bin/textidx?c=ecfr&sid=4d87705808eddb6d1f536f86f59ff284&tpl=/ecfrbrowse/Title14/14cfr119_main_02.tpl

14 CFR – Part 121 DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS
https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title14/14cfr121_main_02.tpl

14 CFR – Part 135 AIR CARRIER AND OPERATOR CERTIFICATION
https://www.faa.gov/licenses_certificates/airline_certification/135_certification/

14 CFR – Part 139 CERTIFICATION OF AIRPORTS
https://www.ecfr.gov/cgi-bin/textidx?c=ecfr&SID=8313bccee050ec81d7e8fb3377331177&rgn=div5&view=text&node=14:3.0.1.1.14&idno =14

Flight Standards under Sections 322 and 516 and in accordance with AC 135-45.
https://www.faa.gov/documentLibrary/media/Notice/N_8900.563_FAA_Web.pdf

Interim FAASI Report
https://www.faa.gov/sites/faa.gov/files/2021-09/FAASI_Interim_Report.pdf

HR302 Section 322 (FAA Reauthorization Act), Page 86
https://www.congress.gov/115/plaws/publ254/PLAW-115publ254.pdf