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Airport Master Plan Update Juneau International Airport

DRAFT MASTER PLAN UPDATE

March 2026

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Acronyms

AAC	Aircraft Approach Category
AACGR	Average Annual Combined Growth Rate
AAGR	Average Annual Growth Rate
AC	Advisory Circular
ACIP	Airport Capital Improvement Program
ACRP	Airport Cooperative Research Program [TRB]
ADG	Airplane Design Group
ADIP	Airport Data and Information Portal
ADPH	Average Day Peak Hour
ADPM	Average Day Peak Month
ADO	Airports District Office [FAA]
ADS-B	Automatic Dependent Surveillance-Broadcast
AFFF	Aqueous Film Forming Foam
AGL	Above Ground Level
AIP	Airport Improvement Program
ALD	Airport Layout Plan Drawing
ALP	Airport Layout Plan
AMSL	Above Mean Sea Level
APM	Average Peak Month
APMS	Airport Pavement Management System
ARC	Airport Reference Code
ARFF	Airport Rescue and Firefighting
ARP	Airport Reference Point
ARPA	American Rescue Plan Act
ARPC	Approach Reference Code
ASDA	Accelerate Stop Distance Available
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
AWOS	Automated Weather Observation System
BLS	Bureau of Labor Statistics
BTS	Bureau of Transportation Statistics
CARES	Coronavirus Aid, Relief, and Economic Security Act
CBD	Central Business District
CBJ	City and Borough of Juneau
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CPI	Consumer Price Index
CRRSA	Coronavirus Response and Relief Supplemental Appropriations Act
DME	Distance Measuring Equipment
DOA	Department of Aviation
DOT&PF	Alaska Department of Transportation and Public Facilities
DPRC	Departure Reference Code
EA	Environmental Assessment

EIS	Environmental Impact Statement
EVAR	Emergency Vehicle Access Road
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FBO	Fixed Base Operator
GA	General Aviation
GIS	Geographic Information System
GPS	Global Positioning System
HIRL	High Intensity Runway Lights
IAP	Instrument Approach Procedure
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IFF	Identification Friend or Foe
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
JNU	Juneau International Airport
LDA	Landing Distance Available
LDIN	Lead-in Lights
LED	Light Emitting Diode
LNAV	Lateral Navigation
LPV	Localizer Performance with Vertical Guidance
MALS	Medium Intensity Approach Lighting System
MALSF	Medium Intensity Approach Lighting System with Sequenced Flashers
MALSR	Medium Intensity Approach Lighting System with Runway Alignment
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MPU	Master Plan Update
MSL	Mean Sea Level
NAS	National Airspace System
NAVAID	Navigational Aid
NBAI	National Based Aircraft Inventory Program
NCEI	National Centers for Environmental Information
NDB	Nondirectional Beacon
NEDA	Northeast Development Area
NEPA	National Environmental Policy Act
NM	Nautical Mile
NOAA	National Oceanic and Atmospheric Administration
NPI	Nonprecision Instrument
NPIAS	National Plan of Integrated Airport Systems
NWDA	Northwest Development Area
O&D	Origin and destination
ODP	Obstacle Departure Procedure
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator Lights
PCI	Pavement Condition Index

PCN	Pavement Classification Number
POFZ	Precision Obstacle Free Zone
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
ROFZ	Runway Obstacle Free Zone
RPZ	Runway Protection Zone
RDC	Runway Design Code
RRC	Runway Reference Code
RSA	Runway Safety Area
RVR	Runway Visual Range
SOP	Standard Operating Procedure
SREF	Snow Removal Equipment Facility
TAC	Technical Advisory Committee
TAF	Terminal Area Forecast
TAF-M	Terminal Area Forecast Modernization
TAF-L	Terminal Area Forecast Legacy
TDG	Taxiway Design Group
TERPS	United States Standard for Terminal Instrument Procedures
TFMSC	Traffic Flow Management System Counts
TODA	Takeoff Distance Available
TOFA	Taxiway Object Free Area
TORA	Takeoff Run Available
TSA	Taxiway Safety Area; Transportation Security Administration
TRB	Transportation Research Board
USFWS	US Fish & Wildlife Service
VASI	Visual Approach Slope Indicator with Sequenced Flashers
VFR	Visual Flight Rules
VGSI	Visual Glide Slope Indicators
VMC	Visual Meteorological Conditions
VORTAC	Very High-Frequency Omnidirectional Radio Range and Tactical Air Navigation
VSR	Vehicle Service Road
WAAS	Wide Area Augmentation System
WMM	World Magnetic Model

1 INTRODUCTION

1.1 Overview

An Airport Master Plan is a process to plan for the short (0-5 years), intermediate (6-10 years), and long-term (11-20 years) airport facility development plan that will serve to meet future aviation activity demand for the Juneau International Airport (JNU). The plan is a comprehensive, long-term planning document that outlines the future development and growth of the airport. The FAA recommends that public use airports periodically update their Airport Master Plan approximately every ten years. The previous update of the JNU Airport Master Plan began in 2014, was completed in 2017, and approved and accepted by the City and Borough of Juneau (CBJ) in 2018.

The CBJ has initiated this update of the JNU Airport Master Plan (MPU) to ensure the airport continues to operate in a safe and efficient manner and that the plan remains relevant and accurate in light of changes in the aviation industry both locally and nationally. This MPU will be developed through collective and collaborative planning efforts undertaken by the CBJ, professional aviation planners, participating public agencies and the local public.

This MPU serves as an airport facility planning study that sets forth a conceptual framework for possible future airport development. It is, however, considered by the FAA and other local and state agencies to represent a viable and acceptable plan that paves the way for current on-going and planned eligibility for future funding participation through the FAA's Airport Improvement Program (AIP).

Major airport planning elements of this update of the JNU Airport Master Plan include:

- Inventory of Existing Facilities,
- Forecast of Aviation Activity,
- Assessment of Existing Capacity and Identification of Facility Requirements,
- Analysis of Needed Airport Development,
- Refinement of the Airport Development Plan, and
- Development of the Airport Capital Implementation Plan.

Although the JNU MPU is reviewed and accepted by the FAA, it only reflects the CBJ's goals and growth plans and therefore does not constitute a commitment on the part of either agency to participate in any future airport development planned or depicted in the Airport Master Plan or indicate that the proposed development is environmentally acceptable. As part of its participation, the FAA's role is limited to the review and approval of a limited number of Airport Master Plan components, namely:

- Aviation activity forecasts,
- Selection of one or more Critical Aircraft,
- Current aeronautical survey data uploaded to the Airport Data and Information Portal (ADIP), and
- Airport Layout Plan (ALP) drawings.

Although typically occurring concurrently to the development of new, or the update of existing Airport Master Plans, the FAA's conditional-approval of the JNU MPU's ALP will follow the CBJ's acceptance of the updated JNU Master Plan.

In general, this update of the JNU Airport Master Plan will guide the CBJ's strategy for the airport facility development needed to satisfy current and anticipated future aviation-specific activity demand in a cost-effective, feasible manner while minimizing environmental and socioeconomic impacts. The Airport Master Planning process is tailored to the unique conditions at CBJ and will:

- Provide a comprehensive activity forecast to identify anticipated future activity levels at JNU,
- Foster the continued growth of scheduled and non-scheduled passenger, air cargo, military, and general aviation activities,
- Preserve aviation facilities and property to accommodate forecasted growth of aeronautical activity,
- Identify and preserve the ability to grow non-aeronautical development that is compatible with aeronautical operations,
- Assess existing infrastructure and develop a comprehensive plan for updating the infrastructure to accommodate anticipated development at JNU, and
- Incorporate information from the CBJ to allow for a comprehensive development plan for JNU and the surrounding area.

The primary investigative and planning actions that will be undertaken as part of this update of the Airport Master Plan will likely include, but will not be limited to:

- Identification and documentation of current and anticipated future airport development needs.
- Identification of proposed airport improvements that will likely be needed to satisfy current and anticipated future aviation-related demand.
- Justification of proposed airport improvement projects through viable, prudent, and practicable alternative planning concepts.
- Development of graphical depictions of phased highest and best use airport improvements within designated on-airport land areas.
- Recommendation of a meaningful and realistic Airport Improvement Implementation Plan.
- Recommendation of a financially achievable Airport Capital Improvement Plan to support the Implementation Plan.
- Identification of the likely future need for environmental due diligence, environmental mitigation, agency review and associated permits.
- Identification of what future CBJ actions will likely be required to attain local, state, and federal regulatory approval and funding participation for the recommended airport improvement projects.
- Identification and/or recommendation of a dynamic and flexible process to provide continuing airport planning and facility improvements needed to satisfy anticipated or unforeseen aviation activity demand.

1.1.1 Completed Projects from Previous Planning Efforts

It is important to note that many of the planning, design and construction projects conducted at JNU over the years could not have been accomplished without Federal

assistance through the FAA’s Airport Improvement Program. **Table 1-1** depicts the FAA grant activity at JNU over the past 20 years.

Table 1-1: FAA Grant Activity			
Fiscal Year	Grant Sequence Number	AIP Federal Funds	Description
2005	3-02-0133-0043-2005	\$1,491,528	Construct Apron
	3-02-0133-0045-2005	\$25,953	Security Enhancements (Security Vehicle)
	3-02-0133-0046-2005	\$750,000	Construct Runway Safety Area (Environmental) - 08/26
2006	3-02-0133-0047-2006	\$1,000,000	Expand Terminal Building (Planning & Design)
2007	3-02-0133-0048-2007	\$14,700,000	Construct Apron (Mitigation), Construct Apron (Place Fill), Construct Runway Safety Area (Mitigation) - 08/26, Construct Runway Safety Area (Place Fill) 08/26, Construct Snow Removal Equipment Building (Mitigation), Construct Snow Removal Equipment Building (Place Fill), Construct Taxiway (Mitigation), Environmental Mitigation (Mitigation)
2008	3-02-0133-0049-2008	10,506,094	Construct Apron (Construct), Construct Runway Safety Area (Construction Phased 2) - 08/26
2009	3-02-0133-0050-2009	\$15,576,902	Construct Apron [construct NE Quad embankment, phase 3], Construct Apron [construct NW Quad (and associated taxilane) embankment, phase 3], Construct Runway Safety Area [construct runway safety area, phase 3] - 08/26, Construct Snow Removal Equipment Building [Construct SREF Embankment, phase 1]
2010	None	\$0	None
2011	3-02-0133-051-2011	\$1,441,744	Construct Snow Removal Equipment Building [phase 2 (utilities) - Part A]
	3-02-0133-052-2011	\$4,509,960	Construct Runway Safety Area [phase 4 (Design & construction)] - 08/26
	3-02-0133-053-2011	\$2,000,000	Construct Runway Safety Area [phase 5 (ATO RA)] - 08/26
	3-02-0133-054-2011	\$6,301,428	Construct Runway Safety Area [Phase 6
2012	3-02-0133-055-2012	\$17,133,231	Construct Runway Safety Area [Phase 7] - 08/26
	3-02-0133-056-2012	\$5,500,000	Construct Runway Safety Area [Phase 8 (ATO reimbursable agreement)] - 08/26
2013	3-02-0133-057-2013	\$1,903,817	Construct Runway Safety Area [Reimbursable Agreement] 08/26
	3-02-0133-058-2013	\$1,171,875	Rehabilitate Runway 08/26 [Phase 1, Design]

Table 1-1: FAA Grant Activity

Fiscal Year	Grant Sequence Number	AIP Federal Funds	Description
	3-02-0133-059-2013	\$703,125	Sustainable Master Plan, Update Airport Master Plan Study
2014	3-02-0133-060-2014	\$18,322,726	Rehabilitate Runway [Phase 2] - 08/26
2015	3-02-0133-061-2015	\$526,133	Acquire Handicap Passenger Lift Device, Rehabilitate Terminal Building
	3-02-0133-062-2015	\$656,250	Rehabilitate Taxiway
	3-02-0133-063-2015	\$234,375	Conduct Environmental Study
	3-02-0133-064-2015	\$813,773	Construct Apron, Install Perimeter Fencing
2016	3-02-0133-065-2016	\$2,200,312	Expand Aircraft Rescue & Fire Fighting Building
	3-02-0133-066-2016	\$3,333,750	Construct Apron
	3-02-0133-067-2016	\$16,694,036	Construct Snow Removal Equipment Building, Construct Snow Removal Equipment Building
	3-02-0133-068-2016	\$656,250	Rehabilitate Taxiway
2017	3-02-0133-071-2017	\$1,979,062	Rehabilitate Taxiway
	3-02-0133-072-2017	\$765,000	Improve Seaplane Base
	3-02-0133-073-2017	\$10,125,000	Construct Apron [Northeast Apron], Construct Apron [Northwest Apron]
	3-02-0133-074-2017	\$4,823,551	Acquire Snow Removal Equipment
	3-02-0133-075-2017	\$240,000	Energy Efficiency Equipment/Infrastructure
2018	3-02-0133-076-2018	\$1,801,875	Improve Terminal Building - Add passenger boarding bridge to Gate 2 to support change in aircraft fleet.
	3-02-0133-077-2018	\$529,688	Construct Sand and Chemical Storage Building - SREF - Sand and Chemical Storage - Phase 1 Design
	3-02-0133-078-2018	\$634,735	Reconstruct Terminal Building - Design -- North terminal design -- infrastructure installed prior to 1994
	3-02-0133-079-2018	\$9,985,312	Construct Sand and Chemical Storage Building - SREF - Sand and chemical storage building - Phase 2 Construct
2019	3-02-0133-080-2019	\$1,500,000	Construct Taxiway
		\$21,782,903	Rehabilitate Taxiway
		\$2,000,000	Rehabilitate Taxiway
		\$120,000	Acquire Emergency Generator

Table 1-1: FAA Grant Activity			
Fiscal Year	Grant Sequence Number	AIP Federal Funds	Description
2020	3-02-0133-081-2020	\$8,010,825	Reconstruct Terminal Building
	3-02-0133-083-2020	\$6,419,440	Reconstruct Terminal Building
2021	3-02-0133-084-2021	\$3,324,451	Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA) Funds
	3-02-0133-085-2021	\$98,347	CRSSA Concessions
	3-02-0133-087-2021	\$5,430,992	General American Rescue Plan Act (ARPA)
2022	3-02-0133-089-2022	\$393,387	Large Concessions
	3-02-0133-091-2022	\$2,152,407	Construct Apron
	3-02-0133-092-2022	\$187,442	Improve/Modify/Rehabilitate Terminal Building
	3-02-0133-093-2022	\$2,254,418	Rehabilitate Access Road
2023	3-02-0133-094-2023	\$10,454,010	CARES Landside Project – Parking Lot Upgrades
	3-02-0133-095-2023	\$1,469,716	Improve/Modify/Rehabilitate Terminal Building
	3-02-0133-098-2023	\$1,795,266	Improve/Modify/Rehabilitate Terminal Building
	3-02-0133-099-2023	\$670,426	CARES Airside Project - Terminal Area Apron Rehabilitation (Part 121 and 135 Areas) and Construct Remain Over Night (RON) Apron Area
	3-02-0133-100-2023	\$15,607,188	Construct Apron, Rehabilitate Apron
2024	3-02-0133-101-2024	\$1,007,116	Acquire Aircraft Rescue & Fire Fighting Vehicle
	3-02-0133-102-2024	\$911,897	Update Airport Master Plan or Study
	3-02-0133-103-2024	\$422,353	Construct/Extend Safety Area and Terminal Area Apron Rehabilitation (Part 121 and 135 Areas) and Construct Remain Over Night (RON) Apron Area
		\$245,050,069	Total Grants Received (2005-2024)

Source: FAA Airport Improvement Program (AIP) Grant Histories, 2024

1.1.2 Historical and Anticipated Future Funding Sources

To meet the anticipated need of CBJ’s Airport Capital Improvement Program (ACIP), a variety of funding levels for ACIPs has been traditionally obtained via participating project approval and funding agencies, as well as locally generated funding derived from ongoing revenue-generating and operating activities that would typically include, but not be limited to:

- FAA’s Airport Improvement Program (i.e., FAA Entitlement, FAA Discretionary)
- City and Borough of Juneau
- Private Capital Investments (by lease holders), and
- Other federal, state, and regional assistance programs

With the high cost of improvements, significant portions are eligible for funding by the federal government through the Airport Improvement Program. The current FAA Reauthorization legislation allows for the funding of these projects based upon a 93.75/6.25 percentage split between FAA and Local sources, respectively for fiscal years 2025 and 2026. The FAA's Discretionary funding is based upon an FAA project priority score of 70 or greater (i.e., primary runway improvements, safety improvements, fence line relocations, etc.).

1.1.3 Issues and Emerging Trends

Other factors outside the aviation industry may influence aviation activity. Revision of economic trends and socioeconomic indicators from the state and the region are vital to determine how they may impact future growth. In addition, the regional and local environment can boost airport growth and support opportunities for economic development for the region. Prior to the preparation of this Master Plan Update the Covid 19-Pandemic heavily impacted the economy, and it resulted in one of the worst crises worldwide, not only with a substantial loss of life but significant damage to the global economy, being the aviation industry was one of those severely affected due to the closure of markets, travel restriction and stay at home orders. Although the industry has normalized, it has not entirely recovered from the 2020 drop. The aviation industry has proved resilient and has recovered from previous impacts. Today most airports in the US showed signs of recovery in 2023 reaching the pre-pandemic traffic levels of 2019. However, global organizations do not anticipate that the worldwide 2019 levels will be achieved before 2025.

The Master Plan Update process began in November 2024. The 2024 base year used in the forecast approved by the FAA in January 2026, serves as the starting point of the 20-year master plan development period.

In addition, the FAA updated Advisory Circular (AC)150/5300-13B, *Airport Design* in August 2024. Therefore, the alternative analysis and the preferred development plan and ALP were revised to reflect the latest changes, new standards, and technical requirements presented in the AC.

1.2 Goals for the Airport Planning Study

At the onset of the planning process for the update of the JNU Airport Master Plan, airport staff identified and prioritized key priorities specific to Juneau International Airport that needed to be addressed within this study. These planning needs include, but are not limited to:

- The need to update the current JNU-specific FAA-approved Forecast of Aviation Activity to best address current and anticipated changes in the Critical Design Aircraft, overall aircraft fleet, users, and annualized projections of aircraft activity.
- The need for the CBJ to preserve and protect the safe and efficient use of JNU and its ability to maintain continued annualized increases in aircraft operations that are and will continue to be generated by:
 - Scheduled and non-scheduled operations and passenger enplanements of itinerant Air Carriers and Air Taxi operators
 - Air Cargo tonnage

- Local and itinerant General Aviation passenger enplanements and operations
- Itinerant military aircraft operations
- Preserve, protect, and identify future needed aviation related facilities and airport property to best accommodate anticipated and projected growth of aeronautical activity.
- Identify, quantify, and document CBJ's stated Purpose and Need for the anticipated need for future improvement to Runway 8-26 that would be eligible for federal Airport Improvement program (AIP) funding participation.
- Identify the need to preserve and protect on-airport land uses for non-aeronautical use that would be compatible with current and future aeronautical operations.
- Assess existing capabilities and related capacities of surfaces access, electrical, potable water, gas, sewer, and stormwater infrastructure and to identify the likely areas of study that would likely be required to address and update such infrastructures as demand dictates.
- Provide CBJ with the capability to respond to other area-wide planning considerations or actions that may potentially impose adverse impacts to CBJ's continued preservation and development of JNU (e.g., Juneau Douglas North Crossing Planning and Environmental Linkages [PEL] Study, to name only one)
- The need to review, identify, and incorporate, as needed, salient and pertinent planning information contained in area-wide community-based planning studies by others (e.g., Comprehensive Plan of the City & Bureau of Juneau [Comp Plan]).

The general goal of an Airport Planning Study is to guide the airport to establish future airport and supporting infrastructure requirements to accommodate the forecasted aviation activity demand while fully meeting current FAA airport design and safety standards. The study will provide a comprehensive development plan aligned with CBJ's goals and expectations to maximize the airport's safety and efficiency.

1.3 Guidance and Requirements

The overall purpose of this Airport Master Plan Update is to provide reasonable guidelines for future airport development to satisfy projected future aviation demand in a cost-effective and timely manner. In support of the purpose and goals identified, the primary objective of this study is to create a 20-year airport development program that will maintain a safe, efficient, economical, and environmentally sustainable airport facility for the City and Borough of Juneau. **Figure 1-1** shows the key elements of the planning process used for this study following the guidance provided in the FAA Advisory Circular (AC), 150/5070-6B, *Airport Master Plans*.

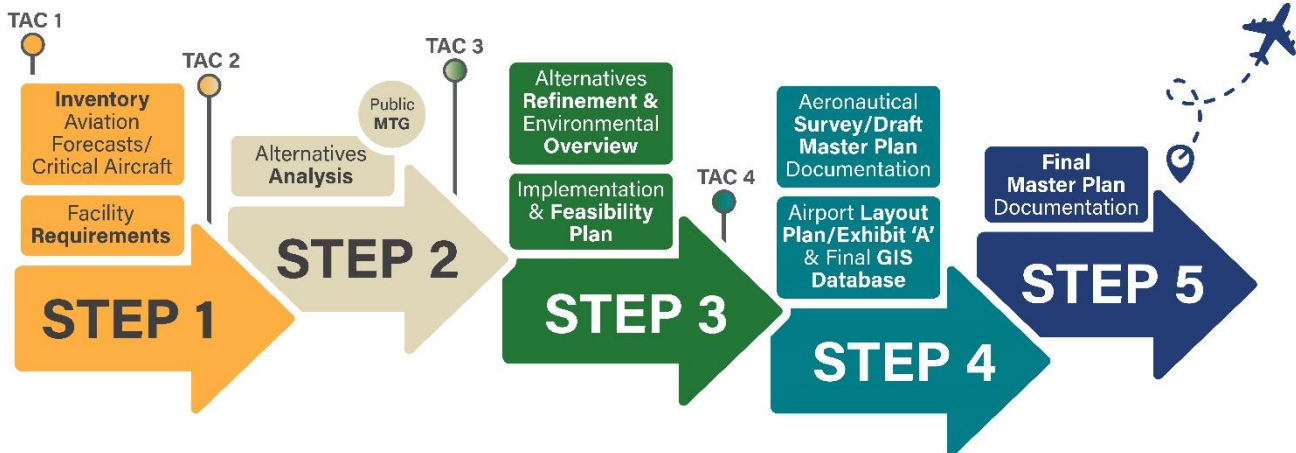
The FAA reviews the elements contained in the airport master plan to ensure that the appropriate planning techniques have been applied throughout the entire planning process. However, the FAA only approves the following elements:

- Forecasts of Aviation Demand
- Airport Layout Plan

During the Study, representatives from JNU and the Technical Advisory Committee coordinated regularly with representatives of FAA's District Office to maintain open

communication and streamline the agency review and approval process. In addition, the project presented various opportunities for public participation and involvement.

Figure 1-1: Master Planning Process



Source: FAA and Michael Baker International, Inc., 2024.

The update of the Airport Master Plan and Airport Layout Plan Drawing Set will fully follow guidance provided in the following FAA documents:

- FAA Advisory Circulars (AC)
 - AC 150/5000-17, *Critical Aircraft & Regular Use Determination*
 - AC 150/5070-6B, *Airport Master Plans*
 - AC 150/5060-B, *Airport Capacity and Delay*
 - AC 150/5300-13B, *Airport Design*
 - AC 150/5300-16B, *General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey*
 - AC 150/5300-17C, Change 1, *Standards for Using Remote Sensing Technologies in Airport Surveys*
 - AC 150/5300-18B, Change 1, *General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards*
 - AC 150/5325-4B, *Runway Length Requirements for Airport Design*
- Standard Operating Procedures (SOP)
 - SOP 2.0, *Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*
 - SOP 3.0, *Standard Operating Procedure for FAA Review of Exhibit 'A' Airport Property Inventory Maps*
- Code of Federal Regulations (CFR)
 - Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*

- FAA Orders
 - Order 1050.1F, *Environmental Impacts: Policies and Procedures*
 - Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*
 - Order 5090.5, *Formulation of the National Plan of Integrated Airport Systems (NPIAS) and Airports Capital Improvement Plan (ACIP)*
 - Order 5100.38D, *AIP Handbook*
 - Order 5200.8, *Runway Safety Area Program*
 - Order 8260.3D, *United States Standard for Terminal Instrument Procedures (TERPS)*
- Airport Cooperative Research Program (ACRP)
 - Report 79, *Evaluation of Airfield Capacity*
 - Report 113, *Guidebook on General Aviation Facility Planning*

1.4 Relevant Studies

During the course of this study, existing plans and studies were reviewed and evaluated to obtain relevant background information. These included but were not limited to previous planning studies, design drawings, the previous ALP Drawing Set, and relevant FAA and state role assessments. In addition, the master plan project team coordinated closely with CBJ to incorporate information from, and provide information for, the next update of the “Comprehensive Plan of the City and Borough of Juneau,” to allow for a comprehensive development plan for Juneau International Airport and the surrounding area. The following section provides an overview of the various studies that were reviewed and/or coordinated with as part of this effort.

1.4.1 Airport Sustainability Master Plan

The previous Airport Sustainability Master Plan for Juneau International Airport was completed in 2017. Recommendations from the plan include a mix of projects ranging from airfield modifications, navigational aids and lighting, cargo facilities, apron improvements, and other landside projects, many of which have been implemented at JNU. Some of the key implemented projects are listed below.

- Runway Safety Area Improvements
- Taxiway A Rehabilitation
- Taxiway E Realignment
- Taxiway D-1 Relocation
- Float Pond Improvements (Flow Control Valve)
- Terminal Renovations
- Snow Removal Equipment Facility (SREF)
- Passenger Terminal Parking Lot Rehabilitation

Projects currently in progress include:

- Terminal Area Apron Rehabilitation (Part 121, Part 135 and RON Areas)
- Additional snow removal equipment

The following projects have not yet started:

- MALSR
- Acquire Airport Rescue and Firefighting (ARFF) Apparatus
- Acquire Wetlands Access Vehicle
- Emergency Vehicle Access Road (EVAR) Extension
- NE Development Area Sewer Infrastructure
- Reconstruct Alex Holden Way, Cessna Drive and Renshaw Way
- Taxiway C Reconfiguration
- Reconstruct West GA Taxilanes and Tiedown Apron
- Reconstruct E-1 Ramp
- Terminal Expansion
- Parking Garage
- Terminal Infrastructure Replacement
- Construct FAA Airport Traffic Control Tower (ATCT)
- Landside Access Roads Pavement Rehabilitation
- Airfield Pavement Rehabilitation
- Civil Air Patrol Hangar Relocation
- Fish and Wildlife Service Hangar Relocation

Some of the recommendations are also explored in this Study for their continued need today and in the future. This proactive development plan over the next several years will likely require funds from the FAA, CBJ, and other private (i.e. non-publicly funded) sources.

1.4.2 Comprehensive Plan of the City and Borough of Juneau

CBJ is working with multiple stakeholders in the area on a community-driven study to provide an information-based strategy to help the City and Borough of Juneau safeguard the environment, provide affordable housing and jobs for generations of residents, promote orderliness in growth, and institute reasonable and consistent controls over land development and public services.

This latest update to the 2013 Comprehensive Plan will investigate the area's multifaceted existing factors and their growth potential in an effort to create a long-range blueprint designed to guide the growth, development, and conservation of valued resources within the community over the next 20 years.

The study will be conducted in coordination with the Juneau International Airport Master Plan Update. Major study components include:

- Sustainability
- Community Form
- Housing
- Economic Development
- Energy
- Natural Resources and Hazards
- Transportation
- Parks, Recreation, Trails, and Natural Area Resources
- Land Use
- Public and Private Utilities and Facilities
- Community Services

- Community Education and Services
- Cultural Arts and Humanities
- Historic and Cultural Resources
- Community Development
- Continuance of Coordination and Implementation (CBJ, JNU, Greater Juneau Chamber of Commerce, local governments, businesses).

Throughout the planning process, these studies will share their respective findings, ideas, and concerns in the interest of developing a comprehensive plan for Juneau International Airport and the surrounding area. Throughout the planning process, stakeholders from both projects will have an opportunity to review and discuss the findings and recommendations of each study in an effort to shape the future of the local community.

1.5 Airport Ownership and Management Structure

Juneau International Airport is a municipally owned facility and is an enterprise of CBJ.

The governing body of the airport is an Airport Board comprised of seven business and community leaders appointed by the CBJ Assembly. The Airport Board continues to actively market and develop JNU to its fullest potential. Over the past several years, the Airport Board has invested their time and effort towards making key access and infrastructure improvements to protect and maintain their investment and support the overall growth of this facility.

1.6 Master Plan Participants and Decision Makers

Historically, CBJ-sponsored studies have implemented a proactive approach to engaging key leaders and agency representatives from the local community to participate in the planning process. Members of airport staff and key stakeholders within the community joined together to form a Technical Advisory Committee (TAC) to provide important feedback to the Consultant team. The TAC contributed technical input and shared feedback from the organizations they represent. Members also assisted with engaging their constituencies during opportunities for broader public input. A listing of TAC participants is included in **Table 1-2**.

Table 1-2: Technical Advisory Committee Participants		
Participant	Title	Organization
Patty Wahto	Previous Airport Manager	Juneau International Airport
Ke Mell	Airport Architect/Project Manager	Juneau International Airport
Jerry Godkin	Board	JNU Airport Board
Carl Ramseth	General Manager	Alaska Sea Planes
Amanda Dopps	Station Manager	Alaska Airlines
Joel Kain	Aviation Division Safety Director	Helicopter Operators
Ben Dodd	ATCT Manager	Airport Traffic Control Tower

Table 1-2: Technical Advisory Committee Participants

Participant	Title	Organization
Jill Lawhorne	Planning Director	City and Borough of Juneau
Eric Tallmadge	Station Manager	Delta Air Lines
Ed Kiesel	President	Ward Air
Heather Arneson	Community Planner	FAA Airport District Office (ADO)
Andres Delgado	Airport Manager	Juneau International Airport

Source: Michael Baker International, Inc., 2024

1.7 Opportunities for Public Participation and Involvement

As part of the long-range vision and Master Plan for the Juneau International Airport, a series of proactive steps to ensure stakeholder and the public participation and involvement were established to provide the platform upon which to build a greater understanding and consensus between the airport, local users, and surrounding communities.

1.7.1 Public Meetings

Following the collection of data, forecast of aviation activity, and determination of airport facility needs, the public was invited to participate in a publicly advertised meeting that collectively served to provide an overview of the airport master planning process, anticipated timeline schedule, and preliminary findings developed as part of the airport planning undertaken to date. Following the identification and selection of one or more airport development schemes under consideration for further refinement, the public was provided the opportunity to review the technical findings and airport development alternatives. As part of the meeting, CBJ solicited input regarding the public’s vision and aspirations for the airport and solicited feedback that would be used as part of the airport’s refinement and ultimate selection of a preferred airport development alternative and its investment priorities.

1.7.2 Technical Advisory Committee Meetings

At the direction of airport staff, additional public involvement also occurred through the formation of a Technical Advisory Committee comprised of key leaders and agency representatives from the local community. This Committee met several times throughout the course of the planning process to provide important feedback to the professional airport planning team during the update of the JNU Airport Master Plan.

1.7.3 Review Agency Briefings and Meetings

During key milestones of the Master Plan Update, the planning team conducted informal presentations and meetings with participating governmental Review Agency representatives. The extent of Review Agency participation included, but was not limited, to the FAA’s Alaska Airports District Office, and the City and Borough of Juneau.

1.7.4 Briefings to the Airport Board and CBJ Assembly

During key milestones of the update of the JNU Airport Master Plan, the airport master plan consultant conducted publicly advertised briefings to the Airport Board and CBJ Assembly to report on the progress and findings of the study elements. Following the finalization of the draft version of the Airport Master Plan, the Airport Board and CBJ Assembly were given a Final Briefing outlining the incremental airport planning milestones, findings, and recommendation regarding the recommended 20-year development plan for JNU.

1.8 Airport Development History

Throughout the airport's history of development, the role and use of JNU has evolved to reflect the continued use of the airport and the growing need to provide enhanced aviation-related facilities and services to the flying public. The following section from the *2017 Airport Sustainability Master Plan* provides a brief overview of airport's development history and use.

Juneau was first inhabited by the Tlingit Indians of the Auke and Taku tribes. According to the Juneau Comprehensive Plan, the area was first explored by the Spanish and English in the late 18th century, but the first European inhabitants were Russian fur traders. Russian settlements were established, and Sitka was designated the capital of Russian Alaska. In 1867 the United States purchased Alaska from Russia. The capital was moved from Sitka to Juneau in 1906. In 1880 gold was discovered by Richard Harris and Joe Juneau. The discovery was in a stream called Gold Creek, which was located in Silver Bow Basin in the town site originally named Harrisburg. By the end of 1880, the town site of Juneau had been established. Large scale mining activity followed on Douglas Island and in the Juneau area. Juneau became a unified home rule municipality in June 1970 with the merger of the city and borough governments. Government, tourism, and natural resources development have been the primary industries influencing Juneau in the past few decades. Juneau has also established itself as the commercial center for communities in Southeast Alaska. The Juneau Airport was developed by the US government to support military Air Corps operations in Alaska. Prior to World War II, the area was served by limited, small aircraft which were mostly floatplanes. Following the war, Pacific Alaska Airways (later absorbed by Pan American Airlines) and Pacific Northern Airlines established service to Juneau from Seattle and Anchorage. The paved runway was constructed in 1942, and the terminal was constructed in 1948. In 1953 the Airport was transferred from federal control to the City of Juneau. In 1961 the Juneau Airport runway was extended to accommodate jet aircraft operations in Alaska. In 1962 jet service was initiated at JNU. In 1989 a full-length parallel taxiway was constructed to connect both ends of the runway to the aircraft parking apron and passenger terminal area. The original terminal was constructed in 1948, expanded in 1957 and 1984, and expanded again and renovated in 2022.

Juneau Airport in 1942



Source: Juneau International Airport

2 INVENTORY OF EXISTING CONDITIONS

The first step in the airport master planning process is an inventory of existing facilities currently available at JNU. This inventory chapter summarizes information collected in late 2024 regarding the current airfield configuration, existing facilities, and surrounding airspace. This chapter summarizes the airport conditions that going forward in the master plan process establish the baseline conditions for further analysis and recommendations presented in later chapters. Identification of airside, landside, and surrounding airport facilities, including their respective conditions is critical to the evaluation of facility requirements and opportunities based on existing and forecasted demand.

The information presented in this chapter has been gathered from interviews with airport personnel, users, tenants, local and state records, on-site visits, applicable FAA publications, activity databases, planning guidelines, flight procedures, and airport-specific and local/regional FAA operational and local aircraft basing statistical reports. Inventory information is presented in the following subsections:

- General Airport Information
- Airport Settings and Surroundings
- Airside Facilities
- Protection of Navigable Space
- Instrument Approaches and Departure Procedures
- Airfield Lighting
- Landside Facilities
- Support Facilities

2.1 General Airport Information

This section presents and briefly describes the current setting, physical and operational aspects of the airport. This information is referenced throughout the remainder of the Airport Master Plan for comparison or when addressing potential airport development and planning options and considerations.

2.1.1 City and Borough, Airport and Surface Access

Juneau is the third-most populous city in the state of Alaska and serves as the state capital. The city is situated along the Gastineau Channel as part of the Alaskan panhandle in the southeastern portion of the state. In 1970, the City of Juneau merged with the City of Douglas and the surrounding Juneau Borough to form a consolidated city-borough which currently ranks as the second largest municipality in the US by area.

Regional access to the airport is provided by Egan Drive and the Glacier Highway. The passenger terminal is accessible via Shell Simmons Drive and Yandukin Drive, with the two roads intersecting just north of the passenger terminal. An extension of Shell Simmons Drive is restricted to one-way traffic flows to facilitate vehicle access to and from the passenger terminal.

Local access to other airport facilities is provided via: Cessna Drive, Alex Holden Way, Float Plane Access Road, Livingston Way, Renshaw Way, and Maplesden Way.

Access to the airport is not limited to the terminal area. One of the most popular aspects of the airport in the community is the Emergency Vehicle Access Road (EVAR), or Dike Trail, and the airport's support and maintenance of the trail, such as providing parking and installation of an improved bridge to access the area. The EVAR trail provides a scenic walk around the perimeter of the airport and float pond, including interpretive signage, and provides access and views of the Mendenhall Wetlands State Game Refuge. This area is also accessed by hunters during the waterfowl hunting season. The parking lot used by the public to access the EVAR trail is maintained by the airport.

Figure 2-1 graphically depicts the relative location of City of Juneau, the Juneau International Airport, and the region.

Figure 2-1: JNU Location/Vicinity Map



Source: ARCGIS.COM Living Atlas, 2024.

2.1.2 Location, Aeronautical Role, and Services

Juneau International Airport (IATA: JNU, ICAO: PAJN, and FAA LID: JNU) is located approximately 7 nautical miles northwest of the central business district (CBD) of the City of Juneau, Alaska. The published geodetic Airport Reference Point (ARP) is Latitude: 58° 21' 16.9625" North, Longitude: 134° 34' 42.4939" West, at a reported field elevation of 25.3 feet Above Mean Sea level (AMSL). The airport is owned and operated by the City and Borough of Juneau and comprises 662 acres.

As one of the nation's 5,180 public-use airports, JNU is listed within the FAA's (2025-2029) National Plan of Integrated Airport Systems (NPIAS) as a publicly owned Primary Nonhub Commercial Service Airport with a reported 440,279 passenger enplanements for the year 2023, 272 locally based aircraft, and a 5-year estimated future AIP-eligible Airport Capital Improvement Plan (ACIP) having an estimated value of \$21,320,000.

The airport is currently listed as one of the FAA's certificated Title 14 CFR part 139 airports and has a Class-I Classification with Index "C" Aircraft Rescue and Firefighting (ARFF) capabilities.

JNU accommodates a variety of civilian and military transport-related operations generated through commercial lease agreements with the US Coast Guard, US Army National Guard, US Air Force, US Fish & Wildlife Service (USFWS), one local Fixed Base Operator (FBO), Aero Services, located at and operating from the airport's West General Aviation Area, and three US Commercial Air Carriers operating at the passenger terminal.

The airport is currently served by Alaska Airlines, and Delta Air Lines, providing non-stop passenger and cargo service to Seattle-Tacoma International Airport and Ted Stevens Anchorage International Airport. Each air carrier serves JNU utilizing narrow-body commercial jets. Alaska Seaplanes provides regional scheduled and charter passenger and cargo service to outlying communities and villages.

Most of the military's transport operations are generated using C-130 Hercules aircraft. Far smaller levels of military transport operations are generated by the military's use of the UH-60 Blackhawk helicopter and other smaller cabin-class aircraft.

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Detailed location information and data for the airport is provided in **Table 2-1**.

Table 2-1: Airport Location and Identification	
Item	Data
Airport Name	Juneau International Airport
Owner	City and Borough of Juneau
Distance from Central Business District (CBD)	7 NM/NW
Census Area	Juneau City and Borough
FAA Region	AAL
FAA Site Number	50385.*A
FAA Location ID	JNU
Airport Reference Point	
Latitude:	58° 21' 16.9625" N (NAD83)
Longitude:	134° 34' 42.4939" W (NAD83)
Elevation (FT AMSL):	25.3 (NAVD88)
Acreage	662
Airport Traffic Pattern	Right Traffic - Runway 08

Source: FAA Form 5010; ADIP; eNASR

2.1.3 Airports in the Vicinity

Six public-use general aviation airports are located within a 135-nautical mile radius of Juneau. Of the airports within the vicinity, JNU has the longest runway (8,857 feet). The next longest runway in the vicinity resides at Sitka Rocky Gutierrez Airport (7,200 feet), and the third longest is located at Gustavus Airport (6,720 feet). A list of the various publicly-owned civilian airports and their respective facilities is presented in **Table 2-2**.

There are also privately-owned airports located within the vicinity of JNU. However, these are typically not for public use and thus require prior permission, except in an emergency. Some of these private airports include Hawk Inlet and Snettisham Airports. There are no known airspace interferences among any area airports and JNU.

Table 2-2: Vicinity Public-Use Airports				
Airport (FAA Identifier)	Nautical Miles From JNU	Relative Direction From JNU	Runways (Length/Width)	Approach Capability
Gustavus (GST)	35.9	277°	11-29 (6,720' x 150')	RNAV (GPS), VOR, Visual
Sitka Rocky Gutierrez (SIT)	82.6	198°	11-29 (7,200' x 150')	RNAV (GPS), LDA, Visual
Kake (AFE)	86.5	165°	11-29 (4,000' x 100')	RNAV (GPS), Visual
Petersburg James A Johnson (PSG)	107.3	149°	5-23 (6,400' x 150')	RNAV (GPS)-B, LDA-D, Visual
Teslin (CYZW)	123.1	026°	8-26 (4,993' x 100')	Visual
Wrangell (WRG)	133.3	146°	10-28 (6,000' x 150')	RNAV (GPS), LDA-C, LDA-D, Visual

Source: Michael Baker International, Inc., 2024

2.1.4 Local Climate Conditions

The recorded local climate conditions reflect a mild, temperate climate throughout the year with mean monthly temperatures ranging from 28.5 degrees Fahrenheit (°F) in January to 57.0°F during the month of July. The maximum daily temperature of 62.9°F occurs during the month of August. The mean level of precipitation (rain) ranges from 3.47 inches during the month of April and to 9.15 inches during the month of September. A summary of monthly normals for JNU are shown in **Table 2-3**.

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Table 2-3: Summary of Monthly Normals (1991-2020)

Month	Temperature (°F)			Precipitation (Inches)
	Daily Max	Daily Min	Mean	Mean
January	33.1	23.8	28.5	6.02
February	35.7	24.6	30.1	4.31
March	39.2	26.6	32.9	3.67
April	48.7	32.9	40.8	3.47
May	57.6	40.3	49.0	3.51
June	62.4	46.8	54.6	3.82
July	64.0	50.1	57.0	5.14
August	62.9	49.1	56.0	6.41
September	56.1	44.1	50.1	9.15
October	47.3	37.1	42.2	8.42
November	38.3	29.2	33.8	6.54
December	34.7	25.9	30.3	6.53

*Source: National Environmental Satellite, Data, and Information Service, Summary of Monthly Normals 1991-2020.
Station: USW00025309.*

2.1.5 Local Magnetic Declination

Using the NOAA National Centers for Environmental Information (NCEI)’s Geomagnetic Calculator and the JNU published geodetic ARP, the declination was calculated using the most recent World Magnetic Model (WMM-2025); The WMM is a predictive-only model and is valid for the current epoch, 2024-2029. The Magnetic Declination Value for JNU was calculated to be: 17° 57' East (± 0° 27') changing by 0° 13' West per year.

The calculated magnetic declination, or magnetic variation, is the angle on the horizontal plane between magnetic north and true north and varies depending on the position on the Earth's surface and changes over time. Runways are named by a number between 01 and 36, which is generally the magnetic azimuth of the runway's heading (in units of 10-degrees) relative to Magnetic North.

2.2 Airport Setting and Surrounding Land Uses

The FAA provides guidance on land use compatibility both on and adjacent to airport property, particularly for airports that have accepted AIP funding. FAA grant assurances require that airport property be made available for aeronautical uses and prohibit unjustified restrictions on aviation-related and revenue-generating activities that support airport operations. In addition, FAA regulations related to airspace protection, operational safety, and compatible land use are intended to minimize conflicts between airports and surrounding development and to preserve the long-term utility of the airport system.

The immediate surroundings of JNU reflect a mix of developed and conservation-oriented land uses. To the north of the airport, land uses are primarily commercial and light industrial, with small pockets of residential development. These areas are largely concentrated along and north of the Egan Expressway, which serves as a major transportation corridor separating the airport from much of the Mendenhall Valley development. Based on the CBJ Zoning Wall Map (June 2025), parcels north of the airport are predominantly zoned General Commercial (GC) and Light Commercial (LC), with residential zoning occurring farther from the airfield.

Land immediately west of Runway 8 is largely characterized by industrial and airport-supportive uses. These parcels are zoned Industrial (I) and Waterfront Industrial (WI) and are generally considered compatible with airport operations due to their lower sensitivity to aircraft noise and overflight, as well as their functional relationship to aviation, marine, and logistics activities.

The most defining land use feature surrounding JNU is the Mendenhall Wetlands State Game Refuge, which surrounds the airport on the west, south, and east. The presence of this protected area significantly limits the potential for future urban development in close proximity to the airport and plays a major role in shaping land use compatibility considerations, particularly with respect to wildlife hazards and environmental stewardship.

Only one area of residential zoning is located directly adjacent to airport property: land northeast of the airfield near the Honsinger Pond. This area is zoned for residential use and represents the closest noise-sensitive land use to the airport. Institutional and recreational uses are also present near the eastern end of the runway, including the Juneau Christian Center School and Church located north of the Egan Expressway.

Land use within the City and Borough of Juneau is guided by the CBJ Comprehensive Plan and implemented through zoning regulations. The most recent zoning wall map, updated in June 2025, confirms that land uses immediately surrounding JNU generally reflect FAA-compatible patterns, with commercial and industrial zoning concentrated near the airport and residential uses largely buffered by distance, transportation corridors, and conservation lands

Figure 2-2: Airport Setting and Surrounding Land Use

To be provided.

2.3 Airside Facilities

The term “airfield” (also referred to as “airside”) typically comprises facilities, geometries and protection of land uses and navigable airspace that, collectively, serves to directly support the safe and efficient operation of aircraft on the ground and while conducting approach or departure operations to or from the runway environment. Physical facilities include, but are not limited to runways, taxiways, visual and electronic navigational aids (NAVAIDS), airfield lighting, pavement markings, and airfield signage. Other non-facility attributes include the protection of the runway-taxiway environment, land uses beyond each runway end and overlying imaginary planes protecting navigable airspace.

Existing airfield facilities and supporting attributes at JNU are depicted in **Figure 2-3**.

2.3.1 Runways

2.3.1.1 Runway 8-26

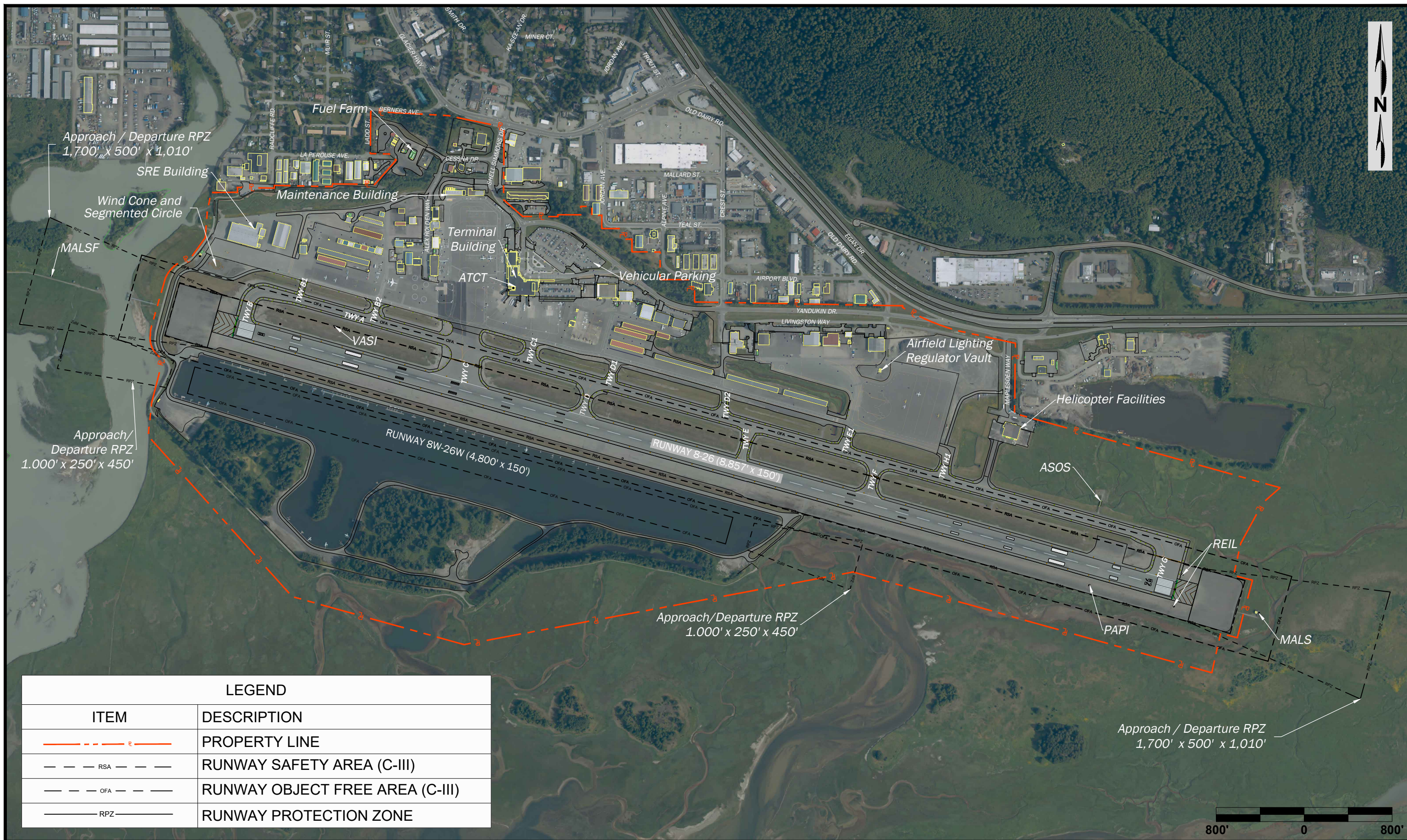
The airport’s primary runway, Runway 8-26, is an 8,857 foot long by 150-foot-wide paved runway that can support safe and efficient operations of commercial and military aircraft. The runway is supported by Global Positioning System (GPS) - Wide Area Augmentation System (WAAS)-based RNAV (GPS) and LDA X LDA non-precision instrument approach procedures.

2.3.1.2 Water Runway 8W-26W

The water runway at JNU is situated in the float pond located 575 feet south (centerline to centerline distance) of Runway 8-26. Runway 8W-26W measures 4,800 feet in length by 150 feet in width. In addition to the water runway, the float pond accommodates a total of 51 docks along the north and south banks for floatplane storage. During the summer months these positions are reported to be filled to capacity.

Within the float pond, aircraft taxi to and from the designated water runway ends via a taxi channel located outside the water runway area. Aircraft move in a clockwise direction while operating within the channel.

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LEGEND	
ITEM	DESCRIPTION
	PROPERTY LINE
	RUNWAY SAFETY AREA (C-III)
	RUNWAY OBJECT FREE AREA (C-III)
	RUNWAY PROTECTION ZONE

Tables 2-4, 2-5 and 2-6 present the data and information detailing the respective existing physical attributes, operational capabilities, and safety-related geometries of the airport’s runway based upon its design, runway-to-parallel taxiway centerline separations and/or availability of published Instrument Approach Procedures (IAPs).

Table 2-4: Existing Runway Design Characteristics and Capabilities				
Item	Runway 8-26		Runway 8W-26W	
	8	26	8W	26W
Aircraft Approach Category (AAC)	D		A	
Airplane Design Group (ADG)	III		II (small)	
Visibility Minimums (Miles)	Greater than or equal to 1 mile	Greater than or equal to 1 mile	Visual	Visual
Visibility Minimums (RVR feet)	N/A	N/A	N/A	N/A
Runway Reference Code (RRC)	D/III/5000	D/III/5000	A/II/VIS	A/II/VIS
Runway Design Code (RDC)	D-III	D-III	A-II	A-II
Approach Reference Code (APRC)	B/I/4000	B/I/4000	N/A	N/A
Departure Reference Code (DPRC)	B-I	B-I	N/A	N/A

Source: Juneau International Airport Layout Plan Update, 2019, FAA Advisory Circular 150/5300-13B, Change 1, Airport Design. Compiled by Michael Baker International, 2024.

Table 2-5: Existing Runway Design Characteristics				
Item	Runway 8-26		Runway 8W-26W	
	8	26	8W	26W
Runway Length (feet)	8,857		4,800	
Displaced Threshold (feet)	N/A	N/A	N/A	N/A
Runway Width (feet)	150	150	150	150
True Bearing (degrees)	75° 08' 44.50"		75° 08' 44.50"	
Magnetic Declination	0° 8' East (± 0° 21') changing by 0° 6' West per year			
Gradient	0.02%	0.02%	0.00%	0.00%
Shoulder Width (feet)	25 - Paved	25 - Paved	N/A	N/A
Blast Pad/Overrun				
Width (feet):	230	230	N/A	N/A
Length (feet)	230	230	N/A	N/A
Surface Type / Condition	Asphalt Good		Water	
Surface Treatment	Grooved		None	
Pavement Design Strength (pounds)				

Table 2-5: Existing Runway Design Characteristics

Item	Runway 8-26		Runway 8W-26W	
	8	26	8W	26W
Single Wheel (S):	120,000	120,000	N/A	N/A
Dual Wheel (D):	250,000	250,000	N/A	N/A
Two Dual Wheel in Tandem (2D):	550,000	550,000	N/A	N/A
PCN	892/F/A/X/T		N/A	N/A
Runway End Coordinates				
Latitude:	N 58° 21' 28.25"	N 58° 21' 05.88"	N 58° 21' 22.82"	N 58° 21' 11.21"
Longitude:	W 134° 35' 49.09"	W 134° 33' 08.63"	W 134° 35' 52.23"	W 134° 34' 28.89"
Elevation (Feet MSL):	25.0	23.4	12.0	12.0
Runway Markings / Condition	Non-Precision Instrument / Fair	Non-Precision Instrument / Fair	N/A	N/A
Runway Lighting Type	HIRL, CL		None	
Visual Glideslope Indicator	V2L	P4L	N/A	N/A
Runway End Identifier Lights (REIL)	Yes	Yes	N/A	N/A
Approach Lighting System	MALSF,LDIN	MALS	N/A	N/A

Source: FAA ADIP September 2023.

GPS - global positioning system

HIRL - high intensity runway lights

LDA - localizer directional aid

LDIN - lead-in lights

MALS - medium-intensity approach lighting system

MALSF - medium-intensity approach light system

MSL - mean sea level

NAVAIDS - navigational aids

NDB - nondirectional beacon

NPI - non-precision instrument

PAPI - precision approach path indicators

PCN - pavement classification number

REIL - runway end identification light

VASI - visual approach slope indicator with sequenced flashers

Table 2-6: Current Runway Safety-Related Geometry

Design Standard	Dimensions			
	Runway 8	Runway 26	Runway 8W	Runway 26W
Runway Safety Area (RSA)				
Length Beyond Departure End (feet)	600	600	300	300
Length Prior to Threshold (feet)	600	600	300	300
Width (feet)	500	500	150	150
Runway Object Free Area (ROFA)				
Length Beyond Runway End (feet)	600	600	300	300
Length Prior to Threshold (feet)	600	600	300	300
Width (feet)	800	800	500	500
Runway Obstacle Free Zone (ROFZ)				
Length (feet)	200	200	200	200
Width (feet)	400	400	250	250
Inner-Approach OFZ (See Note)				
Length (feet)	N/A	N/A	N/A	N/A
Width (feet)	N/A	N/A	N/A	N/A
Slope (feet)	N/A	N/A	N/A	N/A
Inner-transitional OFZ	N/A	N/A	N/A	N/A
Precision Obstacle Free Zone (POFZ)				
Length (feet)	N/A	N/A	N/A	N/A
Width (feet)	N/A	N/A	N/A	N/A
Approach Runway Protection Zone (RPZ)				
Length (feet)	1,700	1,700	1,000	1,000
Inner Width (feet)	500	500	250	250
Outer Width (feet)	1,010	1,010	450	450
Departure Runway Protection Zone (RPZ)				
Length (feet)	1,700	1,700	1,000	1,000
Inner Width (feet)	500	500	250	250
Outer Width (feet)	1,010	1,010	450	450

Source: FAA AC 150/5300-13B, Change 1, Airport Design. Compiled by Michael Baker International, Inc., 2024.

Note: The Inner-approach OFZ begins at 200 feet from the runway threshold at the same elevation of the runway threshold and extends 200 feet beyond the last light of the Approach Lighting System (ALS). The inner-approach OFZ applies only to the runways with an ALS.

2.3.2 Available Runway Lengths and Declared Distances

The published available runway lengths at public use airports reflect the end-to-end physical extent of the runway that is deemed available for satisfying minimum (airport and environment-specific) aircraft operational performance requirements. Declared Distances represent an Airport Owner’s or Airport Operator’s declaration of available runway lengths that must be considered by pilots when calculating the minimum runway lengths required to satisfy airport environment-specific aircraft operational performance requirements related to runway takeoff lengths, runway rejected takeoff lengths, and runway landing distance requirements.

The four designated FAA Declared Distances are:

- Takeoff Run Available (TORA)
- Takeoff Distance Available (TODA)
- Accelerate Stop Distance Available (ASDA)
- Landing Distance Available (LDA)

Table 2-7 summarizes the current FAA-published Declared Distances available for each of the two JNU runways.

Table 2-7: JNU Declared Distances				
Item	Declared Distances (Feet)			
	TORA	TODA	ASDA	LDA
8	8,857	8,857	8,457	8,457
26	8,857	8,857	8,457	8,457
8W	4,600	4,600	4,600	4,600
26W	4,600	4,600	4,600	4,600

*Source: FAA Digital Chart Supplement: Juneau Int'l – 26 December 2024 to 20 February 2025.
Compiled by Michael Baker International, Inc., 2024.*

2.3.3 Local Meteorological Conditions

The safe and efficient operation of smaller light aircraft are also highly affected by the effects of ambient air temperature, prevailing wind directions and speed, types and levels of precipitation, cloud base ceiling heights and visibility. Each of these factors, when considered individually, or in combination, have a direct effect upon all phases of flight, particularly during the most critical phases of flight, landing and takeoff operations.

Weather can significantly affect aircraft operations. Low cloud base ceilings, fog and rain may impede visibility at or around an airport while thunderstorms and lightning can cause serious disruption during flights and particularly during aircraft takeoff and landing operations. Preferably, aircraft take off and land into the wind, or with minimal tail wind. When prevailing winds blow across the runway, these “crosswinds” can require a pilot to use another runway or divert to an alternative airport. The local ambient air temperature also

plays a key part in the engine performance and aerodynamic capabilities of aircraft particularly during hot day conditions.

It is for this reason that the recommendations offered as part of this Airport Master Plan Update are based upon consideration of locally reported meteorological conditions and the associated need for properly aligned runways having adequate takeoff and landing lengths to accommodate the anticipated increase in operational demand imposed by larger aircraft at JNU.

2.3.3.1 Local Aviation-related Meteorological Conditions

For the purpose of flight planning and operation of aircraft during flight, reported ceiling cloud base height above the ground and horizontal visibility both measured in feet are used to describe and report aviation-related meteorological conditions. Aircraft operate under two distinct categories of operational flight rules: Visual Flight Rules (VFR) and Instrument Flight Rules (IFR). These flight rules are linked to the two categories of weather conditions: Visual Meteorological Conditions (VMC) and Instrument Meteorological Conditions (IMC).

VMC are expressed in terms of visibility, distance from clouds, and ceiling base ceiling heights meeting or exceeding the minimums specified for operation of aircraft under VFR. During VMC, pilots may operate under VFR and typically navigate by orientation to geographic and other visual references, and the pilot is responsible for seeing other aircraft and maintaining safe separation. VMC reflects local reported meteorological conditions where cloud base ceiling heights are equal to or greater than 1,000 feet as measure above ground level (AGL) and reported visibilities are equal to or greater than 3 statute miles.

Similarly, local IMC reflects local reported meteorological conditions where visibility is below 3 statute miles, or when the reported cloud base ceiling is less than 1,000 feet as measure AGL. All flights in IMC must be conducted by an instrument-rated pilot and under an IFR Flight Plan.

Table 2-8 summarizes the locally observed and reported prevailing meteorological conditions for the 10-year period (2014-2023). These weather observations provide a representative statistical breakdown of the meteorological environments within which pilots will be able to operate under certain weather conditions and operating regulations at JNU.

Table 2-8: Prevailing Meteorological Conditions			
Meteorological Condition	Ceiling (Feet)	Visibility (Statute Miles)	Observations
All Weather			124,656 (100%) Observations
VMC	≥ 1,000	≥ 3 Miles	95,596 (81.29%) Observations
IMC	< 1,000	< 3 Miles	14,764 (19.69%) Observations

Source: NOAA's Integrated Surface Database (ISD) Weather Station: 703810 Juneau International Airport. Record Period: 2014-2023. Percentages may not add up due to calm or inoperative Surface Observation monitoring conditions.

2.3.4 Runway Orientation and Wind Coverage Percentiles

The location and orientation of a single runway, or a combined system of multiple runways vary at all airports based upon available land, local terrain, topographical relief, air traffic operational, and airfield capacity needs. A runway's orientation relative to the direction of prevailing winds also provides the capability to ensure the safe and efficient use of the airfield while also preserving the overall utility of the airport. The optimum orientation and number runways are typically based upon a variety of factors that include, but are not limited to:

- avoidance of adverse runway construction-related environmental impacts,
- surrounding land uses,
- community overflight patterns,
- aircraft-generated noise exposure impacts,
- relative location and proximity of surrounding natural geographical relief or topography, and
- direction of origin and speed of the local prevailing winds.

The direction and speed of local prevailing winds directly influence the orientation of a runway because winds affect aircraft operational performance and capabilities in varying degrees. Ideally, a runway should be aligned with the local prevailing winds by direction of origin. Generally, the smaller the aircraft, the more it is affected by wind, particularly during crosswind conditions where the wind direction is not aligned with the runway centerline during aircraft takeoff and landing operations. The most advantageous runway orientation, based solely on wind, provides the greatest percentile of wind coverage and the least amount of crosswind as calculated and expressed as a crosswind component.

The Runway Design Code (RDC) is a coding system developed by the FAA to relate runway design criteria to the operational and physical characteristics of the airplane types that operate at a particular airport. It determines the standards that apply to a specific runway and parallel taxiway allowing optimal safe operations by the critical aircraft under desired meteorological conditions. The RDC is based on existing and planned development and does not have any operational application.

The RDC has three components relating to the airport design aircraft. The first component, depicted by a letter, is the Aircraft Approach Category (AAC) and relates to aircraft approach speed. The second component, depicted by a Roman numeral, is the Airplane Design Group (ADG) and relates to airplane wingspan and/or tail height. The third component is approach visibility minimums.

Generally, aircraft approach speed applies to runways and runway length related features. Airplane wingspan primarily relates to separation criteria and width-related features.

Airports expected to accommodate single-engine airplanes normally fall into RDC A-I or B-I. Airports serving larger general aviation and commuter-type planes are usually RDC B-II or B-III. Small to medium-sized airports serving air carriers are usually RDC C-III, while larger air carrier airports are usually RDC D-VI or D-V.

A review of the FAA's 2023 Calendar Year Traffic Flow Management System Counts (TFMSC) Operations and Performance Data for JNU serves to verify that the airport fully

accommodates sustained operations by both civilian and military aircraft of all sizes and engines that had RDC characteristics that ranged from A-I to D-III.

Runway wind coverage for Runway 8-26 as measured and reported for this update of the JNU Airport Master Plan, was calculated as the percent of time crosswind components were below an acceptable velocity.

When a runway’s orientation relative to prevailing winds provides less than 95 percent runway wind coverage for the aircraft which are forecast to use the airport on a regular basis, a crosswind runway is recommended. Accordingly, the runway wind coverage percentile for JNU was computed for Runway 8-26 on the basis of four different maximum allowable crosswind components affecting aircraft that range size from the smallest general aviation aircraft having a maximum crosswind component limitation of 10.5 knots, to the largest of commercial and/or military aircraft having a maximum crosswind component limit of 20 knots.

Utilizing historical 10-year Surface Observation data collected at and reported for the Juneau International Airport Station (JNU) for the period 2014 through 2023, runway wind coverage percentile assessments were calculated for All Weather-, Visual- and Instrument Meteorological Conditions. As shown in **Table 2-9**, the runway orientation at JNU provides adequate wind coverage (i.e., greater than 95 percent) when considering the maximum allowable Crosswind Component Speeds of 10.5, 13, 16, and 20 knots.

Table 2-9: Runway Wind Coverage					
Meteorological Condition	Runway Designation	Wind Coverage Percentage (%) Allowable Crosswind Component (Knots)			
		10.5	13	16	20
All Weather	8-26	99.62	99.92	99.99	100
Visual	8-26	99.56	99.91	99.99	100
Instrument	8-26	99.69	99.88	99.98	99.99

Source: NOAA's Integrated Surface Database (ISD) Weather Station: 703810 Juneau International Airport. Record Period: 2015-2024. Percentages may not add up due to calm or inoperative Surface Observation monitoring conditions.

2.3.5 Taxiways

The taxiway system at JNU is classified as Taxiway Design Group 3 (TDG-3) or Taxiway Design Group 2 (TDG-2) and the pavements are reported to be in good condition. The existing taxiways/taxilanes shown in **Table 2-10** and **Table 2-11** meet or exceed current FAA airport design standards. Taxiways B, C, and G substantially exceed the design standard, creating a potential issue related to situational awareness.

Table 2-10: Taxiway Design Criteria – TDG-3

Design Feature	Design Standard (feet)	Taxiways (in feet)										
		A	B	C	C-1	D	D-1	E	E-1	F	G	H1
Width	50	75	100	260	92	50	50	60	65	75	240	65
Edge Safety Margin	10	10	10	10	10	10	10	10	10	10	10	10
Shoulder Width	20	20										
Taxiway Safety Area Width	118	118	118	118	118	118	118	118	171	118	118	118
Taxiway Object Free Area Width	186	186	186	186	186	186	186	186	259	186	186	186
Taxilane Object Free Area Width	162	162	162	162	162	162	162	162	162	162	162	162
Taxiway Centerline to Fixed or Moveable Object	93	93	93	93	93	93	93	93	93	93	93	93
Taxilane Centerline to Fixed or Moveable Object	81	81	81	81	81	81	81	81	81	81	81	81
Taxiway Wingtip Clearance	34	34	34	34	34	34	34	34	34	34	34	34
Taxilane Wingtip Clearance	23	23	23	23	23	23	23	23	23	23	23	23

Source: Michael Baker International, Inc., 2024.

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Table 2-11: Taxiway Design Criteria – TDG-2

Design Feature	Design Standard (feet)	Taxiways (in feet)			
		B-1	B-2	D-2	F-1*
Width	35	35	50	42	40
Edge Safety Margin	7.5	7.5	7.5	7.5	7.5
Shoulder Width	15				
Taxiway Safety Area Width	79	79	118	79	79
Taxiway Object Free Area Width	124	131	186	131	131
Taxilane Object Free Area Width	110	110	110	110	110
Taxiway Centerline to Fixed or Moveable Object	62	62	62	62	62
Taxilane Centerline to Fixed or Moveable Object	55	55	55	55	55
Taxiway Wingtip Clearance	22.5	22.5	22.5	22.5	22.5
Taxilane Wingtip Clearance	15.5	15.5	15.5	15.5	15.5

Source: Michael Baker International, Inc., 2024.

Note: * Taxiway F-1 is closed indefinitely at this time.

2.3.6 Apron Areas

The Central Apron area is divided into two aircraft parking areas, one serving Part 121 operators and the second serving Part 135 carriers. Other apron areas are established on the airport in support of cargo, helicopter, and general aviation operations.

2.3.6.1 Part 135 Apron

The Part 135 Apron area (214,040 SF) is situated between Taxiway B and the northern wing of the passenger terminal. The apron area provides four rows of aircraft parking positions associated with Part 135 air carrier, air cargo, and customs activities. Each row is capable of accommodating power in/power out movements of four aircraft.

A vehicle service road (VSR) is located near the perimeter of the apron along the building side of the aircraft parking rows. Part 135 passengers are escorted, and baggage is transferred between the terminal and aircraft by air crew or another airline employee.

2.3.6.2 Part 121 Apron

The Part 121 Apron area (135,800 SF) is located on the south side of the passenger terminal and encompasses an area of approximately 6¾ acres. There are five aircraft parking positions (Gates 2 through 6) each capable of accommodating a Boeing 737 aircraft.

Gates 2 through 5 on the south side of the terminal building are served by jet bridges. A stairwell, designated as Gate 6 and located between Gates 4 and 5 is used for ground boarding of aircraft at parking position 6 (when required) located east of Gate 5 and parking position 5. The door to the stairs is aligned with Gates 4 and 5.

Aircraft power-in to their assigned gates and are pushed back to push back spots delineated on the apron. Access from the main Part 135 Apron may be blocked if aircraft push back and there is a jet at air cargo.

2.3.6.3 Cargo Apron

The Central Apron area to the west of the Passenger Terminal serves the needs of the air cargo carriers including Alaska Airlines and Alaska Seaplanes. Alaska Airlines maintains a cargo facility consisting of two buildings from which the airline processes freight. Alaska uses a designated aircraft parking position for all-cargo aircraft processing on the central terminal apron; however, the position is available for others when not in use. Belly freight on Alaska Airline's aircraft is loaded and unloaded at the terminal gates.

The regional cargo carrier operations (FedEx) also take place at the cargo area on the northern portion of the Central Apron area. Alaska Central Express operates from the FBO (Aero Services) on the west side of the airport.

2.3.6.4 Helicopter Apron

Currently, helicopter operations occur in three areas (see below) depending on the location of the operator, each of which has an established operational corridor based on letters of agreement between the operators and the FAA's ATCT personnel. These corridors and the associated split local ATC frequency is addressed later in this study.

- Coastal Helicopters – Located east of Part 121 Apron area (84,890 SF). Coastal owns a 22,500 square-foot hangar abutting airport property (through the fence operation).
- Northstar Trekking LLC – Located west of Central Apron Area - 6 parking positions (108,330 SF). Northstar Trekking owns a 15,602 square foot facility and leases 40,324 square feet of land from the airport.
- TEMSCO Helicopters – Located east of Itinerant Apron area - 12 parking positions. TEMSCO owns a 21,451 square foot facility and leases 195,437 square feet of land for the airport.

2.3.6.5 Itinerant Apron

The Itinerant Apron area, located east of Taxiway E-1, is used for general aviation itinerant aircraft parking. The apron provides four rows of dedicated tie-down aircraft parking with each row capable of accommodating 9 aircraft parking positions.

2.3.6.6 East General Aviation Apron

The East General Aviation Apron Area (278,200 SF) is located along the west side of Taxiway E-1. This apron serves the following tenants:

- Glacier Aviation (Airlift Northwest),
- Guardian Flight,
- Army National Guard,
- Trajen Flight Support (dba Aero Services/), and
- Wings Airways.

2.3.6.7 West General Aviation Apron

The West General Aviation Apron Area (91,770 SF) is located adjacent to the Block “1” Hangars west of the Aero Services FBO and is accessible via Taxiways B-1 and B-2. This apron provides aircraft parking for up to 18 general aviation aircraft.

2.3.7 Visual and Electronic Navigational Aids

The following describes the visual and electronic type navigational aids (NAVAIDS) available to pilots when making landings to each approach end of Runway 8-26.

2.3.7.1 Visual Glide Slope Indicators

JNU has two different Visual Glide Slope Indicator (VGSI) lighting systems that are used to guide pilots during the landing phase of flight. The lights assist in defining a vertical approach path during the final approach to a runway and can help the pilot determine if the airplane is too high or too low for an optimum landing.

Visual Approach Slope Indicators (VASIs) and Precision Approach Path Indicators (PAPIs) provide pilots with visual approach glide slope guidance to and over the runway threshold. Runway 8 is equipped with a 2-box VASI system and Runway 26 is equipped with a 4-box PAPI system. The VASI system consists of two upwardly aimed light units (red and white) that are offset and aligned perpendicular to the runway centerline and located on the left side of Runway 8. The PAPI system consists of a row of four upwardly aimed light units (red and white) that are aligned perpendicular to the runway centerline and located on the left side of Runway 26.

Each system at JNU is aimed to provide a 3.5-degree visual glide path to the approach end of the runway at an established vertical Threshold Crossing Height. Based upon sustained approach operations conducted by aircraft having ADG III wingspan and tail height characteristics, the visual threshold crossing heights established for JNU’s two runways range in height from 38.0 to 46.0 feet above threshold. The VASIs and PAPIs are reported to be in good working condition. FAA has plans to switch the Runway 8 VASI to PAPI in approximately two years.

Table 2-12 lists the respective information, data, and attributes of each of the airports two Visual Glideslope Indicators.

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Table 2-12: Runway 8-26 Visual Glideslope Indicator Data

Item	Runway 8	Runway 26
VGSI Lights Type	VASI-2 (Left Side)	PAPI-4 (left Side)
Owner	JNU	JNU
Pilot Control Frequency	CTAF 118.70	CTAF 118.70
Threshold Crossing Height (Feet Above Threshold)	38.0 FT	46.0 FT
Commission Date	1970	2013
Glide Path Angle	3.50	3.50
Runway Reference Point Elevation	84.3 FT	86.6 FT

Source: FAA Airport Details for PAJN, Chart Date 07/26/2012. FAA Form 5010-1, Airport Master Record: JNU Site Number: 50385. *A. Compiled by Michael Baker International, 2024

Notes:

- 1- PAPI is reported to be unusable beyond 2 NM due to terrain.
- 2- VASIs are baffled and reported to be unusable beyond 6 degrees left of runway centerline.
- 3- VASIs are aligned 13 degrees right of runway centerline and are not visible on centerline.

2.3.8 Airport Rotating Beacon

The airport’s rotating beacon provides visual indication of the airport’s relative location and operations at night or during low visibility conditions. The rotating beacon is situated atop the Airport Traffic Control Tower facility collocated with the passenger terminal. The beacon emits sequenced flashes of green and white light that provides visual verification of the presence, relative location, and operation of a Civil Land Airport. The airport rotating beacon is reported to be in good operating condition.

2.3.9 Segmented Circle

The airport’s Segmented Circle is located approximately 600 feet northwest of the approach end of Runway 8 and serves as a visual aid to pilots overflying the airport traffic pattern. The Segmented Circle provides visual information regarding prevailing wind direction and speed, landing strip direction, and any runway-specific nonstandard airport traffic pattern turning requirements. The Segmented Circle is comprised of the following elements that are unique to JNU:

- Centrally located Landing Direction Indicator (lighted windcone), and
- Two Landing Strip Indicators with Traffic Pattern Indicators.

2.3.10 Airfield Windcones

Four lighted windcones are established at strategic locations on the airfield to be readily visible by aircraft either on close-in arrival operations or near the runway entry point for departure operations. The windcones are reported to be in good working condition.

2.3.11 Distance Measuring Equipment

Although located remotely, two published Non-precision Instrument Approach Procedures serving Runway 8 and Runway 26 require the use of Distance Measuring Equipment (DME)

that is co-located with the Sisters Island VORTAC facility located approximately 24 nautical miles southwest of the airport's ARP. The DME serving JNU is reported to be in good working condition. When interrogated by on-board DME equipment in the aircraft, the facility provides distance information to the pilot that is utilized by the pilot for Instrument Approach Procedures (IAPs) distance and dead reckoning purposes. The facility is operationally restricted under the following conditions:

- Heading 050-070 beyond 12 NM below 10,000 feet.
- Heading 115-130 beyond 32 NM below 8,000 feet
- Heading 131-175 beyond 25 NM below 13,000 feet
- Heading 176-189 beyond 28 NM below 14,000 feet
- Heading 190-245 beyond 30 NM below 12,000 feet
- Heading 246-260 beyond 18 NM below 7,000 feet
- Heading 306-360 beyond 21 NM

2.3.12 Runway Visual Range

Runway Visual Range (RVR) systems are ground-based facilities that automatically report visibility conditions for aircraft pilots when conducting take-offs or landings. Runway 8 and Runway 26 are each served by two strategically located RVR stations located at the Touchdown and Rollout location of each respective runway. The RVR stations serving Runway 8-26 are reported to be in good working condition.

2.3.13 VORTAC

Although remotely located approximately 24 nautical miles southwest of the airport, the two Non-precision IAPs serving Runway 8 utilize the Sisters Island Very High-Frequency Omnidirectional Radio Range and Tactical Air Navigation (VORTAC) facility. The VORTAC facility is reported to be in good working condition.

2.3.14 Runway End Identifier Lights

A collocated pair of unidirectional synchronized flashing lights called Runway End Identifier Lights (REILs) are located on each side of the runway threshold to be visible to aircraft pilots during landing operations. REILs serve to provide positive identification of the approach end of the runway to pilots when the approach end of the runway is proximity to other distractive lighting, or during periods of reduced visibility. The REILS located at the approach end of Runway 26 is reported to be in good working condition.

2.3.15 Medium Intensity Approach Lighting Systems

Runway 8 is equipped with a Medium Intensity Approach Lighting System with Sequenced Flashers (MALSF) that facilitates and is part of the published Non-precision Instrument RNAV (GPS) V and LDA X IAPs to Runway 8 offering minimum visibility minimums down to 2 and 4 nautical miles, respectively. The MALSF is reported to be in good operating condition.

Runway 26 is equipped with a Medium Intensity Approach Lighting System (MALS) that assists pilots in identifying the runway environment under various weather conditions. The MALS is reported to be in good operating condition. There are plans to extend the Runway 26 MALSR to 2,400 feet by 2026/2027.

2.4 Protection of Navigable Airspace

At JNU, Runway 8 has published electronic ground-based or WAAS-based IAPs that provide varying minimum cloud base and visibility minimums. Accordingly, protection of navigable airspace to provide safe and efficient use each IAP is prescribed by Code of Federal Regulations (CFR) Title 14: Aeronautics and Space, part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*, §77.19, Civil Airport Imaginary Surfaces.

Runways 8 and 26 are classified as having CFR part 77 Approach Surfaces that serve “Other Than Utility” runways with a Non-precision Instrument approach capability having published minimum visibility minimums of greater than $\frac{3}{4}$ mile. An “Other Than Utility” runway is intended to be used by propeller driven aircraft with a maximum gross weight greater than 12,500 pounds and/or jet aircraft of any gross weight.

Runway 8 currently has a published and noted lighted obstruction. The tower is located approximately 7,600 feet from the approach end of Runway 8, 900 feet left of the extended runway centerline and has a height of 598 feet AMSL. The FAA reports that the controlling obstacle provides a minimum visual approach glide path slope of 12:1. There are no reported close-in obstructions within the first 200 feet of the approach to the runway end.

Runway 26 currently has no controlling obstructions published and the FAA reports that the runway provides a minimum visual approach glide path slope of 34:1. There are no reported close-in obstructions within the first 200 feet of the approach to the runway end.

Runway 8W currently has no controlling obstructions published and the FAA reports that the runway provides a minimum visual approach glide path slope of 20:1. There are no reported close-in obstructions within the first 200 feet of the approach to the runway end.

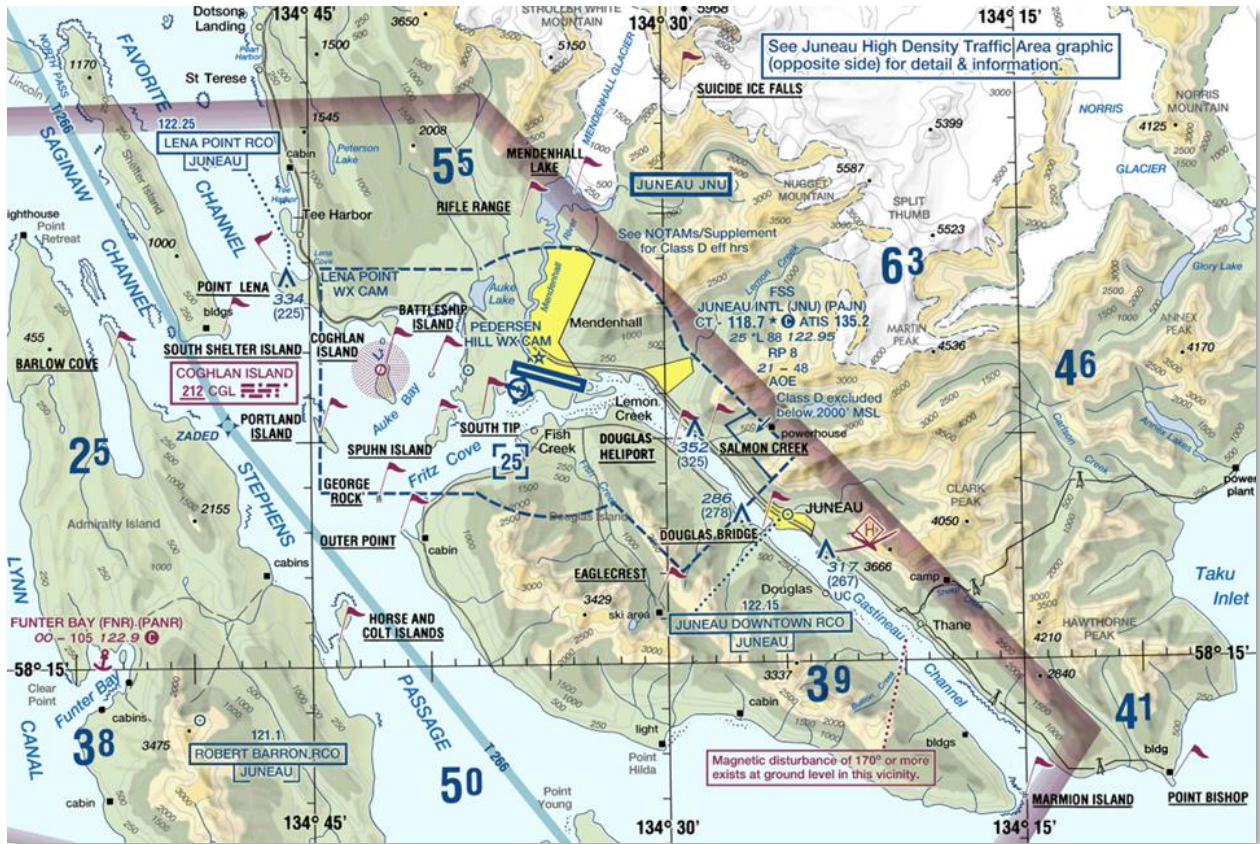
Runway 26W currently has no controlling obstructions published and the FAA reports that the runway provides a minimum visual approach glide path slope of 20:1. There are no reported close-in obstructions within the first 200 feet of the approach to the runway end.

2.4.1 Airspace Characteristics

Juneau International Airport is surrounded by Class D airspace extending upward from the surface to and including 2,500 feet MSL within a 3-mile radius with portions extending 5 nautical miles to the west and southeast from the airport. A portion of the southeast corner of Class D is excluded below 2,000 feet MSL.

Class E airspace extending upward from 700 feet above the surface surrounds Juneau International Airport and extends approximately 45 nautical miles to the west just beyond Gustavus Airport. **Figures 2-4 and 2-5** depict the airspace surrounding JNU.

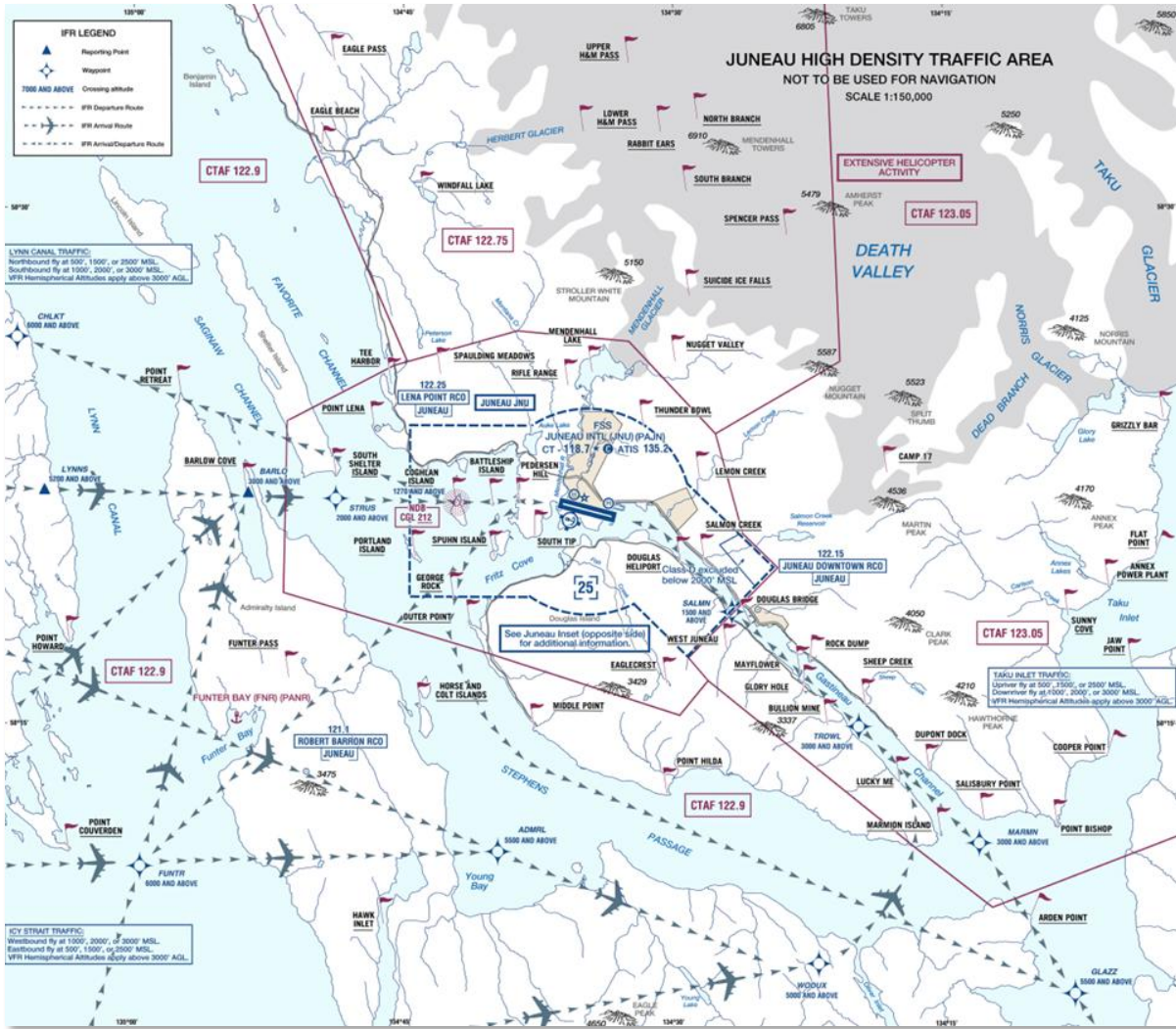
Figure 2-4: Sectional Aeronautical Chart



Source: Juneau Sectional Aeronautical Chart, December 26, 2024

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Figure 2-5: Juneau High Density Traffic Area



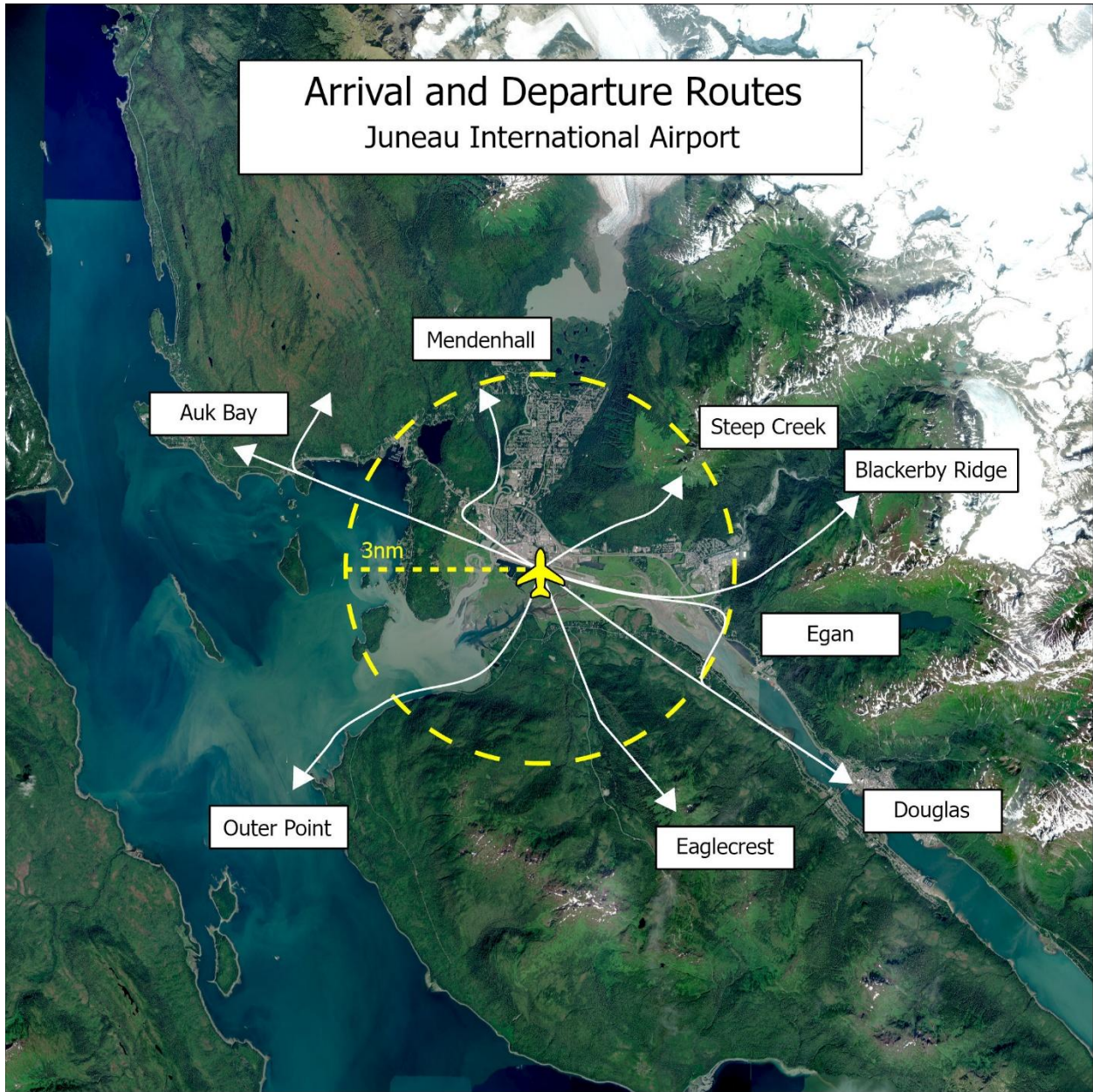
Source: Juneau Sectional Aeronautical Chart, December 26, 2024

2.5 Instrument Approach and Departure Procedures

JNU is located in the mountainous region of Southeast Alaska and the terrain in the region makes approach and departure procedures into JNU challenging. Due to the regional terrain, ATCT personnel have established specific approach and departure routes at JNU for visual flights, as shown in Figure 2-6.

In addition, some companies have developed special instrument procedures for arrivals and departures at JNU and these have been approved by FAA. These are unique to each company's operations and reduce minimums for their operations.

Figure 2-6: JNU Visual Approach and Departure Routes



Source: FAA JNU Airport Traffic Control Tower

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2.5.1 Published Instrument Approach Procedures

The FAA develops standard instrument procedures to facilitate safe navigation around obstructions and obstacles identified through the analysis of the airspace surfaces developed in accordance with 14 CFR Part 97, *Standard Instrument Procedures*, referencing applicable instrument procedure standards as prescribed in FAA Order 8260.3G, *United States Standard for Terminal Instrument Procedures (TERPS)*. This part prescribes standard instrument approach procedures to civil airports in the United States and the weather minimums that apply to landings under IFR at those airports. This part also prescribes obstacle departure procedures (ODPs) for certain civil airports in the United States and the weather minimums that apply to takeoffs under IFR at civil airports in the United States.

JNU is served by a variety of NAVAIDS that are visual or electronic in nature. IAPs facilitate the transition from the airspace to the airport and are considered to play an important part in the airport’s capability to accept and accommodate aircraft landing approach operations during periods of local low ceiling and/or low visibility meteorological conditions. IAPs may be affected by penetrations of part 77 Civil Airport Imaginary Surfaces or runway end-specific to the Approach Departure Surfaces (i.e., Obstacle Clearance Surfaces).

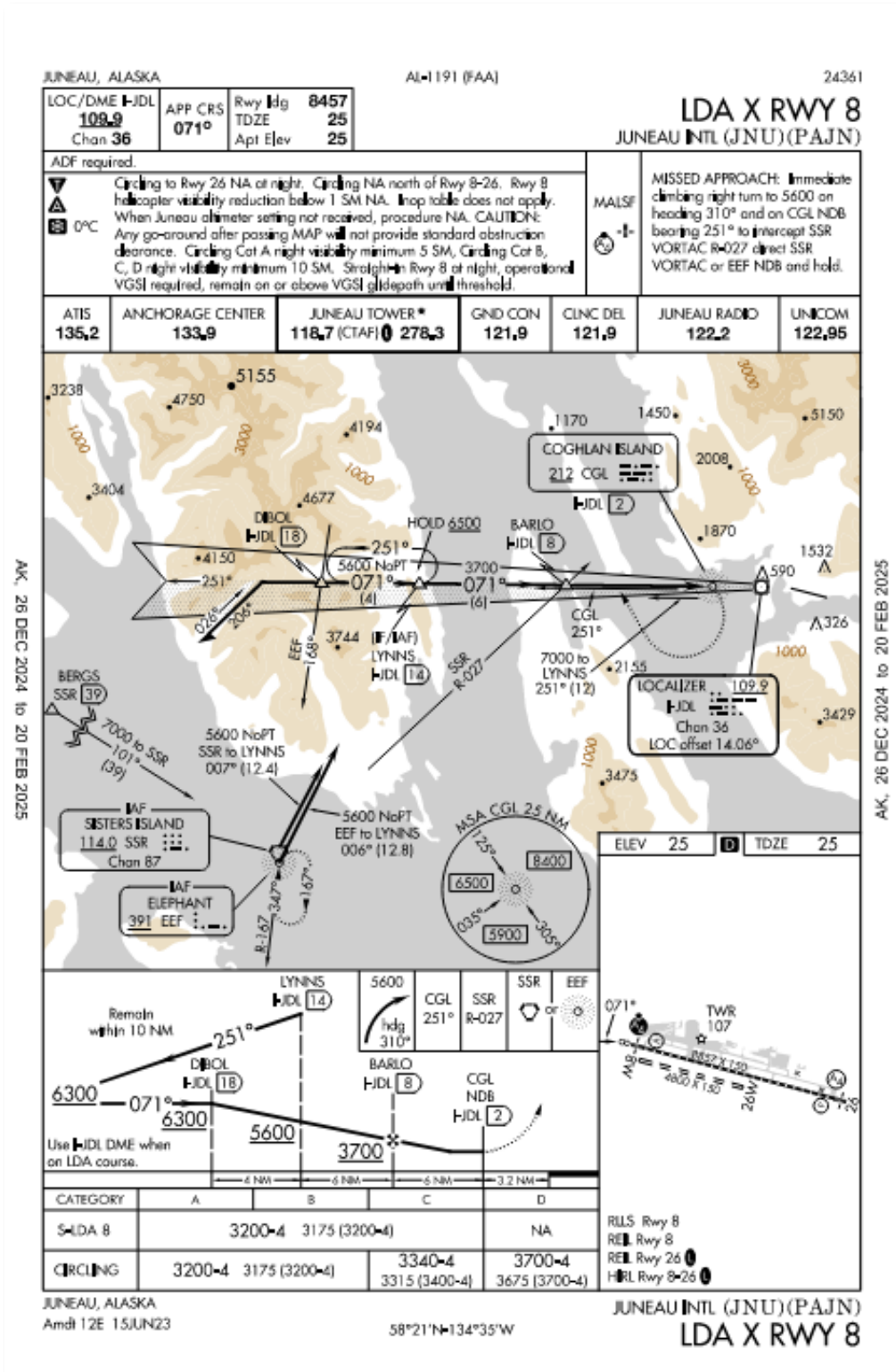
Table 2-13 lists the IAPs currently serving JNU. When equipped and qualified, pilots can execute a Non-precision IAP to Runway 8 when the locally reported cloud base ceiling and visibility are reported to be as low as 1,880 feet above ground levels and 2 miles respectively. These IAPs are also depicted in **Figures 2-7** and **2-8**.

Table 2-13: JNU Instrument Approach Procedure Summary					
IAP Description	NAVAID Type	Lowest Published Minimums (Cloud Base/ Visibility)	NAVAID Identifier	Amendment	Publication Date
LDA X RWY 8	GPS/WAAS	S-LDA 3,200 Feet/4-Miles	APP CRS 071	12E	06/15/2023
RNAV (GPS) V RWY 8	GPS/WAAS	LNAV MDA 1,880 Feet/2-Miles	APP CRS 070	2C	06/15/2023

Source: FAA Instrument Approach Procedures Publication AK with effective dates: 26 DEC 2024 to 20 FEB 2025

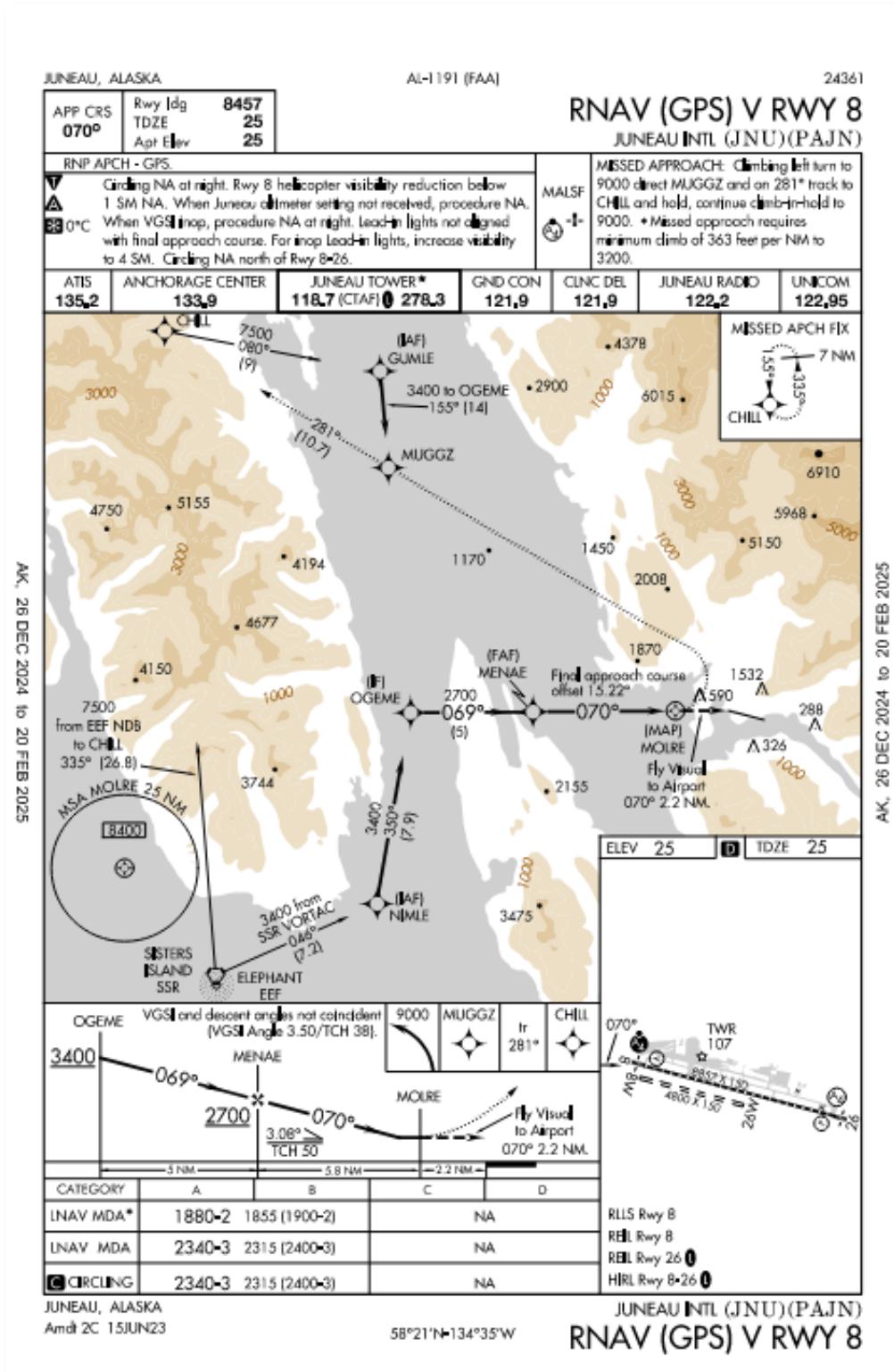
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Figure 2-7: LDA X Approach – Runway 8



Source: FAA Instrument Approach Procedures Publication AK with effective dates: 26 DEC 2024 to 20 FEB 2025

Figure 2-8: RNAV (GPS) V Approach – Runway 8



Source: FAA Instrument Approach Procedures Publication AK with effective dates: 26 DEC 2024 to 20 FEB 2025

2.6 Airfield Lighting

The airport is equipped with a variety of lighting systems that collectively serve to safely accommodate aircraft operational activity during nighttime hours and/or during inclement weather conditions and/or periods of reduced visibility.

All airfield lighting electrical requirements at JNU are currently provided from an electrical vault that is supplemented with an emergency backup generator. The airport lighting regulator vault and generator are located near the northwest corner of the Itinerant Apron area.

2.6.1 Runway Edge Lighting

Runway 8-26 is equipped with High Intensity Runway Lights (HIRL) that are reported to be in good working condition.

2.6.2 Taxiway Edge Lighting

All major taxiways are equipped with Light Emitting Diode (LED)-type Medium Intensity Taxiway Lights (MITL) and are reported to be in good working condition.

2.6.3 Apron Lighting

Apron lighting is used to illuminate apron and ramp areas for the purposes of safety and security. Future improvements to this lighting system will be addressed in subsequent chapters of this master plan.

2.6.4 Airfield Signage

The airfield is fully equipped with illuminated airfield informational, directional guidance, and mandatory instructional signs.

2.7 Landside Facilities

2.7.1 Terminal Area

The terminal area at Juneau International Airport, shown in **Figure 2-9**, is located north of Runway 8-26. The area encompasses the passenger terminal building, public and employee parking, rental car facilities, landside access, and the commercial aviation aircraft parking apron. Access to the area is provided by Shell Simmons Drive.

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Figure 2-9: Terminal Area



Source: Michael Baker International, Inc., 2025

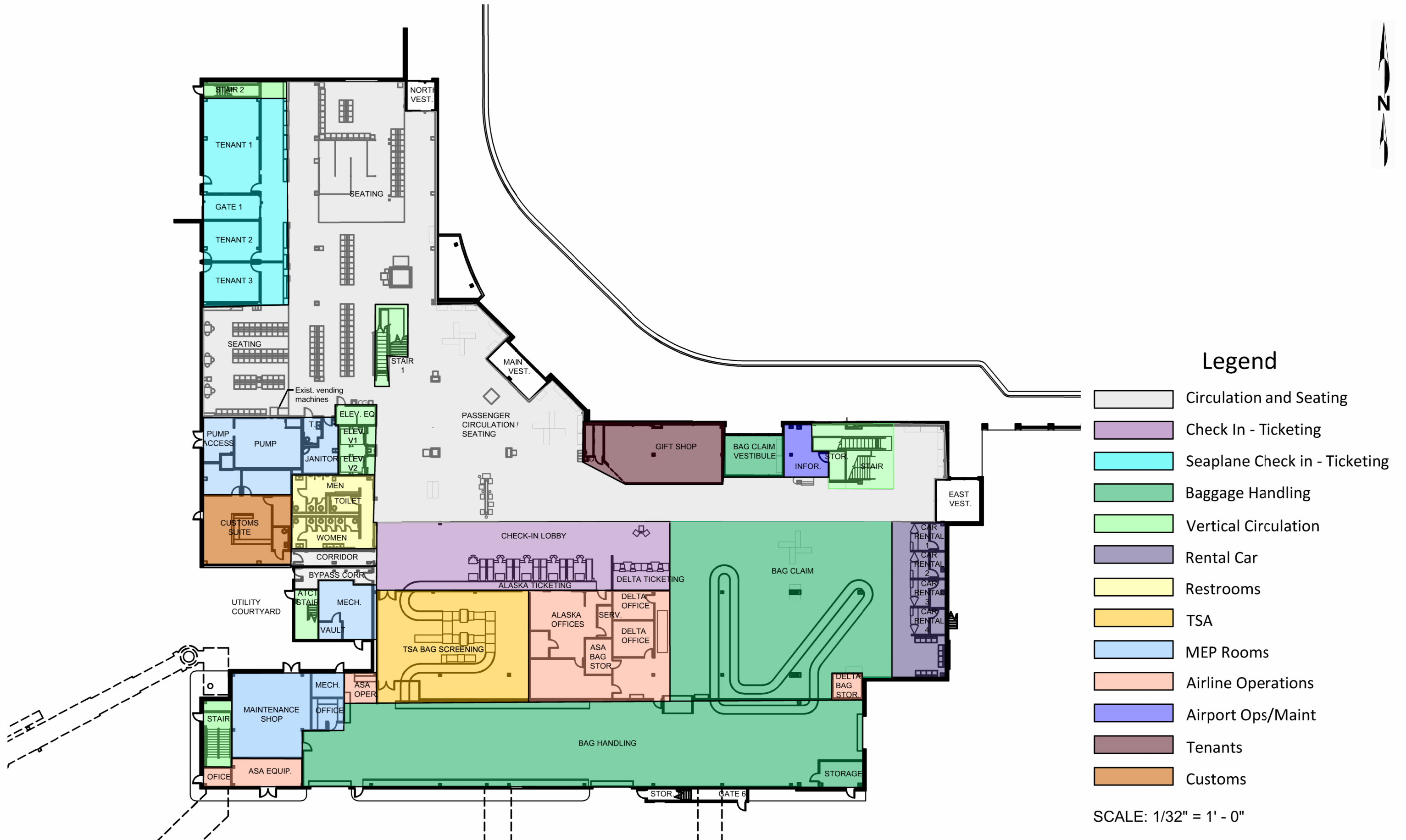
2.7.1.1 Passenger Terminal

The passenger terminal is an L-shaped facility composed of a two-story north wing that primarily accommodates Part 135 air carrier operations (Alaska Seaplanes) and a two-story east wing that accommodates facilities for Part 121 air carriers (Alaska and Delta Air Lines). The 2nd floor mezzanine houses airport administrative offices and concessions. The terminal building encompasses approximately 94,200 square feet of floor area.

For the most part, the north and east wings of the terminal building function independently due to the differing operating characteristics and security requirements of the Part 121 and Part 135 air carriers. As a result, there is minimal common usage of facilities due to differing operating requirements.

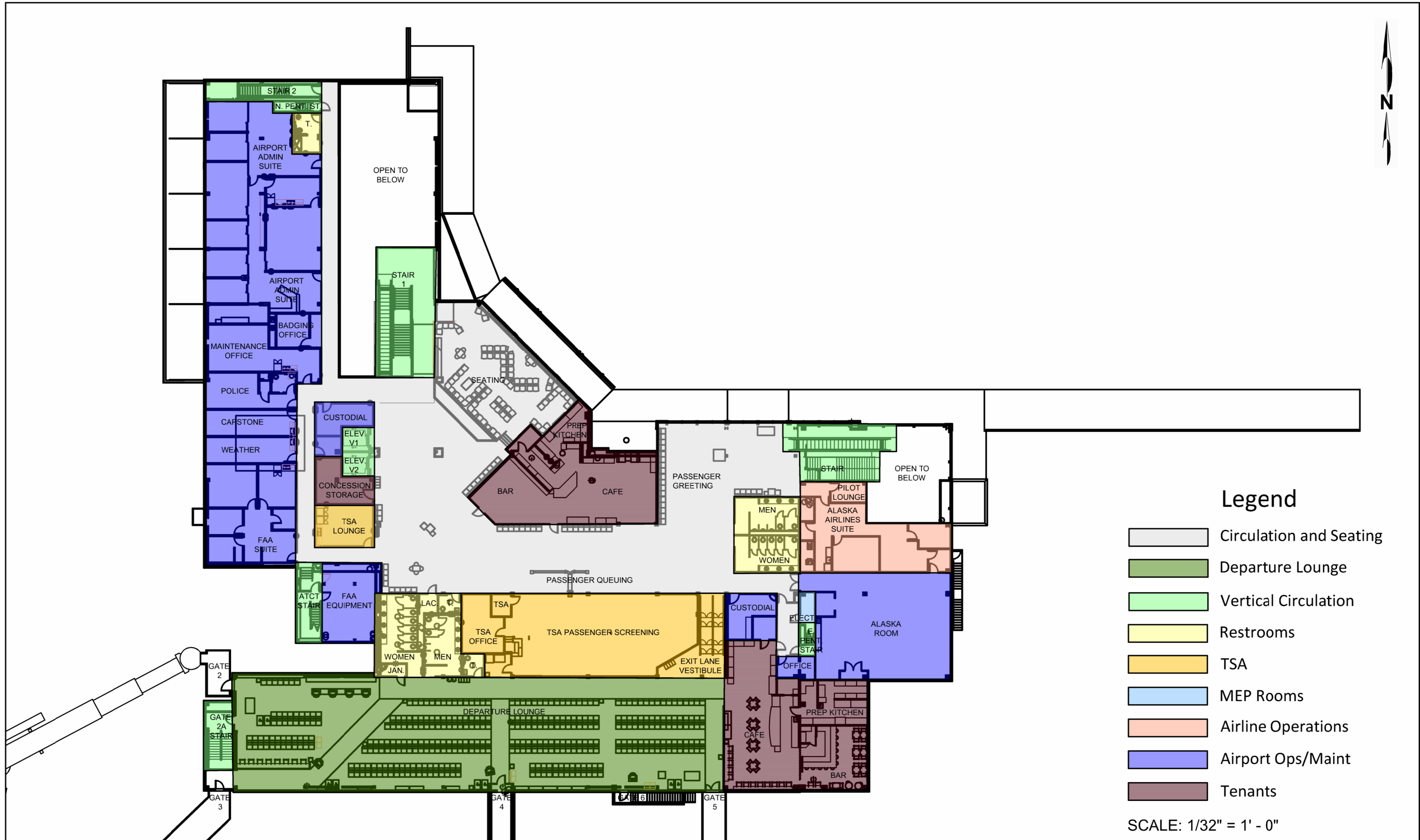
Terminal floor plans are shown in **Figure 2-10** and **Figure 2-11**. As these figures show, the lower levels of both the north and east wings have linear functional areas arranged parallel to the terminal curb and aircraft parking apron along a central access corridor. Building entries, concession spaces, and a variety of support spaces are located along the front façade of the building adjacent to the terminal curb front. The car rental counters are located at the east end of the facility. Restrooms are located in the middle of the building, and mechanical rooms are in the mechanical penthouses or in the southwest corner (knuckle) of the building between the two wings.

A Part 135 air carrier holdroom/greeter area is located along this façade of the north wing. A Federal Inspection Services (FIS) area for clearance of arriving international passengers is also located in the “knuckle” of the building.



Passenger Terminal Floor Plan - Level One

Figure 2-10



Legend

- Circulation and Seating
- Departure Lounge
- Vertical Circulation
- Restrooms
- TSA
- MEP Rooms
- Airline Operations
- Airport Ops/Maint
- Tenants

SCALE: 1/32" = 1' - 0"

The central access corridor provides public circulation space. A central bank of stairs, escalator, and elevator serving the upper level are located at the point where the north and east wings of the terminal building intersect. Airline ticket counters, airline offices, baggage handling space, and miscellaneous support functions (including the airport police office, airport/tenant storage, and other airport and tenant maintenance areas) are located along the rear building façade.

The upper level of the terminal building contains a central circulation core with spaces generally arranged around the central stairs, escalator, and elevator core, and the public lobby. The lobby extends east to the security checkpoint. Two third level ‘penthouses’ (both north and east wings) house the mechanical systems of the airport.

2.7.1.2 Airport Traffic Control Tower

To further enhance safe operations at JNU, the FAA operates an ATCT facility located atop the southwest corner of the passenger terminal. At any given time during established hours of operation, tower control personnel (summer- 5 and winter- 3) provide landing and departure instructions to all aircraft operating at the airport as well as providing other services such as weather advisories and en route flight clearances.

The JNU ATCT operates from 6 a.m. through 11 p.m. (April 1 through September 30) and from 7 a.m. through 8 p.m. (October 1 through March 31). Information pertaining to the ATCT is shown in **Table 2-14**.

Table 2-14: Airport Traffic Control Tower	
Item	Data
Facility ID	JNU
Facility Name	Juneau International Airport
Operator	FAA Tower
Staffing	FAA Personnel
Tower Call	Juneau
Hours of Operation (Daily)	1 Apr - Sep 30 (0600 – 2300) 1 Oct - Mar 31 (0700 – 2000)
Frequencies	
Tower	118.7 MHz (120.7 MHz split frequency during peak summer months for helicopter traffic north of runway/taxiway)
Ground	121.9 MHz
Location	
Latitude	58° 21' 32.24" N (Estimated)
Longitude	134° 35' 2.04" W (Estimated)
Elevations (feet MSL)	
Top	95

Source: FAA eNASR, December 26, 2024.

2.7.2 Air Cargo Facilities

There are three air cargo facilities at JNU to support cargo loading, unloading or support services for either scheduled or ad-hoc aircraft operations at JNU. The Central Apron to the west of the passenger terminal serves the needs of the air cargo carriers including Alaska Airlines and Alaska Seaplanes.

Currently, Alaska Airlines and Alaska Seaplanes are the only full-service cargo operators on the airport offering cold storage including freezer space, secure storage, etc. Alaska Airlines maintains a cargo facility consisting of two buildings from which the airline processes freight. Their facility is located west of the Central Apron. These facilities process most of the freight that arrives and departs JNU as belly cargo on Alaska Airlines. The aircraft used for this freight service are Boeing 737 aircraft. Alaska uses a designated aircraft parking position for all-cargo aircraft processing on the Central Apron; however, the position is available for others when not in use.

The regional cargo carriers (FedEx and Alaska Central) provide cargo transfer facilities on the airport. Alaska Central Express uses Beech 1900 aircraft and FedEx is handled through Alaska Airlines Boeing 737 aircraft. Also, Alaska Airlines handles the US Postal Service mail contract. These operations also take place on the Central Apron area.

2.7.3 General Aviation Facilities

General Aviation (GA) requires a wide array of services and facilities. The type of aircraft, climate, frequency, and type of operations define the type of facilities and level of service. Some of these facilities and services are provided by the airport owner/operator, and some are provided by private entities.

GA facilities are located in two areas of the airport, the East GA Area and the west GA area. The West GA Area extends to the western airport boundary and includes a variety of facilities as shown in **Figure 2-12** and **Table 2-15**.

The East GA Area includes a combination of facilities including the Army National Guard, the ARFF facility, numerous T-hangars and executive hangars, and air ambulance (medivac) facilities. **Figure 2-13** and **Table 2-16** show the building locations and building inventory for this area.

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Figure 2-12: West General Aviation Area



Source: Michael Baker International, Inc., 2025

Table 2-15: West General Aviation Area Inventory		
Building	Name	Use
8	Lab Flying	Aircraft Hangar Storage
10	Heimbigner	Aircraft Hangar Storage
11	Alaska Airlines	Air Cargo
12	Alaska Airlines	Air Cargo
13	Private Hangar	Aircraft Hangar Storage
14	US Fish and Wildlife	Aircraft Hangar Storage
15	Private Hangars	T-Hangars (3 Units)
16	Duane Packer	Air Cargo (UPS)
17	R&L Leasing	Air Cargo (FedEx)
18	Northstar Trekking	Helicopter Operator
19	Aero Services	Fixed Base Operator
20	Private Hangar	Aircraft Hangar Storage
21	Private Hangar	Aircraft Hangar Storage
22	Private Hangar	Aircraft Hangar Storage
23	Private Hangar	Aircraft Hangar Storage
24	Private Hangar	Aircraft Hangar Storage
25	Private Hangar	Aircraft Hangar Storage
26	Private Hangar	Aircraft Hangar Storage
27	Private Hangar	Aircraft Hangar Storage
28	Private Hangar	Aircraft Hangar Storage
29	Private Hangar	Aircraft Hangar Storage
30	Civil Air Patrol	Aircraft Hangar Storage

Compiled by: Michael Baker International, Inc., 2024

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Figure 2-13: East General Aviation Area



Source: Michael Baker International, Inc., 2025

Table 2-16: East General Aviation Area Inventory

Building	Name	Use
32	Sand Storage Building	Building has been demolished.
33	Loken Aviation	Coastal Helicopter
34	Ward Air (Red Leasing)	Air Taxi Service
35	Block "L" Executive Hangars (5 Units)	Aircraft Hangar Storage
36	Block "M" T-Hangars (14 Units)	Aircraft Hangar Storage
37	Block "N" T-Hangars (9 Units)	Aircraft Hangar Storage
38	Aircraft Rescue and Firefighting (ARFF)	Airport Support
39	Silver Bay Logging	Private Hangar
40	Alaska National Guard	Private Hangar
41	Wings of Alaska	Hangar
42	Block "O" Executive Hangars (14 Units)	Aircraft Hangar Storage
43	Coastal Fuel/Helicopter	Fueling Operations/Helicopter Parking

Compiled by: Michael Baker International, Inc., 2024

2.7.3.1 Fixed Base Operator (FBO)

Aero Services operates the only Fixed Base Operator (FBO) serving the aviation community at JNU. The main office and FBO terminal are located off Renshaw Way in the West General Aviation Area. The FBO can gain airside access via Taxiway B2 north of Taxiway A.

Operating daily between the hours of 4 a.m. and 10 p.m., Aero Services is a full-service FBO providing a variety of services for locally-based and visiting transient civilian and military aircraft owner operators that include, but are not limited to:

- Aviation fuel
- Aircraft ground and cargo handling
- Oxygen service
- Aircraft transient parking (ramp or tiedown)
- Hangars
- Deicing
- Catering
- Courtesy shuttle
- Rental cars
- Overnight storage services
- Local accommodations and transportation
- US Customs arrangement services
- Passenger terminal and lounge
- Pilot supplies

2.7.4 Military Facilities

The military has a rich history at JNU and continues to be active at this airport. The Alaska National Guard Army Aviation Operating Facility is located off Livingston Way just west of the Itinerant Apron. Associated facilities include an apron, hangar, and other specialized support facilities in support of the unit's training, disaster response and combat support mission.

The Alaska Army National Guard's 207th Aviation Troop Command, headquartered at Joint Base Elmendorf-Richardson, stations a UH-60L Black Hawk helicopter at JNU to maintain crew proficiency and currency in their training requirements while operating across a range of austere Alaskan terrain. The Juneau-based Black Hawk is also equipped with internal and external auxiliary fuel tanks that extend its range to about four hours of flying time.

2.8 Support Facilities

Several additional facilities are important to keeping the airport operational and for the provision of key capabilities at JNU. In general, support facilities ensure the smooth and efficient airport operation. Facilities not documented in other sections of this chapter include the fuel, Aircraft Rescue and Firefighting, airport maintenance and snow removal equipment facilities. The existing characteristics of these facilities are documented in this section for further use in subsequent phases of this Study.

2.8.1 Fuel

Fuel farm facilities are located within a securely gated compound located west of the intersection of Cessna Drive and Alex Holden Way. Access to these facilities is provided via Cessna Drive.

The fuel farm includes four 30,000-gallon Jet-A fuel storage tanks, one 30,000-gallon 100LL AVGAS fuel storage tank, and one 20,000-gallon 100LL AVGAS tank. All fuel storage tanks are above ground.

Fuel is delivered to the fuel farm by Delta Western Petroleum and transported to and from the fuel farm area to aircraft via various fuel delivery trucks owned and operated by various tenants. Fuel can also be purchased from the FBO.

2.8.2 Aircraft Rescue and Fire Fighting

The airport operates an Aircraft Rescue and Fire Fighting (ARFF) fire station located east of the terminal area on Crest Street near the intersection of Livingston Way. The JNU ARFF is a shared facility where the northern portion of the building is operated by the Glacier Valley Fire Department to respond to local off-airport community fire events, and the southern portion of facility is dedicated to respond to airport emergencies. The Fire Department operates 24 hours a day, 7 days a week.

CFR part 139 sets forth minimum safety standards (i.e., Index A through E) for emergency response personnel and equipment requirements at commercial service airports. An airport's ARFF Index is determined by a combination of two factors: the total length and average number of daily departures of air carrier aircraft operating at the airport.

Scheduled service at JNU is provided by two major US air carriers utilizing Boeing 737 aircraft. To support the safety needs of these larger aircraft, the Fire Department has a full complement of ARFF equipment that, collectively, provide the capability to meet or exceed the requirement of ARFF Index C that includes air carrier aircraft that are least 126 feet, but less than 159 feet in length.

ARFF Index C requires that the JNU ARFF facility have, at a minimum, two vehicles that combined can carry 3,000 gallons of water and the commensurate quantity of Aqueous Film Forming Foam agent (AFFF) for foam production. In addition, at least one of the abovementioned vehicles must contain either 500 pounds of sodium-based dry chemical, halon 1211, or clean agent or 450 pounds of potassium-based dry chemical and water with a commensurate quantity of AFFF to total 100 gallons for simultaneous dry chemical and AFFF application.

The Fire Department's complement of response vehicles and fire-fighting capacities are detailed below.

- 2016 Rosenbauer truck with a capacity for 3,000 gallons of water, 400 pounds of AFFF, and 500 pounds of dry chemicals.
- 2003 Oshkosh truck with a capacity for 1,585 gallons of water, 205 pounds of AFFF, and 500 pounds of dry chemicals.
- 1993 E-One Titan (on loan until 2025) truck with a capacity of 1,585 gallons of water, 220 pounds of AFFF, and 550 pounds of dry chemicals.
- Two new trucks are planned in 2025 and 2026.

2.8.3 Airport Maintenance Facilities

The airport maintenance facility, constructed in 1962, is located off Alex Holden Way along the north edge of the Central Apron area. This facility is in fair condition but does not meet the current standards or needs.

2.8.4 Snow Removal Equipment Facility

The airport currently has and maintains snow removal equipment (SRE) in accordance with 14 CFR 139.313, *Snow and Ice Control*. Snow removal equipment is stored in the Snow Removal Equipment Facility (SREF) which is located east of the Float Plan Access Road, in the West GA Area. In addition to equipment storage, the facility includes airport staff support space. A Sand Chemical Building is also located east of the SREF and is used for supplies. The SREF was constructed in 2017 and is currently in good condition. The airport's snow equipment fleet is listed in **Table 2-17**.

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Table 2-17: JNU Snow Removal Equipment Fleet		
Manufacture Year	Manufacturer	Model
1996	Oshkosh	Tanker Model P2552
1998	Oshkosh	Runway Plow Truck/Dump Truck
1998	Oshkosh	Runway Plow Truck/Dump Truck
1998	Oshkosh	Runway Plow Truck/Dump Truck
2004	Elgin	Geovac vacuum sweeper
2003	MB/Oshkosh	High Speed Runway Broom
2003	MB/Oshkosh	High Speed Runway Broom
2003	MB/Oshkosh	High Speed Runway Broom
1989	International	Truck - Sand
2003	Freightliner	Dump/Sander
2004	Chevrolet	Trailblazer
2003	Oshkosh	Snow Blower
1992	Oshkosh	Snow Blower
2001	Volvo	Grader
2000	Champion	Grader
2004	CAT	Loader 980
1992	CAT	Loader
2002	Case	Skid Steer
2016	Bobcat	Track Loader

Compiled by: Michael Baker International, Inc., 2024

2.8.5 Airport Administration Office

The airport manager and staff offices are located on the second floor of the passenger terminal. Staff assigned to airport operations and safety comply with their duties in the terminal building, apron, and other airport areas as required.

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3 FORECASTS OF AVIATION ACTIVITY

3.1 Introduction and Background

The forecast of aviation activity as part of the update of an Airport Master Plan (MPU) provides projections of anticipated future level of aircraft operations (a takeoff or a landing) and the number and type of locally based aircraft as prescribed in the Federal Aviation Administration's (FAA) Advisory Circular 150/5070-6B, *Airport Master Plans*. The last comprehensive forecasting effort was completed as part of the 2017 Juneau International Airport Sustainability Master Plan, with a study-specific forecast planning period beginning in 2015 and extending through 2035.

The FAA has a responsibility to review and approve aviation activity forecasts developed by others that are submitted to the agency in conjunction with airport planning, including Airport Master Plans and associated environmental studies. The FAA reviews such forecasts with the objective of including them in its Terminal Area Forecast (TAF) prepared specifically for JNU, and the National Plan of Integrated Airport Systems (NPIAS). In addition, aviation activity forecasts are an important input to benefit-cost analyses associated with airport development. The FAA reviews these analyses when the airport owner's requests for federal funding are submitted.

As developed specifically for this update of the JNU Airport Master Plan, the review and approval of the aviation activity falls upon the FAA's Alaskan Region Airports Division (AAL-600) located in Anchorage, Alaska.

The FAA reviews the sponsors' data with a particular focus on the justification and timing of proposed development projects. Along with airport operators, sponsors include state and local planning agencies. The federally funded plans must be consistent with FAA forecasts of aeronautical activity, follow FAA guidelines, and be reviewed and accepted by FAA personnel familiar with local conditions and should be:

- realistic
- based on the latest available data
- reflect the current conditions at the airport
- supported by information in the study, and
- provide an adequate justification for airport planning and development.

As defined in FAA Order 5090.5, *Formulation of the National Plan of Integrated Airport Systems (NPIAS) and the Airports Capital Improvement Plan (ACIP)*, the regional office must approve the Airport Sponsor's (City and Borough of Juneau or CBJ) aviation activity forecasts and the determination of one or more Critical Design Aircraft. Aviation activity forecasts supplied by the Airport Sponsor should be consistent with the FAA's 2024 JNU-specific Terminal Area Forecast as issued in January of 2025. The TAF forecasts passenger enplanements and commercial operations at airports with more than 100,000 enplanements are based on Origin and Destination (O&D) models of passenger flow.

When reviewed by the FAA, aviation activity forecasts listing projections of annual aircraft operations, passenger enplanements and levels of locally based aircraft are considered consistent with the TAF if those respective forecasts differ by less than 10 percent in the 5-

year forecast period, and 15 percent in the 10-year forecast period. If the forecast is not consistent with the TAF, differences must be resolved if the forecast is to be used in FAA decision-making. This may involve revisions to the airport sponsor's submitted forecasts, adjustments to the TAF, or both.

The aviation activity forecasts developed as part of the update of the JNU master plan similarly project commercial, general aviation, military, and air cargo activity over a 20-year planning period beginning with the year 2023 ("the forecast's Base Year") and extending through the 20th forecast year 2043 with three intervening five-year forecast horizon years of 2028, 2033, and 2038. This forecast of aviation activity will be subsequently referenced and used as part of the development of the MPU's phased development of airport facility improvements and the on-going and periodic refinement of JNU's Airport Capital Improvement Program (ACIP).

These projections of future aviation activity serve as the basis for CBJ's planning and proposed development identified in the ACIP for the Juneau International Airport (FAA Identifier: JNU). This aviation activity forecast was prepared as part of an assessment of potential relative changes in activity and its associated impact on JNU's facility development needs. All efforts were made to develop and present a realistic forecast of aviation activity to JNU, CBJ and the FAA that was based on the recent data that would directly correlate with the current and anticipated future conditions at the airport.

Aviation activity forecasting actions, collectively, facilitate the prudent planning and timely development of airport facilities. They provide the platform for development decisions related to the purpose, size, location, and appropriate geometric design of planned and appropriately phased airport facility development. These actions typically include, but are not limited to:

- airfield pavements (i.e., runways, taxiways, and itinerant ramp/aprons)
- visual and electronic navigational aids
- approach lighting systems
- airfield pavement edge lighting
- aircraft Hangar and Tiedown Facilities
- airport traffic control towers
- landside facilities; and
- terminal space

Failure to thoughtfully plan for the future can result in negative consequences to an airport's capacity, activity, safety, and efficiency. The primary objective of forecasting is to provide information needed to determine whether existing airport facilities would adequately serve future needs. In most growth scenarios, the estimated levels of future demand may suggest the expansion, renewal, strengthening, or other improvements to airport structures or facilities.

3.2 Summary of the Forecast of Aviation Activity

Historical records clearly indicate that the number of enplaned passengers at JNU has fluctuated over time during seasonal periods that correlate with other air carrier airports nationally, but is heavily influenced by tourism.

Air Carrier activity is classified by the FAA as any aircraft operation that is not classified as General Aviation or Military. Operating as an “Origination and Destination” airport, JNU has scheduled commercial air carrier service offered by two mainline air carriers, Alaska Airlines and Delta Air Lines, each operating under Title 14 Subchapter G CFR Part 121, *Operating Requirements: Domestic, Flag, and Supplemental Operations*.

In 2023, Alaska Airlines offered non-stop departures to eight cities within the state, and non-stop flights to Seattle in the lower 48 states. Delta Air Lines offers non-stop flights to Seattle. The number and offering schedule city-to-city routes fluctuate throughout the year for the carriage of passengers, freight, and mail that seasonally peak during the months of June, July, and August. Collectively, aircraft activity generated by Alaska Airlines and Delta Air Lines represented approximately 10 percent of all aircraft movements at JNU. The number and overall size of these type of air carrier operations at JNU are forecasted to increase annually at moderate average annual growth rates (AAGR) of approximately 2.8 percent throughout the 20-year forecast period in line with the FAA’s national forecasts of similar aviation activity at air carrier airports of similar aeronautical service roles and size.

Several commuter air carriers also operate under Title 14 Subchapter G CFR Part 135 - *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft*, providing both scheduled and on-demand passenger services. Alaska Seaplanes uses both conventional fixed-wing land-based and floatplane aircraft to provide scheduled and charter flights carrying passengers, freight, and mail. Three locally based helicopter operators, Coastal Helicopters, NorthStar Helicopters, and TEMSCO Helicopters, Inc., each provide similar scheduled and on-demand helicopter flights offering a variety of experiences and scenic flights over Alaska’s stunning landscapes. Demand for tourism-based flights of each of these entities seasonally peaks during the months of June through August and particularly correlates with cruise ship activity in Juneau’s port. Historically, this category of aviation activity has comprised a majority of the aircraft operations activity at JNU, representing approximately 45 percent of all aircraft movements at the airport. ***However, helicopter movements are historically under reported as the only reported aircraft activity is that of those aircraft assigned an Identification Friend or Foe (IFF) number, even though this aircraft may be the lead aircraft with up to five additional aircraft in a flight.***

Similarly, the number and overall size of this type of on-demand aircraft activity and associated aircraft movements are forecasted to increase, aligned with the Aerospace Forecast annually at annualized rates of growth (AAGR of 1.3 percent) throughout the same period. It should be noted, however, that although not included within this forecast, year-over-year levels of tourist-related on-demand activity closely correlate with the relative health of the national economy.

General aviation aircraft activity conducted at JNU throughout the year comprises operations of both recreational fixed-wing piston-driven and business jet aircraft that operate under Visual Flight Rules (VFR) and Instrument Flight Rules (IFR). These types of aircraft operations represent approximately 10 percent of all aircraft operations with 78 percent classified as itinerant, operating to and from other airports with the remainder, 22 percent, operating locally within the airport’s traffic pattern, or within 20 miles of the airport, or both. These types of aircraft operations at JNU are forecasted to increase at a modest AAGR of .0.5

percent in line with the FAA’s national projections of general aviation activity growth. Similar to that of on-demand CFR Part 135 activity, year-over-year activity levels of this segment of general aviation activity closely correlate with the relative health of the national economy.

Military aircraft activity at JNU consists of itinerant fixed-wing and rotorcraft aircraft operating between JNU and other locations and local rotorcraft operations conducted by the Alaska Army National Guard (AANG) unit stationed at the airport. These flights represent less than half of one percent of all aircraft operations.

The airport accommodates various year-round military aircraft activities, often as part of larger military training exercises and operations, with notable activities that include, but are not solely limited to:

- **Northern Edge Exercise:** This is Alaska’s largest military training exercise, involving over 150 aircraft from the U.S. Air Force, Navy, and allied nations. The exercise includes a range of aircraft operations across the state, including at JNU, and
- **Alaska Army National Guard:** The 207th Aviation Troop Command has stationed a UH-60L Black Hawk helicopter in Juneau to fulfill federal training requirements across Southeast Alaska, support the U.S. Coast Guard with Search and Rescue efforts and support, when available, emergency requests by the Alaska Rescue Coordination Center or the State Emergency Operations Center. It is anticipated that the AANG operations will include future local sling operations at JNU.

Following FAA guidance, military activity is forecasted to be static as shown in section 3.4.5.

3.3 Review of Previous Forecasts

To begin the forecast process for this MPU, it was valuable to examine the previous aviation activity forecasts that were prepared during previous planning efforts. For JNU, a comparison of the previously adopted 2017 master plan and JNU-specific historical data listed as part of the FAA’s current 2024 Terminal Area Forecast (TAF) for Fiscal Years 2023 to 2050 (published in January 2025) is shown in **Table 3-1**.

Table 3-1: Terminal Area Forecast (TAF) Comparison Table						
Item	2014	2020	2025	2030	2035	AAGR 2014-2035
Air Carrier Enplanements						
2017 Master Plan	262,252	287,289	304,616	323,231	343,272	1.29%
2024 TAF	275,670	176,135	337,957	379,538	420,226	2.03%
Difference	-13,418	111,154	33,341	-56,307	-76,954	
Percent	-4.87%	63.11%	-9.87%	-14.84%	-18.31%	
Commuter/On Demand Enplanements						
2017 Master Plan	31,262	31,132	34,212	35,467	36,814	0.78%
2024 TAF	33,668	21,156	27,729	30,006	32,238	0.21%

Table 3-1: Terminal Area Forecast (TAF) Comparison Table

Item	2014	2020	2025	2030	2035	AAGR 2014-2035
Difference	-2,406	9,976	6,483	-5,461	-4,576	
Percent	-7.15%	47.15%	-23.38%	-18.20%	-14.19%	
Total Enplanements						
2017 Master Plan	358,479	292,391	415,956	441,698	469,780	1.30%
2024 TAF	309,338	197,291	365,686	409,544	452,464	1.83%
Difference	49,141	95,100	50,270	32,154	17,316	
Percent	15.89%	48.20%	13.75%	7.85%	3.83%	
Air Carrier Operations						
2017 Master Plan	8,319	8,453	8,586	8,720	8,853	0.30%
2024 TAF	8,698	6,892	9,033	11,821	14,989	2.63%
Difference	-379	1,561	-447	-3,101	-6,139	
Percent	-4.36%	22.65%	-4.95%	-26.23%	40.96%	
Air Taxi and Commuter Operations						
2017 Master Plan	70,540	80,531	89,682	99,226	109,992	2.14%
2024 TAF	75,639	26,818	70,428	77,642	85,313	0.57%
Difference	-5,099	53,713	19,254	21,584	24,679	
Percent	-6.74%	200.29%	27.34%	27.80%	28.93%	
General Aviation Operations						
2017 Master Plan	16,287	16,954	17,625	18,352	19,118	0.77%
2024 TAF	13,518	12,305	11,510	13,696	14,156	0.22%
Difference	2,769	4,649	6,115	4,656	4,962	
Percent	20.48%	37.78%	53.13%	34.00%	35.05%	
Military Operations						
2017 Master Plan	440	775	775	775	775	2.73%
2024 TAF	582	429	292	292	292	-3.23%
Difference	-142	346	483	483	483	
Percent	-24.40%	80.65%	165.41%	165.41%	165.41%	
Total Operations						
2017 Master Plan	95,586	106,713	116,668	127,073	138,738	1.79%
2024 TAF	98,437	46,444	137,866	149,141	157,486	2.26%
Difference	-2,851	60,269	21,198	22,118	18,748	
Percent	-2.90%	129.77%	-15.38	-17.41%	-11.90%	

Table 3-1: Terminal Area Forecast (TAF) Comparison Table

Item	2014	2020	2025	2030	2035	AAGR 2014-2035
Based Aircraft						
2017 Master Plan	332	346	364	383	403	0.93%
2024 TAF	325	275	285	300	315	-0.15%
Difference	7	71	79	83	88	
Percent	2.15%	25.82%	27.72%	27.67%	27.94%	

Sources:

Juneau International Airport Sustainability Master Plan | Forecast of Aviation Demand Table 6-33, 2017.

2024 FAA Terminal Area Forecast for JNU,

Note: 2014 is included in this comparison as it reflects the base year of the previous FAA approved forecast for JNU.

Michael Baker International, Inc., January 18, 2025.

3.3.1 Review of FAA’s JNU Terminal Area Forecast

The FAA’s TAF is the official FAA forecast of aviation activity for U.S. airports included within its NPIAS. These forecasts are prepared by the FAA’s office Aviation Policy and Plans (APO) to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public. The TAF includes forecasts for:

- FAA towered airports
- Federally contracted towered airports
- Non-federal towered airports
- Non-towered airports

Detailed forecasts are prepared for major users of the National Aviation System including:

- Large air carriers
- Air taxi/commuters
- General aviation
- Military (Referenced only for inclusion but aircraft operations at civil airports are held static throughout the forecast period.)

The TAF is comprised of TAF Modernization (TAF-M) airports and TAF Legacy (TAF-L) airports. The FAA’s TAF distinguishes between TAF-M and TAF-L airports because of the difference in the forecast methodology. The forecast methodology for the TAF-M airports is based on advanced econometric models. Model estimation and forecasting using sophisticated statistical techniques is made possible for the TAF-M airports due to the availability of large datasets. On the contrary, due to the limitation in data, forecast methodology is based on trend analysis for the TAF-L airports. JNU accommodates more than 100,000 annual passenger enplanements and is therefore designated as a TAF-M airport.

The TAF’s forecasts of JNU passenger enplanements and commercial operations are based on a bottom-up approach. The domestic enplanements are forecast by generating origin and destination (O&D) market demand forecasts using the DB1B (Airline Origin and Destination Survey) data to model passenger flow on a quarterly basis. The DB1B (Airline Origin and Destination Survey) database is a dataset maintained by the Bureau of Transportation Statistics (BTS). It contains a 10 percent sample of airline tickets from reporting carriers.

The data includes details such as the origin, destination, and other itinerary specifics of passengers transported. The O&D passenger demand forecasts are based on regression analysis using fares, regional demographics, and metropolitan level economic factors as independent variables. The O&D forecasts are then combined with DOT T-100 segment data published by the BTS to generate passenger forecasts by airport pair and segment pair. The segment pair passenger forecasts are assigned to aircraft equipment to produce segment pair operation forecasts. The quarterly segment pair forecasts are aggregated to produce annual airport forecasts. Once published, the TAF remains constant until its next publication, with the only exceptions being significant traffic shifts by major airlines or a significant data error.

It should be noted that statistics presented in the TAF differ from the national totals contained in the FAA Aerospace Forecasts for three primary reasons. First, the TAF forecast methods consider airport and market specific trends. Second, the TAF and Aerospace Forecast measurements vary. For example, the TAF includes facilities not serviced by the FAA in its totals. These facilities make up a large share of total general aviation operations. Also, the TAF includes enplanements at U.S. airports only, whereas the Aerospace Forecast includes enplanements on U.S. airlines at both U.S. and foreign airports. Third, individual forecasts are not scaled to force aggregates to equal national totals.

On January 16, 2025, FAA released the TAF for JNU (2024 Scenario) shown in **Table 3-2**. FAA 2024 Terminal Area Forecast Juneau International Airport lists selected master plan forecast year horizons to discern the relative average annual growth rates that were projected to occur between each forecast horizon year. The FAA TAF for JNU was reviewed and analyzed for use in developing a forecast of passenger enplanements and aircraft operational activity for the master plan's 20-year forecast period.

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**Table 3-2: FAA 2024 Terminal Area Forecast
Juneau International Airport**

Year	Enplanements		Itinerant (IT) Activity						Local (LOC) Activity				Total Operations	Based Aircraft
	Air Carrier	Air Taxi	Air Carrier	Air Taxi	GA	Military	IT Total	% Total	Civil	Military	LOC Total	% Total		
2023	326,726	35,053	8,854	75,127	7,952	322	92,255	97.43%	2,330	101	2,431	2.57%	94,686	279
2028	364,072	29,160	10,731	74,842	9,616	191	95,380	96.11%	3,824	37	3,861	3.89%	99,241	287
2033	403,078	31,297	13,600	82,052	10,069	191	105,912	96.48%	3,824	37	3,861	3.52%	109,773	302
2038	446,446	33,685	17,259	90,483	10,542	191	118,475	96.84%	3,824	37	3,861	3.16%	122,336	317
2043	494,906	36,388	21,951	100,508	11,038	191	133,688	97.19%	3,824	37	3,861	2.81%	137,549	332
AAGR														
2023-2028	2.19%	-3.61%	3.92%	-0.08%	3.87%	-9.92%	0.67%		10.42%	-18.20%	9.69%		0.94%	0.57%
2029-2033	2.06%	1.42%	4.85%	1.86%	0.92%	0.00%	2.12%		0.00%	0.00%	0.00%		2.04%	1.02%
2034-2038	2.06%	1.48%	4.88%	1.98%	0.92%	0.00%	2.27%		0.00%	0.00%	0.00%		2.19%	0.97%
2039-2043	2.08%	1.56%	4.93%	2.12%	0.92%	0.00%	2.45%		0.00%	0.00%	0.00%		2.37%	0.93%
2023-2043	2.10%	0.19%	4.64%	1.47%	1.65%	-2.58%	1.87%		2.51%	-4.90%	2.34%		1.88%	0.87%

Sources: FAA 2024 Terminal Area Forecast for Juneau International Airport (JNU), Issued January 16, 2025
Selected Forecast Horizon years compiled by Michael Baker International, Inc., January 2025.

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The 2024 TAF projections for JNU by activity categories, listed below, were found to differ slightly from the previous 2023 TAF scenario as follows.

3.3.1.1 Air Carrier and Commuter Passenger Enplanements

A comparison of the FAA's 2023 and 2024 TAF for JNU shows that air carriers are projected to have a higher relative share of passenger enplanements compared to commuter services. This trend slightly increases over the 20-year forecast period, with commuter enplanements decreasing at a similar rate. The 2024 TAF forecasts air carrier enplanements to grow at an AAGR of 2.10 percent, while commuter enplanements are expected to grow at an AAGR of 0.19 percent.

3.3.1.2 Air Carrier and Commuter Aircraft Operations

A similar comparison of the forecasts shows that air carriers are projected to have a higher relative share of aircraft operations compared to commuter services. This difference slightly increases over the 20-year forecast period, while the relative share of commuter enplanements decreases at a similar rate. The 2024 TAF projects air carrier operations to grow at an AAGR of 4.64 percent, and commuter aircraft operations to grow at an AAGR of 1.47 percent throughout the forecast period.

3.3.1.3 Itinerant and Local General Aviation Operations

A comparison of the two forecasts for itinerant and local aircraft operations at JNU shows similar changes in the projected relative share of itinerant and local aircraft operations, with local operations having a higher share. These differences increase slightly over the 20-year forecast period. The 2024 TAF projects itinerant general aviation operations to grow at an AAGR of 2.10 percent and local operations to grow at an AAGR of 10.42 percent between 2023 and 2028, then remain constant for the rest of the forecast period.

3.3.1.4 Itinerant and Local Military Aircraft Operations

Because the FAA's Airport Improvement Program (AIP) primarily focuses on funding projects that enhance the safety, capacity, security, and environmental sustainability of civilian airports, it is primarily designed to support the needs of civil aviation. Military operations at civilian airports are typically funded through other channels, such as the Department of Defense (DoD) or specific military budgets, and therefore, are not a consideration for capital improvement funding under the AIP. Accordingly, the FAA TAF projections of military operations at U.S. civil airports are held constant with each TAF unless otherwise specified by a local or regional FAA official.

3.3.1.5 2024 TAF Review Summary

A review of the 5-year average annual growth rates for each of the various activity categories for each forecast horizon year, as reflected in the FAA's 2024 TAF, was reviewed and was found to be reasonable and consistent with the overall U.S. domestic system of air carrier, commuter, and general aviation activity. These FAA-projected growth rates are considered prudent and reasonable and are considered as part of the development of the JNU Master Plan forecast of aviation activity (i.e., aircraft operations and based aircraft at JNU).

Forecasts developed for the MPU will, per FAA guidance, later be compared to aid in the FAA's review and approval of the aviation activity forecast for JNU.

3.3.2 Review of FAA's Air Traffic Activity Data System

The Operations Network (OPSNET) is the official source of FAA air traffic activity data. It provides detailed information on various aspects of air traffic operations, including:

- **Airport Operations:** Data on takeoffs and landings at specific airports.
- **Tower Operations:** Information on the activities managed by control towers.
- **TRACON Operations:** Data on Terminal Radar Approach Control operations.
- **Center Aircraft Handled:** Information on the number of aircraft managed by different air traffic control centers.

The OPSNET reported a total of 93,514 aircraft operations information (a landing or a takeoff) at JNU activity for 2023 that comprised:

- 8,789 CFR Part 121 Air Carrier operations by aircraft having a seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds carrying passengers or cargo for hire or compensation.
- 74,295 CFR Part 135 Air Taxi aircraft operations by aircraft having a maximum seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less carrying passengers or cargo for hire or compensation.
- 10,008 CFR Part 91 General Aviation operations comprising:
 - 7,854 Itinerant operations by aircraft arriving from or departing to a different airport, and
 - 2,154 Local operations by aircraft operated within the local traffic pattern or within sight of the airport, departed for or arrived from a local practice area typically located within a 20-mile radius of the airport, or executed simulated instrument approaches or low passes at the airport, and
- 422 Military Operations comprising
 - 317 Itinerant operations, and
 - 105 Local operations.

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3.3.3 Review of FAA’s Traffic Flow Management System Counts

The FAA also maintains a continuous count of aircraft operations as part of its Traffic Flow Management System Counts (TFMSC) by airport or by city pair for various data groupings such as aircraft type or by hour of the day. It includes data for flights that fly under Instrument Flight Rules (IFR) and are captured by the FAA’s enroute computers. Most Visual Flight Rules (VFR) and some non-enroute IFR traffic is excluded. The TFMSC data reporting general aviation aircraft operations is limited and reflects only a fraction of all aircraft flights to and from JNU, and does not include operations without a filed IFR flight plan. This data, however, is valuable as it provides a reliable snapshot of the different makes, models and types of general aviation aircraft that operate to and from the airport over time. As shown in **Tables 3-3** through **3-6**, the TFMSC for JNU reported a total of 18,617 aircraft operations that occurred at JNU for CY 2023. The activity was comprised of:

- 11,307 CFR Part 121 Air Carrier operations
- 4,389 CFR Part 135 On-demand commuter operations
- 2,878 General Aviation operations, and
- 43 Military Operations

Table 3-3: FAA Traffic Flow Management System Counts CFR Part 121 (JNU) - 2023 Base Year		
Aircraft Make and Model	Operations	Percent
Boeing 737-700	7,389	65.35%
Boeing 737-800	2,243	19.84%
Boeing 737-900	1,224	10.83%
Boeing 737 Max 9	451	3.99%
Total	11,307	100.00%

*Source: FAA TFMSC for JNU CY 2023
Compiled by Michael Baker International, Inc., January 2025.*

Table 3-4: FAA Traffic Flow Management System Counts CFR Part 135 (JNU) - 2023 Base Year		
Aircraft Make and Model	Operations	Percent
A19N - Airbus 319	2	0.05%
B734 - Boeing 737-400	7	0.16%
Cessna 208 Caravan	1,060	24.15%
C206 - Cessna 206 Stationair	3	0.07%
Pilatus PC-12	1,724	39.28%
Beech 1900/C-12J	1,593	36.30%
Total	4,389	100.00%

*Source: FAA TFMSC for JNU CY 2023
Compiled by Michael Baker International, Inc., January 2025.*

Table 3-5: FAA TFMSC General Aviation Aircraft Operations (JNU) - 2023 Base Year					
Type Operations	Engine Type	Make and Model	Operations	Percent	Percent
Itinerant CFR Part 135 Air Taxi					
	Jet	4	18	0.63%	
Itinerant and Local CFR Part 91					
	Jet	47	2,238	77.76%	
	Turbine Fixed Wing	16	572	19.87%	
	Turbine Rotorcraft	18	48	1.6%	
		2	2	0.07%	
Total (Part 91)			2,860		99.37%
Total (Parts 135 and 91)			2,878	100%	100.00%

Source: FAA JNU TFMSC Data Calendar Year (CY) 2023
Compiled by Michael Baker International, Inc., January 2025

Table 3-6: FAA TFMSC Itinerant Military Operations (JNU) - 2023 Base Year			
Make/Model	Aircraft Type	Operations	Percent
C17 - Boeing Globemaster 3	Jet	7	16.28%
F35 - Lockheed Martin F-35A	Jet	4	9.30%
K35R - Boeing KC-135 Stratotanker	Jet	2	4.65%
P8 - Boeing P-8 Poseidon	Jet	5	11.63%
C30J - C-130J Hercules; Lockheed	Turbine	17	39.53%
V22 - Bell V-22 Osprey	Turbine-Rotorcraft	1	2.33%
H60 - Sikorsky SH-60 Seahawk	Turbine-Rotorcraft	7	16.28%
Total		43	100.00%

Source: FAA JNU TFMSC Data Calendar Year (CY) 2023
Compiled by Michael Baker International, Inc., January 2025

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3.3.4 Review of Bureau of Transportation Statistics City-Pair Air Service Activity Data

BTS T-100 Domestic Segment data was analyzed for the following operational characteristics recorded air transport operations at JNU in the year 2023:

- Date of Aircraft Operation
- Origin/Destination Airport
- Air Carrier
- Aircraft Make/Model
- Departure/Arrival Seats, and
- Enplaned/Deplaned Passengers, Freight, and Mail

In addition, the BTS T-100 Domestic Market data from 2023 was reviewed to focus only on O&D passengers, since most connecting passengers remain on the plane and don't use airport facilities.

Tables 3-7 through 3-10 show the DOT's BTS 14 CFR Part 121/135 activity data on operations, which can be sorted for airline, aircraft type, passenger movements, freight, and mail on recorded flights. It should be noted that the helicopter operations, which are considered non-scheduled/on-demand air carrier, are not reported in the BTS T-100 database. Those enplanements are reported in the FAA Form 1800-31; however, the number of operations is underreported, as mentioned in section 3.2.

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**Table 3-7: CFR Part 121/135 - Aircraft Operations by Airline
2023 Forecast Base Year**

BTS Aircraft Code/Aircraft Make/Model	Departing Aircraft	Arriving Aircraft
Alaska Airlines Inc.		
612 Boeing 737-700/700LR/MAX7	3,695	3,702
614 Boeing 737-800	917	924
634 Boeing 737-900	145	146
839 Boeing 737 Max 900	224	224
888 Boeing 737-900ER	464	462
Delta Air Lines, Inc.		
Boeing 737-800	196	196
Alaska Central Express		
405 Beechcraft 1900 A/B/C/D	783	787
Kalinin Aviation LLC d/b/a Alaska Seaplanes		
35 Cessna C206/207/209/210	598	591
415 Cessna C208B Grand Caravan	4,494	4,470
416 Cessna 208 Caravan	1,175	1,176
479 Pilatus PC-12	1,182	1,166
40 DeHavilland DHC2 Beaver	565	561
Air Excursions LLC d/b/a Alaska Seaplanes		
35 Cessna C206/207/209/210	52	51
415 Cessna C208B Grand Caravan	874	871
416 Cessna 208 Caravan	66	68
479 Pilatus PC-12	27	27
Scott Air LLC d/b/a Island Air Express		
415 Cessna C208B Grand Caravan	1	3
479 Pilatus PC-12	102	110
Western Air Charter, Inc. d/b/a Jet Edge		
671 Gulfstream G-IV	2	1
Total (All Aircraft)	15,562	15,536

Source: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Calendar Year (CY) 2023
Compiled by Michael Baker International, Inc., January 2025.

**Table 3-8: BTS CFR Part 121/135 Aircraft Operations by Aircraft
2023 Forecast Base Year**

BTS Aircraft Code/Aircraft Make/Model	Departure	Arrivals	Total	Percent
612 Boeing 737-700/700LR/MAX7	3,695	3,702	7,397	23.79%
614 Boeing 737-800	1,113	1,120	2,233	7.18%
634 Boeing 737-900	145	146	291	0.94%
839 Boeing 737 Max 900	224	224	448	1.44%
888 Boeing 737-900ER	464	462	926	2.98%
35 Cessna C206/207/209/210	650	642	1,292	4.16%
415 Cessna C208B Grand Caravan	5,369	5,344	10,713	34.46%
416 Cessna 208 Caravan	1,241	1,235	2,476	7.96%
479 Pilatus PC-12	1,311	1,303	2,614	8.41%
405 Beechcraft 1900 A/B/C/D	783	787	1,570	5.05%
671 Gulfstream G450	2	1	3	0.01%
40 DeHavilland DHC2 Beaver	565	561	1,126	3.62%
	15,562	15,527	31,089	100.00%

*Source: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Calendar Year (CY) 2023
Compiled by Michael Baker International, Inc., January 2025.*

**Table 3-9: BTS CFR Part 121/135 Passengers Movements by Carrier
2023 Forecast Base Year**

Carrier	BTS T-100 Market		BTS T-100 Segment	
	Departure	Arrivals	Departure	Arrivals
Air Excursions LLC	4,031	4,142	4,031	4,142
Alaska Airlines Inc.	305,832	308,997	394,274	397,800
Alaska Central Express	-	-	-	-
Delta Air Lines Inc.	17,477	17,826	17,477	17,826
Kalinin Aviation LLC d/b/a Alaska Seaplanes	28,653	28,741	28,912	28,788
Scott Air LLC dba Island Air Express	180	346	182	386
Western Air Charter, Inc. d/b/a Jet Edge	7	-	7	-
Total	356,180	360,052	444,883	448,942

*Source: T-100 Domestic Segment AND Market data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Calendar Year (CY) 2023
Compiled by Michael Baker International, Inc., November 2025.*

**Table 3-10: BTS CFR Part 121/135 Air Cargo Freight and Mail Activity by Aircraft
2023 Forecast Base Year**

BTS Aircraft Code/Aircraft Make/Model	Enplaned Freight (Pounds)	Percent	Enplaned Mail (Pounds)	Percent	Deplaned Freight (Pounds)	Percent	Deplaned Mail (Pounds)	Percent
35 Cessna C206/207/209/210	71,164	0.50%	6,806	0.19%	5,297	0.03%	5,957	0.10%
415 Cessna C208B Grand Caravan	1,811,410	12.70%	1,525,138	43.61%	172,824	0.95%	153,820	2.64%
416 Cessna 208 Caravan	252,515	1.77%	134,172	3.84%	50,923	0.28%	16,023	0.28%
479 Pilatus PC-12	154,023	1.08%	0	0.00%	69,082	0.38%	3,622	0.06%
40 DeHavilland DHC2 Beaver	63,494	0.45%	7,116	0.20%	15,461	0.09%	3,495	0.06%
405 Beechcraft 1900 A/B/C/D	156,304	1.10%	1,317,247	37.66%	201,051	1.11%	1,559,068	26.80%
671 Gulfstream G-IV	0	0.00%	0	0.00%	0	0.00%	0	0.00%
612 Boeing 737-700/700LR/MAX7	10,185,069	71.38%	450,629	12.88%	14,778,036	81.44%	3,467,351	59.60%
614 Boeing 737-800	1,169,389	8.20%	43,724	1.25%	2,015,181	11.11%	491,055	8.44%
634 Boeing 737-900	109,734	0.77%	2,600	0.07%	155,448	0.86%	41,964	0.72%
839 Boeing 737 Max 900	90,942	0.64%	1,835	0.05%	222,691	1.23%	19,186	0.33%
888 Boeing 737-900ER	204,021	1.43%	8,335	0.24%	459,738	2.53%	56,557	0.97%
All Aircraft Types and Sizes	14,268,065	100.00%	3,497,602	100.00%	18,145,732	100.00%	5,818,098	100.00%

Source: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Calendar Year (CY) 2023
Compiled by Michael Baker International, Inc., January 2025

3.3.4.1 Alaska Airlines

Operating under CFR Part 121, Alaska Airlines, Inc. provided scheduled direct city-to-city service throughout the year to and from Juneau from Seattle (SEA), Anchorage (ANC), Yakutat (YAK), Petersburg (PSG), Sitka (SIT), and Ketchikan (KTN). Non-direct scheduled flights are offered throughout the year to and from Cordova (CDV), Wrangell (WRG), and Portland (PDX). A three-month limited number of seasonal direct flights to and from Gustavus (GST) were also offered from June through August. As a result of these connecting flights, approximately 22 percent of the passenger movements reported in BTS for Alaska Airlines corresponds to connecting passengers, as shown in Table 3-9.

Alaska Airlines provided passenger, freight, and mail service utilizing the following models of the Boeing 737 twin-engine airplane designed to operate over short to medium ranges from sea level runways of less than 6,000 feet in length.

- 737-700/700LR/MAX 7
- 737-800
- 737-900
- 737 Max 900
- 737-900ER

The airline generated 36.33 percent of all scheduled and “for hire” air carrier aircraft operations, enplaned and deplaned 92.54 percent of all passengers with an average passenger seat load factor of 65 percent. The airline transported 90.67 percent of all freight (belly or dedicated aircraft air cargo) and 49.20 percent of all mail while operating at an aircraft average payload carrying capacity of 8.28 percent.

Boeing Model 737-700/700LR/MAX 7

This aircraft conducted 3,695 departures and 3,702 arrivals to provide scheduled service between JNU and ANC, CDV, GST, KTN, PSG, PDX, SEA, SIT, WRG, and YAK.

This aircraft transported 3,619,504 pounds of belly cargo freight utilizing standard passenger carrying aircraft and 21,343,601 pounds of belly cargo mail utilizing any one of three dedicated B737-700 (Freighter) aircraft. This aircraft also transported 295,330 pounds of belly cargo mail utilizing standard passenger carrying aircraft and 3,622,650 pounds of mail utilizing any one of same three dedicated B737-700 (Freighter) aircraft.

Boeing Model 737-800

This aircraft conducted 917 departures and 924 arrivals to provide scheduled service between JNU and ANC, CDV, KTN, PSG, SEA, SIT, WRG, and YAK. Direct flights were offered between the airport and ANC, KTN, SIT, PSG, and SEA.

This aircraft transported 2,969,575 pounds of belly cargo freight and 470,420 pounds of belly cargo mail utilizing standard passenger carrying aircraft and 213,981 pounds of freight and 64,259 pounds of belly cargo mail utilizing any one of two dedicated B737-800 (Freighter) aircraft.

Boeing Model 737-900/Max 900/and 900ER

These aircraft conducted 833 departures and 832 arrivals to provide scheduled service between JNU and ANC, KTN, SEA, SIT, and YAK. Direct flights were offered only between JNU and SEA.

Collectively, these aircraft transported 1,242,574 pounds of belly cargo freight and 130,477 pounds of belly cargo mail utilizing standard passenger carrying aircraft.

3.3.4.2 Delta Air Lines, Inc.

Operating under CFR Part 121 Delta Air Lines conducted 196 departures and 196 arrivals to provide scheduled service between SEA and JNU during all months except December utilizing the 160-seat Boeing 737-800 aircraft, The airline provided approximately 1.16 percent of all air carrier aircraft operations, enplaned 4.36 percent of all passengers with an average passenger seat load factor 50.30 percent. The airline deplaned 1,104 pounds of freight from SEA during CY 2023.

3.3.4.3 Alaska Central Express

Operating under CFR Part 135 Alaska Central Express (ACE) is a regional airline based in Anchorage, Alaska that primarily operated as a cargo service provider (i.e., no transport of passengers). ACE plays a crucial role in connecting remote communities in Alaska, ensuring the delivery of essential goods and services. The airline utilizes a fleet of Beechcraft 1900C pressurized twin-engine turboprop aircraft. The airline operates to and from JNU Monday through Friday, 52 weeks per year transporting:

- freight and mail service from Juneau to Anchorage, Ketchikan, Petersburg, and Sitka
- freight only service from Juneau to Wrangell
- mail only service from Juneau to Yakutat, and
- freight and mail service to Juneau from Anchorage, Ketchikan, Klawock, Petersburg, Sitka, Wrangell, and Yakutat

The airline generated 20.93 percent of all air carrier aircraft operations transporting 1.10 percent of all aircraft belly (or dedicated aircraft air cargo) and 30.88 percent of all mail while operating at an average aircraft average payload carrying capacity of 33.22 percent.

3.3.4.4 Air Excursions LLC and/or Kalinin Aviation LLC

Operating under CFR Part 135 and doing business as Alaska Seaplanes, Kalinin Aviation LLC, and Air Excursions, LLA collectively operated as a scheduled service and charter operator between JNU and 21 Alaska locations utilizing one or more of the following makes and models of aircraft:

- Cessna C206/207/209/210 Stationair
- Cessna 208 Caravan and Grand Caravan
- Pilatus PC-12 (9 Seats), and
- DeHavilland DHC2 Beaver

Alaska Seaplanes generated 44.98 percent of all air carrier aircraft operations, enplaned 4.54 percent, and deplaned 4.57 percent of all fixed-wing passenger movements with an average passenger seat load factor 38.04 percent. The airline transported 9.3 percent of all

aircraft belly freight and 50.80 percent of all mail while operating at an overall enplane/deplaned aircraft average payload capacity of 10.66 percent.

3.3.4.5 Scott Air LLC

Operating under CFR Part 135 and doing business as Island Air Express, Scott Air LLC operates at JNU as a scheduled airline providing flights to and from six separate Alaska city-pair locations utilizing a 9-seat Cessna 208B Grand Caravan and 8-seat Pilatus aircraft. The airline generated 0.64 percent of all air carrier aircraft operations, enplaned 0.07 percent of all passengers with an average passenger seat load factor 33.27 percent. The airline did not transport air cargo or mail during CY 2023.

3.3.4.6 Western Air Charter, Inc.

Operating under CFR Part 135 and doing business as Jet Edge, Western Air Charter, Inc. provided private chartered jet service to and from JNU utilizing a 12-seat Gulfstream G450 business jet. The airline generated less than 1 percent of all air carrier aircraft operations and passenger enplanements with an average passenger seat load factor 25.00 percent. The airline did not transport air cargo or mail.

3.3.5 Review of Local Based Aircraft Levels

For the 2023 Forecast Base Year, airport management reported to the FAA Airport Data and Information Portal (ADIP) Facility Dashboard a verified total based aircraft count of 270 aircraft comprising 242 fixed wing aircraft (237 single-, 4 multi engine, and 1 jet) and 28 helicopters. As a comparison, FAA-published TAF for JNU indicated constant previous five-year historical level of 275 based aircraft, it is anticipated, however, that the actual number of locally based aircraft will increase throughout the 20-year forecast period as projected within the current 2023 TAF for JNU.

3.4 Forecasts of Aviation Activity Demand

The forecast (i.e., projection) of future aircraft activity at JNU was developed specifically for the update of this MPU. The forecasts examined and analyzed past, current, and anticipated future movements of scheduled mainline and regional air carrier passenger movements, air cargo movements (i.e., freight and mail), general aviation operations, and the local basing of general aviation aircraft. Following FAA guidance, this aviation activity forecast does not project current or anticipated future military aviation activity at JNU.

3.4.1 Constraints to Aviation Activity

Previous aviation activity forecasting studies were conducted during the past updates of JNU's Airport Master Plans, or as previously aggregated using a top-down approach to similar aviation activity forecasting developed as part of the *Juneau International Airport Sustainability Master Plan* that included a 2014 Base and Horizon year(s): 2015, 2020, 2025, 2030, and 2035.

The projections of future aviation activity at JNU have historically included relevant event- or factor-based considerations, which have included, but were not limited to:

- Previous downturn in tourism-related aviation demand imposed by the COVID-19 pandemic
- National economic perception of personal financial health and prosperity
- Tourism-generated Local economic and environmental pressures
- Continued pressure to mitigate and limit cruise ship activity at Juneau
- Anticipated continued low levels of connecting passengers
- Continued increased Ecotourism air transportation
- Current and anticipated future capacity of existing airport facilities and supporting infrastructures
- Future life-cycle changes in Alaska Airline’s aircraft fleet

While this update to the airport master plan will identify viable and prudent runway, taxiway, and terminal apron facility development alternatives, the existing conditions and the forecast of aviation activity throughout the master plan’s twenty-year planning horizon are predicated upon these constraints, some of which cannot be mitigated or ameliorated.

3.4.2 Forecast of CFR Part 121/135 Passenger, Freight, and Mail Activity

Data from the DOT’s BTS T-100 Domestic Segment (Operations) and Market (O&D Passengers) for CY 2023, covering JNU-specific aircraft makes and models, operational levels, available seats, passenger activity (enplanements, deplanements, load factors), and air cargo volumes, is projected to increase over the 20-year forecast period at varying annual growth rates. Where relevant, national, regional, and JNU-specific forecasts published by the FAA were considered in these aviation activity forecasts. The FAA’s projections for U.S. mainline air carrier enplanements and passenger load factors were found to be reasonable and applicable to the historical and anticipated year-over-year growth of Alaska Airlines and Delta Air Lines at JNU.

3.4.2.1 Passenger Activity Forecast

To forecast the passenger activity, the 2023 data from the DOT’s BTS T-100 Domestic Segment and Market is used as a base year. After discussing comments with the ADO, this master plan forecast has been updated to reflect the growth rates estimated by the FAA Aerospace Forecast Fiscal Year 2025-2045, which projects that passenger traffic will grow at an annual rate of 2.8 percent over the 20-year forecast period. **Table 3-11** presents the passenger forecast for O&D passenger volumes and compares it with the TAF Forecast.

Due to the nature of the operation at JNU, for forecasting purposes, it is assumed that connecting passengers do not disembark the plane. Reasons why should not be considered when evaluating the capacity of the terminal and supporting facilities. However, segment passengers affect the number of operations and the aircraft load factor.

The same assumption applies to non-scheduled/on-demand air carriers, which are not reported in the BTS T-100 database but are reported in the FAA form 1800-31.

Table 3-12 presents the segment passenger forecast and the non-scheduled/on-demand air carriers (Helicopters).

Table 3-11: Forecast of CFR Part 121/135 O&D Passenger Movements				
Year	O&D Passengers		TAF	Difference
	Enplaned	Deplaned	Enplaned	
2023	356,180	360,052	361,779	1.6%
2028	408,917	413,362	393,232	-3.8%
2033	469,462	474,566	434,375	-7.5%
2038	538,972	544,831	480,131	-10.9%
2043	618,774	625,500	531,294	-14.1%
AAGR	2.8%	2.8%	1.9%	

T-100 Domestic Market data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Calendar Year (CY) 2023

Future Passenger Enplanement/Deplanement developed and compiled by Michael Baker International, Inc., November 2025.

Selected Forecast Horizon years compiled by Michael Baker International, Inc., November 2025.

Table 3-12: Forecast of CFR Part 121/135 Segment Passenger Movements				
Year	Segment Passengers		Non-scheduled/On-demand air carriers (Helicopters)	
	Enplaned	Deplaned	Enplaned	Deplaned
2023	444,883	448,942	83,830	83,830
2028	510,754	515,414	96,242	96,242
2033	586,377	591,727	110,492	110,492
2038	673,198	679,340	126,852	126,852
2043	772,873	779,924	145,634	145,634
AAGR	2.8%	2.8%	2.8%	2.8%

T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Calendar Year (CY) 2023

Future Passenger Enplanement/Deplanement developed and compiled by Michael Baker International, Inc., November 2025.

Selected Forecast Horizon years compiled by Michael Baker International, Inc., November 2025.

Projections of future on-demand helicopter operations and associated passenger enplanements at JNU were derived for each CFR Part 135 operator based on information from airport management, the helicopter operators, and a negotiated agreement with the city that caps annual helicopter activity levels at JNU. Base year helicopter operations and enplanements are based on scheduled helicopter activity provided by the helicopter operators. Base year enplanements were applied based on FAA reporting. We also assume the helicopter operators schedule up to 100 percent of the number of operations agreed to with CBJ.

3.4.2.2 Freight and Mail Activity Forecast

Based solely on information presented in the FAA's Aerospace Forecast for Fiscal Years 2024-2044 (Table 19), U.S. Commercial Air Carriers' Air Cargo Revenue Ton Miles, including

freight and mail activity, projected annual levels of air cargo movements (i.e., use of aircraft belly cargo space or that of dedicated freighter aircraft) to increase at an AAGR of 3.00 percent throughout the forecast period. Forecast of future annual levels of air cargo freight and mail movements are shown in Tables 3-13 through 15.

Table 3-13: Forecast of Part 121/Part 135 Mail Movements (Pounds)						
AIR CARRIER	2023	2028	2033	2038	2043	2023-2043 AAGR
Air Excursions LLC						
Enplaned	203,504	235,917	273,492	317,053	367,551	3.00%
Deplaned	21,266	24,653	28,580	33,132	38,409	3.00%
Sub Total	224,770	260,570	302,072	350,185	405,960	3.00%
Percent of all operations	2.41%	2.41%	2.41%	2.41%	2.41%	
Kalinin Aviation LLC d/b/a Alaska Seaplanes						
Enplaned	1,469,728	1,703,818	1,975,192	2,289,788	2,654,492	3.00%
Deplaned	161,651	187,398	217,245	251,847	291,960	3.00%
Sub Total	1,631,379	1,891,216	2,192,437	2,541,635	2,946,452	3.00%
Percent of all operations	17.51%	17.51%	17.51%	17.51%	17.51%	
Alaska Airlines Inc.						
Enplaned	507,123	587,895	681,531	790,081	915,921	3.00%
Deplaned	4,076,113	4,725,332	5,477,955	6,350,451	7,361,913	3.00%
Sub Total	4,583,236	5,313,227	6,159,486	7,140,532	8,277,834	3.00%
Percent of all operations	49.20%	49.20%	49.20%	49.20%	49.20%	
Alaska Central Express						
Enplaned	1,317,247	1,527,050	1,770,270	2,052,228	2,379,095	3.00%
Deplaned	1,559,068	1,807,387	2,095,257	2,428,977	2,815,850	3.00%
Sub Total	2,876,315	3,334,437	3,865,527	4,481,205	5,194,945	3.00%
Percent of all operations	30.88%	30.88%	30.88%	30.88%	30.88%	
Total						
Enplaned	3,497,602	4,054,680	4,700,485	5,449,150	6,317,059	3.00%
Deplaned	5,818,098	6,744,770	7,819,037	9,064,407	10,508,132	3.00%
Total	9,315,700	10,799,450	12,519,522	14,513,557	16,825,191	3.00%

Sources: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Year (CY) 2023.

FAA Aerospace Forecast Fiscal Years 2024-2044- Table 19, U.S. Commercial Air Carriers Air Cargo Revenue Ton Miles.

Notes: The projections for forecast years 2024 through 2043 include the use of or associated operations by freighter aircraft and/or passenger aircraft for the transport of freight and mail.

Table 3-14: Forecast of Part 121/Part 135 Freight Movements (Pounds)						
AIR CARRIER	2023	2028	2033	2038	2043	2023-2043 AAGR
Air Excursions LLC						
Enplaned	247,074	286,426	332,047	384,933	446,243	3.00%
Deplaned	19,644	22,773	26,400	30,605	35,479	3.00%
Sub Total	266,718	309,199	358,447	415,538	481,722	3.00%
Percent of all operations	0.82%	0.82%	0.82%	0.82%	0.82%	
Kalinin Aviation LLC d/b/a Alaska Seaplanes						
Enplaned	2,105,532	2,440,889	2,829,659	3,280,350	3,802,825	3.00%
Deplaned	293,943	340,760	395,035	457,954	530,894	3.00%
Sub Total	2,399,475	2,781,649	3,224,694	3,738,304	4,333,719	3.00%
Percent of all operations	7.40%	7.40%	7.40%	7.40%	7.40%	
Alaska Airlines Inc.						
Enplaned	11,759,155	13,632,084	15,803,321	18,320,380	21,238,342	3.00%
Deplaned	17,630,080	20,438,095	23,693,353	27,467,090	31,841,886	3.00%
Sub Total	29,389,235	34,070,178	39,496,674	45,787,470	53,080,228	3.00%
Percent of all operations	90.67%	90.67%	90.67%	90.67%	90.67%	
Alaska Central Express						
Enplaned	156,304	181,199	210,060	243,517	282,302	3.00%
Deplaned	201,051	233,073	270,196	313,231	363,120	3.00%
Sub Total	357,355	414,272	480,256	556,748	645,422	3.00%
Percent of all operations	1.10%	1.10%	1.10%	1.10%	1.10%	
Total						
Enplaned	14,268,065	16,540,598	19,175,087	22,229,180	25,769,712	3.00%
Deplaned	18,144,718	21,034,701	24,384,984	28,268,880	32,771,379	3.00%
Total	32,412,783	37,575,299	43,560,071	50,498,060	58,541,091	3.00%

Sources: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Year (CY) 2023
FAA Aerospace Forecast Fiscal Years 2024-2044- Table 19, U.S. Commercial Air Carriers Air Cargo Revenue Ton Miles

Notes: The projections for forecast years 2024 through 2043 include use of or associated operations by freighter aircraft and/or passenger aircraft for the transport of freight and mail.

Future Freight and Mail Air Cargo forecast developed and compiled by Michael Baker International, Inc., January 2025.

Table 3-15: Forecast of Part 121/Part 135 Combined Freight Movements (Pounds)

AIR CARRIER	2023	2028	2033	2038	2043	2023-2043 AAGR
Air Excursions LLC						
Enplaned	450,578	522,343	605,539	701,986	813,794	3.00%
Deplaned	40,910	47,426	54,980	63,737	73,888	3.00%
Sub Total	491,488	569,769	660,519	765,723	887,682	3.00%
Percent of all operations	1.18%	1.18%	1.18%	1.18%	1.18%	
Kalinin Aviation LLC d/b/a Alaska Seaplanes						
Enplaned	3,575,260	4,144,707	4,804,850	5,570,139	6,457,317	3.00%
Deplaned	455,594	528,158	612,280	709,801	822,853	3.00%
Sub Total	4,030,854	4,672,865	5,417,130	6,279,940	7,280,170	3.00%
Percent of all operations	9.66%	9.66%	9.66%	9.66%	9.66%	
Alaska Airlines Inc.						
Enplaned	12,266,278	14,219,978	16,484,852	19,110,461	22,154,263	3.00%
Deplaned	21,706,193	25,163,427	29,171,308	33,817,541	39,203,799	3.00%
Sub Total	33,972,471	39,383,405	45,656,160	52,928,002	61,358,062	3.00%
Percent of all operations	81.41%	81.41%	81.41%	81.41%	81.41%	
Alaska Central Express						
Enplaned	1,473,551	1,708,249	1,980,329	2,295,744	2,661,397	3.00%
Deplaned	1,760,119	2,040,460	2,365,453	2,742,208	3,178,971	3.00%
Sub Total	3,233,670	3,748,709	4,345,782	5,037,952	5,840,368	3.00%
Percent of all operations	7.75%	7.75%	7.75%	7.75%	7.75%	
Total						
Enplaned	17,765,667	20,595,277	23,875,570	27,678,330	32,086,771	3.00%
Deplaned	23,962,816	27,779,471	32,204,021	37,333,287	43,279,511	3.00%
Total	41,728,483	48,374,748	56,079,591	65,011,617	75,366,282	3.00%

Sources: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Year (CY) 2023
FAA Aerospace Forecast Fiscal Years 2024-2044- Table 19, U.S. Commercial Air Carriers Air Cargo Revenue Ton Miles

Notes: The projections for forecast years 2024 through 2043 include use of or associated operations by freighter aircraft and/or passenger aircraft for the transport of freight and mail.
Future Freight and Mail Air Cargo forecast developed and compiled by Michael Baker International, Inc., January 2025.

3.4.3 Forecast of Annual Operations

The FAA Air Traffic Activity Data System (ATADS) contains the official NAS air traffic operations data available for public release. This activity includes IFR and VFR itinerant operations and local operations at the airport, as reported by the Airport Traffic Control Tower (ATCT). It does not include overflights. The data is then segregated by type of activity, including Air Carrier (Part 121), Air Taxi (Part 135), General Aviation/Civil (Part 191), and Military operations. For forecasting purposes, the master plan forecast will maintain this categorization and assume the activity reported in CY2023 is the base year and the starting point of the aviation forecast. It is important to note that even though the activity data contained in the ATADS includes the helicopter traffic, the number of operations is under-reported as the only reported aircraft activity are those aircraft assigned an Identification Friend or Foe (IFF) number, even though this aircraft may be the lead aircraft with up to five additional aircraft in a flight. Therefore, it is recommended that actions be taken to account for actual helicopter operations conducted at JNU. This will help properly evaluate the required actions concerning airspace traffic, noise, and future helicopter facility needs.

3.4.3.1 Forecast of Air Carrier (Part 121) Operations.

The number of air carrier operations is directly tied to passenger traffic. As mentioned in section 3.4.2, the passenger activity is forecast to grow at an annual average growth rate of 2.8 percent. The forecasts also indicate that aircraft-specific load factor rates will increase over the same period, but at varying rates. To evaluate the number of operations, the load factor rates should also be considered.

According to the BTS data, air carriers had an average load factor of 65 percent, depending on aircraft type. The FY2025-2045 aerospace forecast estimates that the domestic system load factor increases over the forecast horizon from 83.7 percent to 86.9 percent. The master plan assumes the JNU air carrier load factor will increase at the same proportion, going from an average of 65 percent in 2023 to 67.6 percent in 2043. In practice, higher aircraft-specific load factors would be adjusted by airline operators through changes in aircraft size and seating capacity. These projected increases in annual passenger enplanements and load factors were used to estimate the number of aircraft departures to and arrivals from air carriers' operations at JNU.

The forecast of CFR Part 121 mainline air carrier aircraft operations was based on projecting the annual number of passenger enplanements for each trip segment and dividing that number by the projected load factor to derive the required number of aircraft operations per aircraft make and model. It should be noted, however, that over time, projected increased passenger load factors decrease the projected number of aircraft departures.

Table 3-16: Forecast of CFR Part 121 – Air Carrier Operations			
Year	Part 121 Enplanements	Average Load Factor	Operations
2023	411,751	65.20%	8,789
2028	472,716	66.36%	10,658
2033	542,707	67.01%	12,116
2038	623,062	67.19%	13,873
2043	715,314	67.57%	15,838
AAGR 2023-2043	2.80%	0.18%	2.99%

Sources: T-100 Domestic Segment data published by the U.S. Department of Transportation (DOT's) Bureau of Transportation Statistics (BTS), JNU air transport activity for the forecast's Base Year (CY) 2023. Enplanement data only includes Alaska Airlines and Delta Airlines reported enplanements.

Future Passenger Enplanement/Deplanement developed and compiled by Michael Baker International, Inc., November 2025.

3.4.3.2 Forecast of CFR Part 91 General Aviation Activity

Based on the FAA's Aerospace Forecast for Fiscal Years 2025-2045 projections shown in Table 29 of that report, Active General Aviation and Air Taxi Hours Flown, future annual levels of CFR Part 91 general aviation operations by aircraft type, are projected to increase annually at an AAGR of 0.90 percent. **Table 3-17** presents projected growth by aircraft type, while **Table 3-18** breaks down the split between local and itinerant operations.

Table 3-17: Forecast of CFR Part 91 General Aviation Operations by Aircraft Type						
Year	Single-Engine Piston	Multi-Engine Piston	Turboprop	Jet	Helicopter	Total Operations
2023	7,852	178	446	446	1,086	10,008
2028	8,154	183	474	474	1,200	10,484
2033	8,530	188	503	503	1,260	10,982
2038	8,888	192	534	534	1,357	11,505
2043	9,260	197	566	566	1,462	12,052
AAGR 2023-2043	0.80%	0.50%	1.20%	1.20%	1.50%	0.90%

Source: Michael Baker International, Inc., November 2025

Table 3-18: Forecast of Local/Itinerant CFR Part 91 General Aviation Operations					
Year	Itinerant (IT)		Local (LOC)		Total GA Operations
	Operations	% Total	Operations	% Total	
2023	7,854	78%	2,154	22%	10,008
2028	8,227	78%	2,256	22%	10,484
2033	8,619	78%	2,364	22%	10,982
2038	9,029	78%	2,476	22%	11,505
2043	9,458	78%	2,594	22%	12,052
AAGR 2023-2043	0.90%		0.90%	-	0.90%

Source: Michael Baker International, Inc., November 2025

3.4.3.3 Forecast of Military Activity

Although JNU does not operate as one of the nation’s 21 Joint Use Airports, both itinerant and local military operations do occur through the year. Because federal law does not allow FAA to consider forecasts of aviation activity that would be part and parcel of airport facility improvement considerations that, by nature of the project or improvement, may potentially solely benefit another federal agency (e.g., the Department of Defense). The FAA’s TAF, OPSNET, and TFMS systems reported the following CY 2023 military aircraft operations: 322 itinerant /101 local, 317 itinerant /105 local, and 322 itinerant/101 local, respectively. Based on FAA TAF aviation activity forecast development guidance, this aviation activity forecast will hold military aircraft operations at JNU at a constant of 322 itinerant and 101 local operations throughout the 20-year forecast period.

The forecasts of both itinerant and local military operations by year are listed in **Table 3-19**.

Table 3-19: Forecast of Local/Itinerant Military Operations					
Year	Itinerant (IT)		Local (LOC)		Total Military Operations
	Operations	% Total	Operations	% Total	
2023	322	76.12	101	23.88	423
2028	322	76.12	101	23.88	423
2033	322	76.12	101	23.88	423
2038	322	76.12	101	23.88	423
2043	322	76.12	101	23.88	423
AAGR 2023-2043	0.00%	-	0.00%	-	0.00%

Source: Michael Baker International, Inc., January 2025.

3.4.4 Forecast of Combined Aircraft and Peaking Activity

The derivative peaking forecast of aircraft operational activity is used to determine terminal area, apron, and landside improvements space and related protection needs during the 20-year planning period at JNU. Peaking forecasts, as defined below, were identified for operations to evaluate whether the airport's infrastructure will require improvements. The operational peaking forecasts for all operations were developed using the procedures outlined below and are summarized in **Table 3-21**.

- Average Peak Month (APM) – Through a review of historical activity records, it was found that the APM represented 10.0 percent of annual activity in 2023 (the peak aircraft operational activity occurred in August).
- Average Day Peak Month (ADPM) – For 2023, activity data was pulled for the 31 days of the month of August.
- Average Day Peak Hour (ADPH) – The ADPH was estimated at 15 percent of the ADPM. The itinerant and local peak hours were also calculated based on the same percentage of their respective peak day forecast.

It is anticipated that itinerant terminal apron area space demand will become critical during the 20-year forecast period, which would be associated with anticipated future increased simultaneous peak hour demand by larger itinerant CFR Part 121 air carrier and CFR Part 135 commuter air cargo operators.

A forecast summary of combined aircraft operations is listed in **Tables 3-20** and **3-21**.

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Table 3-20: Forecast of Combined Aircraft Operations											
Year	Itinerant (IT)						Local (LOC)				
	CFR Part 121 Air Carrier	CFR Part 135 Air Taxi/Charter	CFR Part 91 General Aviation	Military	Total	Percent	CFR Part 91 General Aviation	Military	Total	Percent	Total Operations
2023	8,789	74,295	7,854	317	91,255	97.6%	2,154	105	2,259	2.4%	93,514
2028	10,658	79,343	8,227	317	98,545	97.7%	2,256	105	2,361	2.3%	100,907
2033	12,116	84,734	8,619	317	105,786	97.7%	2,364	105	2,469	2.3%	108,255
2038	13,873	90,492	9,029	317	113,710	97.8%	2,476	105	2,581	2.2%	116,291
2043	15,838	96,640	9,458	317	122,254	97.8%	2,594	105	2,699	2.2%	124,952
AAGR 2023-2043	2.99%	1.32%	0.93%	0.00%	1.47%	-	0.93%	0.00%	0.89%	-	1.46%

Compiled by Michael Baker International, Inc., January 2025.

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Table 3-21: Forecast of Aircraft Operations Peaking

Year	Total Operations	Peak Month (August 10%)	ADPM (31 Days)	ADPH (15% of ADPM)
2023	68,895	6,890	222	33
2028	75,052	7,505	242	36
2033	82,342	8,234	266	40
2038	90,485	9,049	292	44
2043	100,379	10,038	324	49
AAGR 2023-2043	1.90%	1.90%	1.90%	2.00%

Source: Michael Baker International, Inc., January 2025.

3.4.5 Forecast of Based Aircraft Levels

The forecast of locally based CFR Part 91 general aviation aircraft is shown in **Table 3-22** by aircraft type. Collectively, the total number of based aircraft is projected to increase annually at a rate of almost 1.04 percent throughout the 20-year forecast period.

Table 3-22: Forecast of Based Aircraft by Type

Year	Single-Engine Piston	Multi-Engine Piston	Turboprop	Jet	Helicopter	Total GA Based Aircraft
2023	237	4	0	1	28	270
2028	250	4	1	1	30	286
2033	262	4	1	1	31	299
2038	275	5	2	2	33	317
2043	288	5	2	2	35	332
AAGR 2023-2028	1.05%	1.05%	0.00%	0.00%	1.05%	1.16%
AAGR 2029-2033	1.00%	1.00%	0.00%	0.00%	1.00%	0.89%
AAGR 2033-2038	0.95%	0.95%	14.87%	14.87%	0.95%	1.18%
AAGR 2038-2043	0.91%	0.91%	0.00%	0.00%	0.91%	0.93%
AAGR 2023-2043	0.98%	1.12%	4.73%	3.53%	1.12%	1.04%

Source: FAA Airport Data and Information Portal (ADIP) Facility Dashboard – Juneau International Airport (JNU), January 2025

Note: Turboprop AAGR based on 2028-2043

Compiled by Michael Baker International, Inc., January 2025.

3.5 Comparison of Forecast to FAA 2024 TAF Forecast

As defined in FAA Order 5090.5, the regional office must approve the Airport Sponsor’s aviation activity forecasts and the determination of one or more Critical Design Aircraft. Aviation activity forecasts supplied by the Airport Sponsor should be consistent with the FAA’s TAF published for the airport.

According to the FAA memorandum *Forecast Review and Approval Instructions* of August 2024, forecast scenarios of operations, based aircraft, and enplanements are considered to be consistent with the TAF, and merit FAA approval, if “through the near- and mid-term timeframes, the baseline scenario differs from the current TAF baseline scenario by less than 10 percent at year 5 and 15 percent at year 10”¹.

The FAA’s forecast approval process typically constitutes an approval for planning only, which allows the Airport Sponsor to plan future airport facility improvement projects that are consistent with the long-term growth expectations as graphically depicted and denoted on the FAA Conditionally Approved Airport Layout Plan Drawing (ALD) and ALP Drawing Set. In most cases, prior to issuing a federal funding Grant, the FAA will require updated information demonstrating that a proposed project is justified by activity at the time, or by activity that would directly result from the implementation of the proposed project. This policy helps to ensure that funding is directed towards critical projects throughout the United States.

Table 3-23 presents a comparison between the FAA’s 2024 JNU-specific Terminal Area Forecast as issued in January of 2025 and the forecast developed in this master plan update.

Table 3-23: Terminal Area Forecast (TAF) Comparison Table						
Item	2023	2028	2033	2038	2043	AAGR 2023-2043
Total Aircraft Operations						
Master Plan	93,514	100,907	108,255	116,291	124,952	1.46%
2024 TAF	94,686	99,241	109,773	122,336	137,549	1.88%
Difference	1,172	-1,666	1,518	6,045	12,597	
Percent	1.24%	-1.68%	1.38%	4.94%	9.16%	
Enplanements						
Master Plan	356,180	408,917	469,462	538,972	618,774	2.80%
2024 TAF	361,779	393,232	434,375	480,131	531,294	1.94%
Difference	5,599	-15,685	-35,087	-58,841	-87,480	
Percent	1.55%	-3.99%	-8.08%	-12.26%	-16.47%	

¹ FAA - Aviation forecast Review and Approval Instruction, August 12, 2024

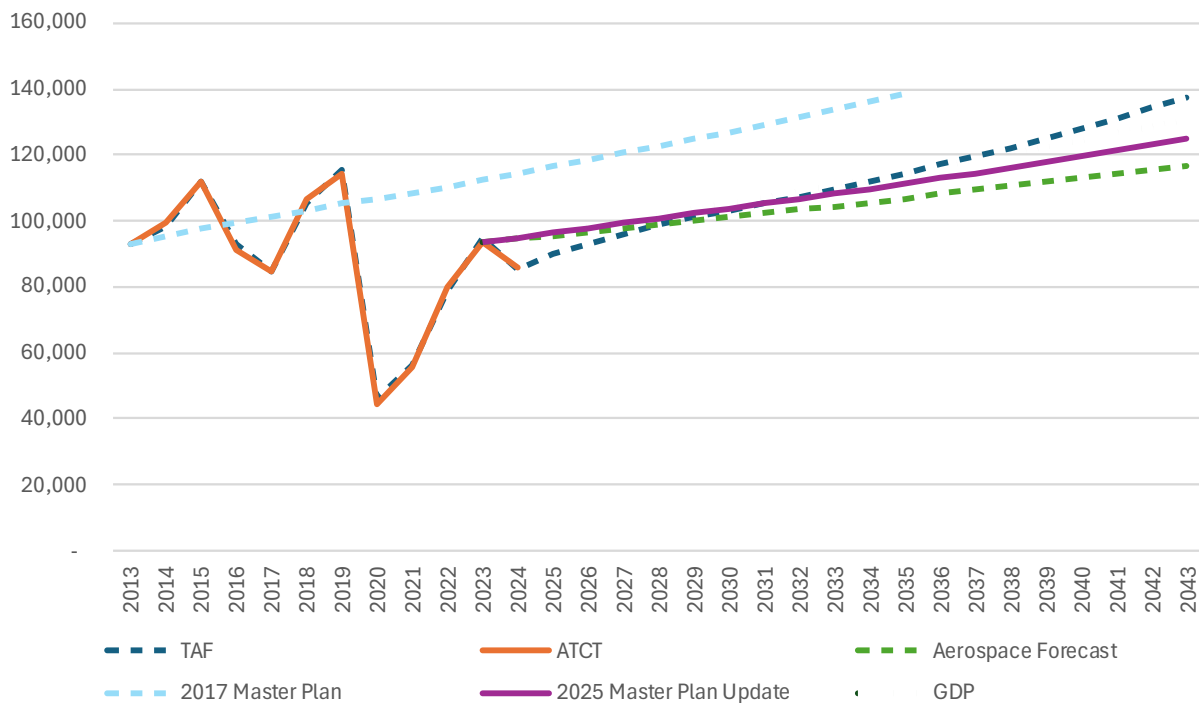
Table 3-23: Terminal Area Forecast (TAF) Comparison Table						
Item	2023	2028	2033	2038	2043	AAGR 2023-2043
Based Aircraft						
Master Plan	270	286	299	317	332	1.04%
2024 TAF	279	287	302	332	332	0.87%
Difference	9	1	3	15	0	
Percent	-3.26%	-0.35%	-0.99%	-4.52%	0.00%	

Sources: FAA 2024 Terminal Area Forecast (JNU), January 2025
Michael Baker International, Inc., February 2025.

By comparison, both the master plan forecast for enplanements and the operational activity shown in **Table 3-23** differ from the current TAF by no more than 10 percent at year 5 or 15 percent at year 10.

In addition, for comparison purposes, **Figure 3-1** displays the historical operations registered by the ATCT, the previous master plan, the current master plan forecast, the TAF, two scenarios using the Aerospace Forecast growth for total operations, and the Gross Domestic Product projected in Table 2 of the Aerospace Forecast.

Figure 3-1 Forecast Comparison



Source: The Operations Network (OPSNET), Terminal Area Forecast TAF, Juneau International Airport Sustainability Master Plan 2017, FAA Aerospace Forecast FY2025-2045
Compiled by Michael Baker International, Inc., November 2025.

3.6 Identification of Critical Design Aircraft

The FAA's standards and recommendations for the geometric layout and engineering design of runways, taxiways, aprons, and other airfield facilities at civil airports are prescribed in FAA AC 150/5300-13B, *Airport Design*, (Changes inclusive). However, when airport airfield geometric designs are solely based upon the existing fleet or mix of aircraft that typically operate at an airport, failure to anticipate or project operational needs of future aircraft can severely limit the ability the airport to expand and fully accommodate future requirements needed of larger, more demanding aircraft.

The FAA's airport geometric design standards reference three aircraft operational and dimensional parameters of approach speed, aircraft wingspan and tail heights. These are defined by the Aircraft Approach Category (AAC) and Airplane Design Group (ADG).

The AAC is based on aircraft approach speeds that affects runway length, exit taxiway locations, and runway-related facilities designated by letter that include:

- A: Approach speed less than 91 knots
- B: Approach speed 91 knots or more, but less than 121 knots
- C Approach speed 121 knots or more, but less than 141 knots
- D: Approach speed 141 knots or more, but less than 166 knots
- E: Approach speed 166 knots or more

The ADG is based on a grouping of aircraft related to wingspan or tail height, whichever is the most restrictive. It determines dimensional standards for the layout of airport facilities, separation criteria between runways and taxiways, taxilanes, buildings, or objects potentially hazardous to aircraft movement on the ground that include:

- I: Wingspan up to but not including 49 feet and Tail height <20 feet
- II: Wingspan 49 feet up to but not including 79 feet and Tail height 20 feet up to but not including 30 feet
- III: Wingspan 79 feet up to but not including 118 feet and Tail height 30 feet up to but not including 45 feet
- IV: Wingspan 118 feet up to but not including 171 feet and Tail height 45 feet up to but not including 60 feet
- V: Wingspan 171 feet up to but not including 214 feet and Tail height 60 feet up to but not including 66 feet
- VI: Wingspan 214 feet up to but not including 262 feet and Tail height 66 feet up to but not including 80 feet

To determine the appropriate airport design standards for JNU for existing conditions and for the planning of future anticipated airfield facility improvements, the existing and future Critical Aircraft (also stated as Critical Design Aircraft) was determined.

The Critical Aircraft is defined by the FAA as representing either a specific aircraft make and model, or composite or family of multiple aircraft having similar operational and physical

characteristics that currently operate at or are anticipated to make regular use of the airport. According to FAA Order 5090.5, the Critical Aircraft is used to identify the appropriate Airport Reference Code (ARC) for airport design criteria (such as dimensional standards and appropriate pavement strength) and is contained within FAA AC 150/5300-13B. The specific rules and guidelines for determining the applicable critical aircraft is contained in the current version of FAA AC 150/5000-17, *Critical Aircraft and Regular Use Determination*.

The Critical Aircraft is the most demanding aircraft type or grouping of aircraft with similar characteristics that regularly use the airport. Regular use is 500 annual operations, including both itinerant and local operations, but excluding touch-and-go operations. An operation is either a takeoff or a landing.

Similar characteristics refer to the practice of grouping aircraft by comparable operational performance and/or physical dimensions. This is to recognize that it is sometimes necessary for airfield planning and development to group aircraft with similar characteristics together instead of requiring a single aircraft type to exceed the regular use threshold alone. For example, aircraft with similar wingspans and/or approach speeds may be grouped to determine the most demanding AAC and/or ADG, respectively. Aircraft with similar runway length requirements can be grouped to determine the future runway length at an airport.

The identification and determination of the critical aircraft for JNU was accomplished through inspection and use of the CY 2023 TFMSC records. The TFMSC data reflects aircraft operational activity that operated either to or from JNU, conducted under Instrument Flight Rules (IFR), and documented through the required origin airport-to-destination airport filing of an IFR flight plan. As listed in **Table 3-24**, the make and model of each TFMSC-reported aircraft operation at JNU is listed along with the respective number of annual operations, AAC, and ADG that collectively define JNU's applicable ARC.

As shown in **Tables 3-24, 3-25, and 3-26**, 500 or more annual operations (takeoffs or landings) were conducted at JNU during CY 2023 using Boeing 737-900W (with winglets) series aircraft operated by the air carrier. This aircraft has a wingspan of 117.42 feet, a tail height of 41.17 feet, and a Maximum Gross Takeoff Weight (MGTOW) of 174,200 pounds. This D-III aircraft represents 9.09 percent of all 2023 air carrier operations.

It is anticipated, however, that the relative mix of large air carrier mainline aircraft operating at JNU will change slightly throughout the forecast's first and second five-year periods, with the anticipated attrition of older B737-700 series C-III aircraft that currently represent 39.72 percent of all 2023 air carrier operations.

Accordingly, for the purpose of the master plan update, all future airfield planning, layout, and design considerations should fully reference and adhere to RDC D-III airport design criteria as prescribed in FAA AC 150/5300-13B throughout the 20-year master planning period.

Beyond planning, layout, and design criteria, other operational considerations would also include runway length and pavement load bearing capabilities related to the Critical Aircraft. For example, the NOAA-published Mean-Maximum hottest days at Juneau, Alaska typically occur during the month of July with an average daily high temperature of 64° Fahrenheit (F) and hottest day temperatures reaching 82° F.

Based upon the review of Boeing’s 737 Airplane Characteristics for Airport Planning publication (Document D6-58325-6 - Revision A, September 2020) the Boeing 737-900W aircraft operating at JNU during Standard Day conditions (i.e., 59 °F at Sea Level) and utilizing Runway 8-26 published Declared Distance Accelerated Stop Distance Available (ASDA) length of 8,457 feet would limit the allowable MGTOW to 167,000 pounds, or 95.8 percent of its 174,200 pound Maximum Gross Takeoff Weight (MGTOW).

It should be carefully noted that the specific performance of the Boeing 737-900 aircraft during non-standard day conditions would be reduced based on varying factors that would include, but not be limited to, aircraft weight, density altitude, runway conditions (i.e., dry or wet), and the proximity and relative heights of surrounding local terrain. For example, if using the Boeing 737-900 aircraft and ASDA during the hottest local day conditions, the allowable MGTOW would be reduced to 160,450 pounds, or 92.10 percent of its MGTOW.

For the purpose of identifying the Critical Aircraft for the float pond (Runway 8W-26W), information was directly obtained from Alaska Seaplanes, as the operational activity associated with this runway is typically conducted under visual conditions and not reflected in the TFMSC database. The DHC-2 DeHavilland Beaver aircraft (RDC A-I) was determined to be the Critical Aircraft for Runway 8W-26W. According to Alaska Seaplanes, their DHC-2 DeHavilland Beaver aircraft conducted a total of 1,135 annual operations between the months of May and September in 2023.

Table 3-24: Fixed-Wing Aircraft Activity by RDC, Make, and Model - 2023 Base Year

ARC	FAA ID/Aircraft Make/Model	Operations	Subtotal	Percent
A-I	B58T - Beechcraft Baron Turbo	7		
	BE36 - Beech Bonanza 36	2		
	C182 - Cessna Skylane 182	2		
	C185 - Cessna Skywagon 185	1		
	C206 - Cessna 206 Stationair	3		
	C212 - CASA Aviocar	7		
	C25A - Cessna Citation CJ2	2		
	DA40 - Diamond Star DA40	1		
	F35 - Lockheed Martin F-35A	4		
	K100 - Daher Kodiak	1		
	M20P - Mooney M-20C Ranger	2		
	M20T - Turbo Mooney M20K	4		
	P28A - Piper Cherokee	3		
	P28R - Cherokee Arrow/Turbo	2		
	PA32 - Piper Cherokee Six	2		
S22T - Cirrus SR-22 Turbo	4			

Table 3-24: Fixed-Wing Aircraft Activity by RDC, Make, and Model - 2023 Base Year

ARC	FAA ID/Aircraft Make/Model	Operations	Subtotal	Percent
	SF50 - Cirrus Vision SF50	9		
	SR22 - Cirrus SR 22	4		
	TBM8 - Socata TBM-850	4		
	TBM9 - Socata TBM	11	75	0.40%
A-II	C208 - Cessna 208 Caravan	1,060		
	C240 - Cessna TTx Model T240	4		
	D228 - Dornier Do-28	4		
	DHC6 - DeHavilland Twin Otter	6		
	PC12 - Pilatus PC-12	1,724	2,798	15.04%
B-I	BE40 - Raytheon/Beech Beechjet 400/T-1	3		
	C414 - Cessna Chancellor 414	1		
	C421 - Cessna Golden Eagle 421	1		
	C510 - Cessna Citation Mustang	8		
	C525 - Cessna CitationJet/CJ1	3		
	EA50 - Eclipse 500	6		
	HDJT - HONDA HA-420 HondaJet	4		
	LJ31 - Bombardier Learjet 31/A/B	60		
	PA31 - Piper Navajo PA-31	3		
	PAY2 - Piper Cheyenne 2	1	90	0.48%
B-II	ASTR - IAI Astra 1125	4		
	B190 - Beech 1900/C-12J	24		
	B190 - Beech 1900/C-12J	1,569		
	B350 - Beech Super King Air 350	22		
	BE20 - Beech 200 Super King	459		
	BE30 - Raytheon 300 Super King Air	9		
	BE9L - Beech King Air 90	1		
	C25B - Cessna Citation CJ3	14		
	C25C - Cessna Citation CJ4	28		
	C25M - Cessna Citation M2	8		
	C441 - Cessna Conquest	34		
	C550 - Cessna Citation II/Bravo	6		
	C560 - Cessna Citation V/Ultra/Encore	17		
	C56X - Cessna Excel/XLS	28		

Table 3-24: Fixed-Wing Aircraft Activity by RDC, Make, and Model - 2023 Base Year

ARC	FAA ID/Aircraft Make/Model	Operations	Subtotal	Percent
	C680 - Cessna Citation Sovereign	12		
	C68A - Cessna Citation Latitude	12		
	C68A - Cessna Citation Latitude	4		
	D328 - Dornier 328 Series	4		
	E545 - Embraer EMB-545 Legacy 450	2		
	E550 - Embraer Legacy 500	8		
	E55P - Embraer Phenom 300	12		
	E55P - Embraer Phenom 300	2		
	PC24 - Pilatus PC-24	10	2,289	12.30%
B-III	DC3 - Boeing (Douglas) DC 3	2		
	DH8A - Bombardier DHC8-100	2		
	FA8X - Dassault Falcon 8X	2		
	GL7T - Bombardier Global 7500	2	8	0.04%
B-IV	C17 - Boeing Globemaster 3	7	7	0.04%
C-I	LJ35 - Bombardier Learjet 35/36	23		
	LJ45 - Bombardier Learjet 45	1,697		
	LJ60 - Bombardier Learjet 60	2		
	SBR1 - North American Rockwell Sabre 40/60	1	1,723	9.26%
C-II	C750 - Cessna Citation X	24		
	CL30 - Bombardier (Canadair) Challenger 300	14		
	CL35 - Bombardier Challenger 300	16		
	CL60 - Bombardier Challenger 600/601/604	28		
	E145 - Embraer ERJ-145	2		
	F2TH - Dassault Falcon 2000	4		
	F900 - Dassault Falcon 900	31		
	FA50 - Dassault Falcon/Mystère 50	31		
	G150 - Gulfstream G150	15		
	G280 - Gulfstream G280	18		
	GALX - IAI 1126 Galaxy/Gulfstream G200	9		
	H25B - BAe HS 125/700-800/Hawker 800	10		
	LJ75 - Learjet 75	4		
	SF34 - Saab SF 340	6	212	1.14%
C-III	A19N - Airbus 319	2		

Table 3-24: Fixed-Wing Aircraft Activity by RDC, Make, and Model - 2023 Base Year				
ARC	FAA ID/Aircraft Make/Model	Operations	Subtotal	Percent
	B734 - Boeing 737-400	7		
	B737 - Boeing 737-700	7,389		
	GA6C - G-7 Gulfstream G600	2		
	GL5T - Bombardier BD-700 Global 5000	6		
	GLEX - Bombardier BD-700 Global Express	8		
	GLF6 - Gulfstream	5	7,419	39.88%
C-IV	C30J - C-130J Hercules; Lockheed	17		
	K35R - Boeing KC-135 Stratotanker	2	19	0.10%
D-II	CRJ2 - Bombardier CRJ-200	2		
	GLF4 - Gulfstream IV/G400	25	27	0.15%
D-III	B39M - Boeing 737 Max 9	451		
	B738 - Boeing 737-800	2,243		
	B739 - Boeing 737-900	1,224		
	GLF5 - Gulfstream V/G500	13	3,931	21.13%
E-III	P8 - Boeing P-8 Poseidon	5	5	0.04%
Totals		18,603	18,603	100.00%

Source: FAA CY 2023 Traffic Flow Management System Counts (TFMSC) - 01/01/2023 To 12/31/2023, Juneau International Airport (JNU)

*Note: TFMSC operational totals will not necessarily match BTS T-100 Totals
Compiled by Michael Baker International, Inc., January 2025*

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Table 3-25: Fixed Wind Aircraft Activity by RDC and Type Operation - 2023 Base Year

Type User	A-I	A-II	B-I	B-II	B-III	B-IV	C-I	C-II	C-III	C-IV	D-II	D-III	E-III	Total	Percent
Air Carrier	3	2,784		1,569					7,398			3,918		15,672	84.24%
General Aviation	68	14	90	720	8		1,723	212	21		27	13		2,896	15.57%
Military	4					7				19			5	35	0.19%
Total	75	2,798	90	2,289	8	7	1,723	212	7,419	19	27	3,931	5	18,603	100.00%
Percent	0.40%	15.04%	0.48%	12.30%	0.04%	0.04%	9.26%	1.14%	39.88%	0.10%	0.15%	21.13%	0.03%	100.00%	

Source: FAA CY 2023 Traffic Flow Management System Counts (TFMSC) - 01/01/2023 To 12/31/2023, Juneau International Airport (JNU)

Note: TFMSC operational totals will not necessarily match BTS T-100 Totals.

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Table 3-26: 2023 Base Year Fixed Wing Aircraft Activity by Operational and Physical Characteristics		
Aircraft Approach Category (AAC)	Operations	Percent
A	2,873	15.44%
B	2,394	12.87%
C	9,373	50.38%
D	3,958	21.28%
E	5	0.03%
Total	18,603	100%
Airplane Design Group (ADG)	Operations	Percent
I	1,888	10.15%
II	5,326	28.63%
III	11,370	61.12%
IV	19	0.10%
Total	18,603	100%

Source: FAA CY 2023 Traffic Flow Management System Counts (TFMSC) - 01/01/2023 To 12/31/2023, Juneau International Airport (JNU)

Note: TFMSC operational totals will not necessarily match BTS T-100 Totals.

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