

# Knox County Regional Airport Master Plan Update

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## Executive Summary



Stantec

# What is an Airport Master Plan?



**An Airport Master Plan is a comprehensive study that describes the short-, medium-, and long-term development plans required to meet future aviation demand. The Plan provides the framework for guiding future airport development in a cost-effective and operationally efficient manner, while considering potential environmental and socioeconomic impacts. This Master Plan supports the needs of the flying public and encourages economic development of the Knox County region over the next 20 years.**

# Purpose and Focus of this Master Plan Update



Completed in January 2015, the purpose of this airport master plan update is to revise the existing facilities, forecasts, facility requirements, and development alternatives as identified in the 2000 update. In addition, an implementation schedule was prepared that includes cost estimates and environmental impacts for the recommended improvements. One focus of this AMPU was to analyze the need for additional hangar development and to provide sufficient space to accommodate additional t-hangars and conventional hangars. A second focus was a review of the design aircraft and airport reference code (ARC) throughout the 20-year planning period to determine the design criteria for the airport in the future. In addition, the primary runway length was a major focal point throughout the process.

# Stakeholder Involvement Program



The master plan included a stakeholder involvement program that encouraged collaboration among government agencies, tenants, airport users, elected officials, business and civic leaders, and the public. The program involved two major committees for stakeholders - the standing airport advisory committee (APAC) and the master plan subcommittee (MPSC). The APAC included local business and community leaders tasked with providing critical thinking about regional and local business matters. The APAC weighed RKD growth and development planning directives against community goals, values, and needs. The MPSC provided critical input and insight on technical issues as well as the technical merits of all elements of the planning process.



# KRKD

RKD is a commercial service non-hub airport and an essential element of the National Plan of Integrated Airports System, or NPIAS. In addition to several thousand business jet operations and scores of general aviation recreational and corporate flights each year, the airport is an important part of Cape Air, a Massachusetts based small air carrier serving the northeast, and Penobscot Island Air serving the islands of Maine and destinations throughout New England.



The airport has two paved runways, with modern instrument navigation and lighting systems; a network of taxiways; large aircraft parking aprons; and numerous private and public hangars and other storage facilities. In addition, RKD has a new modern terminal facility, which is the showcase of the airport.

# Forecasts of Aviation Demand



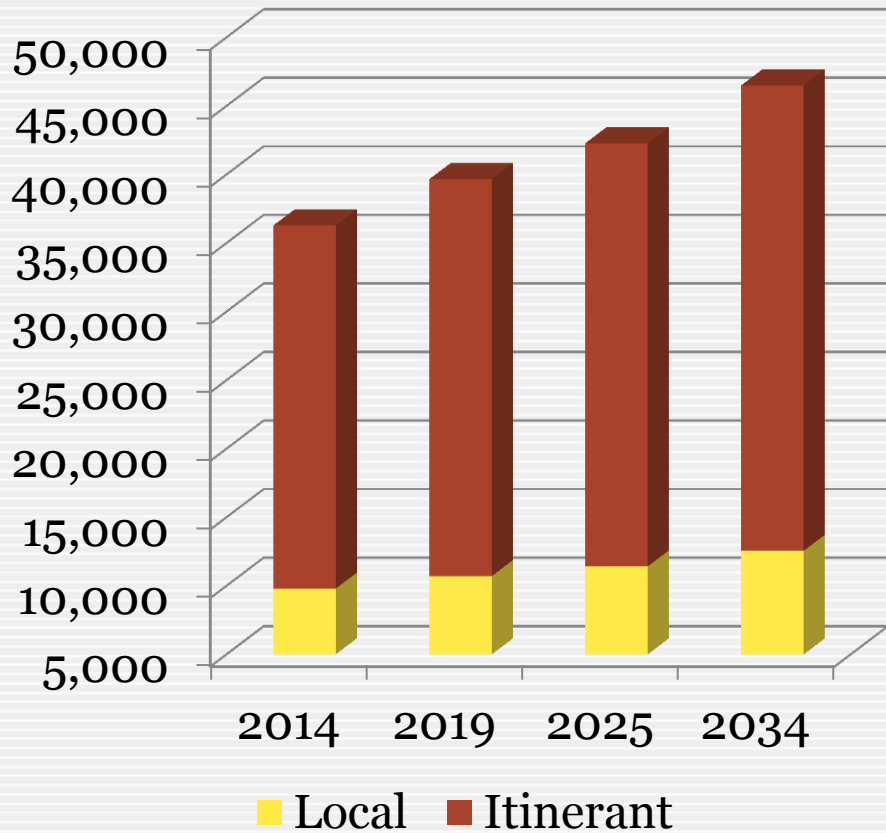
Projecting aviation demand is a critical element in the overall master planning process. It is used to define an airport's ability to accommodate existing and future aircraft and operations so that the type, size, and timing of future airside and landside development is appropriate. In the RKD master plan, projections of aviation demand for the years 2015-2034 were prepared for passenger enplanements, air aircraft operations, and based aircraft.

The forecast uses a combination of statistical techniques, industry forecasts of aviation traffic, and regional economic conditions. These were supported by interviews with local stakeholders to ensure that the forecast considered local developments and air carrier perspectives that could have a bearing on future activity at the airport. The forecast projects that passenger traffic and annual operations will increase at an average annual growth rate of 3.6 percent and 3.0 percent, respectively. At these growth rates, passenger enplanements and annual operations are projected to increase from the 2012 levels of 14,600 passengers and 32,300 operations to the 2034 levels of 25,800 and 46,500 respectively.

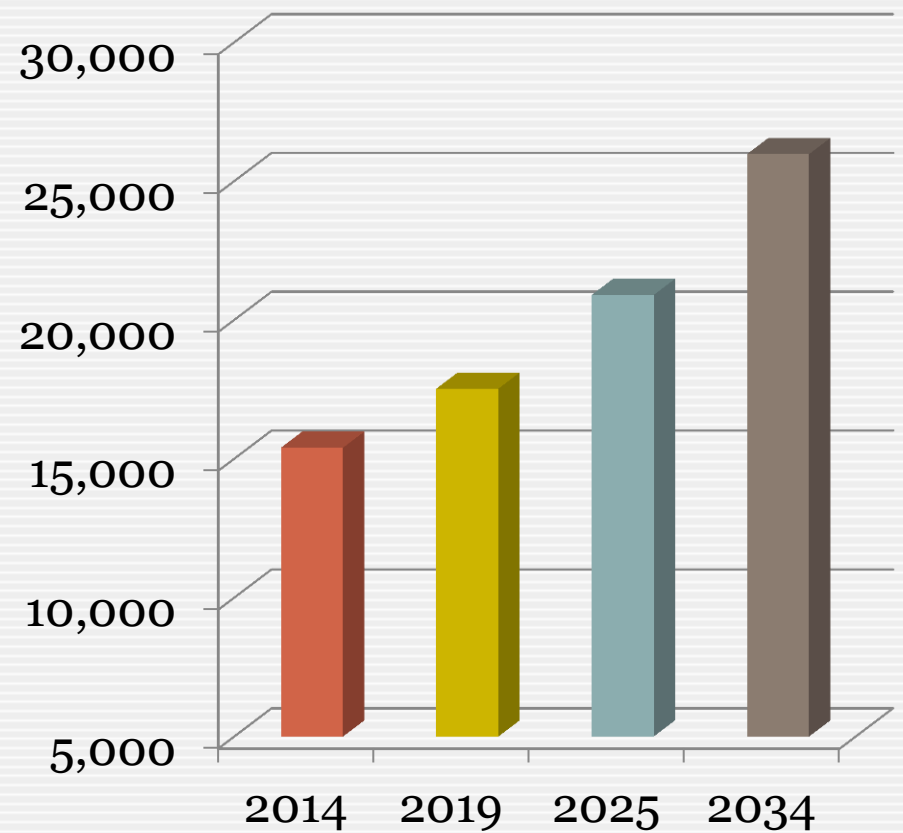
# Operations and People




## Operations



## Enplanements





Key to determining if an airport is designed to the proper FAA criteria is selection of the design, or as it is sometimes called, critical aircraft. This single, or grouping of aircraft establishes several key infrastructure components, chief among them is the width of taxiways as well and the width and length of runways; how far apart they must be from each other; and other airport elements, such as the size of runway and taxiway safety areas.



**The Design Aircraft today and into the immediate future will be a mid-size corporate aircraft similar to this Falcon 900**



# Future Facility Requirements

Based on aviation demand, the Master Plan assessed the adequacy of the current facilities to meet future demands. The shortfalls in facilities dictated the timing and degree to which expansion and improvements are needed in the 20-year planning horizon. Facility requirements were calculated for 2015, 2019, and 2034. The RKD Master Plan covers the following types of facilities:

- Airfield Facilities – Runway and taxiway systems and the ability of the airfield system to serve projected demand levels in terms of runway capacity and design standards
- Passenger Terminal Facilities – Terminal building, and apron frontage
- Support/Ancillary Facilities – General Aviation/Fixed Based Operator facilities and other support facilities
- Aircraft Storage– Aircraft parking aprons and hangars.



# Key Recommendations



## A Look Ahead

Projects identified through the master plan represent a comprehensive list of capital projects that are anticipated to occur over the next 20 years. The planning process organizes these projects based on demand and justification, which serves as the basis for RKD's capital improvement program. Some of the projects will not occur during the planning horizon; however, they are included on the airport's development plan to identify and preserve space within the airport environment when demand dictates.

## Projects within Planning Horizon

- Reconstruct Runway 13-31
- Displace Runway 13 with a 400 foot extension
- Expand SRE Building
- Install EMAS
- Construct Hangars
- Reconstruct Runway 3-21
- Develop Instrument Procedures and install PAPI on Runway 21
- Reconstruct Taxiways
- Design and Construct parallel taxiway to Runway 3-21

# Plan Implementation



The master plan provides for the orderly expansion of existing facilities, and the replacement of older facilities to meet needs over the next 20 years. While the plans are phased through the short (0-5 year), intermediate (6-10 year), and long term (11- 20 year) planning horizons, the plans are demand based. Facilities will not be constructed until they are needed for capacity or to replace obsolete facilities. The master plan has identified \$19 million in capital needs for RKD over the 20-year planning periods.

While the plan has identified extensive capital project needs over the next 20 years, a high percentage of the capital costs will be eligible for grants administered by the FAA. The source for these grants is the aviation trust fund, which is funded with taxes on airline tickets, aviation fuel, aircraft registrations, and other aviation-related fees. The FAA distributes these funds through the Airport Improvement Program (AIP).

Knox County will utilize airport revenues to provide remaining project costs. RKD will also be eligible for funding assistance through passenger facility charges (PFC), which are collected by Cape Air on enplaning revenue passengers. For more detailed information on the respective reports, refer to the final technical reports, which are available at the offices of the airport manager.

# Acknowledgements



## Airport Planning Advisory and Master Plan Subcommittee

- Bill Jones
- Bill Maddox
- Charlie Siletti
- Chuck Hartman
- Dale Flint
- Dick Witherspoon
- Greg Peet
- John Curtis
- Kathy Allain
- Kevin Waters
- Maynard Curtis
- Pennie Alley
- Shane Burns
- Vivian Newman
- William Jones
- William Maddox

## Other Key Participants

- Jeff Northgraves, Airport Manager
- Carol L. Maines, Richard L. Parent, Jr. and Roger A. Moody, Knox County Commissioners
- Ervin Deck, Shane McDougall and Gregg Cohen, Janice Bland, Stantec Consulting Services
- Ralph Nicosia-Rusin, Federal Aviation Administration

# Knox County Regional Airport

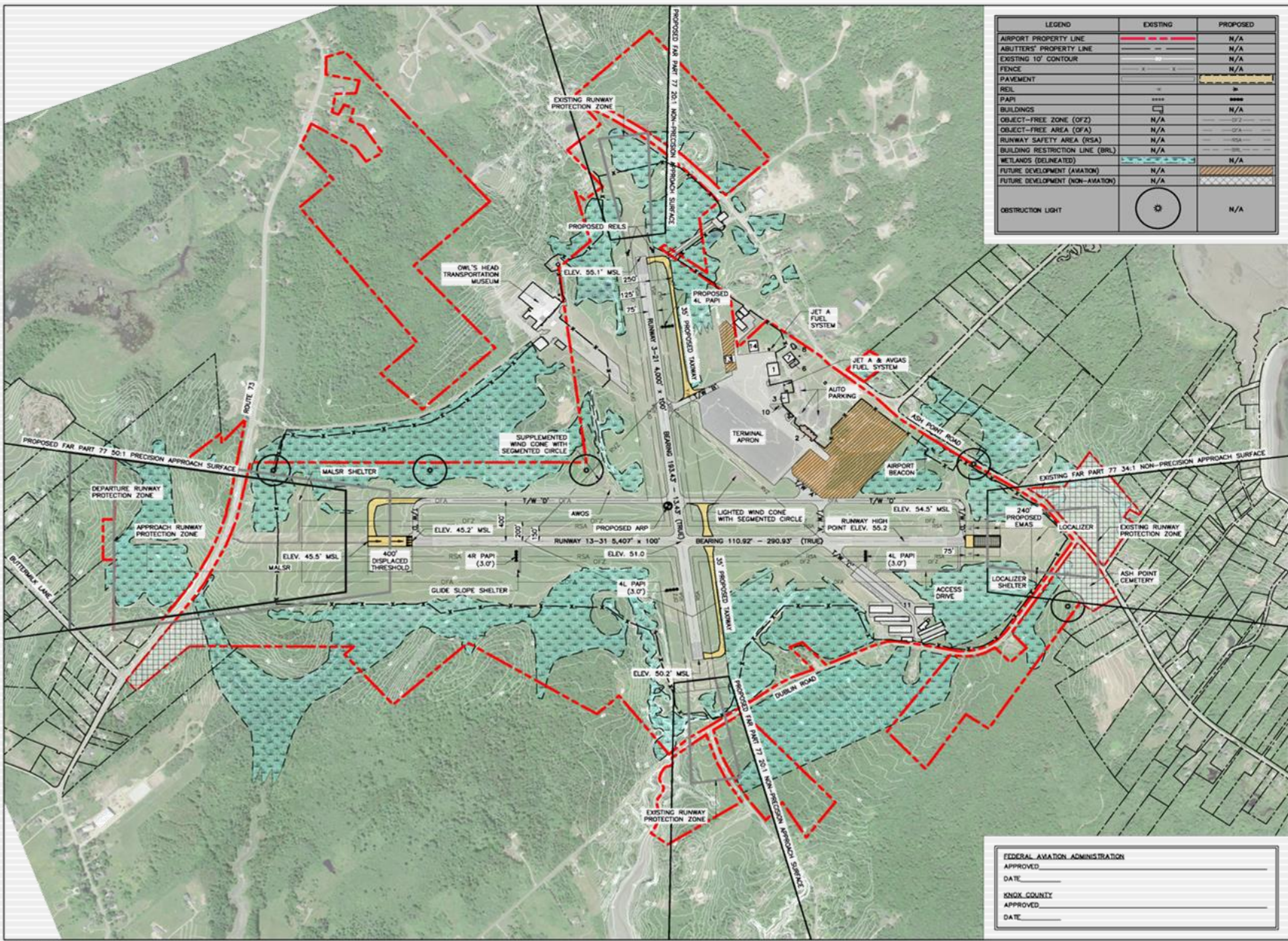


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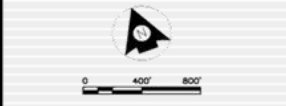
Consultants

LEGEND	EXISTING	PROPOSED
AIRPORT PROPERTY LINE		N/A
ADJUTANTS' PROPERTY LINE		N/A
EXISTING 10' CONTOUR		N/A
FENCE		N/A
PAVEMENT		
REIL		
PAPI		
BUILDINGS		N/A
OBJECT-FREE ZONE (OFZ)		
OBJECT-FREE AREA (OFA)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL)		
WETLANDS (DELINEATED)		
FUTURE DEVELOPMENT (AMATION)		
FUTURE DEVELOPMENT (NON-AMATION)		
OBSTRUCTION LIGHT		N/A



Legend

Notes



Revision	No.	ASDC	DATE

Client/Project  
**KNOX COUNTY REGIONAL AIRPORT**  
  
AIRPORT MASTER PLAN UPDATE  
  
OWLS HEAD, MAINE  
  
Title  
**AIRPORT LAYOUT PLAN**

FEDERAL AVIATION ADMINISTRATION	
APPROVED:	_____
DATE:	_____
KNOX COUNTY	_____
APPROVED:	_____
DATE:	_____

Project No.	Scale	
195210403	AS NOTED	
Drawing No.	Sheet	Revision
	4	0

# For Further Information



THE COMPLETE MASTER PLAN AND ASSOCIATED AIRPORT  
LAYOUT PLAN ARE AVAILABLE ON THE AIRPORT'S WEBSITE  
AT [WWW.KNOXCOUNTYMAINE.GOV/AIRPORT](http://WWW.KNOXCOUNTYMAINE.GOV/AIRPORT)

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