



2017

Airport Master Plan

Long Island MacArthur Airport

Executive Summary

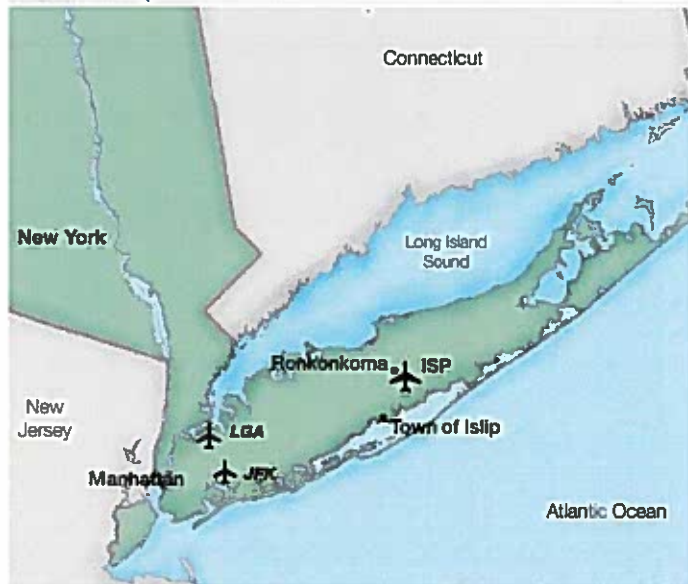


TOWN OF ISLIP

INTRODUCTION

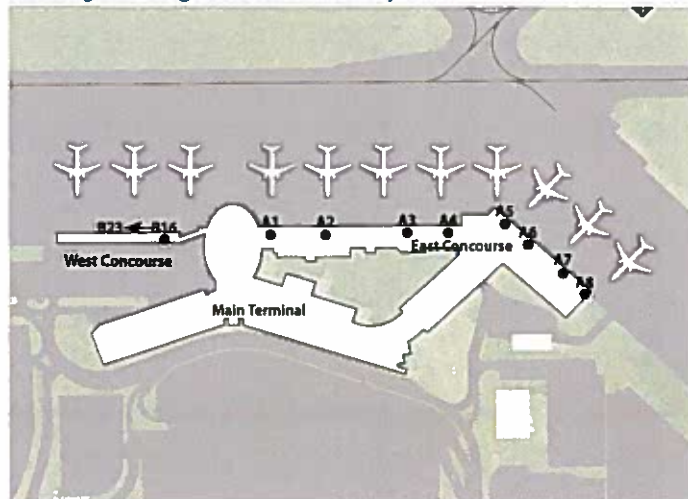
Long Island MacArthur Airport (ISP) ranks among the top 100 busiest airports in the United States, in terms of annual passenger enplanements and is classified by the FAA as a small hub, primary commercial service airport. ISP is located in Ronkonkoma in the Town of Islip, New York on central Long Island approximately 42 miles east of Manhattan and 33 miles east of John F. Kennedy International Airport (JFK), as shown on the Location Map below. The airport was originally constructed during World War II as a military airfield. Scheduled commercial air service started in 1960 and ISP has evolved into a successful commercial airport. In 2016, 124,154 operations and nearly 606,491 enplanements were recorded. The three carriers that operate from ISP are Southwest, American, and Elite Airways. ISP has experienced 70 years of growth and development primarily in response to local, regional, national, and global economic trends, as well as service decisions of the airline industry. To plan for the future growth of the Airport, the Town of Islip undertook a Master Plan Update to identify and plan the facilities to meet future Airport needs through a planning period ending in the year 2037.

Location Map



Source: Landrum & Brown

Existing Passenger Terminal Facility



Source: Landrum & Brown

Executive Summary

INVENTORY

AIRFIELD

ISP occupies approximately 1,311 acres of land owned by the Town of Islip and is capable of handling Aircraft Design Group D-IV aircraft (i.e., Boeing 757). Aircraft operate from four active runways, three of which are rated for air carrier aircraft while the fourth accommodates only small general aviation aircraft. See Existing Runway Data table below.

TERMINAL

The passenger terminal facility, operated by ISP, consists of a Main Terminal and East and West Concourses. Shown in the Existing Passenger Terminal Facility exhibit (bottom left), the Main Terminal includes the ticketing hall, concessions, baggage claim, and various administrative offices. It is also the central core of the facility connecting the East and West Concourses. The East Concourse has eight passenger gates (A1 thru A8) and the Airport's security checkpoint. The West Concourse has eight gates (B16 thru B23). Over 9,000 passenger aircraft operations occurred in 2016, almost eight percent of total Airport operations. Passenger aircraft operations are declining due to a change in the aircraft manufactured today that can accommodate an increasing number of passengers being served on larger narrow-body jet aircraft versus smaller commuter aircraft.

GENERAL AVIATION

General Aviation facilities are located on the southwest and west areas of the airfield. Three Fixed-Base Operators (FBOs) operate at ISP: Hawthorne, Mid-Island Air Service, and Sheltair Aviation Services. These FBOs provide typical General Aviation services such as fuel, aircraft storage, ground handling, and other specialized services. General Aviation, the largest segment of activity at ISP, accounted for over 95,000 operations in 2015, nearly 85 percent of total operations.

MILITARY

ISP is home to a unit of the New York Army National Guard (NYANG) that operates a squadron of UH-60 Blackhawk helicopters. Military flights accounted for nearly 2,000 operations in 2012, about two percent of total operations.

Existing Runway Data

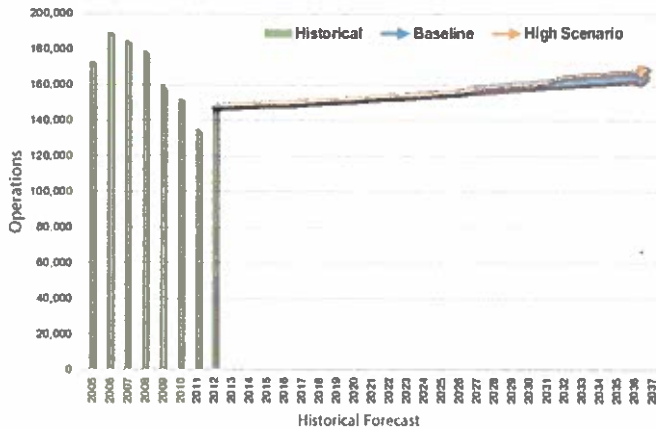
Runway	6	24	10	28	15L	33R	15R	33L
Runway Dimensions (ft.)	7,006 x 150		5,034 x 150		3,175 x 75		5,186 x 150	
Runway Pavement Condition	Excellent		Fair		Good		Good	
Runway Category	C-III*		B-IV		B-II		C-III*	
Approach Surfaces Slope	50:1	50:1	20:1	20:1	20:1	20:1	34:1	34:1
Runway Marking and Instrumentation	PIR/PIR		Basic/Visual-B		NSTD/Visual-B		NPI/Visual-B	
Runway Edge Lighting	HIRL		N/A		N/A		MIRL	
Centerline Lighting	YES		NO		NO		NO	
Approach Lighting	MALSR/VASI	VASI	N/A	PAPI	N/A	N/A	VASI	VASI
Pavement Strength	SW 100,000		SW 32,000		SW 25,000		SW 100,000	
	DW 210,000		DW 56,000		N/A		DW 170,000	
	DT 3000,000		DT 92,000		N/A		DT 300,000	

*Runways 6/24 and 15R/33L are capable of accommodating operations by D-IV aircraft. Source: Airports IQ 5010

FORECAST

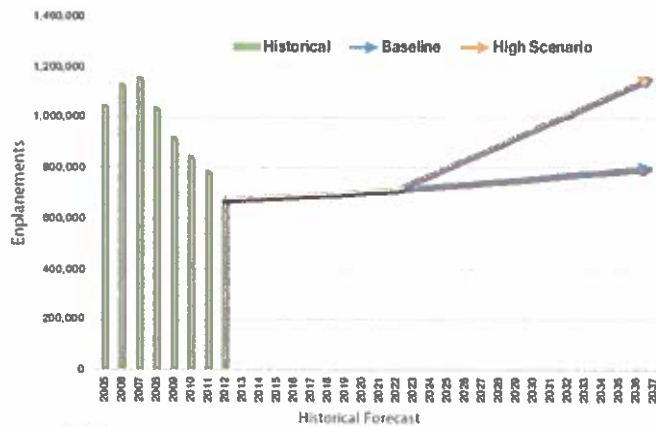
Since the entry of Southwest at ISP in 1999, passenger enplanements have fluctuated between nearly 600,000 and almost 1.1 million passengers. The passenger forecast projects an increase of between 126,000 and 487,000 annual passenger enplanements (0.7 to 2.2 percent average annual growth) from 2012 through 2037. Forecast projections for passenger operations indicate that passenger aircraft operations are expected to increase by approximately 230 to 6,000 annual operations (0.1 to 1.3 percent) from 2012 to 2037. The graphs below present a summary of annual projected operations and passenger forecast.

Projected Annual Operations



Source: Landrum & Brown

Projected Annual Enplanements



Source: Landrum & Brown



Source: Long Island MacArthur Airport, June 2014

FACILITY REQUIREMENTS

To accommodate the projected demand in passenger enplanements and aircraft operations, the future facility requirements were calculated for all Airport facilities throughout the 2037 planning period.

A summary of these facility requirements are shown in two tables below: Airport Support Facility Requirements and Terminal Area Facility Requirements. While these facility requirements are tied to specific years for the purpose of providing context, the specific years are actually tied to activity-based milestones (i.e. demand levels). These demand levels can be used to make future expansion and development decisions, focusing on specific volumes of activity that trigger the expansion requirement, rather than the year identified. In this way, the Airport can monitor the growth trends and improve the airport as demand warrants. The airfield improvements needed through the end of the 2037 planning period include:

- Extending Runway 15R/33L up to 7,000 feet to provide for a crosswind runway of comparable length to Runway 6/24; thus providing for reliable service when wind conditions prevent aircraft from departing from Runway 6/24
- Converting Runway 10/28 to a taxiway
- Providing for full and clear airfield safety areas

Airport Support Facility Requirements

Support Facility	Existing	2012 REQUIRED	2037
Passenger Enplanements	678,848		804,400
Aircraft Operations	148,451		164,780
Cargo Building (Sq. Ft.)	4,077	2,220	2,250
General Aviation			
FBO (Sq. Ft.)	12,300	10,430	11,530
Hangar (Sq. Ft.)	434,600	348,450	632,000
Apron (Sq. Ft.)	1,062,864	901,580	996,030
Auto Parking			
Daily Lots (Spaces)	1,852	650	770
Daily Lots (Sq. Ft.)	678,739	211,250	250,250
Economy Lot (Spaces)	718	400	470
Economy Lot (Sq. Ft.)	220,752	140,000	152,750
RAC Parking (Spaces)	443	260	300
Airfield Maintenance (Sq. Ft.)	50,952	40,940	47,470
Aircraft Fuel			
Jet-A (gal)	300,000	214,130	241,380
10 LL (gal)	12,000	9,550	10,550
ARFF Index	B/C	B	B/C

Source: Landrum & Brown

Terminal Area Facility Requirements

Terminal Facility/ Processor	Existing	2012 REQUIRED	2037
Passenger Enplanements	678,848		804,400
Aircraft Operations	148,451		164,780
Gates (Contact)	9	7	8
Curbside			
Departures Curb	430	243	274
Arrivals Curb	340	243	274
Ticketing (Units)			
Staffed Counters	50	13	10
Kiosks	10	4	16
Baggage Screening (EDS Units)	3	3	4
Security (Lanes)	4	3	3
Baggage Claim (LF)	557	117	132

Source: Landrum & Brown

RECOMMENDED DEVELOPMENT PLAN

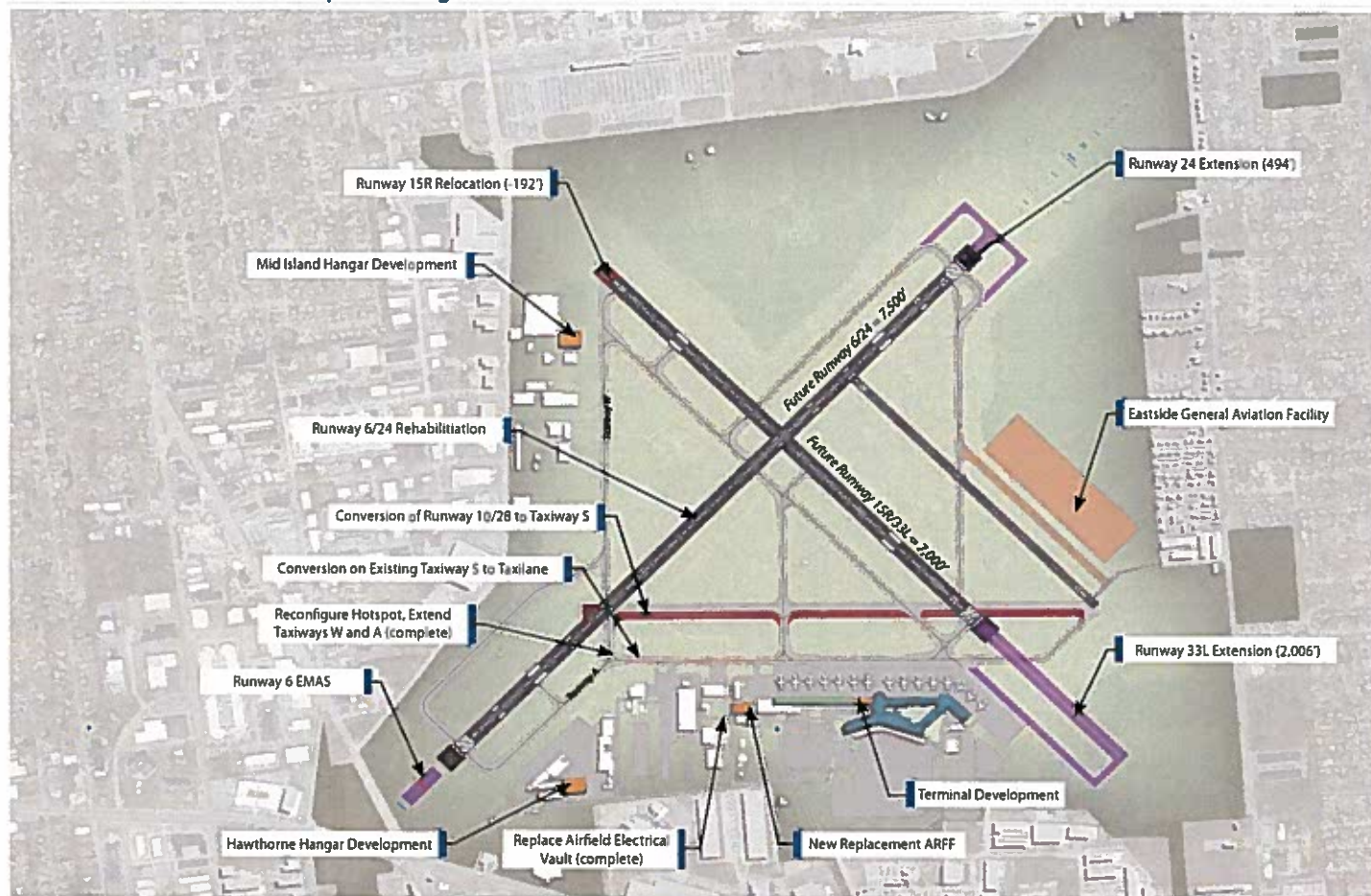
To identify and quantify the facilities needed to meet the projected facility requirements through the 2037 planning period, alternatives were developed for the airfield, terminal, and general aviation that would accommodate future needs. Each alternative was reviewed using a set of evaluation criteria and scored using a three-level ranking system – positive (improves over existing), neutral (no change from existing), or negative (worse than existing). The alternatives were then compared against one another and a preferred alternative was selected as the most viable option to accommodate future needs.

The airfield alternatives process developed a total of 22 runway alternatives (11 for Runway 6/24 and 11 for Runway 15R/33L). The evaluation resulted in a preferred recommendation for Runway 6/24 that includes adding EMAS on the Runway 6 end and extending the Runway 24 runway pavement north by 494 feet. The Runway 6 EMAS would provide for compliant runway safety areas while minimizing off-airport impacts. The Runway 24 extension would bring the overall runway length to 7,500 feet; providing limited transatlantic departure length for narrowbody aircraft. The preferred recommendation for Runway 15R/33L includes relocating/shortening Runway 15R by 192 feet and extending Runway 33L by 2,006 feet, for a total runway length of 7,000 feet. Shortening Runway 15R provides for compliant runway safety areas. This increased length would provide ISP with a crosswind runway equal in capability to the primary runway, which in turn would offer consistent capability to airport users during crosswind conditions.

In addition to runway alternatives, four taxiway alternatives were developed and evaluated to increase the safety and/or efficiency of the airfield. The recommended taxiway alternatives include converting Runway 10/28 into a taxiway and converting existing Taxiway Sierra into a taxilane. Converting both Runway 10/28 to a taxiway and Taxiway Sierra to a taxilane provides for much needed non-movement area to accommodate aircraft pushback operations within the terminal area. Closing Runway 10/28 will not negatively impact runway capacity at ISP.

The terminal alternatives process developed a total of six alternatives. The evaluation of these six alternatives resulted in a preferred recommendation for the terminal area that included replacing the existing west concourse with two contact gates. Under this configuration, the upgraded west concourse would be similar in style and scope to those found in the existing east concourse. Ultimately, as demand requires, additional gates could be added in a linear-concourse design to the west. When compared against the other alternatives, replacing and expanding the west concourse provides ISP with a terminal expansion plan that limits impact to existing facilities and operations. The Overall Recommended Development Program is depicted below.

Overall Recommended Development Program



Source Landrum & Brown