

# FORT LAUDERDALE EXECUTIVE AIRPORT AIRPORT MASTER PLAN UPDATE

2017-2037  
EXECUTIVE SUMMARY

PUBLISHED **JANUARY 2019**

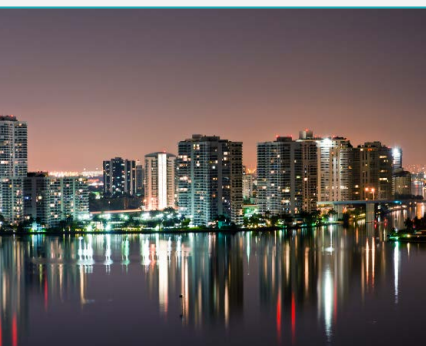


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INTRODUCTION

Fort Lauderdale Executive Airport (FXE) is owned and operated by the City of Fort Lauderdale and is a division of the Transportation and Mobility Department. Airport staff oversee the administration of land leases and the development of Airport property, as well as operate, maintain, and promote FXE, the Airport Industrial Airpark, and the Fort Lauderdale Downtown Heli-stop. In addition, FXE staff administer and promote the City of Fort Lauderdale Foreign-Trade Zone (FTZ) 241.

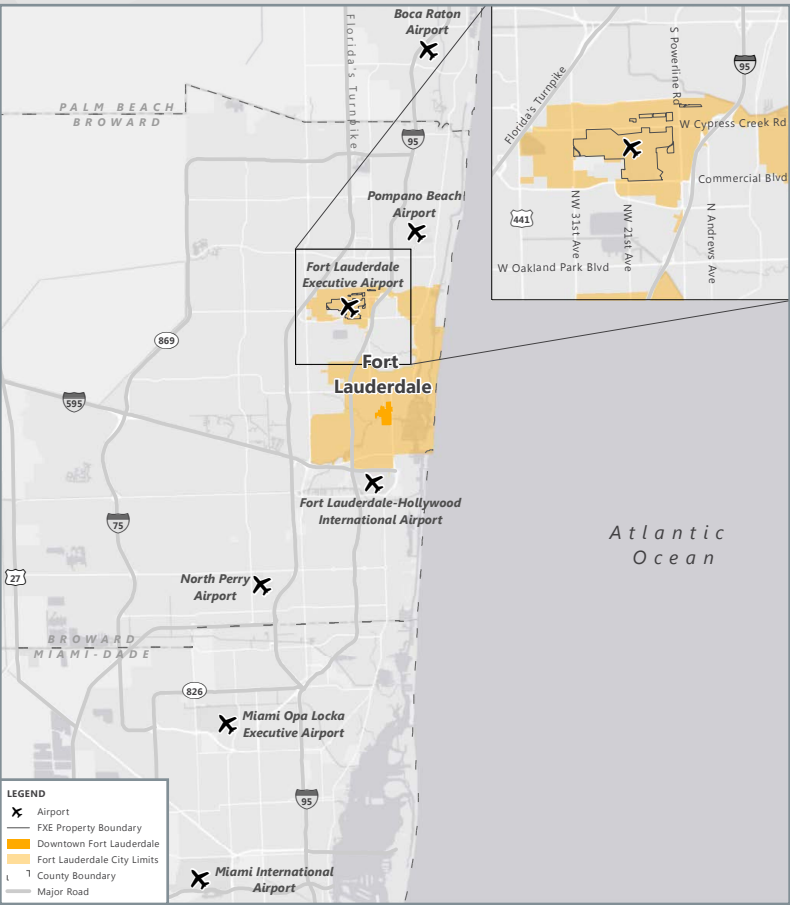
The Airport serves a variety of general aviation needs and offers a 24-hour Federal Aviation Administration (FAA) Air Traffic Control Tower, a U.S. Customs and Border Protection facility, 24-hour Aircraft Rescue and Firefighting services, 24-hour airport security, a Fort Lauderdale Police Department substation, and five main fixed-base operators (FBOs) among other facilities and services that support aircraft fueling and parking, air ambulance, air charter, maintenance, avionics, flight training, and aircraft refurbishing operations.

The FXE Master Plan Update outlines a plan for the provision of future facilities and infrastructure to accommodate the forecast demand through 2037 and is consistent with the standards and methodologies outlined in FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, and the Florida Department of Transportation (FDOT) *Guidebook for Airport Master Planning*.

This summary highlights key elements of the plan’s recommended development program. It is designed for stakeholders to gain an overview of major matters addressed in the detailed Master Plan report. While the Master Plan is a visionary document that sets out a ‘road map’ for the sustainable growth of the Airport, it is not an approval for any specific development or project. In addition, time frames for the projects shown in the plan are flexible and demand driven.

SOURCES: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, OpenStreetMap contributors, and the GIS User Community, December 2016 (basemap); Esri GIS Data, 2011 (roadways); 2016 TIGER/Line Shapefiles: Landmarks, Florida, December 2016 (airports); City of Fort Lauderdale GIS Department , January 2017 (FTL and FXE boundar ).

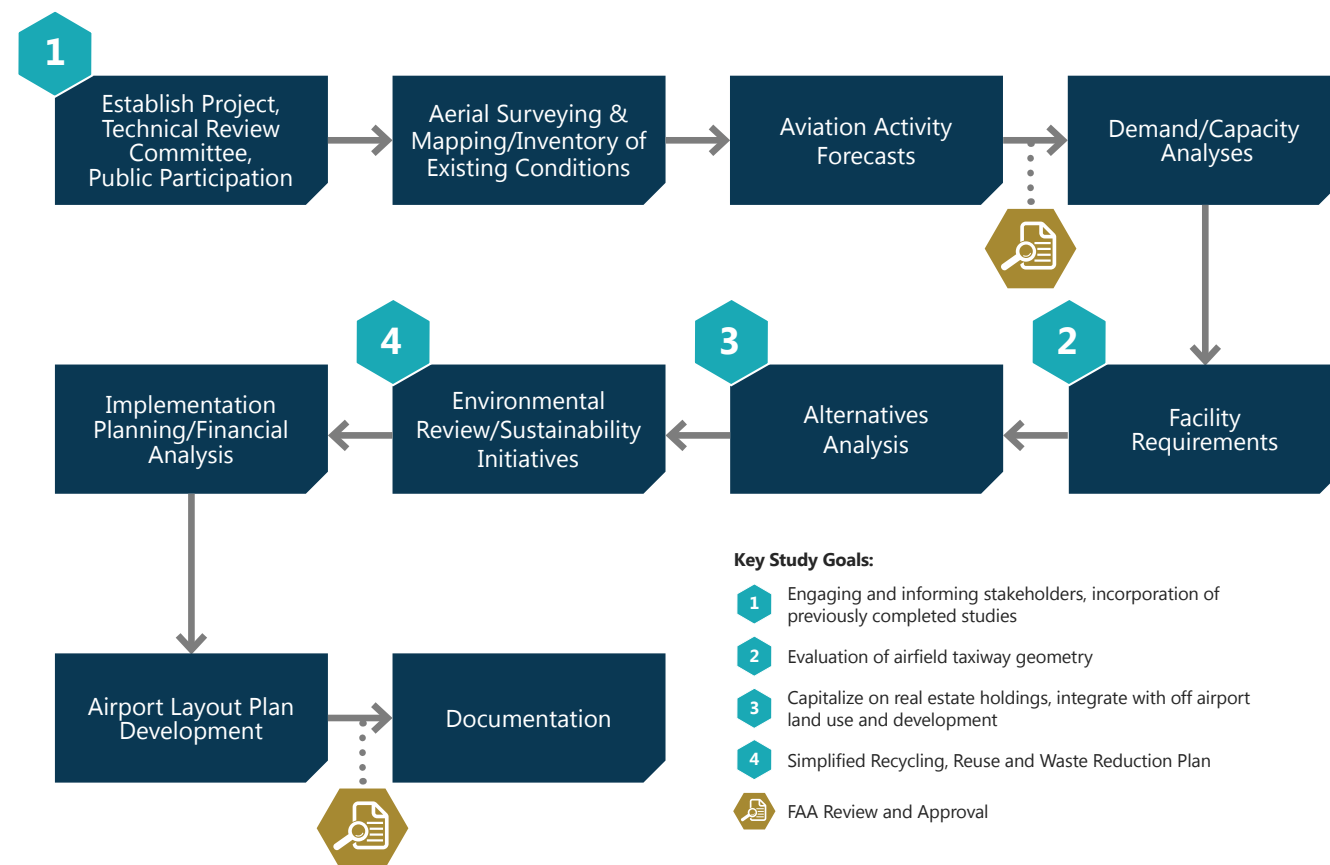
PREPARED BY: Ricondo & Associates, Inc., January 2017.



## THE MASTER PLANNING PROCESS

The FAA recommends airport master plans to be updated every five years or as necessary to keep the Master Plan current. FXE's last master plan update was published in July 2009. Since that study, the Airport has completed several projects and the state of the general aviation industry has evolved over the years. The update of the Master Plan is needed to reflect new and future facilities, reassess future projections of airport activity, and plan for an appropriate mix of land uses to support projected aviation and non-aviation needs.

This Airport Master Plan Update for FXE was prepared in accordance with the requirements of the FAA and FDOT and accounts for the needs of the City of Fort Lauderdale. The Master Plan Update and the associated Airport Layout Plan (ALP) drawing set were developed based on the criteria set forth in the FAA Advisory Circulars (AC) 150/5070-6B, Change 1, *Airport Master Plans*, AC 150/5300-13A, *Airport Design*, and the Florida Department of Transportation (FDOT) Guidebook for Airport Master Planning. The study began in March 2017 and the aviation activity forecasts were completed and approved by the FAA in June 2017. The final technical analysis for the Master Plan Update was completed in Summer 2018. After review by stakeholders, the final technical report and an Airport Layout Plan (ALP) drawing were presented to the City of Fort Lauderdale in Winter 2018. The process for the FXE Master Plan, as well as the key study goals are summarized below.



## AVIATION ACTIVITY FORECASTS

FXE is classified as a national General Aviation (GA) airport by the FAA. The FAA defines a national GA airport as an airport that "supports the national and state system by providing communities with access to national and international markets in multiple states and throughout the United States" and has "a very high level of activity with many jets and multiengine propeller aircraft, averaging about 200 total based aircraft, including 30 jets." FXE exceeds these standards for a national GA airport. FXE also serves as a reliever airport to Fort Lauderdale-Hollywood International Airport (FLL). The Airport is served by five FBOs, four of which focus their marketing on higher-end business jet operations and clients. These FBOs play an important role in generating and sustaining aviation activity demand at the Airport. In addition, a U.S. Customs and Border Protection facility is readily available at FXE, which allows the Airport to accommodate international traffic from international points without U.S. CBP preclearance facilities.

The Airport accommodated between 148,923 and 199,788 aircraft operations between FY 2006 and FY 2016. In FY 2016, it accommodated 158,306 operations, including 144,627 GA operations (110,717 itinerant and 33,910 local), 13,426 itinerant air taxi operations, and 253 military operations (201 itinerant and 52 local), as reported by the Airport.

Aircraft operations are expected to increase from 158,306 in FY 2016 to approximately 188,300 in FY 2037, a Compounded Average Annual Growth Rate (CAGR) of 0.9 percent. The critical aircraft at the Airport currently falls within the FAA Aircraft Design Group (ADG) III category (wingspan of 118 feet or less). The FAA defines the critical aircraft as "the most demanding aircraft type or grouping of aircraft with similar characteristics that make regular use of the airport. Regular use is defined as 500 annual operations."

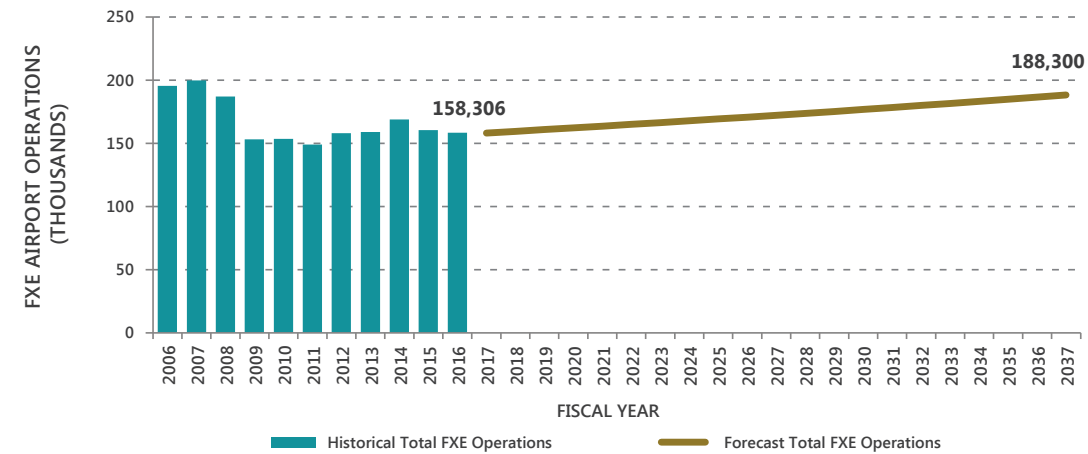
Currently, approximately 59.5 percent of operations at the Airport are by ADG I aircraft (wingspan of 49 feet or less), 40.0 percent are by ADG II aircraft (wingspan of 79 feet or less), and 0.5 percent of operations are by ADG III aircraft. The ADG III aircraft account for approximately 600 annual operations at the Airport and is expected that the critical aircraft will remain an ADG III aircraft throughout the forecast period. Representative ADG III aircraft that are expected to operate at the Airport in the future include Gulfstream V/G500, Bombardier BD-700 Global Express, and Bombardier BD-700 Global 5000 aircraft.

<sup>1</sup> Air carrier operations are defined by the United States Department of Transportation as being operations carrying passengers or cargo on aircraft with more than 60 seats or a maximum payload capacity of more than 18,000 pounds.

<sup>2</sup> Airport Noise Monitoring and Management System (ANOMS) for the period extending from December 1, 2015 to November 30, 2016.

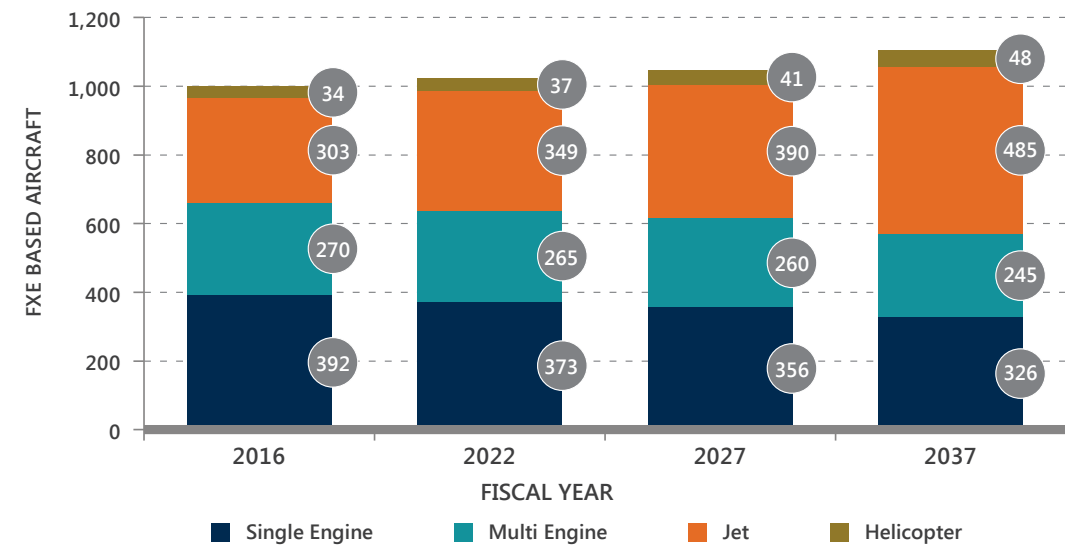


## AIRPORT OPERATIONS (ANNUAL)



Throughout the forecast period, total based aircraft are forecast to increase from 999 aircraft in FY 2016 to 1,104 aircraft in FY 2037, a Compounded Average Annual Growth Rate (CAGR) of 0.5 percent. Jet based aircraft are forecast to be the fastest growing category of based aircraft, growing at a CAGR of 2.3 percent.

## FXE BASED AIRCRAFT (ANNUAL)



## COMPOUND ANNUAL GROWTH RATE FY 2016 – FY 2037

SINGLE ENGINE	(0.9%)	MULTI ENGINE	(0.5%)	JET	2.3%	HELICOPTER	1.7%
				TOTAL	0.5%		

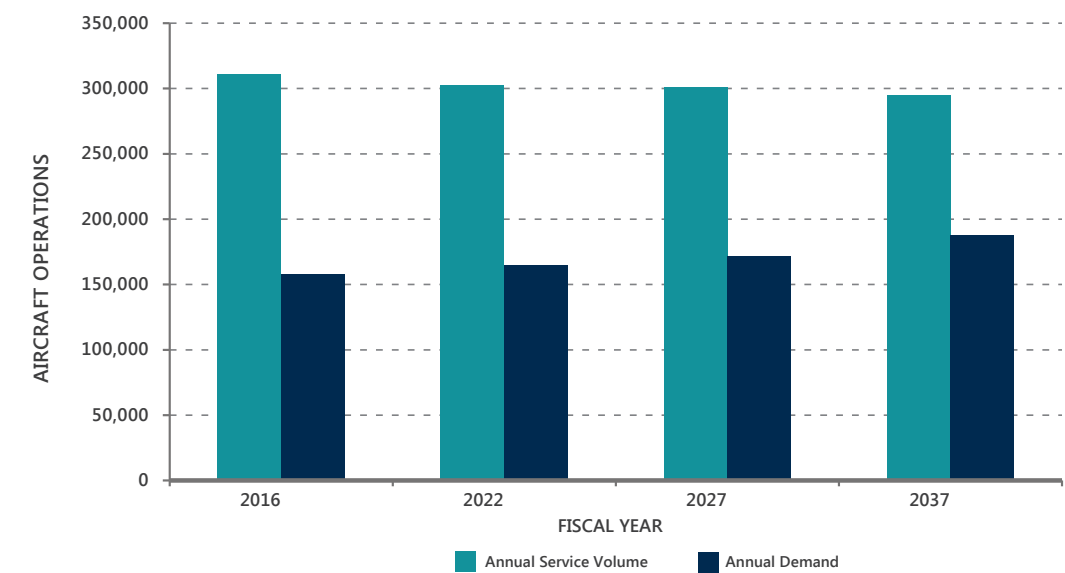
Note: Fiscal Year (FY) is defined as the period commencing on October 1 and ending on September 30.

Sources: City of Fort Lauderdale Transportation and Mobility Department, December 2016 (Historical); 2016 FAA Aerospace Forecast, January 2017; Ricondo & Associates, Inc. (Forecast), May 2017.

## FACILITY REQUIREMENTS

An airfield demand/capacity analysis was conducted to assess the capability of the airfield facilities at FXE to accommodate existing and forecast aircraft operations through the planning horizon (2037). The number of runways, their orientation, the locations of runway intersections, and the lateral separation between parallel runways are primary factors affecting airfield capacity. The number of runway exits, their locations, and type (high-speed, acute angle, 90-degree, etc.) also affect the capacity of the airfield. The airfield demand/capacity analysis indicates that the existing runway layout is adequate to accommodate existing (2016) and future (through 2037) operational demand at the Airport.

## ANNUAL SERVICE VOLUME (CAPACITY) VERSUS ANNUAL DEMAND RELATIONSHIP



NOTE: As defined in FAA Advisory Circular (AC)150/5060-5, Airport Capacity and Delay, Change 2, Annual Service Volume (ASV) "is a reasonable estimate of an airport's annual capacity."

SOURCES: Federal Aviation Administration, Advisory Circular 150/5060-5, Airport Capacity and Delay, Change 2, December 1, 1995; Ricondo & Associates, Inc., November 2016.

The Master Plan also proposes the extension of Runway 9-27 from 6,002 feet to 7,000 feet to provide the necessary takeoff length required to operate most types of business jet aircraft without imposing significant weight penalties or requiring intermediate fuel stop when flying nonstop to medium or long-haul destinations. Currently, the 6,002-foot runway length requires many of the existing general aviation jet aircraft operating at FXE to incur weight penalties or make a refueling stop due to the current runway length limitation. This results in inefficient operations and lost revenues to the operators, tenants, and ultimately, the Airport.

Similarly, the facility requirements analyses indicate that an additional 60 acres of land (on-airport) would be required to accommodate the projected general aviation traffic demand at the Airport. This land area is required to accommodate aircraft hangar storage, aircraft maintenance, and aircraft parking apron requirements through 2037.

## PROPOSED AIRPORT DEVELOPMENT PROGRAM

One of the goals of the master planning process is to identify the best options available for meeting the future development needs at the Airport. Based on the results of the master planning analysis and coordination with stakeholders, a recommended Airport Development Program was selected.

The recommended Airport Development Plan shown on pages 8 and 9 represents in conceptual form future development that should be implemented if growth were to occur as forecast. The Airport Development Program represents one vision of how facilities could be developed through 2037. Actual development may not mirror that shown on the Airport Development Program due to factors such as changing demand, funding availability, or future environmental constraints. However, the Airport Development Program serves as a guideline for the future layout of FXE. The Airport Development Program was derived on the ability to incrementally achieve the preferred ultimate plan development concept.

THE AIRPORT DEVELOPMENT PROGRAM IS COMPRISED OF THE FOLLOWING KEY PROJECTS:

### AIRFIELD IMPROVEMENTS:

- A1 Aircraft Maintenance Run-up Area Expansion:** This project consists of expanding the existing maintenance run-up area, adding a blast fence around it, and constructing new access taxiways. The expanded and improved maintenance run-up area will allow multiple aircraft to conduct maintenance activities, while also reducing noise propagation.
- A2 Runway Guard Lights Installation:** This project consists of installing runway guard lights (RGLs) at 9 locations across the airfield to assist pilots in identifying runway crossings. This project will serve as a mitigation measure for many nonstandard taxiway-to-runway entrances to comply with FAA AC 5300-13A, Airport Design. The RGLs enhance the standard visual cues and provide added surface safety during all-weather conditions.
- A3 Runway 9 end south run-up area relocation:** The extension of Taxiway E will impact the run-up area located south of the Runway 9 end; as a result, this run-up area will be relocated south of Taxiway E, east of its current location.
- A4 Runway 31 End Bypass Taxiways Construction:** This project consists of constructing bypass taxiways on either side of Runway 13-31, at the Runway 31 end, to provide for a more efficient flow of traffic between the south and east areas of the Airport. The Runway 31 end bypass taxiways will provide an additional runway crossing, as well as an additional runway entrance, to reduce departure queue congestion at the runway ends.
- A5 Runway 27 End Access and South Run-up Area Improvements:** This project consists of constructing a bypass taxiway on the south side of Runway 9-27, at the Runway 27 end, to provide for a more efficient flow of traffic between the north and east areas of the Airport. Additionally, existing Taxiway E will be realigned to provide a 90-degree runway entrance taxiway. The existing run-up area and blast fence located south of the Runway 27 end will be expanded to accommodate up to four piston aircraft. The Runway 27 end bypass taxiway will provide an additional runway crossing, as well as an additional runway entrance, to reduce departure queue congestion at the runway end.
- A6 Runway 9 End South Taxiway Improvements:** This project consists of realigning the taxiway network south of the Runway 9 end into perpendicular taxiways to reduce pilot confusion and to increase situational awareness and safety.

- A7 Runway 9 Extension including Parallel Taxiways:** This project consists of extending Runway 9 and associated parallel taxiways, F and E, by 1,000 feet. The runway extension will reduce payload penalties for some larger jet aircraft and/or increase aircraft range. This project will also include the preparation of an Environmental Assessment (EA).
- A8 Taxiway G Realignment (between Taxiways F and A):** Taxiway G will be realigned into a perpendicular taxiway to meet FAA's taxiway design standards.
- A9 Taxiways L/P Realignment and Runway 9 end North Run-up Area Construction:** This project consists of realigning existing Taxiways L and P into parallel taxiways. Additionally, a run-up area will be constructed to accommodate a growing number of piston aircraft in the northwest corner of the Airport.
- A10 Taxiway Foxtrot Relocation:** This project consists of the relocation of the eastern section of Taxiway Foxtrot approximately 95 feet further north in order to meet FAA design criteria. A new run-up area will also be constructed as part of the project.

### GENERAL AVIATION/FIXED BASED OPERATOR FACILITY DEVELOPMENT:

The proposed general aviation/fixed based operators facilities shown on the Airport Development Plan are conceptual. The Airport will lease these tracts of land to FBOs and the FBOs will be responsible for developing the land for general aviation facilities within their leaseholds. These facilities generally include a building with public/pilot service areas, offices, hangar(s), apron, and auto parking.

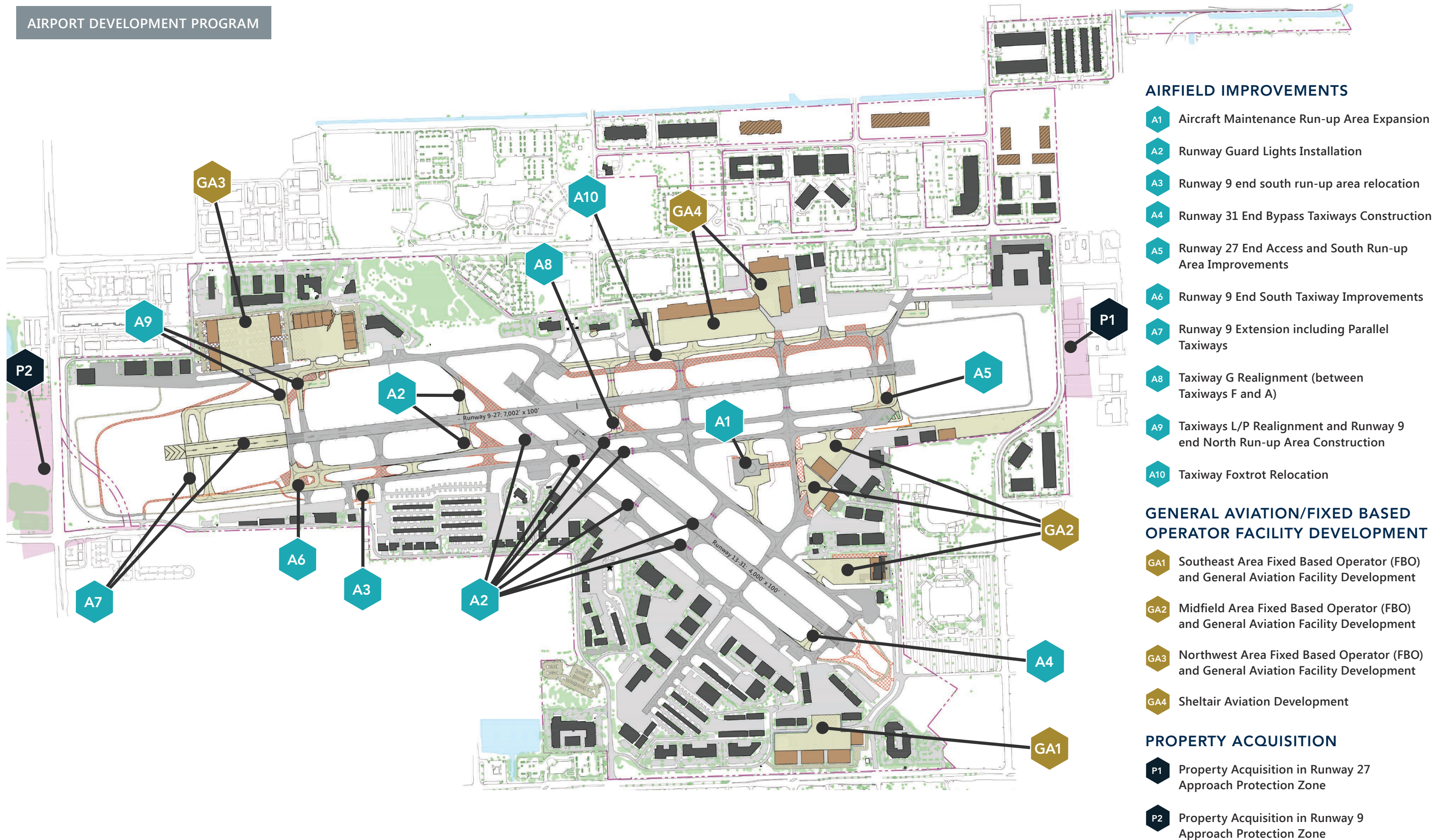
- GA1 Southeast Area Fixed Based Operator (FBO) and General Aviation Facility Development:** This project proposes the redevelopment of a parcel of vacant land along W. Commercial Boulevard / NW 50th Street to accommodate additional aircraft storage hangar and apron parking. The area available for development is approximately 7.6 acres.
- GA2 Midfield Area Fixed Based Operator (FBO) and General Aviation Facility Development:** This project includes the redevelopment of the existing U.S. Army Reserve Engineering Battalion Post parcel, whose lease will expire in 2023 and the portion of the triangle area east of Taxiway D to accommodate additional aircraft storage hangar and apron parking.
- GA3 Northwest Area Fixed Based Operator (FBO) and General Aviation Facility Development:** This project proposes the redevelopment of existing T-hangars to provide a combination of corporate aircraft hangar and apron storage.
- GA4 Sheltair Aviation Development:** Before the Master Plan was initiated, design was already underway for the development of a 180,000 square foot aircraft hangar complex on the north side of the Airport.

### PROPERTY ACQUISITION:

- P1 Property Acquisition in Runway 27 Approach Protection Zone:** This project consists of acquiring approximately 5 acres of additional property east of the Airport. This project would ensure the protection of people and property inside the proposed Runway Protection Zone (RPZ).
- P2 Property Acquisition in Runway 9 Approach Protection Zone:** This project consists of acquiring approximately 21 acres of additional property west of the Airport. This project would ensure the protection of people and property inside the proposed RPZ.



## AIRPORT DEVELOPMENT PROGRAM





PROGRAM PHASING

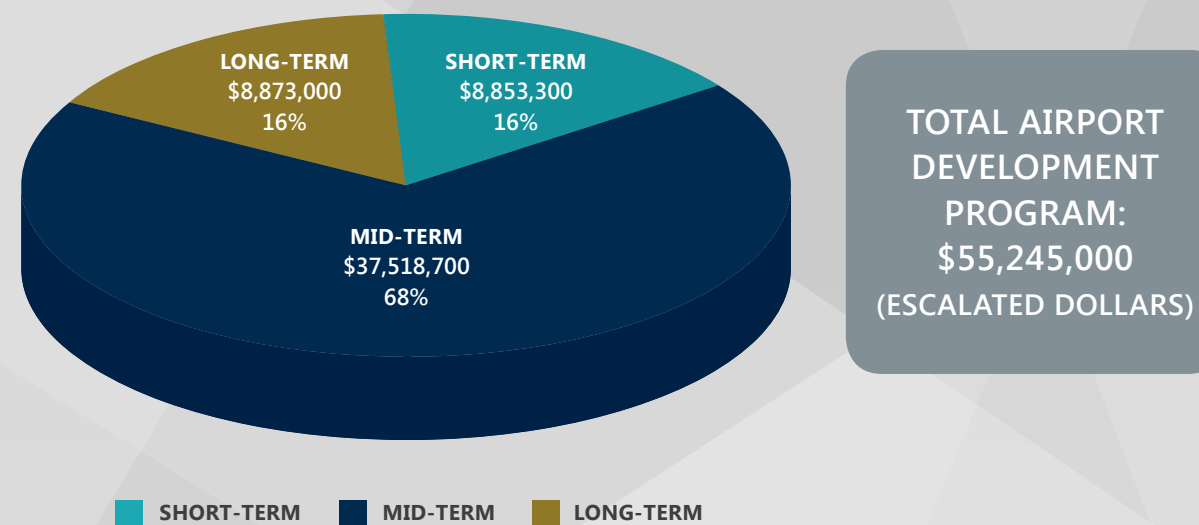
Actual growth and the requirement for delivery of airport infrastructure and capacity development is dependent on the state of the aviation industry, prerequisite projects, anticipated development costs, and global economic trends. This is not expected to affect the development strategies presented in this Master Plan; however, it will affect the timing of investments in elements of the plan. Phasing also involves financial considerations and a logical progression of development that will allow critical projects to be in place to meet demand. The Implementation Plan divides into three phases (note that the adjacent table includes the proposed Airport Development projects illustrated on Pages 8 and 9, future airfield pavement rehabilitation and improvement projects, projects included in the existing Capital Improvement Program (CIP), and project enablers such as environmental studies):

<b>SHORT-TERM IMPROVEMENTS</b> FY2017 TO FY2021	<ul style="list-style-type: none"><li>- Taxiway Intersection Improvements</li><li>- Runway 9 Extension Benefit-Cost Analysis</li><li>- Runway 9 Extension Environmental Assessment</li><li>- Runway Guard Lights Installation (A2)</li><li>- Aircraft Maintenance Run-up Area Expansion, Blast Fence, and Access Taxiways (A1)</li><li>- Existing Taxiway G Pavement Rehabilitation</li><li>- Runway 9 End (South) Run-up Area Relocation (A3)</li><li>- Runway 31 End Bypass Taxiways and Runway 27 End Access and Run-up Area (South) Improvements (A4 and A5)</li><li>- Taxiway Foxtrot Relocation (A10)</li></ul>
<b>MID-TERM IMPROVEMENTS</b> FY 2022 TO FY 2026	<ul style="list-style-type: none"><li>- Runway 9 End Improvements (A6)</li><li>- Runway 13-31 Pavement Sealing</li><li>- Taxiways B and Q Realignment</li><li>- Runway 9 Parallel Taxiways Extension and Service Road Realignment (A7)</li><li>- Runway 9 Extension (1,000 Feet West) (A7)</li><li>- Runway 9-27 Pavement Rehabilitation</li><li>- Taxiway G Realignment between Taxiways F and A (A8)</li><li>- Taxiways L/P Realignment and Runway 9 End Run-up Area (North) (A9)</li><li>- Taxiway E Pavement Rehabilitation</li><li>- Taxiway Renaming - Design</li><li>- Property Acquisition in Runway 27 Approach Protection Zone (P1)</li><li>- Removal of Excess Shoulder/Fillet Pavement (Airfield-Wide)</li></ul>
<b>LONG-TERM IMPROVEMENTS</b> FY 2027 TO FY 2037	<ul style="list-style-type: none"><li>- Property Acquisition in Runway 9 Approach Protection Zone (P2)</li><li>- Taxiway Renaming - Construction</li><li>- Runway 13-31 Pavement Rehabilitation</li><li>- Airport Master Plan Study</li></ul>

Although these three phases estimate the general period (in fiscal years) anticipated for future Airport improvements, periodic reevaluation of the proposed timing will be necessary to accommodate changing development needs or priorities and to adjust for other unforeseen factors. It is also possible that other improvements not identified in this implementation plan may be required to support Airport operations and/or to improve operational efficiency.

## FINANCIAL PLAN

The total cost of the projects included in the recommended Airport Development Program is approximately \$55.2 million in escalated dollars. A financial plan was developed to determine the financial feasibility of implementing the Airport Development Program. Separate from the projects included in the Airport Development Program, FXE plans to undertake several additional projects as defined in its Capital Improvement Plan (CIP). For the purposes of this financial analysis, projects included in the Airport Development Program were combined with projects included in the existing CIP to develop a total long-term CIP from which to assess the financial feasibility of the Airport Development Program.



For purposes of the Master Plan financial analysis, a specific implementation schedule was assumed only to demonstrate financial feasibility. The actual implementation schedule for the improvements identified in the Master Plan will be defined by development triggers and demand growth rather than specific calendar years.

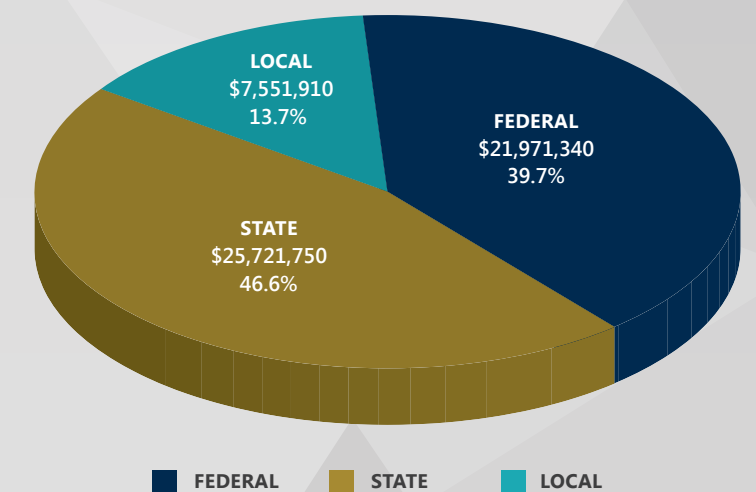
Airport development is often funded by a combination of public and local sources. Major sources may include the FAA's Airport Improvement Program (AIP), FDOT and local funding programs, Airport revenue, Airport user charges, and private investment. Public grants and airport revenues provide most of the capital funding, while user charges generally cover an airport's operating expenses and the debt service for any specially financed projects.

- **Federal Funding Sources:** The U.S. Congress has long recognized the need to develop and maintain a system of aviation facilities across the nation for national defense and the promotion of interstate commerce. Various grants-in-aid programs to public airports have been established over the years for this purpose. The primary sources for federal aviation-related funds are those associated with the AIP program, which are distributed by the FAA. The majority of the airfield-related improvements will be eligible for AIP funding. Approximately \$22.0 million in escalated project costs are expected to utilize funding from the federal entitlement and discretionary programs.

Federal grants are expected to play a major role in the financing of the Airport's projected capital expenditures. Historically, most airfield safety and capacity projects at the Airport have been eligible for 90 percent AIP participation.

- **State Funding Sources:** In support of the State of Florida airport system, the FDOT also participates in the development of airport improvements. Presently, the State will contribute as much as 50 percent of the local share on federally eligible projects for airports in Florida. The State will also provide up to 100 percent funding for security projects and up to 80 percent funding for the development of facilities that are otherwise ineligible for FAA AIP grants, such as hangar development, pay-parking areas, and fuel tanks/farms. Approximately \$25.7 million in escalated project costs are expected to receive state funding.
- **Local Funding Sources:** The balance of project costs (i.e., after consideration of federal and state funding sources) must be funded through FXE revenues. Historically, this has occurred through the utilization of FXE cash reserves to the extent possible, with the remaining costs financed through loans and grants. Approximately \$7.5 million in escalated project costs are expected to be funded with local funds. These funds must be secured from net operating revenues at the Airport.

Cash flow derived through the operation of the Airport is adequate to annually fund the projected CIP during the entire 20-year planning horizon, which is based on the assumed funding sources and conservative projections of operating expenses and operating revenues. After reviewing the financial cash flows, there is adequate cash and net remaining revenues to undertake the projects in the CIP. It is not anticipated that any long-term or short-term debt will be needed to fund any capital projects. As implementation of the Airport Development Program progresses, FXE Airport staff should assess the financial feasibility of each project included in the program.





ENVIRONMENTAL OVERVIEW

A general overview of the potential environmental consequences and environmental review requirements associated with the capital improvement projects recommended as part of the Airport Development Program was completed as part of this Master Plan Update. Prior to project implementation, the potential environmental effects of these projects must be reviewed in accordance with the National Environmental Policy Act (NEPA) requirements and implementing guidance in FAA Orders 1050.1F, Environmental Impacts: Policies and Procedures, and 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, or the latest versions of those Orders at the time of environmental processing.

A project is considered ready for environmental review pursuant to NEPA when construction is expected to be initiated within a few years (i.e., as a general rule of thumb, construction should begin within three to five years of the FAA’s issuance of a finding). The level of environmental documentation required (i.e. categorical exclusion, environmental assessment, or environmental impact statement) for a proposed action depends on the type of project(s), the potential environmental effects of the project(s), and the types of environmental resources that could be affected.

- **Categorical Exclusion (CATEX):** FAA Order 1050.1F lists projects that typically do not result in significant adverse impacts. These projects are eligible for a categorical exclusion if no extraordinary circumstances are involved. A CATEX requires a review of impacts and completion of forms provided by the FAA.
- **Environmental Assessment (EA):** The airport sponsor is required to prepare an EA for projects that are not eligible for a categorical exclusion; the EA documents whether the proposed action has the potential to result in a significant adverse impact. The EA presents a discussion and evaluation of the potential environmental effects. If no significant impacts would be expected to occur, or it is demonstrated that any potential impacts could be mitigated to a level below significance, then the FAA may issue a Finding of No Significant Impact (FONSI). If the adverse environmental impacts cannot be mitigated below a level of significance, then further analysis, in the form of an Environmental Impact Statement (EIS), may be required.
- **Environmental Impact Statement (EIS):** The FAA prepares an EIS, which presents detailed analyses of the environmental effects of a proposed action. The EIS process provides for full public disclosure of significant environmental effects, practicable alternatives that would avoid or minimize adverse effects, and mitigation for those impacts that cannot be avoided.

The capital improvement projects included in Airport Development Program are all eligible for categorical exclusion under NEPA, pending confirmation that no extraordinary circumstances exist that would trigger the need for an EA or EIS. Extraordinary circumstances may involve effects on endangered and threatened species, for example.

The table on the next page lists the capital improvement projects and identifies the environmental resource categories that have the potential to be affected by each project, and would, therefore, require further analysis during future environmental review.

PROJECT NAME	ENVIRONMENTAL RESOURCES PRESENT <sup>1/</sup>				ENVIRONMENTAL RESOURCES FOR WHICH A CHANGE IN ACTIVITY OR FACILITY MAY REQUIRE ASSESSMENT <sup>1/</sup>		
	BIOLOGICAL RESOURCES	FLOODPLAINS	SURFACE AND GROUND WATER	HAZARDOUS MATERIALS	AIR QUALITY/ CLIMATE <sup>2/</sup>	NOISE COMPATIBILITY AND LAND USE	SURFACE TRAFFIC
Installation of Runway Guard Lights	Yes	Yes	No	No	Not Likely	Not Likely	Not Likely
Construction of New Runway Exits/Taxiway Connectors	Yes	Yes	Yes	No	Likely	Likely	Not Likely
Demolition of Existing Taxiways	Yes	Yes	Yes	No	Likely	Not Likely	Not Likely
Extension of Runway 9 and Existing Taxiways F and E	Yes	Yes	Yes	No	Likely	Likely	Not Likely
Expansion/Relocation of Run-Up Areas	Yes	Yes	Yes	No	Likely	Not Likely	Not Likely
Removal of Excess Pavement	Yes	Yes	Yes	No	Likely	Not Likely	Not Likely
Shift of Taxiway F to the North	Yes	Yes	Yes	No	Likely	Likely	Not Likely
Future Hangar Construction	No	Yes	Yes	Yes	Likely	Likely	Not Likely
Future Passenger Terminal/Office Space Construction	No	No	Yes	Yes	Likely	Likely	Likely
Apron Expansion (Sheltair North)	Yes	Yes	Yes	No	Likely	Likely	Not Likely
Apron Expansion (Northwest Area)	Yes	Yes	Yes	No	Likely	Likely	Not Likely
Apron Expansion (Midfield – East)	Yes	Yes	Yes	Yes	Likely	Likely	Not Likely
Apron Expansion (Midfield – West)	Yes	Yes	Yes	No	Likely	Likely	Not Likely
Apron Expansion (Southeast Area)	Yes	No	Yes	No	Likely	Likely	Not Likely
Construction of Landscaped Areas	No	Yes	No	No	Not Likely	Not Likely	Not Likely
Expansion of Administrative Building	Yes	No	Yes	No	Likely	Not Likely	Likely
Expansion of Aviation Equipment Services Building	Yes	Yes	Yes	No	Likely	Not Likely	Not Likely



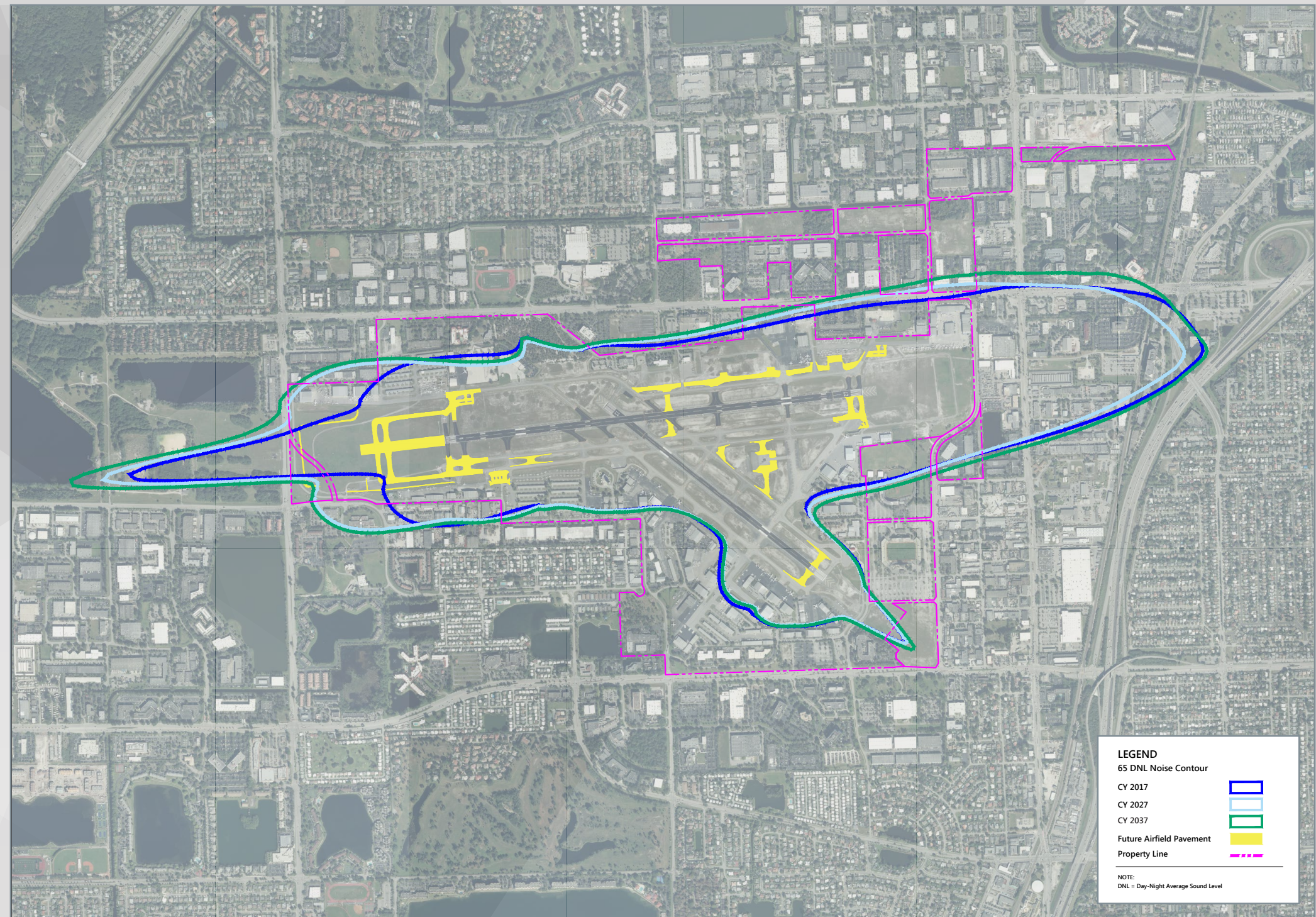
## EXISTING AND FUTURE NOISE CONTOURS (65 DNL)

A noise analysis was prepared to identify the changes in noise exposure from the existing 2017 conditions to future conditions in 2027 and 2037 with the capital improvement projects (specifically the Runway 9 extension) in place. In all three analyses, no residences were identified as being located within the DNL 65 dBA contour. Additionally, noise-sensitive facilities being identified within the DNL 65 dBA contour and above were the same under the two future analyses as under existing conditions, with the exception of one new noise-sensitive facility being located within the DNL 65 dBA contour in 2027 and 2037 that is not under existing conditions.

The noise contours were prepared for informational and planning purposes only, to guide future consideration of NEPA documentation requirements.

As the anticipated timing for undertaking the capital improvement projects is further evaluated and refined through subsequent advanced planning and decision making, the environmental factors identified in this section as well as other emerging environmental issues should be reflected in the NEPA processing strategy. Ongoing collaboration with FAA regarding updates and refinements to future project assumptions, such as timing and anticipated impacts, will be critical to refining a NEPA processing strategy and associated timeline.

SOURCES: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, OpenStreetMap contributors, and the GIS User Community, June 2018 (basemap); HMMH Report for Fort Lauderdale Executive Airport Part 150 Update, Draft 2015 and 2020 Noise Exposure Maps, April 2015 (flight tracks); City of Fort Lauderdale, Fort Lauderdale Executive Airport, Airport Noise and Operations Monitoring System (ANOMS) data, March 2018; Federal Aviation Administration, Operational Network (OPSNET), March 2018 (operations).





PREPARED BY:

