

Punta Gorda Airport Master Plan Update

Final Executive Summary



Prepared for:

The Charlotte County Airport Authority



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INTRODUCTION

Punta Gorda Airport (the Airport) is an important transportation and economic asset for Charlotte County and the surrounding region. It provides low-cost, non-stop air service to approximately 40 destinations in the United States and is one of the fastest growing airports in the United States in terms of passengers served. This growth has resulted in significant economic benefits to Charlotte County in terms of jobs and visitor spending. It is projected that these benefits will increase in future years as the Airport gains additional flights and obtains air service to additional destinations.

The Airport also accommodates the operational requirements of approximately 400 general aviation aircraft based at the airfield. These aircraft serve the business, training and personal use needs of pilots in Charlotte County and surrounding communities.

In addition to serving aviation uses, the airport is also home to numerous non-aviation businesses that provide jobs, income and services to residents of Charlotte County and the surrounding area. These businesses contribute to the economic growth of the region.

In response to the Airport's growth, the Charlotte County Airport Authority (the Authority) initiated a Master Plan Update to ensure that the Airport can proactively address and accommodate demands placed on the facility during the next twenty-years. This master plan update examines existing facilities and projects future needs based upon forecasts of passengers, aircraft operations and based aircraft.

All forecasts are subject to variances regarding levels and timing, therefore the study also established and used Passenger Activity Levels (PALs) to assess future requirements for passenger related facilities such as the passenger terminal, parking and terminal access roads. These PAL's provide airport management with the data needed to respond to various levels of demand regardless of when they actually occur.

The goal of the Master Plan Update is to provide the Authority with a flexible plan that guides future development in a cost effective and responsible manner. The Master Plan Update consists of a technical report and a separate group of drawings that is referred to as an Airport Layout Plan drawing set. These drawings depict all development proposed by the Master Plan Update in accordance with design standards established by the Federal Aviation Administration (FAA). The drawing set must be reviewed and approved by the FAA before the development depicted on the plans can become eligible for Federal funding. FAA approval of the drawings indicates that the agency finds the proposed airport development to be safe, efficient and designed in accordance with the agency's design standards.

The findings of the Master Plan Update are summarized on the following pages. Readers interested in the details of the plan should refer to the technical report that fully explains the rationale for all proposed development. Readers may also refer to the ALP drawing set to see detailed illustrations of all proposed development.





Study Funding

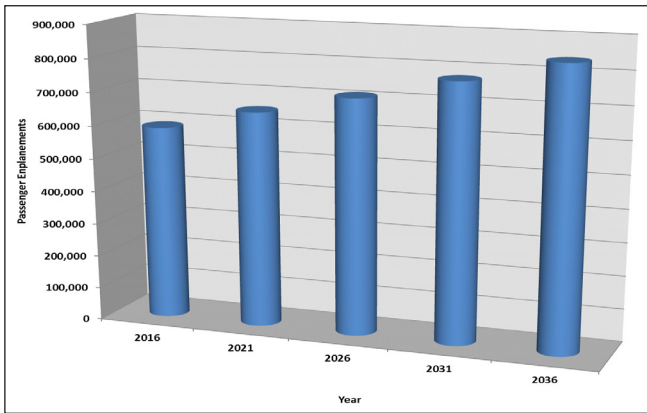
The Master Plan Update was funded through grants from the FAA's Airport Improvement Program, the Florida Department of Transportation's (FDOT's) Aviation Grant Program and airport funds. No general tax revenues were used in the preparation of this study.

Forecasts

The basis for the development proposed by the Master Plan Update are forecasts of future passengers, aircraft operations and the number of general aviation aircraft based at the Airport. New forecasts were not developed for the study. The study used the FAA's projections of activity for each of these items. The FAA's forecast is referred to as the Terminal Area Forecast (TAF) and is described below.

Passenger Enplanements

A forecast of passenger enplanements is used to assess the capacity of existing passenger related facilities and to determine the facilities required to meet future demand. The forecast indicates that passenger enplanements are projected to increase from approximately 589,000 in 2016 to approximately 841,000 in 2036. This represents an average annual growth rate of 2.1 percent.

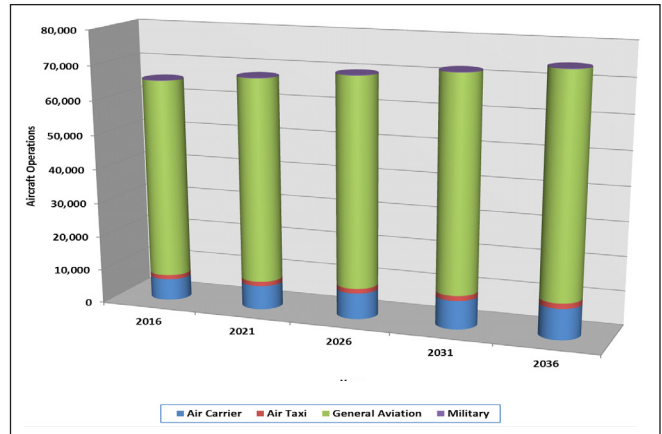


This is a very conservative growth rate in comparison to the recent growth of passengers at the Airport. Therefore, the plan's analyses related to passenger facilities used PALs that extended up 950,000 annual passengers. This enabled the study to account for future passenger volumes higher than projected by the TAF.

Aircraft Operations

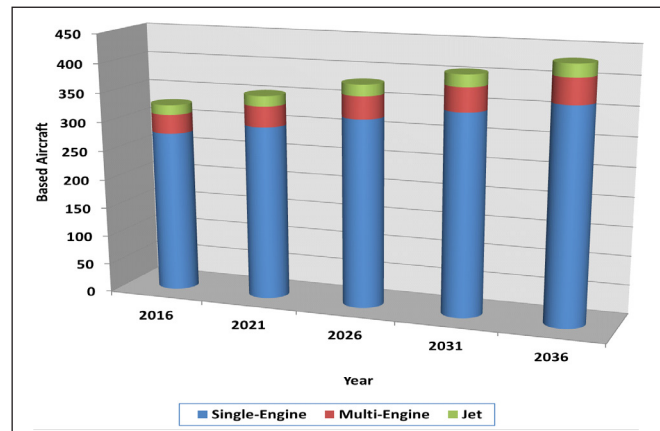
An aircraft operation is defined as one takeoff or one landing. A forecast of aircraft operations is used to assess the ability of the airfield to accommodate future demand without experiencing excessive delay. The forecast was also used to assess demand for items related to aircraft operations such as itinerant aircraft parking aprons and fueling facilities.

The forecast estimates that aircraft operations will increase from approximately 68,000 in 2016 to 74,000 in 2036. This represents an average annual growth rate of 0.5 percent. While this growth rate is low, it is reasonable in the context of recent growth rates for aircraft operations at the Airport.



Based Aircraft

A forecast of based aircraft was used to assess the demand for facilities used by general aviation aircraft. This includes items such as hangars and aircraft ramp. The TAF estimates that future based aircraft will grow to 430 by 2036. The majority of general aviation aircraft are small, single-engine aircraft with smaller percentages of multi-engine and jet aircraft.





STUDY FINDINGS

The findings of the Master Plan Update are summarized on the following pages.

Airfield Facilities

- The existing airfield has sufficient capacity to accommodate projected volumes of aircraft operations through 2036 without encountering unacceptable levels of delay.
- The condition of existing pavements on Runway 4-22 and Runway 15-33 do not meet FDOT’s recommended minimum service levels and should be rehabilitated to bring them up to good condition.
- Non-destructive pavement testing conducted by the FDOT in 2015 and destructive testing conducted by the Authority in 2017 indicate that a portion of Runway 4-22 will require reconstruction due to a loss of structural strength in the runway’s subbase. Furthermore, destructive testing is recommended to confirm the results of previous tests and determine the degree and amount of runway reconstruction required.
- A reconstruction of Runway 4-22 will require it to be closed for a duration that will be determined during design, but will likely be in the range of six to nine months. This will require air carrier operations that currently occur on Runway 4-22 to be shifted to Runway 15-33 in order to maintain air carrier service at the Airport.
- A 593-foot extension is recommended on the south end of Runway 15-33 to provide an operational length of between 6,000 and 6,200 feet that is capable of supporting existing air carrier operations at the Airport during the period that Runway 4-22 is closed for reconstruction. A rehabilitation of Runway 15-33 is also recommended in conjunction with this extension to bring its pavements up to excellent condition.
- A 720-foot extension is recommended on the north end of Runway 4-22 to provide an operational length of 7,920 feet in order to accommodate the future operational requirements of air carriers currently serving the Airport. The timing for this runway extension will depend upon air service decisions by air carriers serving the Airport. The acquisition of 45 acres of adjoining land is proposed in conjunction with or prior to this extension. This will provide the Authority control of land that should be protected from incompatible land uses within the runway protection zone.
- A rehabilitation of Runway 9-27 is recommended to maintain its pavement in good condition. This project will not be eligible for FAA funding and therefore, will need to be funded through airport cash reserves or other sources.
- Several taxiway improvements are recommended to bring existing taxiways into compliance with FAA design standards.
- Holding bays are recommended near the approach end of Runway 22, as well as the approach end of Runway 4 and 33 to accommodate aircraft engine run-ups and pre-flight activities without delaying the movement of other aircraft.
- The rehabilitation of taxiway pavements is recommended on an as-needed basis to keep them in good operational condition and in compliance with FDOT recommended minimum service levels.





- The construction of an airfield perimeter road is recommended for emergency vehicle access, as well as safety and security patrols by airport operations personnel. This road will ensure access to the perimeter of the Airport during periods when saturated soil conditions make access to these areas difficult or impossible by vehicles that do not have four-wheel drive.
- Wetland mitigation is recommended to mitigate potentially hazardous wildlife attractants. These projects will fulfill the recommendations of a previously completed Wildlife Hazard Mitigation Plan.

Terminal Area Projects

- An expansion of the passenger terminal is recommended, when needed, to accommodate growth of passengers. It is recommended that this expansion occur in a north-south orientation consistent with the terminal's current layout. This will minimize impacts to other facilities and minimize walking distance to aircraft parking positions.
- Variations of the terminal alternatives provide for a relocation of rental car facilities inside the passenger terminal and the creation of additional rental car parking.



- In conjunction with an expansion of the passenger terminal, the Master Plan Update recommends a realignment and expansion of the terminal curbside roadway. This will increase the amount of terminal curbside available for loading and unloading of passengers and their baggage.
- Several expansions of parking facilities are recommended, as needed, to accommodate projected growth in demand. These expansions include short-term, long-term and rental car parking. Expansions should occur at locations within walking distance first and then continue in areas that require shuttle services to more remote locations.



- The plan recommends the construction of a 50-space parking lot at the southwest corner of Viking Avenue and Golf Course Boulevard for cell phone users awaiting arriving passengers and Transportation Network Companies (TNC) drivers, such as Uber and Lyft.
- An expansion of the air carrier ramp is recommended in conjunction with a realignment of Taxiway F. This expansion would provide space for one additional air carrier parking position.



General Aviation Projects

- The plan includes the construction of a new general aviation center at the north end of the Airport between Runway 9-27 and Challenger Road. This facility will enable the relocation of the current general aviation center and will allow the existing passenger terminal to be expanded to the south in the future. The plan also recommends the construction of associated aircraft parking apron on the airside, as well as parking and roadway access on the landside.
- In conjunction with the preceding project, the plan recommends the relocation of the existing self-serve fuel facility to the apron of the new general aviation center.



- The construction of a new apron and taxiway access for a future flight school is recommended by the plan. The apron would provide sufficient space to accommodate 26 small general aviation aircraft.
- The plan recommends two additional phases of a program to replace bi-fold doors on existing hangars. A total of 22 hangar doors will be replaced in each phase.
- Rehabilitation of the North Ramp and the South Ramp is recommended to bring pavements up to excellent condition.
- The construction of replacement hangars is recommended by the plan for hangar facilities that will be displaced by terminal curb roadway and/or parking lot expansions. These hangars will be constructed west of the 600 Series T-hangars.
- Three additional aprons for small future flight schools are recommended. Each ramp would provide approximately 11,000 square yards of pavement and would provide aircraft tie-downs for approximately 10 aircraft.
- Construction of additional rows of T-hangars is recommended on the basis of demand and an assessment of their economic viability. The plan identifies suitable locations for these additional T-hangars north of the 600 Series T-hangars and south of 200 Series T-hangars.
- The plan identifies suitable sites for the construction of up to 7 conventional hangars based upon tenant demand. These hangars could be constructed east of the proposed flight schools aprons along Challenger Road. Access to these hangars could be provided via a common taxilane.
- New access from Challenger Road to the 600 Series T-Hangars is recommended to replace existing access via Henry Street that will be closed for Runway 15-33 safety area improvements.

Support Facility Projects

- The construction of a new 5,000 square foot maintenance facility is recommended. This building will have high entrance bays that can properly accommodate existing airfield vehicles and provide sufficient storage for airport equipment.
- The plan recommends the construction of a new fire station devoted solely to airport operations as opposed to the current joint use station which also serves Charlotte County Fire / Emergency Medical Services.
- The plan recommends the construction of office space to accommodate and centralize all airport safety and security functions that will function as a base of operations for the day-to-day safety and security needs of the Airport. The space will also operate as an Emergency Operations Center and would be located adjacent to the current Airport Authority building.





RECOMMENDED PLAN

The Capital Improvement Plan for the Airport is organized into Short-Term (2018 through 2022), Intermediate-Term (2023 through 2027) and Long-Term (2028 through 2037) periods. Projects proposed for each phase are intended to meet existing or projected shortfalls in the capacity of existing facilities or to improve the condition of facilities. Deviations from the levels of demand identified by the study may require certain projects to be moved into earlier or later phases. Changes to project phasing may also result from changes in the priorities of tenants and/or the Authority. The total cost of the plan is approximately 165 million in 2017 dollars. The following paragraphs describe the recommended plan.

Short-Term Projects

Project priorities in the short-term (2018 to 2022) include a focus on the rehabilitation and reconstruction of airfield pavements including the runway extension needed to accomplish subsequent projects, a relocation of the existing general aviation center to the north side of the airfield, the construction of new facilities for flight schools, the construction of high priority terminal area improvements such as additional automobile parking, wetland mitigation projects and various hangar projects.

Short-term projects are listed in the following table along with their estimated costs. The location of these projects on the airfield is shown in the figure to the right.

Short-Term (2018 to 2022) Projects and Estimated Costs		
Project Number	Project Name	Estimated Cost (2017 Dollars)
1	Acquire Avigation Easement in Runway 33 Approach RPZ	\$20,000
2	Acquire Property & Easement in Runway 22 Approach RPZ	\$463,400
3	Extend and Rehabilitate Runway 15-33	\$9,190,750
4	Reconstruct / Rehabilitate Runway 4-22	\$15,999,438
7	Reconfigure Taxiway/Runway Entrance to Runway 15	\$1,464,001
12	Construct Holding Bay Near Approach End of Runway 4	\$1,066,990
20	Wetland Mitigation – Phase 1	\$1,299,195
21	Wetland Mitigation – Phase 2	\$2,017,531
65	Relocate Segmented Circle / Wind Cone	\$23,614
29	Construct Building 111 Replacement & Demolish Existing Structure	\$1,806,229
32	Construct Phase 3 of Existing Long-Term Parking	\$843,502
35	Construct Cell Phone & TNC Parking Lot	\$179,510
51	T-Hangar Door Replacement – Phase 2	\$764,694
52	T-Hangar Door Replacement – Phase 3	\$764,694
53	Construct New GA Taxiways and Apron	\$5,666,357
54	Construct New General Aviation Terminal Apron & Taxiway	\$8,140,078
58	Construct New General Aviation Terminal and Parking	\$2,390,244
59	Construct New Flight School Building and Parking	\$4,952,257
60	Construct Access from Challenger Road to New GA Facilities	\$613,749
61	Relocate Self-Serve Fuel Facility	\$40,252
Total		\$57,706,485

Source: AECOM, 2017.





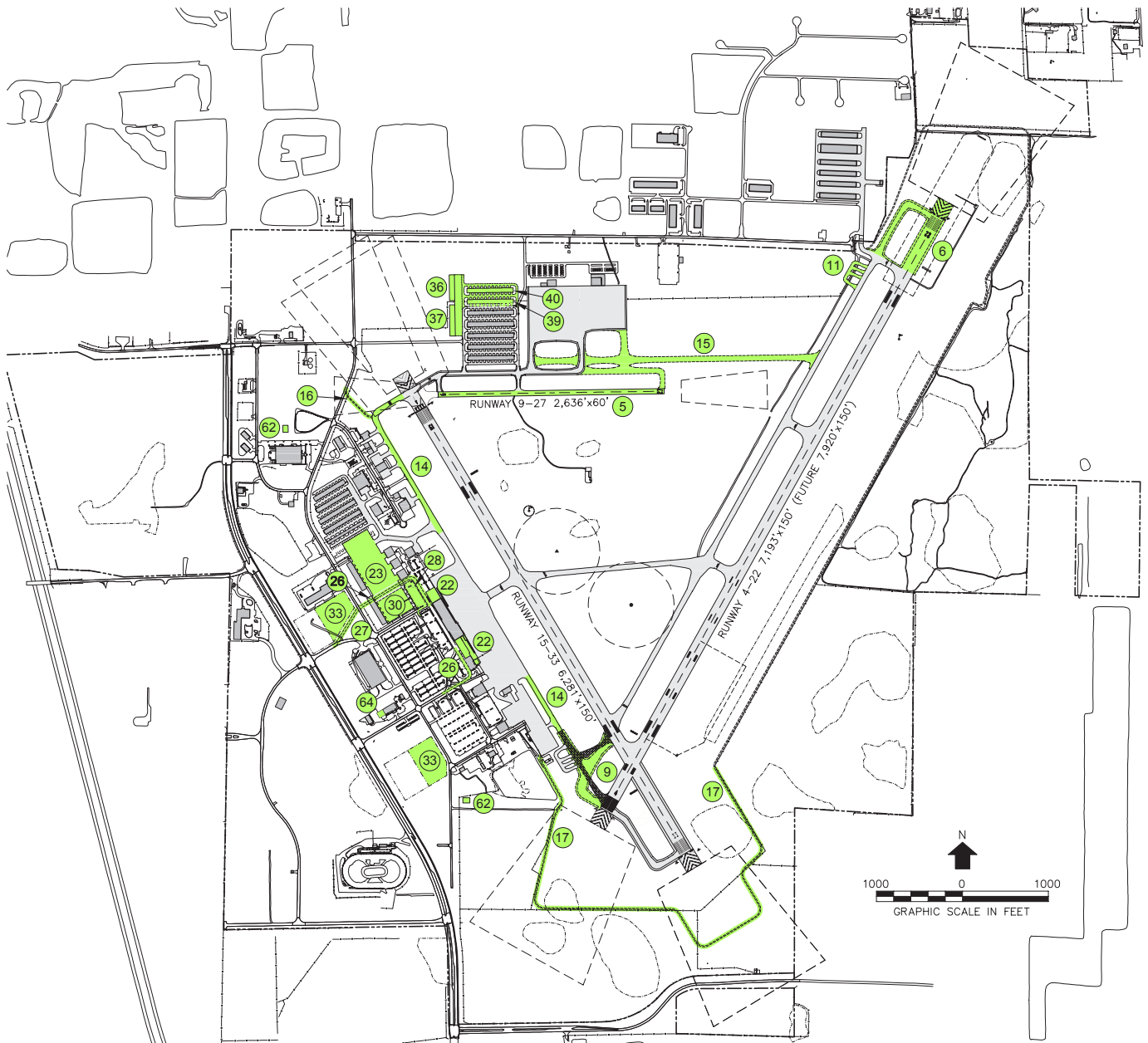
Intermediate-Term Projects

Project priorities in the intermediate-term (2023 to 2027) include a focus on the rehabilitation of taxiway pavements, the construction of replacement hangars for facilities that need to be moved in order to facilitate terminal area improvements, capacity improvements for the passenger terminal, access road and rental car, short and long-term parking, the construction of additional hangars for general aviation aircraft and the construction of support facilities.

Intermediate-term projects are listed in the following table along with their estimated costs. The location of these projects on the airfield is shown in figure to the right.

Intermediate -Term (2023 to 2027) Projects and Estimated Costs		
Project Number	Project Name	Estimated Cost (2017 Dollars)
5	Rehabilitate Runway 9-27	\$569,573
6	Extend Runway 4-22	\$7,115,495
9	Reconfigure Taxiway G (i.e., A / D Intersection)	\$3,282,216
11	Construct Holding Bay at Approach End of Runway 22	\$1,023,474
14	Rehabilitate Taxiway D	\$2,458,916
15	Construct New Taxiway - GA Apron to Taxiway A	\$3,326,883
16	Construct Perimeter Road - Phase 1 (Taxiway D to Henry Street)	\$131,053
17	Construct Perimeter Road – Phase 2A (South Ramp to East Side of Airport)	\$2,513,437
22	Construct Terminal Expansion	\$18,653,911
23	Rehabilitate North Ramp	\$360,069
26	Realign Terminal Access Road and Expand Curbfront	\$1,514,055
27	Realign Airport Road from Golf Course Boulevard to Piper Road	\$673,306
28	Expand Short-Term Parking	\$501,902
33	Construct New Long-Term Lot – Phase 1	\$1,959,550
30	Convert GA Ramp to Rental Car Parking	\$224,650
36	Construct Replacement Hangars for Building 212	\$2,688,459
37	Construct Replacement Hangars for Building 207	\$2,980,491
39	Construct 24 Unit T-Hangar at 600 Series (Building 1)	\$1,955,482
40	Construct 24 Unit T-Hangar at 600 Series (Building 2)	\$1,955,482
62	Construct New Airport Maintenance Facility	\$844,393
64	Construct Airport Safety Complex	\$948,371
66	Conduct EA for Extension of Runway 4-22	\$280,000
Total		\$55,961,168

Source: AECOM, 2017.





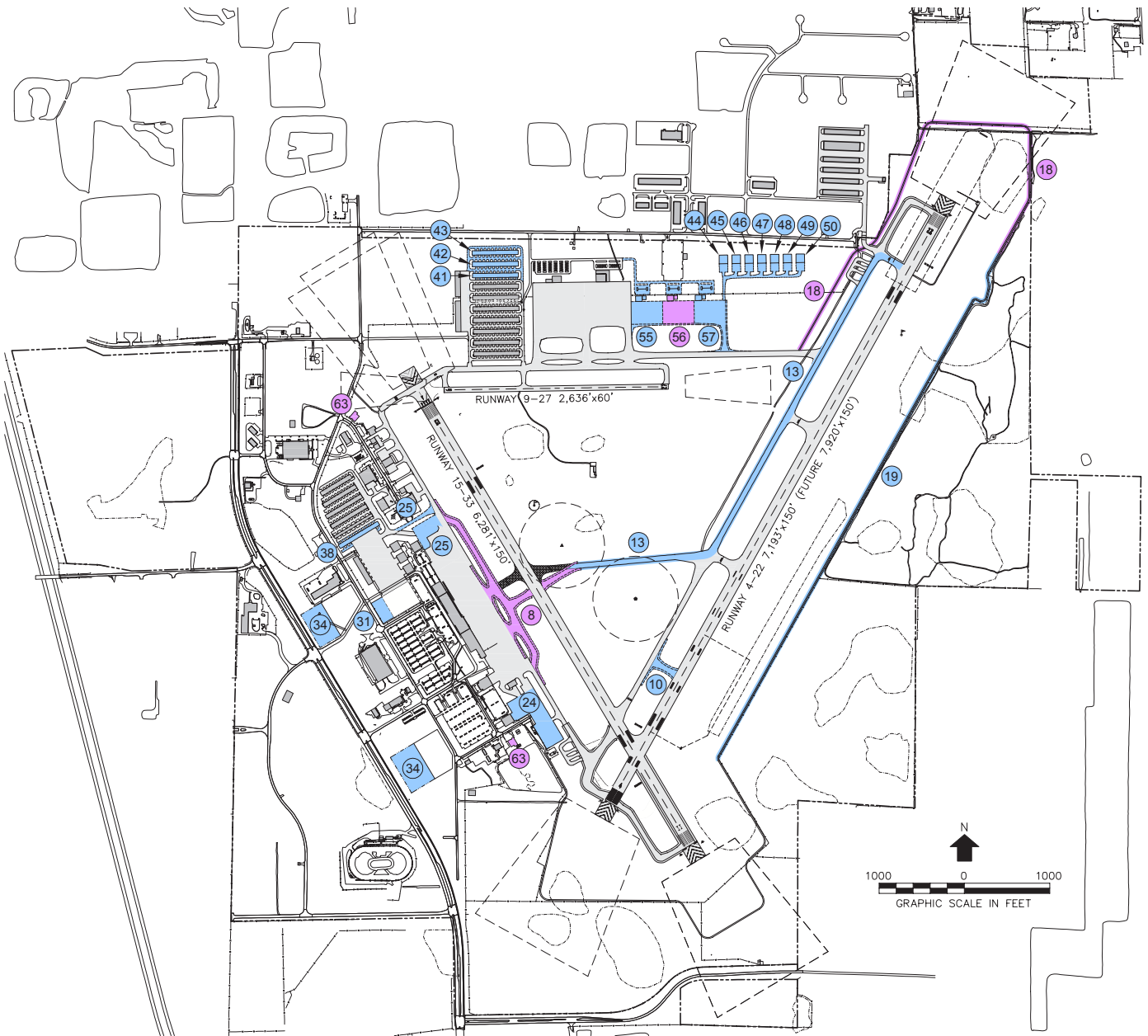
Long-Term Projects

Project priorities in the long-term (2028 to 2037) include a focus on the rehabilitation of taxiway pavements, completing remaining taxiway projects, completing remaining segments of airfield perimeter road, the rehabilitation and expansion of aircraft parking ramps, the construction of additional general aviation hangars, and the construction of a new fire station.

Long-term projects are listed in the following table along with their estimated costs. The location of these projects on the airfield is shown in the figure to the right.

Long-Term (2028 to 2037) Projects and Estimated Costs		
Project Number	Project Name	Estimated Cost (2017 Dollars)
8	Reconfigure Taxiway C/D Intersection	\$5,767,422
10	Construct Runway 22 Exit Taxiway	\$605,335
13	Rehabilitate Taxiway A and C	\$6,487,016
18	Construct Perimeter Road – Phase 2B (North of Runway 4-22)	\$1,695,896
19	Construct Perimeter Road – Phase 3 (East Side)	\$2,527,461
24	Rehabilitate South Ramp	\$395,706
25	Realign Taxiway F and Expand Air Carrier Ramp	\$4,108,486
31	Construct New West Rental Car Lot	\$756,596
34	Construct New Long-Term Parking Lot - Phase 2	\$1,470,750
38	Construct 24 Unit T-Hangar at 200 Series	\$1,952,010
41	Construct 24 Unit T-Hangar at 600 Series (3)	\$1,955,482
42	Construct 24 Unit T-Hangar at 600 Series (4)	\$1,955,482
43	Construct 24 Unit T-Hangar at 600 Series (5)	\$1,955,482
44	Construct Conventional Hangar #1	\$2,159,656
45	Construct Conventional Hangar #2	\$1,588,784
46	Construct Conventional Hangar #3	\$1,588,784
47	Construct Conventional Hangar #4	\$1,588,784
48	Construct Conventional Hangar #5	\$1,588,784
49	Construct Conventional Hangar #6	\$1,588,784
50	Construct Conventional Hangar #7	\$1,588,784
55	Construct Flight School Apron #1	\$1,570,265
56	Construct Flight School Apron #2	\$1,556,398
57	Construct Flight School Apron #3	\$2,296,738
63	Construct New ARFF Station	\$2,453,393
Total		\$51,202,278

Source: AECOM, 2017.





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