Desirability & Convenience Study
Puerto Rico Regional Airports Public-Private Partnership

GOVERNMENT OF PUERTO RICO
PUERTO RICO PUBLIC-PRIVATE PARTNERSHIPS AUTHORITY

November 20, 2023

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List of Acronyms

AAFAF	Puerto Rico Fiscal Agency and Financial Advisory Authority
ABO	Antonio (Nery) Juarbe Pol Airport
AC	Asphaltic Concrete
ADA	American with Disabilities Act of 1990
ADO	Airport District Office
ARFF	Aircraft Rescue and Fire-Fighting
AIP	Airport Improvement Program
AIPP	Airport Investment Partnership Program
ASOS	Automated Surface Observing System
AST	Atlantic Standard Time
ATCT	Airport Traffic Control Tower
Authority	Puerto Rico Public-Private Partnerships Authority
B	Billion
BQN	Rafael Hernández International Airport
CARES ACT	Coronavirus Aid, Relief, and Economic Security Act
CIP	Capital Improvement Program
COVID-19	Coronavirus Disease 2019 Pandemic
CPI	Consumer Price Index
CPX	Benjamín Rivera Noriega Airport
D&C	Desirability & Convenience
DHS	Department of Homeland Security
DME	Distance Measuring Equipment
DOT	U.S. Department of Transportation
EPA	Environmental Protection Agency
EPAX	Enplaned Passenger
FAA	Federal Aviation Administration
FAJ	Diego Jimenez Torres Airport
FAS	Flight Analysis System
FBO	Fixed Based Operator
FCT	Federal Contract Tower
FEMA	Federal Emergency Management Agency

FOMB	Financial Oversight and Management Board for Puerto Rico
FURA	United Forces of Rapid Action
FY	Fiscal Year
GA	General Aviation
GIS	Geographic Information System
IAAPR	Aeronautical and Aerospace Institute of Puerto Rico
IATA	Air Transport Association
KPI	Key Performance Indicators
M	Million
MAZ	Eugenio María de Hostos Regional Airport
MIRL	Medium-Intensity Runway Lights
NAVAIDS	Navigational Aid Systems
NDB	Non-Directional Radio Beacon
NEPA	National Environmental Policy Act
NPIAS	National Plan of Integrated Airport Systems
NPV	Net Present Value
NRR	José Aponte de la Torre Airport
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PAPIs	Precision Approach Path Indicators
PFC	Passenger Facility Charge
PPP	Public-Private Partnership
PRAMI	Puerto Rico Aviation Maintenance Institute
PRIDCO	Puerto Rico Industrial Company
PROMESA	Puerto Rico Oversight, Management, and Economic Stability Act
PRPA	Puerto Rico Ports Authority
PSC	Public-Sector Comparator
PSE	Mercedita International Airport
PV	Present Value
R&R	Renewal and Replacement
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
RVR	José Aponte de la Torre Airport

SAP ISU	Systems, Applications, and Products in Data Processing Industry-Specific Solutions for Utilities
SIG	Fernando Luis Ribas Dominicci Airport
SJU	Luis Muñoz Marín International Airport
SOQs	Statements of Qualification
TAF	Traffic Area Forecast
TSA	Transportation Security Administration
UPR	University of Puerto Rico
USEPA	Environmental Protection Agency ("USEPA"),
The U.S.	United States
VOR	Very High-Frequency Omni-Directional Range Radio-Beacon
VORTAC	Very High-Frequency Omni-Directional Radio Range with Tactical Air Navigation
VQS	Antonio Rivera Rodríguez Airport ("Vieques")
WTP	Willingness to Pay
X63	Dr. Hermenegildo Ortiz Quiñones Airport ("Humacao")

Executive Summary

Background

The Puerto Rico Ports Authority ("PRPA") owns and operates nine (9) Regional Airports identified hereinbelow (the "Regional Airports") across Puerto Rico, excluding the Luis Muñoz Marín International Airport ("SJU Airport" or "SJU"), the main international gateway in the Island, which has been operated since 2012 by Aerostar Airport Holdings LLC. ("Aerostar") under a public-private partnership ("PPP") agreement ("SJU Agreement"), pursuant to the Puerto Rico Public-Private Partnerships Act, Act No. 29-2009, as amended ("Act 29").

As part of the Government of Puerto Rico's (the "Government") public policy to improve the operations, management, finances, and services at the Regional Airports, PRPA seeks to potentially transfer their operation, maintenance, development, and administration to one or more specialized, experienced private operators (the "Project").

To this end, between 2019-2020, PRPA ran a procurement process ("PRPA RFP") for a seven (7) year Operations and Maintenance Contract ("O&M Contract"), also referred to as a Service Contract, for all Regional Airports. This procurement was not run by the Puerto Rico Public-Private Partnerships Authority (the "Authority") under Act 29 but directly by PRPA under its enabling Act 125-1942 and internal procurement regulations.

In February 2020, following consultation with the Puerto Rico Fiscal Agency and Financial Advisory Authority ("AAFAF" for its Spanish acronym) and the Financial Oversight and Management Board for Puerto Rico ("FOMB"), PRPA decided not to execute the O&M Contract (as it was then scoped and priced) due to budgetary constraints. Despite subsequent attempts to renegotiate specific contractual terms and reduce the contract price, the 2019 Coronavirus Disease ("COVID-19") further exacerbated PRPA's fiscal strain and the risk profile from the private sector's perspective, resulting in insufficient resources to afford the O&M Contract payments. Consequently, the O&M Contract was ultimately not executed. Nevertheless, PRPA RFP was never officially cancelled.

Objectives

Despite the outcome of the O&M Contract procurement process, the Government continues to believe that bringing in one or more experienced private operators would benefit the Regional Airports. Therefore, the Authority commissioned this Desirability and Convenience Study (the "Study") to explore the feasibility and market interest for private sector participation in the Regional Airports through one or more bundled PPP concessions. The Authority procures this Study in accordance with and following the requirements in Act 29 and the Regulation for the Procurement, Evaluation, Selection, Negotiation, and Award of Participatory Public-Private Partnership Contracts under Act No. 29-2009, as amended (the "Regulation") to explore options available under Act 29 in the contracting structure and scope of work for a future agreement with private partner(s).

This Study is based on pre- and post-COVID-19 operational and financial data, which best represent the Regional Airports' current operational and financial performance and, therefore, an appropriate starting point for analyzing future scenarios.

The objectives of implementing this Project are summarized as follows:

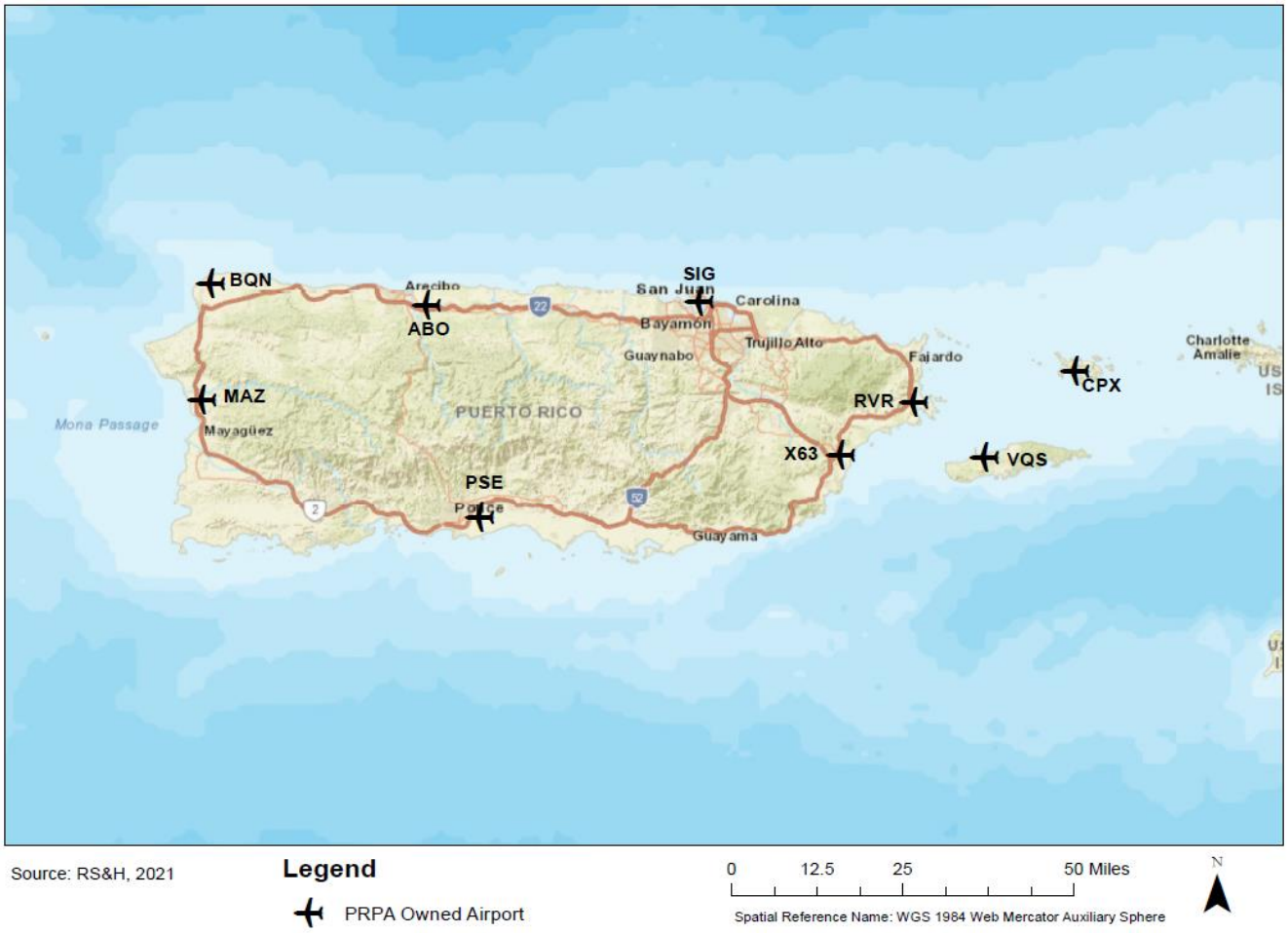
- Enhance operational and maintenance efficiency of the Regional Airports network;
- Optimize the use of the Regional Airports network and improve financial and business-like performance;
- Improve the Regional Airports' compliance with Federal Aviation Administration ("FAA") safety and security requirements;
- Retain proven expertise and experience in the operation and maintenance of regional commercial and general aviation airports; and
- Incentivize economic growth outside the San Juan Metropolitan Area.

Overview of the Regional Airports

ES. 1 (below) shows the location of the Regional Airports currently operated and maintained by PRPA, which are the subject of this Study:

- Antonio (Nery) Juarbe Pol Airport in Arecibo ("ABO")
- Rafael Hernández International Airport in Aguadilla ("BQN")
- Benjamín Rivera Noriega Airport in Culebra ("CPX")
- Eugenio María de Hostos Regional Airport in Mayagüez ("MAZ")
- Mercedita International Airport in Ponce ("PSE")
- José Aponte de la Torre Airport in Ceiba ("RVR").
- Fernando Luis Ribas Dominicci Airport in Isla Grande ("SIG")
- Antonio Rivera Rodríguez Airport in Vieques ("VQS")
- Dr. Hermenegildo Ortiz Quiñones Airport in Humacao ("X63")

ES. 1 PRPA Owned Regional Airports Location Map



ES. 2 provides an overview of key statistics for the Regional Airports for Fiscal Year ("FY") 2021- 2022.

ES. 2 Fiscal Year 2022 Regional Airports' Statistics[12]

Identifier	City	Classification	Annual EPAX	Annual Operations	Annual Cargo landed (lbs)	Based aircraft[3]	Primary User Groups
ABO	Arecibo	General Aviation	18,101	6,693	-	28	Recreational & GA
BQN	Aguadilla	Commercial Service	332,249	48,612	131,546,950	37	Scheduled Commercial Part 139 Certification
CPX	Culebra	Commercial Service	32,223	20,082	248,104	9	Recreational & GA
MAZ	Mayaguez	Non-primary Commercial Service	9,504	4,896	725,840	13	Recreational & GA
PSE	Ponce	Commercial Service	75,301	4,015	10,740,564	15	Commercial, Recreational & GA Part 139 Certification
RVR	Ceiba	Commercial Service	40,548	21,046	-	20	Scheduled Commercial
SIG	San Juan	Commercial Service / Reliever	19,775	81,809	923,889	213	Cargo, Commercial & GA
VQS	Vieques	Commercial Service	46,729	25,032	1,338,533	33	Commercial, Recreational, Executive & GA
X63	Humacao	General Aviation	2,365	3,674	-	9	Commercial & GA

[2] PRPA 2022 Records
[3] A based aircraft is an aircraft that is typically based on the airport for a majority of the year.

Historical Financial Performance

As a portfolio, the Regional Airports have historically operated at a deficit. Aside from operational performance, PRPA's Aviation Division carries several non-operational legacy obligations (e.g., retirement obligations) and revenue sources, which would not be transferred to a private operator under a PPP concession. These obligations are broken out separately in the table below.

Historical operating income by Regional Airport for fiscal years 2018-2022 is presented in the table below. Note that FY2019 was the most recent full fiscal year before the impact of COVID-19.

Regional Airports' Operating Income (2018-2022) in Millions

Operating Income (Loss) by Airport					
	2018	2019	2020	2021	2022
BQN	1.0	0.3	(1.1)	(2.0)	(1.2)
ABO	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)
RVR	(0.6)	(1.2)	(1.9)	(2.3)	(2.9)
CPX	(0.3)	(0.2)	(0.4)	(0.3)	(0.4)
C63	(0.1)	(0.2)	(0.2)	(0.3)	(0.4)
MAZ	(0.7)	(0.6)	(0.7)	(0.8)	(1.1)
PSE	(1.3)	(1.3)	(1.5)	(2.2)	(3.0)
VQS	3.0	(0.7)	(0.6)	(0.7)	(0.9)
SIG	(0.6)	3.8	3.8	2.7	2.9
Total Operating Income (Loss) by Airport	**0.4**	**(0.2)**	**(2.7)**	**(5.9)**	**(7.2)**
Diego Jimenez Torres (FAJ)[4]	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)
Maritime Revenues/Costs	9.4	10.0	9.9	5.9	8.2
Bureau Aviation Costs	(4.9)	(7.4)	(6.8)	(4.5)	(5.1)
SJU Revenue Share[5] & Others	2.2	4.4	7.0	6.8	8.3
Retirement Obligations ("Pay-Go")	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
Central Office Overhead	(4.7)	(4.7)	(7.4)	(5.3)	(5.2)
Others	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
Net Operating Income/loss	**(6.1)**	**(6.4)**	**(8.4)**	**(11.4)**	**(9.6)**

Source: 2022 PRPA Records

[4] FAJ is no longer operational though PRPA still owns and maintains the property.
[5] PRPA currently receives a 5% share of gross annual revenues from the operation of SJU from Aerostar under the terms of the SJU Agreement.

Market Sounding

The Authority and its Advisors[6] conducted market-sounding interviews ("Market Sounding") with eight (8) private parties (comprising of airport operators and investors) to discuss potential PPP concession structures for the Regional Airports and explore general interest in Puerto Rico's airport assets.

Preliminary feedback from the market pinpointed several common concerns and recommendations across the group interviewed, particularly regarding the strategy to bundle the Regional Airports in separate PPP concessions ("bundling options"). The market feedback received showed limited potential interest in a single PPP concession. See Section 4 for more details on market sounding.

Project Delivery Options

PRPA's options for the future operation and maintenance of the Regional Airports can be summarized as follows: (1) Status Quo, (2) O&M Contract, or (3) PPP Concession(s).

Status Quo

Under this approach, PRPA continues to operate the Regional Airports. Capital expenditure would continue to be deferred until other sources of funds are available, though relying primarily on FAA grants for eligible capital improvement projects.

Based on the track record and limited resources available, it is not anticipated that PRPA would be able to successfully address the safety concerns, or materially improve the quality standards, or financial performance of the Regional Airports beyond the current level.

Based on PRPA Aviation Division's historical financial performance, the Status Quo is not financially sustainable and would result in increasing deferred payment accruals that PRPA cannot afford from internal funding sources under current circumstances. At some point in the future, the Government will likely require external intervention to supplement PRPA's funding and/or relieve its legacy costs burden.

In short, PRPA's objectives to improve the safety, operations, management, finances, and service level at its Regional Airports will be challenging to meet without the involvement of private operators and a significant increase in resources.

O&M Contract

During 2019 and 2020, PRPA conducted a market sounding and procurement analysis, at which time it was determined that the project would best serve Puerto Rico and PRPA as a traditional service contract for the operation, maintenance, and management of the Regional Airports, whereby a private operator would assume specific responsibilities and risks. At the same time, PRPA would retain ultimate control, revenues, and certain related risks. PRPA procured a 7-year O&M Contract for all Regional Airports. Following a

[6] Advisors include Rebel (financial and commercial advisor) and RS&H (technical advisor).

successful procurement process resulting in a preferred bidder and negotiated contract, the O&M Contract could not be executed due to budget constraints. COVID-19 further exacerbated PRPA's fiscal strain, resulting in insufficient resources for the O&M Contract payments.

See Section 5.2 for more details on the structure, rationale, and objectives of the prior O&M Contract procurement.

PPP Concession(s)

A PPP concession involving any or all the Regional Airports would require application to and approval through the FAA's Airport Investment Partnership Program ("AIPP"). Under the AIPP, commercial service airports can only be leased, and general aviation airports can be sold or leased. Currently, the AIPP allows FAA to accept applications from a sponsor for multiple airports if all airports are owned by the sponsor and located in the same state jurisdictions. The AIPP permits airports to explore privatization and removes certain grant assurances that require revenues to be used only for airport purposes. The AIPP application process typically takes approximately two (2) years.

Under a traditional PPP structure, the private concessionaire bears risk and reward for all the assets' costs and revenues. The concessionaires run the assets as a commercial business, so focusing on operational cash flows and the prospect of a positive business case is critical to attracting market interest. As a portfolio, the Regional Airports have historically operated at a deficit and are expected to continue to operate at a deficit.

Furthermore, a PPP concession would require an encumbrance-free transfer of the assets included in the concession. While PRPA's Aviation Division carries no long-term debt secured by mortgages over the airports, it does carry several non-operational legacy obligations and revenue sources, which would not be transferred to a private operator under a PPP. Therefore, any legacy obligations would have to be resolved before any concession rights could be granted.

Value can be generated through a PPP delivery model in two main ways:

- Upfront concession fee. The concessionaire pays the procuring authority at the beginning of the contract. As investors and operators consider this structure higher risk, it is attractive only when there is a strong business case.
- Revenue sharing. Revenue is shared with the authority throughout the concession period rather than as an upfront payment. This structure is seen as less risky by investors and operators, as payments to the authority depend on the actual performance of the assets.

A combination of an upfront payment and ongoing revenue sharing is also possible, which is the structure used in the SJU Agreement.

Conceptually, PRPA would like to receive an upfront payment and/or revenue sharing in return for granting the concession(s). However, that option is unlikely given the loss-generating Regional Airports portfolio and limited growth prospects. On the contrary, for PRPA to receive any serious offer for a private operator to enter a concession for the Regional Airports, PRPA (or the Government) would need to subsidize the concession to

make it financially viable. PRPA would have to pay the concessionaire to bridge the gap between the revenues generated by the Regional Airports and the costs of operating them, plus a reasonable profit to the concessionaire considering the risks it would assume.

Finding an optimal solution for the entire Regional Airports portfolio requires considering various bundling options and selecting an arrangement that will attract the interest of private operators while meeting PRPA's objectives. Reasons for bundling include grouping assets to reach scale, stand-alone profitability, network operation optimization, or to streamline procurement by grouping multiple assets into a single procurement. In any case, the underlying rationale remains that the combined assets should present a strong enough business case for equity sponsors to reach a minimum return. See Section 5.3.3 and Section 5.4.1 for more details on bundling considerations.

Regardless of the bundling or contracting approach, and subject to the approval of the FAA, closing ABO, MAZ and X63 should be considered for the following reasons:

- These airports are redundant within the Puerto Rico airport system, as traffic at these facilities can be handled at other airports within the system. Therefore, the costs of continuing to operate them likely outweigh the public benefits.
- Although there may be broader considerations for PRPA to evaluate beyond financial aspects, closing these airports would improve the likelihood of successfully procuring one or more PPP concessions for the Regional Airports. Such reduction of the portfolio would bring the dual benefits of (i) reducing the financial deficit of the overall Regional Airport system and (ii) increasing market interest, as private commercial operators typically are not keen to invest in the type of assets that characterize ABO, MAZ and X63 (e.g., loss-making, limited growth prospects, catchment area overlap, cannibalization).
- With these airports being least likely to attract market interest, to the extent these assets cannot be packaged into a concession, PRPA would need to continue operating, maintaining, and subsidizing these airports less efficiently. This result would not meet key objectives outlined in this Study.

In addition, procuring one or more PPP concessions for the Regional Airports faces several structural challenges, including:

- Structural financial deficit of PRPA's Aviation Division. In whichever configuration, the portfolio of Regional Airports will continue to require subsidization for the foreseeable future, even if ABO, MAZ and X63 are closed. It is doubtful that a slight increase in revenue and operational optimizations could reduce the group's structural financial deficit.
- Public service need to continue subsidizing operations. Certain Regional Airports are utility-like and critical to accessibility (e.g., CPX and VQS) but are not financially viable. It is doubtful that other Regional Airports could subsidize those (if bundled), as most are also currently running at a loss.
- Stakeholders' competing interests. There might be an inherent disconnection between the objectives of PRPA (e.g., exiting operations and bundling all Regional Airports) and what private airport investors and operators typically

seek (e.g., commercial airports with traffic growth potential and medium to long-term profitability prospects).

- Legacy obligations of PRPA. Even if all Regional Airports were concessioned, PRPA would still face legacy costs such as pension obligations ("Pay-Go") and other liabilities (e.g., reassignment of employees not hired by concessionaire), which would likely exceed any revenue from potential concessions (expected to be limited, if any, due to low growth potential).

Quantitative and Qualitative Assessment of PPP Scenario

Financial Analysis of Optimal PPP Scenario

Based on the historical operational financials and nature of the Regional Airports, reinforced by the market-sounding feedback, and bundling considerations explained above, it became apparent that one or more PPP concessions of all Regional Airports would not be feasible without subsidy. To test this assessment, the Authority and the advisory group determined an optimal future PPP scenario for further financial analysis and defined detailed assumptions for future cost and revenue growth at each airport should they be transferred to a private operator under PPP concessions. See Section 6 for details of business opportunities and financial projections.

In summary, a positive business case for any of the scenarios analyzed is not expected, implying that a subsidy from PRPA or the Government would be required to make any analyzed PPP concessions commercially feasible.

In addition, while the financial analysis is strictly based on operational cash flows, it is essential to consider that the Regional Airports will need investment in capital improvements, not only during the concession period but also upfront at the commencement of the concession period, to bring the Regional Airports up to a minimum safety and quality standard. Such capital expenditures will pose a further strain on cash flow.

Qualitative Assessment of the PPP Concession(s) Scenario

Considering the market-sounding feedback, understanding of Puerto Rico's airport system, and experience of the Advisors in the airport PPP concession market, conclusions regarding prospects for PPP concession(s) of the Regional Airports, if pursued now, are summarized as follows:

- The airport portfolio's size, mix, and diversity make the attractiveness of having the entire Regional Airports under a PPP concession highly uncertain. Limited to no prospective operators/developers have the necessary mix of skills and qualifications to operate all the airports, and many have little interest in operating airports with only General Aviation operations if not under an operations and management contract.

- A PPP concession of all Regional Airports still would not address the structural fiscal deficit and legacy obligations of the Aviation Division and PRPA in the broader sense.
- A possible proposition to the market may be a partial portfolio bundling, limited to the Part 139 airports (BQN, PSE) plus SIG. However, even this limited scenario would likely require financial subsidies from PRPA or the Government, at least in the near term.
- If a PPP concession were limited to only the Part 139 Airports (BQN and PSE) and SIG, PRPA would continue to operate the other regional airports, with increased budgetary uncertainties (e.g., reduced economies of scale, including a smaller asset base over which to spread centralized and fixed costs). That scenario would also not achieve PRPA's objective to withdraw from airport operations.
- If the reason for contemplating a concession is to generate revenues, by way of upfront payment and/or periodic revenue sharing, for PRPA to pay its debt and improve its financial situation, the Regional Airports' assets would not be successful in this strategy. If the driver is solely to improve safety, operations, services, and compliance, a private concessionaire would bring the necessary expertise and experience to achieve these goals; however, doing so would require subsidies to achieve financial viability.

While the outlook is weak for PPP concessions without subsidy for all Regional Airports under current conditions, there could be more promising PPP opportunities for the Regional Airports in the future, which is elaborated in the recommended path forward.

Path Forward

Considering all the factors discussed in this Study, the recommended path forward can be broken down into two phases.

Phase 1: O&M Contract

Launching a PPP concession for all Regional Airports is currently not financially feasible and would not attract market interest without a substantial subsidy from the PRPA or the Government. Furthermore, tendering a PPP concession for a limited number of Regional Airports would not provide financial stability to PRPA nor improve safety, operations, and service standards in all airports. It would not achieve PRPA's objective to withdraw from airport operations and probably worsen the unsustainable fiscal deficit for the Aviation Division, as potentially profitable airports would be concessioned, while deficit-generating airports would remain with PRPA, without the total revenue of the concessioned airport(s).

Therefore, it is recommended to delay the PPP process to prepare the Regional Airport assets for a more attractive PPP transaction in the future.

As an interim step:

- To the extent permitted by its internal procurement regulations, and the PRPA RFP, PRPA is recommended to reactivate the PRPA RFP for an O&M Contract, renegotiate its scope with the preferred bidder, and contract the private operation of the Regional Airports for seven years to improve the overall operation, maintenance, and financial condition of six of the Regional Airports and—with the assistance of the private operator—to facilitate the gradual closing of X63, ABO, and MAZ.
- While the execution of the O&M Contract has previously been halted due to PRPA's fiscal situation, doing nothing (i.e., maintaining the status quo) would also not be financially sustainable for PRPA, which has historically operated its Aviation Division at a loss, further exacerbated by COVID-19. Entering a medium-term O&M Contract would be a path for gradual and sustained improvement of PRPA's financial condition.

Phase 2: PPP Concessions

Approximately two to three years before the end of the O&M Contract, reassess the commercial viability of a PPP structure and the extent to which the Regional Airports portfolio may still require a subsidy from PRPA or the Government. By then, X63, ABO, and MAZ should have ceased operations, and the remaining Regional Airports should be operationally and financially improved compared to the current state. It is anticipated that FAA approval under the AIPP and preparation and execution of one or more PPP procurements will take a minimum of two years. At that point in time, if the operational financials of the Regional Airports and PRPA's fiscal situation allow, initiate one or more PPP procurements for the concession of the remaining Regional Airports, for the PPP contract(s) to commence at the end of the O&M Contract.

Consistent with the analysis and recommendations in Section 5.4.5, the following PPP concession bundles are proposed:

- Concession 1 – Group A (BQN and PSE)
- Concession 2 – Group B (SIG, CPX, VQS, and RVR)

See Section 7 for explanation of the recommended bundling.

1. Introduction

1.1. Disclosure

This Study was prepared pursuant to the Puerto Rico Public-Private Partnerships Act 29 and the Regulation for the Procurement, Evaluation, Selection, Negotiation, and Award of Participatory Public-Private Partnerships ("Regulation"). This Study seeks to determine whether it is beneficial for the Government to procure as PPP the operations, maintenance, development, and administration of the PRPA Regional Airports under future PPP agreements of one (1) or more bundles between PRPA and the private operator(s). The Authority, in collaboration with PRPA, commissioned this Study and appointed Rebel as its financial and commercial advisor and RS&H as its technical advisor, (collectively, the "Advisors"). The Advisors' compensation was not conditioned in any way on the outcome of this Study.

This Study is based on information provided by the Authority, PRPA, market information from sources believed to be reliable, and estimates and assumptions made by the Advisors. Furthermore, the Advisors provided recommendations for the delivery and structure of the Project, when applicable, based on historical precedent and good market practice. Actual results may vary from those anticipated in this Study. Changes in local, state, and federal laws or shifts in the overall economic condition of Puerto Rico may alter the assumptions and conclusions presented in this Study.

The Authority will continue to evaluate and analyze the desirability and convenience of the Project as new information becomes available. The Authority does not make any representation or warranty whatsoever, including representations or warranties as to the accuracy or completeness of the information contained herein, including estimates, forecasts, or extrapolations. In addition, the Study includes specific projections and forward-looking statements concerning the anticipated future performance of the Regional Airports that reflect certain assumptions and are subject to significant business, economic, competitive uncertainties, and contingencies, many of which are beyond the control of the Authority and PRPA. Accordingly, there can be no assurance that such projections and forward-looking statements will materialize. The actual results may vary from the expected results, and such variations may be material. The Authority, PRPA, and the Advisors expressly disclaim any liability for any representations or warranties, expressed or implied, contained herein or for any omissions from this Study or related matters, Act 29 and the Regulation, as well as all applicable Puerto Rico and federal laws and regulations, will govern the dissemination of this Study.

1.2. Background

PRPA owns and operates the Regional Airports across Puerto Rico, except the SJU Airport, the main international gateway in the Island, which has been operated since 2012 by Aerostar under the SJU Agreement, pursuant to Act 29.

As part of the Government's public policy to improve the operations, management, finances, and services at the Regional Airports, PRPA seeks to potentially transfer the operations, maintenance, development, and administration to one (1) or more specialized, experienced private operators.

To this end, between 2019-2020, PRPA ran the PRPA RFP for a seven (7) year O&M Contract, also referred to as a Service Contract, for all Regional Airports. This procurement was not run by the Authority under Act 29 but directly by PRPA under its enabling Act No. 125 of May 7, 1942, as amended ("Act 125"), and internal procurement regulation. The timeline of the procurement process for the O&M Contract is summarized in Table 1:

Table 1: O&M Contract Procurement Process

Date	Description
January 2019	Market Sounding
March 2019	Request for Qualifications ("RFQ") Issued
April 2019	Statement of Qualifications ("SOQ") Received
May 2019	Shortlisting and Issuance of Draft Request for Proposals ("RFP") & O&M Contract
August 2019	Final RFP and Final Draft O&M Contract Issued
December 2019	Bid Submission
January-February 2020	Notification of Award and Post-Award Contract Finalization
March 2020	COVID-19 Pandemic ("COVID-19") Declared
April-July 2020	Re-Negotiations regarding COVID-19 impacts, resulting in a fully negotiated contract

In February 2020, following consultation with AAFAF and the FOMB, PRPA decided not to execute the O&M Contract (as it was then scoped and priced) due to PRPA's budgetary constraints. Despite subsequent attempts to renegotiate specific contractual terms and reduce the price, COVID-19 further exacerbated PRPA's fiscal strain and the risk profile from the private sector's perspective, resulting in insufficient resources to afford the O&M Contract payments. Consequently, PRPA did not execute the O&M Contract. Nevertheless, the PRPA RFP was never officially cancelled.

This Study is based on pre- and post-COVID operational and financial data, which best represent the Regional Airports' current operational and financial performance and, therefore, an appropriate starting point for analyzing future scenarios.

1.3. Purpose and Need

Despite the outcome of the PRPA RFP, the Government continues to believe that bringing in one (1) or more experienced private operators would benefit the Regional

Airports. Therefore, the Authority commissioned this Study to explore the feasibility and market interest for private sector participation in the Regional Airports through one or more bundled PPP concessions. The Authority procures this Study following Act 29 and the Regulation to explore options available under Act 29 in the contracting structure and scope of work for a future agreement with private partner(s).

The objectives of implementing this Project are summarized as follows:

- Enhance operational and maintenance efficiency of the Regional Airports network;
- Optimize the use of the Regional Airports network and improve financial and business-like performance;
- Improve the Regional Airports' compliance with FAA safety and security requirements;
- Retain proven expertise and experience in the operation and maintenance of regional commercial and general aviation airports; and
- Incentivize economic growth outside the San Juan Metropolitan Area.

2. Description of Assets

2.1. General Overview of the Airport System

2.1.1. *PRPA's History and Role*

PRPA is a public corporation responsible for developing, operating, maintaining, and overseeing all seaports and airports in Puerto Rico. PRPA was created as the Transportation Authority of Puerto Rico under the direction of a General Administrator who reported to a Board of Directors. The Transportation Authority was renamed the Puerto Rico Ports Authority in 1955.

Currently, PRPA is directed by an Executive Director and a Board of Directors, positions created by Act No. 65 of August 17, 1989. The Board of Directors is constituted by:

- The Secretary of the Department of Transportation and Public Works, acting as President and Chairman of the Board;
- The Secretary of the Department of Economic Development and Commerce;
- The Executive Director of the Puerto Rico Industrial Development Company ("PRIDCO");
- The Executive Director of the Tourism Company, and;
- A representative of the public interest.

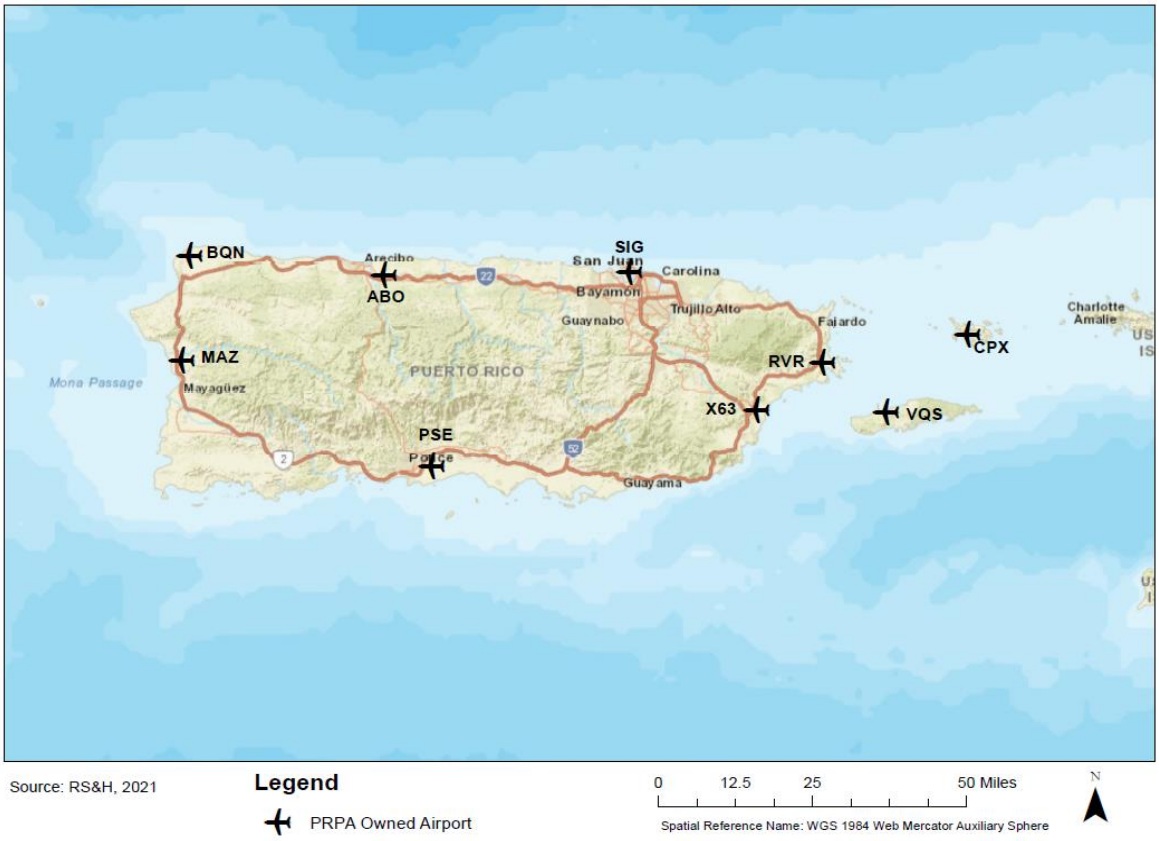
As the owner and operator of the Island's public airports, PRPA's responsibility includes the administration, operation, development, and maintenance of all airport-owned facilities and coordination with Federal agencies such as the FAA regarding compliance with airport regulations and related federal funding.

In 1955, PRPA inaugurated the International Airport of Puerto Rico, renamed the SJU Airport in 1985. Expanding the international operational offer substantially increased passengers and cargo to and from the Island.

In July 2012, PRPA entered into a 40-year lease agreement with Aerostar, a consortium formed between *Grupo Aeropuertuario del Sureste S.A.B. de C.V.* and Highstar Capital IV, L.P., to rehabilitate, finance, operate and maintain SJU. The SJU Agreement marked the first project approved under FAA's AIPP.

In addition to SJU, PRPA currently operates the Regional Airports (BQN, PSE, SIG, RVR, MAZ, ABO, CPX, VQS, and X63). Figure 1 shows the location of the Regional Airports.

Figure 1: PRPA Owned Regional Airports Location Map



2.1.2. *Categories, Certifications & Overview of the Regional Airports*

The FAA[7] categorizes airports by type of activity as follows:

- Commercial. Refers to publicly owned airports with at least 2,500 annual enplanements[8] and scheduled air carrier service. Primary airports are considered commercial service airports with more than 10,000 annual enplanements.
- Reliever. Refers to an airport designated by the U.S. Secretary of Transportation to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community.
- General Aviation. Refers to a public-use airport that does not have scheduled service or has scheduled service with less than 2,500 passenger boardings each year.

[7] FAA airport categories. For more information visit: https://www.faa.gov/airports/planning_capacity/categories#:~:text=General%20Aviation,-A%20public%2Duse&text=Nonprimary%20airports%20are%20identified%20with,Local%2C%20Basic%2C%20and%20Unclassified.

[8] Enplanement refers to a passenger boarding a plane at a particular airport.

Most of the Regional Airports on the Island are classified as Commercial, except for ABO and X63, which are classified as General Aviation (see Table 2).

In addition, to the airport categories, the FAA requires Part 139 Certification[9] for airports that:

1. serve scheduled and unscheduled aircraft with more than 30 seats;
2. serve planned air carrier operations in aircraft with more than nine (9) seats but less than 31 seats;
3. The FAA requires an airport to have such a certificate.

Within the Regional Airports, only BQN and PSE are required to maintain a Part 139 Certification.

In addition to FAA's categories and certifications, as a publicly owned airport in the United States, airports can be included in the National Plan of Integrated Airport Systems ("NPIAS") depending on annual traffic volumes.[10] NPIAS classifies airports giving them a role based on yearly traffic volumes. When an airport is included in the NPIAS, it automatically becomes eligible to receive grants for developing suitable airport facilities and equipment from annual traffic volumes. In addition, when an airport is included in the NPIAS, it determines the amounts and types of airport development eligible for federal funding, under the Airport Improvement Program ("AIP"), over the next five (5) years. Airport capital development needs are driven by current and forecasted traffic, use and age of facilities, and changing aircraft technology, all of which require airports to update or replace equipment and infrastructure.

Below is a brief description of each regional airport (refer to Sections 2.2 and 2.3 for more details) and an overview of the most crucial airport statistics (see Table 2).

- ABO. Antonio (Nery) Juarbe Pol Airport is a public-use airport located three (3) miles (4.8 km) southeast of Arecibo. It is one of the leading centers of sport aviation in Puerto Rico, with several light-sport aircraft and ultralights, and has a privately owned skydive school.
- BQN. Rafael Hernández Airport is located on the west coast of Puerto Rico, in the tourist region of Porta de Sol, Aguadilla. It is the airport with the most significant passenger movements of all the Regional Airports and has the longest runway in the Caribbean region. The Coast Guard Air Station Borinquen and the Customs and Border Protection Air and Marine Operations are within the airport facilities. The airport offers regular scheduled passenger commercial service to Orlando, New York, Fort Lauderdale, and Newark Airports.

[9] For more information on Part 139 Certification, visit: https://www.faa.gov/airports/airport_safety/part139_cert/what-is-part-139

[10] The 2021-2025 NPIAS identifies 3,304 existing public-use airports in the United States.

- CPX. Benjamín Rivera Noriega Airport is located off the northeast coast of Puerto Rico on the island of Culebra. It is a publicly used airport that offers some scheduled commercial passenger services to and from RVR, VQS, SIG, and SJU.
- MAZ. Mayagüez Airport is a public-use airport located in the north of the coastal city of Mayagüez, on the west side of Puerto Rico. It offers limited commercial passenger service to SJU.
- PSE. Located four (4) miles (about six (6) km) from the business district of Ponce, in the south of the Island, Mercedita International is Puerto Rico's largest airport in terms of military personnel volume, the second largest in terms of military freight, and the third largest in terms of scheduled commercial passenger traffic offering services to Orlando and New York.
- RVR. José Ponte de la Torre is a public-use airport located in the coastal town of Ceiba, in the northeast region of Puerto Rico. The airport offers limited scheduled commercial passenger services to CPX, VQS, and SJU.
- SIG. Isla Grande airport is located in San Juan Bay. It is mainly used as a general aviation airport and is the second busiest airport in Puerto Rico by number of aircraft operations. SIG is also one of the busiest general aviation airports in the Caribbean catering to many corporate aircraft both domestic and international.
- VQS. Antonio Rivera Rodríguez Airport is located on the island of Vieques, east of the main island of Puerto Rico. The airport primarily offers scheduled commercial passenger services from/to SJU, SIG, and RVR. VQS is crucial to the economy of Vieques, as most of the island's revenues are derived from tourism.
- X63. Humacao Airport is a public-use airport located in the city of Humacao, in the southeast of Puerto Rico. The airport mainly caters to small local general aviation aircraft and does not offer commercial passenger services.

Table 2: Fiscal Year 2022 Regional Airports' Statistics[11] [12]

Identifier	City	Classification	Annual Passenger Enplanements	Annual Operations	Annual Cargo landed (lbs)	Based aircraft	Primary User Groups
ABO	Arecibo	General Aviation	18,101	6,693	-	28	Recreational & GA
BQN	Aguadilla	Commercial Service	332,249	48,612	131,546,950	37	Scheduled Commercial Part 139 Certification
CPX	Culebra	Commercial Service	32,223	20,082	248,104	9	Recreational & GA
MAZ	Mayagüez	Non-primary Commercial Service	9,504	4,896	725,840	13	Recreational & GA
PSE	Ponce	Commercial Service	75,301	4,015	10,740,564	15	Commercial, Recreational & GA Part 139 Certification
RVR	Ceiba	Commercial Service	40,548	21,046	-	20	Scheduled Commercial
SIG	San Juan	Commercial Service / Reliever	19,775	81,809	923,889	213	Cargo, Commercial & GA
VQS	Vieques	Commercial Service	46,729	25,032	1,338,533	33	Commercial, Recreational, Executive & GA
X63	Humacao	General Aviation	2,365	3,674	-	9	Commercial & GA

[11] A based aircraft is an aircraft that typically resides on the airport for the majority of the year.
[12] PRPA 2022 Records

2.1.3. *History and Projections of Demand Use*

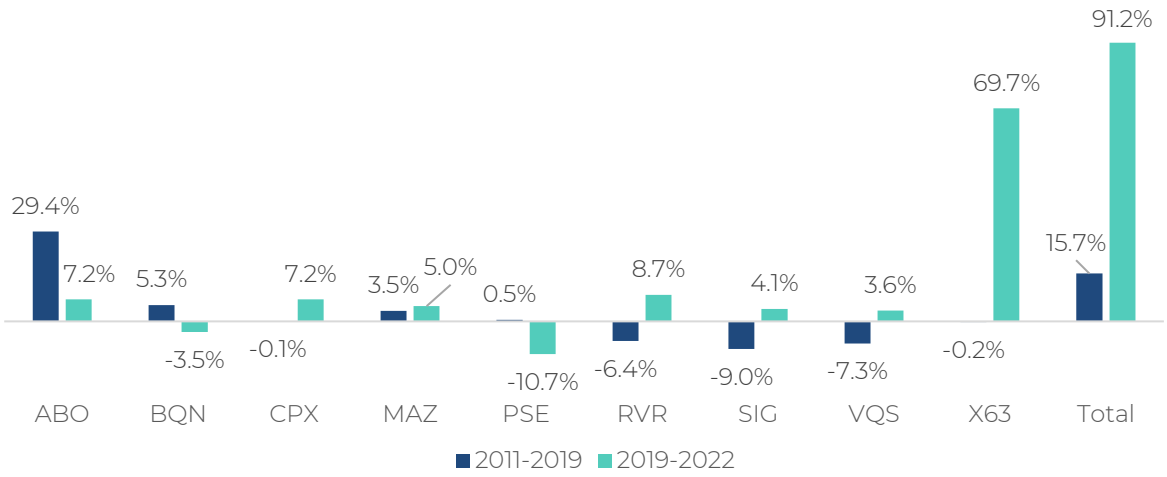
During the years preceding COVID-19 (2011-2019), the combined annual passenger enplanements across the Regional Airports ranged from 500,000 to 600,000, see Table 3. All Regional Airports experienced a significant decrease in enplanements during fiscal year 2020 and 2021, putting pressure on the airports' financials. Fiscal year 2022 shows total enplanements increasing back to pre-pandemic levels.

Table 3: Historical Enplanements (FY 2011 – FY 2022) by Regional Airport in 000s

Fiscal Year	ABO	BQN	CPX	MAZ	PSE	RVR	SIG	VQS	X63	Total
2011	1.9	243.9	26.3	6.3	102.0	53.7	37.4	77.0	0.5	549.0
2012	7.1	228.8	30.0	6.7	107.5	54.3	24.5	75.8	0.8	535.5
2013	8.8	213.2	29.4	6.6	99.3	47.2	25.3	73.4	0.9	504.1
2014	7.7	211.9	32.0	7.1	101.2	45.8	23.7	76.6	0.6	506.8
2015	3.9	203.2	36.0	7.3	101.4	49.3	23.6	79.9	2.2	506.8
2016	5.3	237.2	39.5	6.4	109.0	50.7	24.6	72.2	2.1	547.0
2017	12.7	284.0	39.7	7.6	117.2	51.7	23.8	65.0	0.6	602.2
2018	12.1	301.6	19.8	8.3	98.6	29.0	14.1	35.8	0.4	519.8
2019	14.7	369.5	26.1	8.2	105.8	31.6	17.5	42.1	0.5	616.0
2020	10.3	254.8	20.8	6.6	74.9	24.6	12.5	32.7	0.0	437.2
2021	17.2	65.1	24.9	5.1	7.2	33.2	13.1	31.2	1.7	198.7
2022	18.1	332.2	32.2	9.5	75.3	40.5	19.8	46.7	2.4	576.7

Source: PRPA Records

Figure 2: Historical Enplanements Growth Rates by Regional Airport



Source: PRPA Records.

Before COVID-19, total airport operations, either a takeoff or a landing by any aircraft, fluctuated over the last 10 years, though they always sustained a total of at least 200,000. Given the diversity of the airports, the various types of users are a significant driver of operations results. For instance, SIG has generally maintained at least a 30% share of the total Regional Airports operations because of its very active general aviation community.

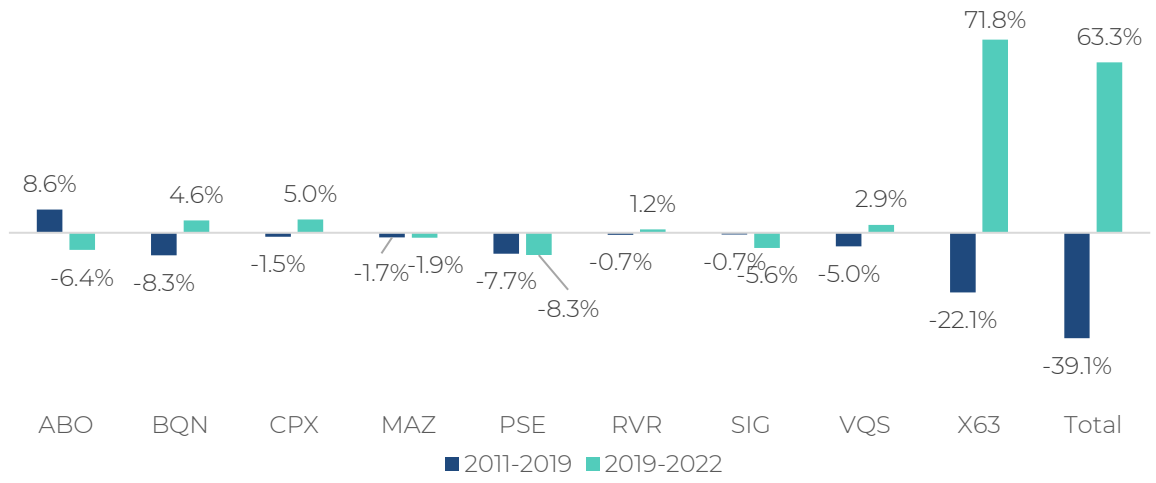
Meanwhile, trends in commercial passenger activity typically drive both the Part 139 airports –BQN and PSE. Table 4 shows the historical operations of the Regional Airports from 2011-2022.

Table 4: Historical Operations (2011-2022) by Regional Airport

Year	ABO	BQN	CPX	MAZ	PSE	RVR	SIG	VQS	X63	Total
2011	6.9	85.1	19.6	5.9	9.9	21.5	102.7	34.6	1.9	285.5
2012	8.9	70.5	18.8	5.0	7.6	23.3	88.0	36.3	2.2	258.7
2013	5.1	45.3	19.3	4.7	6.6	22.9	116.5	36.7	2.1	261.4
2014	6.9	30.9	19.4	4.4	5.7	11.6	102.1	34.7	1.7	217.3
2015	2.4	23.1	22.7	5.1	6.0	16.6	103.7	33.9	2.9	216.3
2016	4.5	46.0	25.3	4.2	5.5	26.6	100.6	34.7	2.9	250.2
2017	8.7	40.9	25.4	5.2	6.2	27.2	98.6	31.8	1.6	245.6
2018	6.9	44.9	14.1	5.2	6.1	20.3	87.8	20.3	1.0	206.5
2019	8.2	42.5	17.4	5.2	5.2	20.3	97.2	23.0	0.7	219.7
2020	6.2	39.5	13.9	4.4	3.4	12.9	71.8	18.4	0.0	170.5
2021	6.8	48.7	16.0	3.4	2.7	19.6	69.5	19.3	2.2	188.2
2022	6.7	48.6	20.1	4.9	4.0	21.0	81.8	25.0	3.7	215.8

Source: PRPA Records

Figure 3: Historical Operations Growth Rates by Regional Airport



Source: PRPA Records.

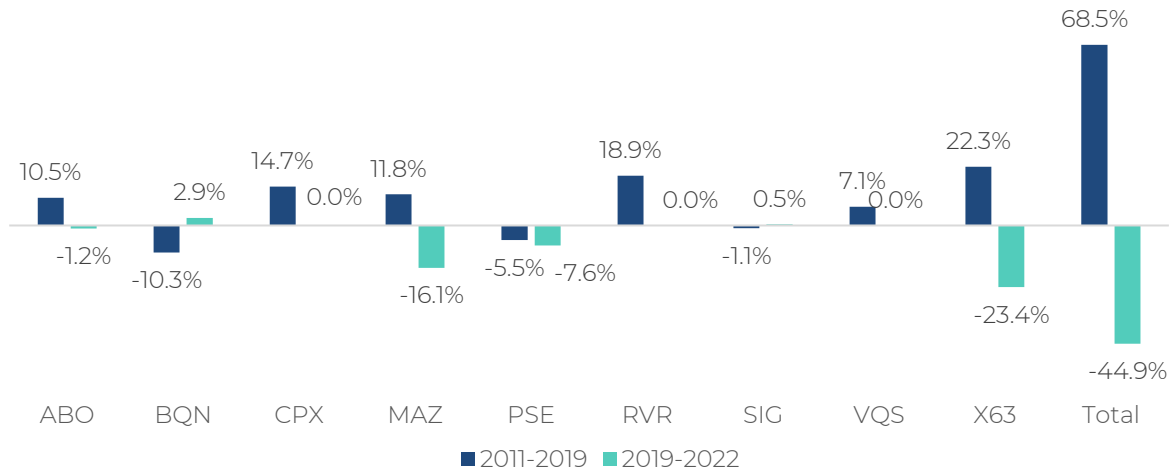
A historical review of the based aircraft shows that combined, the Regional Airports have sustained more than 300 aircraft since 2011, showing strong stability and resiliency during the impact of natural disasters, such as Hurricanes Irma and Maria in 2017 (the "Hurricanes"), and at times of economic uncertainty. Table 5 shows the based aircraft of the Regional Airports from 2011-2022.

Table 5: Historical Based Aircraft (FY 2011-FY 2022) by Regional Airport

FY	ABO	BQN	CPX	MAZ	PSE	RVR	SIG	VQS	X63	Total
2011	0	81	3	9	30	5	229	19	4	380
2012	0	25	3	13	23	12	215	15	23	329
2013	14	42	3	13	24	12	232	4	27	371
2014	14	42	3	19	20	12	232	4	27	373
2015	42	40	2	15	20	12	214	4	3	352
2016	33	34	2	22	20	12	232	4	22	381
2017	38	34	9	30	22	20	192	33	20	398
2018	27	34	9	24	21	20	210	33	20	398
2019	29	34	9	22	19	20	210	33	20	396
2020	31	37	9	13	15	20	210	33	9	377
2021	28	37	9	13	15	20	210	33	9	374
2022	29	37	9	13	15	20	213	33	9	360

Source: PRPA Records, FAA TAF 2022

Figure 4: Historical Based Aircraft Growth Rates by Regional Airport



Source: PRPA Records

Since 2011, six (6) Regional Airports have had cargo operations at their facilities. During that time, BQN occupied the largest share of air cargo being processed by a large margin. Overall, the total pounds processed at these facilities increased by an average annual growth rate of 2.3% from 2016 to 2019 and decreased by -51% from 2019-2021 due to COVID-19. However, cargo totals increased by 58 percent between 2021-2022, returning to pre-

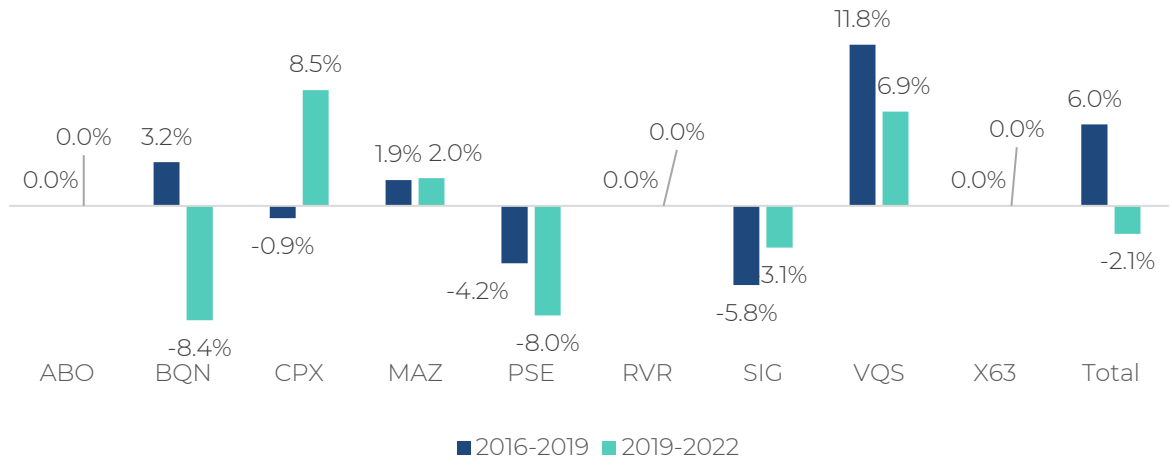
pandemic levels. Table 6 shows the airports' total historical cargo in pounds (enplaned and deplaned) from 2016-2022.

Table 6: Historical Total Cargo - Enplaned and Deplaned (FY2016-FY2022) by Regional Airport in 000's Pounds

FY	ABO	BQN	CPX	MAZ	PSE	RVR	SIG	VQS	X63	Total
2016	-	155,582	200	646	15,697	-	1,213	784	-	174,122
2017	-	142,753	181	586	12,310	-	814	851	-	157,495
2018	-	163,735	207	680	13,802	-	986	1,015	-	180,424
2019	-	170,974	194	684	13,800	-	1,014	1,096	-	187,762
2020	-	128,393	213	606	9,904	-	357	1,103	-	140,576
2021		87,634	240	437	1,222		562	1,454		91,549
2022		131,547	248	726	10,741		924	1,339		145,525

Source: PRPA Record FAA Part 139 Airports

Figure 5: Historical Cargo Growth Rates by Regional Airport



Source: PRPA Record FAA Part 139 Airports

2.2. FAA Part 139 Airports

As mentioned in Section 2.1.2, some airports require Part 139 Airport Certification to ensure air transportation safety. BQN and PSE are the only two (2) Part 139 Regional Airports in Puerto Rico.

2.2.1. *General Overview*

BQN is a commercial airport located in Aguadilla and is Puerto Rico's second busiest airport in terms of passenger movement. The airport encompasses approximately 1,600 acres and has one 11,700-foot asphalt/concrete runway, designated as Runway 8-26. In addition to passenger operations, the airport has a significant cargo presence, with FedEx and its local affiliates conducting regular operations. The airport is also home to the U.S. Coast Guard and various components of the U.S. Armed Forces.

PSE in Ponce covers approximately 262 acres of land and has one 8,000-foot-long asphalt runway. PSE is Puerto Rico's third busiest airport in terms of passenger movement.

2.2.2. *Functions and Services*

BQN is classified in NPIAS 2023-2027 Report as a Primary Non-hub commercial service airport. Scheduled air carriers, charter services, commercial business aviation, and air cargo carriers serve BQN. Scheduled passenger service is provided by JetBlue Airways, Spirit Airlines, Frontier Airlines, and United Airlines. Air cargo carriers serving BQN include FedEx and Ameriflight.

PSE is classified in the NPIAS 2023-2027 Report as a Primary Non-hub commercial service airport. Scheduled air carriers and charter services serve PSE. Scheduled passenger service is currently only provided by JetBlue Airways.

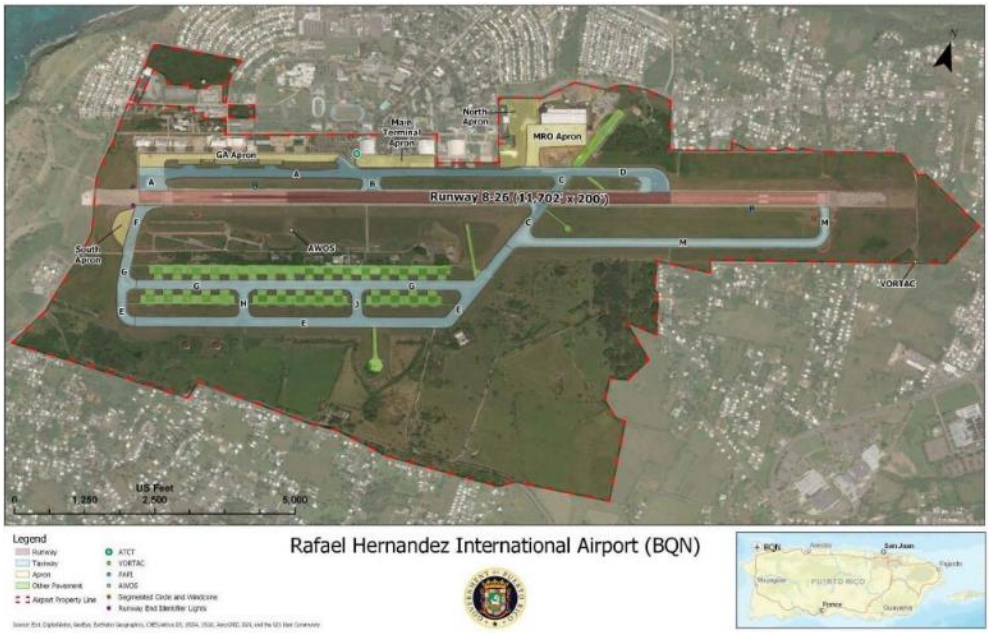
2.2.3. *Essential Characteristics*

2.2.3.1. BQN

The airport reference code[13] of BQN is D-V. The existing runway configuration at BQN consists of a single runway, designated Runway 8-26. Runway 8-26 is an 11,702-foot long by 200-foot-wide oriented in an east/west direction. The runway has a weight-bearing capacity of 155,000 lbs. for single-wheel aircraft, 235,000 lbs. for dual-wheel aircraft, and 455,000 lbs. for dual-wheel tandem aircraft.

[13] The airport reference code is a code signifying the design standards that apply to a runway and associated taxiways based on the critical aircraft's (largest aircraft with regular use; at least 500 operations annually) approach speed, wingspan and tail height.

Figure 6. BQN Aerial Image



Taxiway A is a partial parallel taxiway that ranges in width but is at least 75 feet in its narrowest sections. It is located north of Runway 8-26, serving as the primary taxiway for BQN. There are nine (9) other named taxiways and three (3) unnamed taxiway connectors.

Five (5) apron areas are identified at BQN, totaling approximately 1.8 million square feet. The largest is the General Aviation ("GA") Apron, with an area of 568,790 square feet, not including the private sections of apron pavement associated with each hangar. The GA Apron is used by the aircraft in the hangars on the northwest side of the airfield and other GA aircraft parking on the apron.

Navigational Aid Systems ("NAVAIDS") found at the airport include the Very High-Frequency Omni-Directional Radio Range with Tactical Air Navigation ("VORTAC"). The BQN VORTAC is located on the east side of the airfield southeast of Runway 26. There are multiple visual aids at BQN, including an airport rotating beacon, segmented circle, wind cone, runway, and taxiway edge lights, approach light system on Runway 08, 4-light Precision Approach Path Indicators ("PAPIs") for both Runway 08 and 26, and runway centerline lights.

The BQN passenger terminal is located on the north side of the airport along Engineer Orlando Alarcón Avenue/Hangar Road. The facility is a converted aircraft hangar with an approximate footprint of 90,600 square feet. The terminal apron has marked spaces for three passenger aircraft, all ground loaded. The gate positions are sized for three ADG III aircraft (wingspans up to 118 feet) to be simultaneously parked.

BQN currently has two (2) air cargo hangars immediately northeast of the passenger terminal. Hangar 403 (approx. 62,000 square feet) and Hangar 404 (approx. 40,000 square feet) are operated by FedEx. BQN has two (2) fixed base operators ("FBO"), Western

Aviation (also called WASCO) and COPECA Jet Center. BQN has four (4) other significant tenants and associated facilities: the United States Coast Guard, U.S. Customs & Border Protection, the Aeronautical and Aerospace Institute of Puerto Rico ("IAAPR"), and PRIDCO/Lufthansa Technik.

The BQN Airport Traffic Control Tower ("ATCT") is a Federal Contract Tower ("FCT") and is operated and staffed by RVA-CI-Squared, Inc. BQN has an Aircraft Rescue and Firefighting ("ARFF") Index B category facility which provides hazard mitigation services as well as fire prevention, fire-fighting, rescue, and medical response in the event of an aircraft incident or accident.

2.2.3.2. PSE

The airport reference code of PSE is C-III. The existing runway configuration at PSE consists of a single runway, designated Runway 12-30. Runway 12-30 is an 8,004-foot long by 150-foot-wide asphalt runway and is oriented in an east/west direction. Taxiway A is a 75 ft. wide parallel taxiway and serves as the primary taxiway at PSE. The airport also has six (6) connector taxiways.

Figure 7. PSE Aerial Image

PSE has two (2) identified aprons totaling approximately 440,000 square feet: the terminal and general aviation aprons. These aprons provide aircraft parking, loading, unloading, maintenance, and fueling areas. The terminal apron is the larger of the two (2) and services commercial air carrier aircraft. The terminal apron is north of Runway 12-30 and east of the passenger terminal building. The apron has an area of 270,200 square feet and is connected to the airfield by Taxiways A, and D. The general aviation apron has an approximate 170,000 square foot area. It is located south of the airport's administrative and general aviation terminal building. It provides tie-downs for 33 aircraft and an exclusive space for aircraft fueling.

PSE's visual aids include a rotating airport beacon, a segmented circle, a winding cone, various lighting aids, and signage.

The PSE passenger terminal is centrally located on the airport's north side along *Avenida Aeropuerto*. The facility is mainly a single-story concrete building with a small two-story section overlooking the terminal apron that provides access to aircraft through loading bridges. The passenger terminal's approximate footprint of 37,000 square feet was recently remodeled, expanding its baggage claim area. The terminal apron has marked spaces for three passenger aircraft. Only two parking positions are supported by loading bridges, while the third position to the south is only used when needed. All three gate positions are sized for ADG III aircraft (wingspans up to 118 feet) to be simultaneously parked.

DHL provides cargo operations at PSE. DHL operates within the cargo terminal building across the passenger terminal apron area of approximately 60,000 square feet.

FedEx facilities are located close to the airport though they are mainly for sorting and handling ground cargo. FedEx facility is located on the southwest side of the airport outside the PSE property line.

PSE FBO services are provided by Aero Service, including complete aircraft parking, aircraft maintenance, and fueling services. The FBO is located in the Cargo terminal building, across from the passenger terminal building to the east.

The Department of Corrections and Rehabilitation has a 10,000-square-foot hangar east of the airport administrative and GA terminal building with approximately 35 parking spaces. The hangar is used for the operation and maintenance of helicopters.

The ATCT at PSE has been decommissioned for many years and remains vacant. It is located in the north-central portion of the airfield between the terminal apron and the GA apron. The PSE ARFF Index B facility is located north of the terminal apron and has three (3) bays that house four (4) trucks.

2.2.4. *History and Projections of Demand*

2.2.4.1. BQN

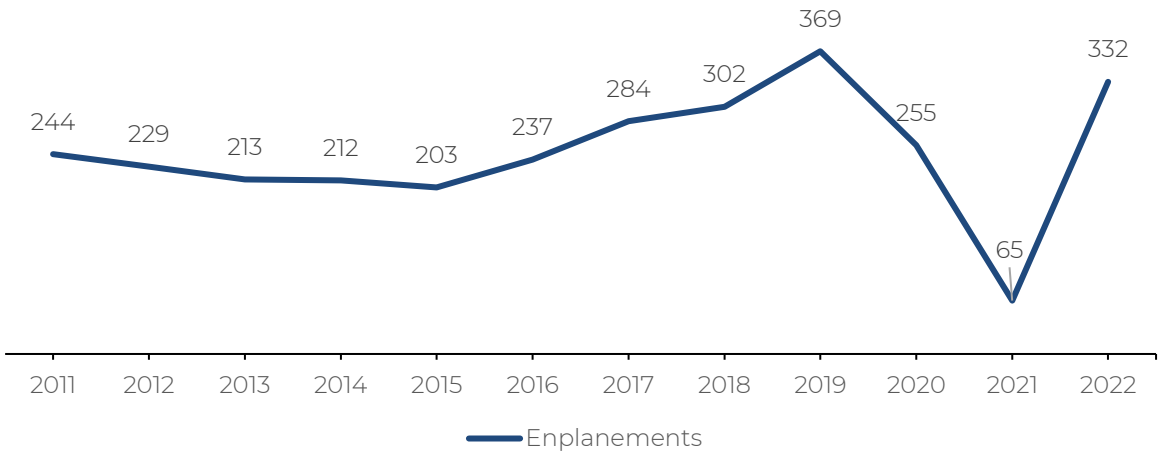
BQN had more enplanements than any other Regional Airport in this Study, reaching a high of 369,000 in 2019. From 2011-2019, enplanements increased by 5% annually, but due to COVID-19, enplanements decreased by 82% in 2021.

Operations continually went down at BQN since its peak of 85,000 in 2011. Over this period, the airport decreased its total annual operations to 42,000 and 39,000 in 2019 and 2020, respectively, see Figure 9. While the airport sees all types of operations, general aviation and air carrier represent the most significant share.

Based aircraft at BQN decreased by 57% over the past 10 years, decreasing from 81 in 2011 to 37 in 2020. While there was a drastic decrease from 2011 levels, based aircraft numbers have been constant for the past three years.

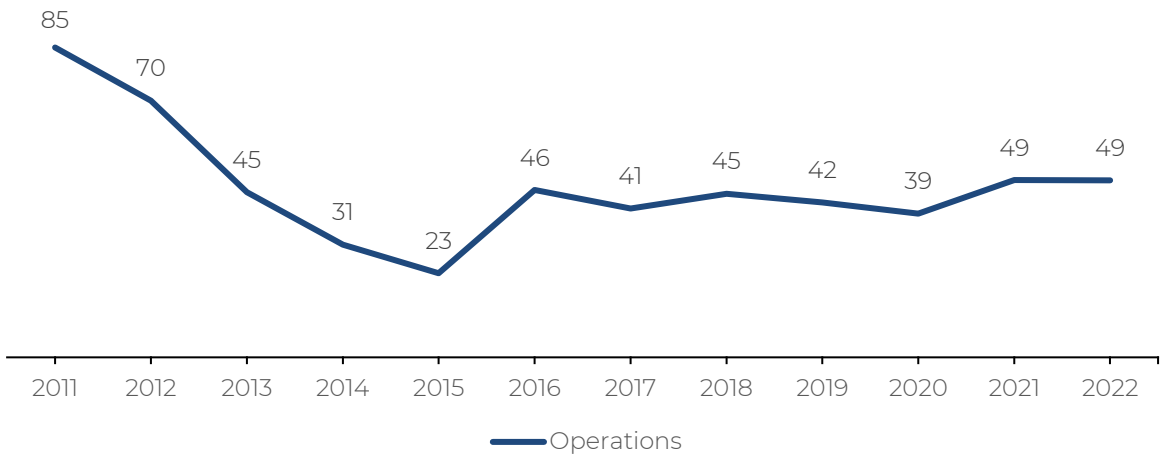
As shown in Figure 11, total pounds of cargo processed at BQN increased from 156,000,000 in 2016 to 171,000,000 in 2019, decreasing an additional 49% in 2021 due to COVID-19. Cargo recorded in 2022 shows it is trending back to pre-pandemic numbers.

Figure 8: BQN – Enplanements Historic Trend (FY2011-FY2022) in 000s



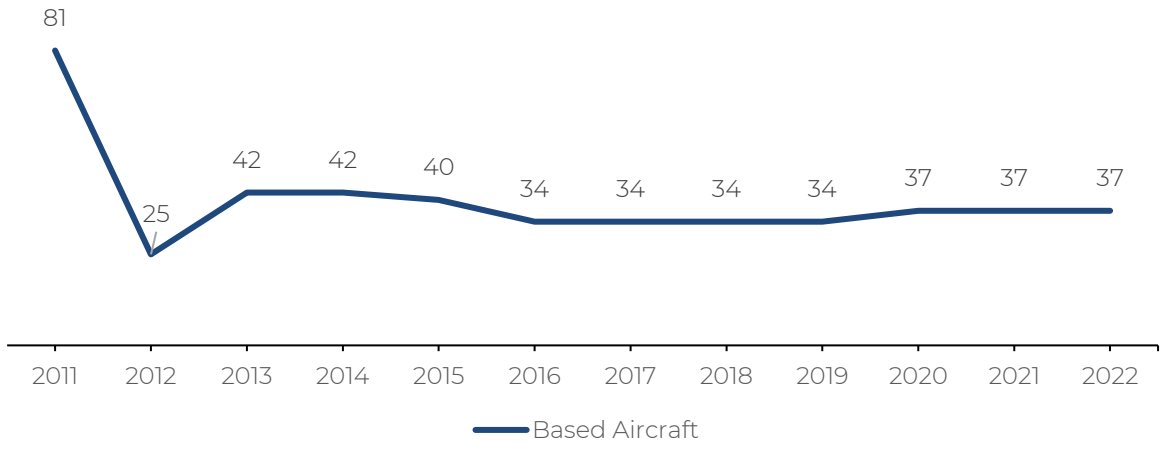
Source: PRPA Data 2023

Figure 9: BQN – Operations Historic Trend (FY2011-FY2022) in 000s



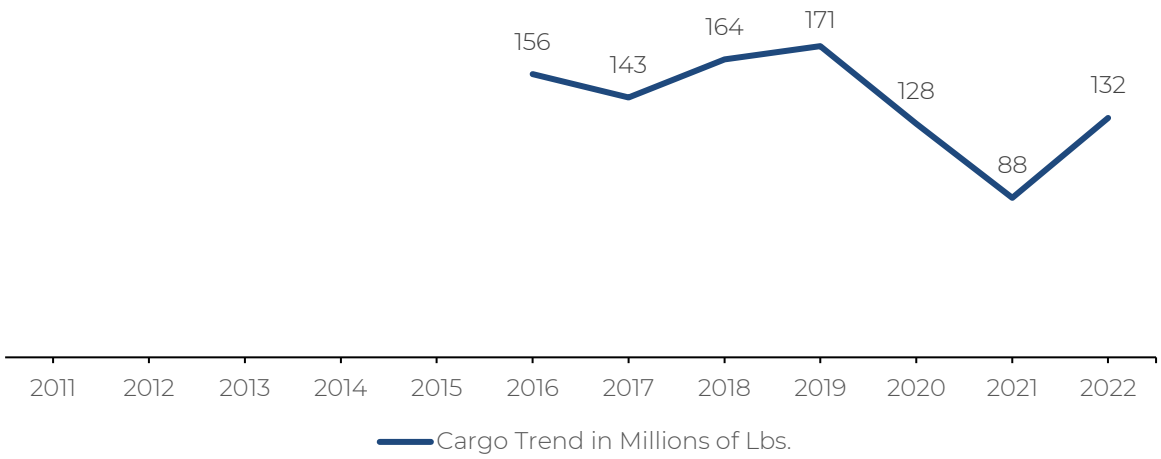
Source: PRPA Data 2023

Figure 10: BQN – Based Aircraft Historic Trend (FY2011-FY2022)



Source: PRPA Data 2023

Figure 11: BQN – Cargo Trend (FY 2016-FY 2022) in Millions of Pounds



Source: PRPA Data 2023

The enplanement forecast for BQN, see Figure 12, assumes that it will recover 90% of its 2019 enplanement levels by 2023. During the forecast horizon's first 10 years, enplanements will grow annually at 5.3% before settling for a 0.9% growth rate for the remaining 10 years from 2032-2042. BQN will increase at an annual growth rate of 3.1% from 2022-2042 and is anticipated to reach 607,727 annual enplanements.

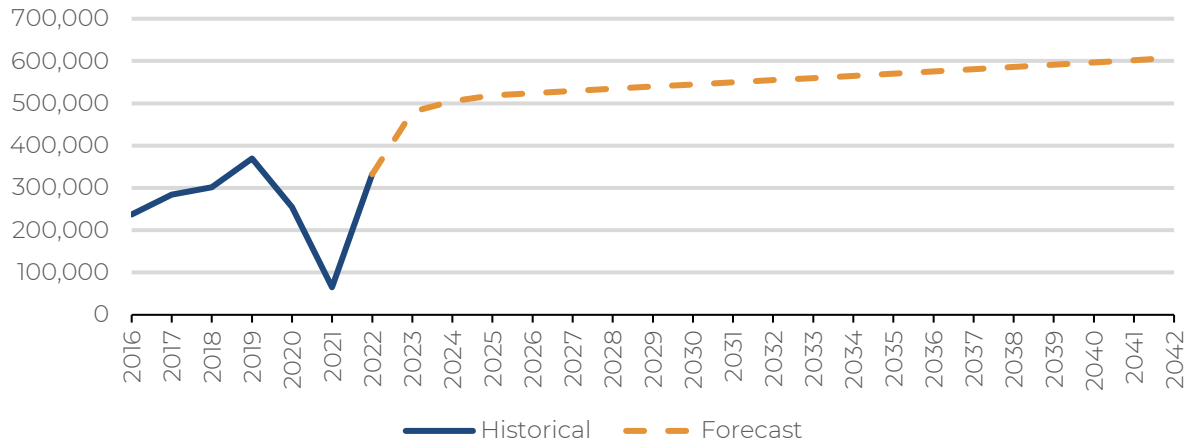
Operations at BQN decreased by only 3,000 due to COVID-19. As shown in Figure 13, the airport has exceeded its 2019 operations results in 2022. The FAA 2022 Traffic Area Forecast ("TAF") annual aircraft operations at BQN show steady growth, reaching 51,000 yearly operations by 2042 at an annual rate of 0.2%.

The airport's FAA 5010 Form[14] indicates that BQN had 37 based aircraft in 2022. Based aircraft at BQN is not expected to increase over the 20-year planning horizon. Thus, the total based aircraft count in 2042 is projected to be 37.

The cargo activity forecast seen in Figure 15 was generated using the growth rate established between 2016-2019 before the effects of the pandemic. It is anticipated to increase at a steady rate of 3.2% annually and reach 247,000,000 pounds by 2042.

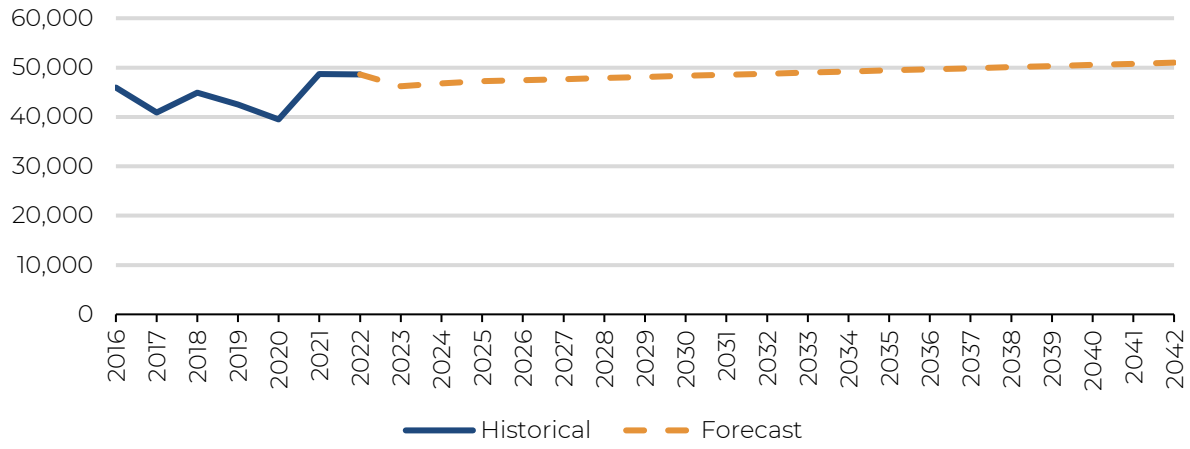
[14] The 5010 Airport Safety Inspection program hast been develop by the FAA in order to track airport inspections for none commercial airports through the 5010 Form.

Figure 12: BQN – Enplanements Results (FY2016-FY2022) and Forecast (2022-2042)



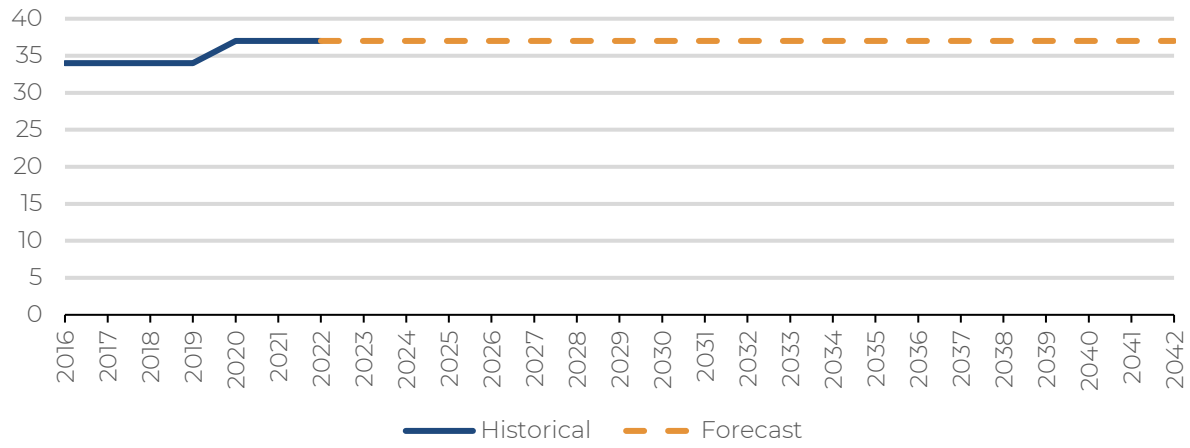
Source: PRPA Data 2023, FAA 2022 TAF

Figure 13: BQN – Operations Results (FY2016-FY2022) and Forecast (2022-2042)



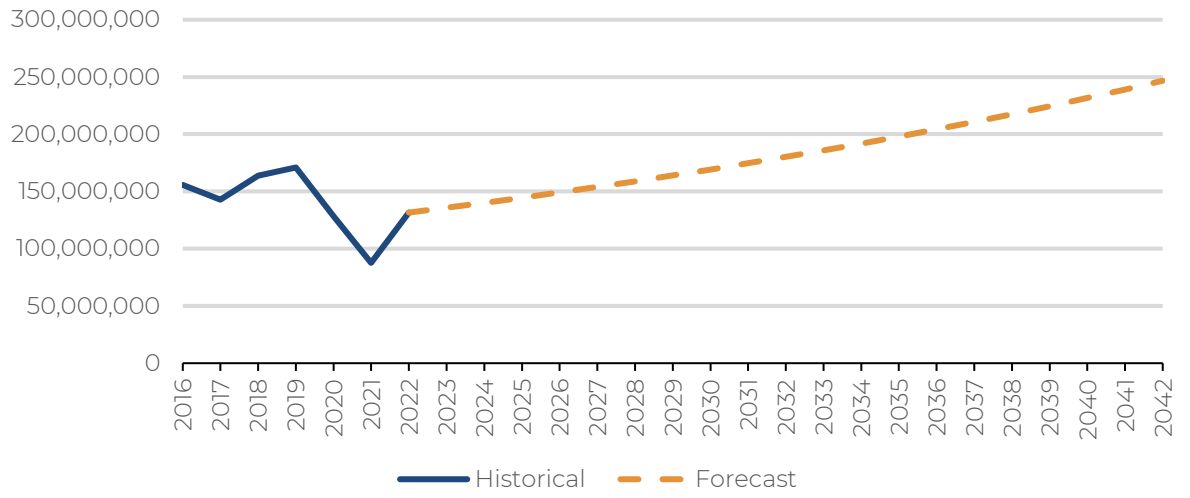
Source: PRPA Data 2023, FAA 2022 TAF

Figure 14: BQN – Based Aircraft Results (2016-2022) and Forecast (2022-2042)



Source: PRPA Data 2023, FAA 2022 TAF, FAA Form 5010

Figure 15: BQN – Cargo Results (FY2016-FY2022) and Forecast (FY2022-FY2042) in 000s of Pounds



Source: PRPA Data 2023, RS&H Calculations 2023

2.2.4.2. PSE

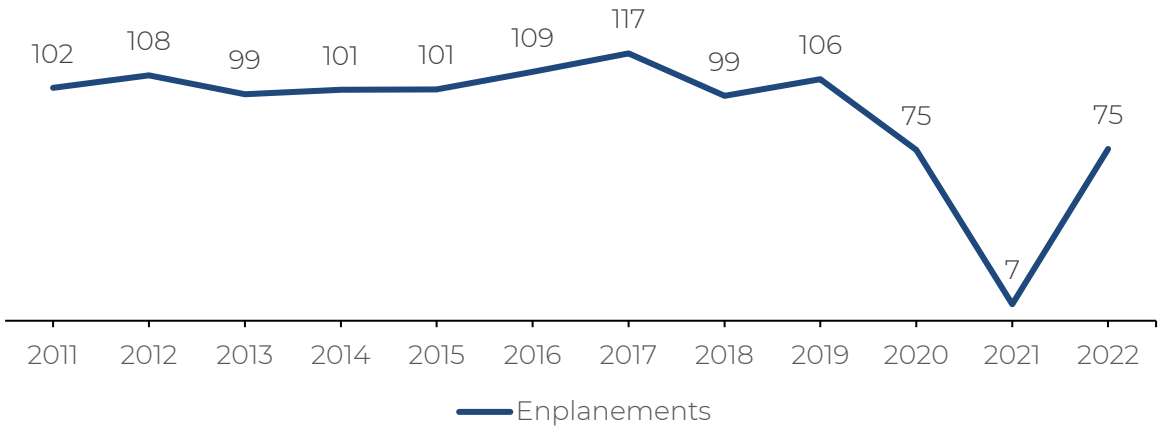
PSE had a total of 105,844 enplanements in 2019. On average, passenger traffic at PSE maintained a constant annual growth rate of 0.7% between 2011 and 2019 while decreasing by 93% between 2019 and 2021. Still, it started to trend back to pre-pandemic levels, with 75,301 enplanements recorded in 2022 as shown in Figure 16.

Total operations at PSE decreased annually by 8.9% between 2011 and 2019. Amidst COVID-19, operations decreased by 48% in 2021, but like enplanements, have started to trend back to 2019 levels.

Based aircraft have decreased over the past 10 years, with a peak of 30 in 2011 to 15 in 2020.

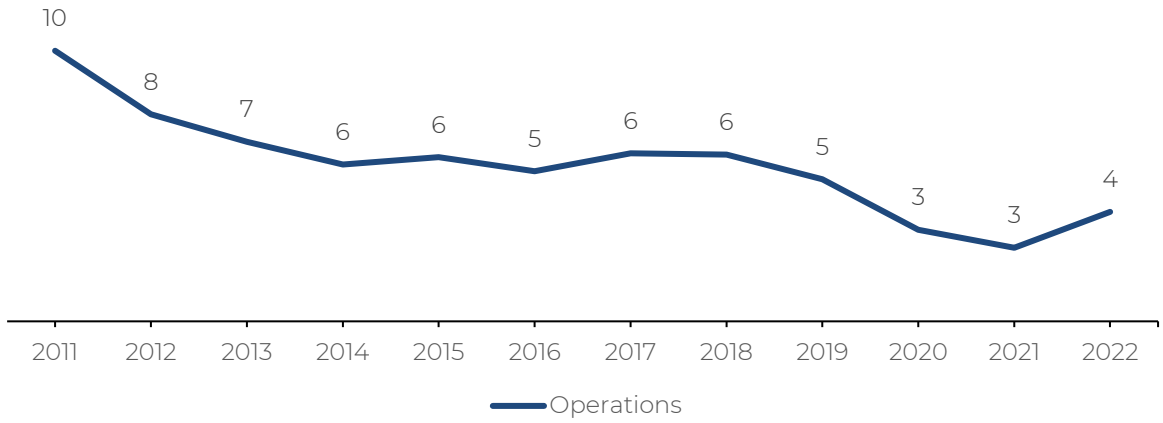
Total cargo at PSE has made it one of the more significant airports for handling freight, with an average of more than 14,000,000 pounds annually from 2016-2020. However, the cargo industry at PSE suffered in 2020 and 2021, as the airport experienced a decrease of 91% in the total pounds processed. In 2022, the cargo process returned to pre-pandemic levels with almost 11,000,000 pounds.

Figure 16: PSE – Enplanements Historic Trend (FY2011-FY2022) in 000s



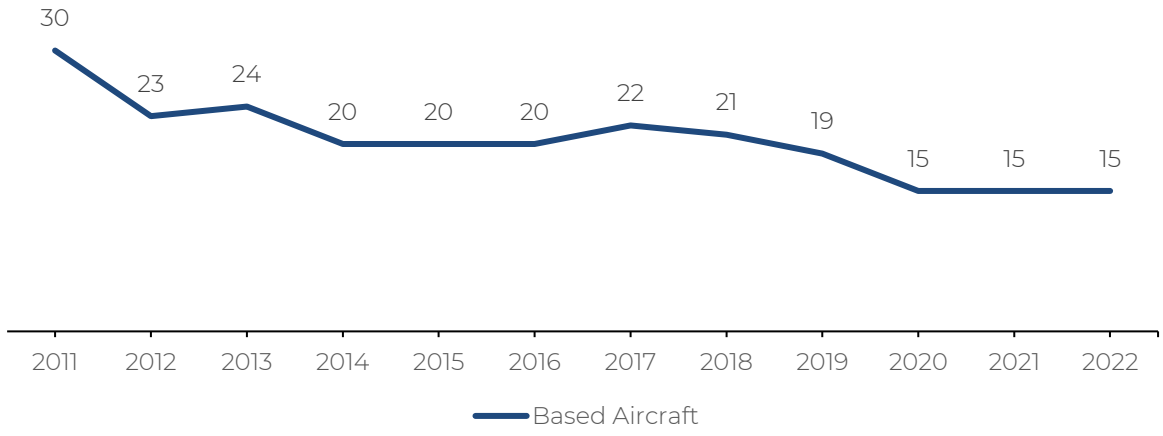
Source: PRPA Data 2023

Figure 17: PSE – Operations Historic Trend (FY2011-FY2022) in 000s



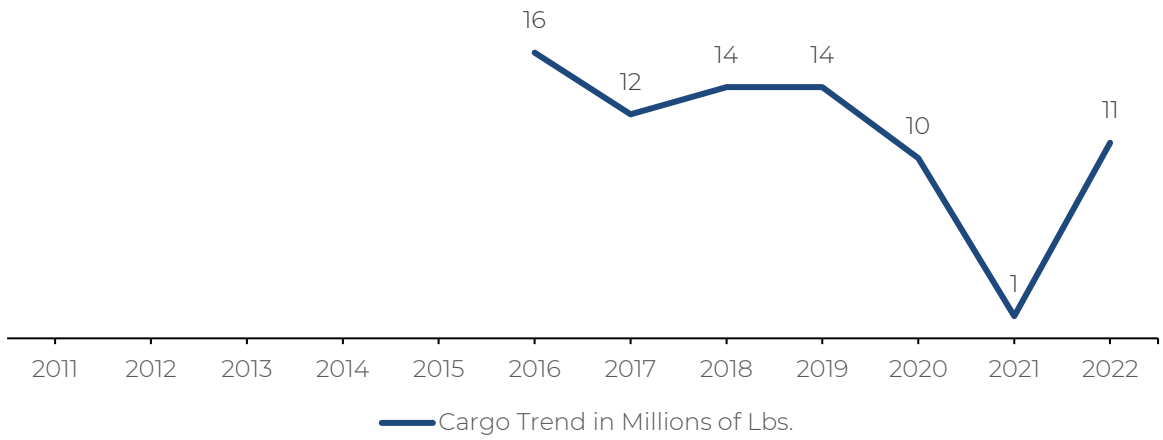
Source: PRPA Data 2023

Figure 18: PSE – Based Aircraft Historic Trend (FY2011-FY2022)



Source: PRPA Data 2023

Figure 19: PSE – Cargo Trend (FY2016-FY2022) in Millions of Pounds



Source: PRPA Data 2023

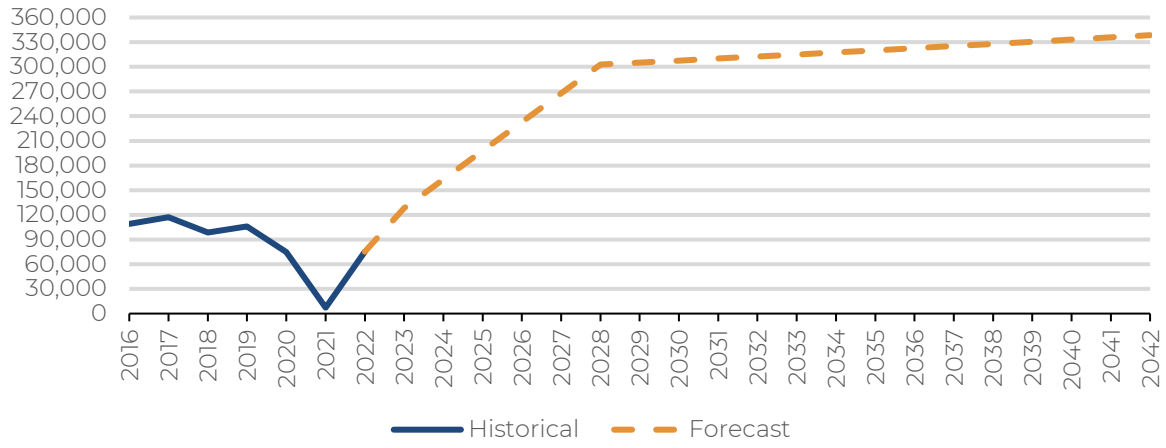
As illustrated in Figure 20, passenger activity at PSE was worse in 2021 than in 2020. Forecast projections for this airport assume a four-year recovery to 2019 enplanement levels with an annual growth rate of 15.3% for the next 10 years before settling at 0.8% until 2042. Enplanements for PSE are projected to reach 338,470 by the end of the 20-year planning period.

Aircraft operations are anticipated to decrease quickly before a slow increase over the next 20 years. The FAA TAF 2022 shows civil general aviation operations representing most of the airport's activity during that time, with a small number of air carriers, air taxis, and commuter operations.

The FAA 5010 reported that PSE had 15 based aircraft in 2022. This total is projected to remain steady over the next 20 years, indicating an average annual growth rate of 0.0%.

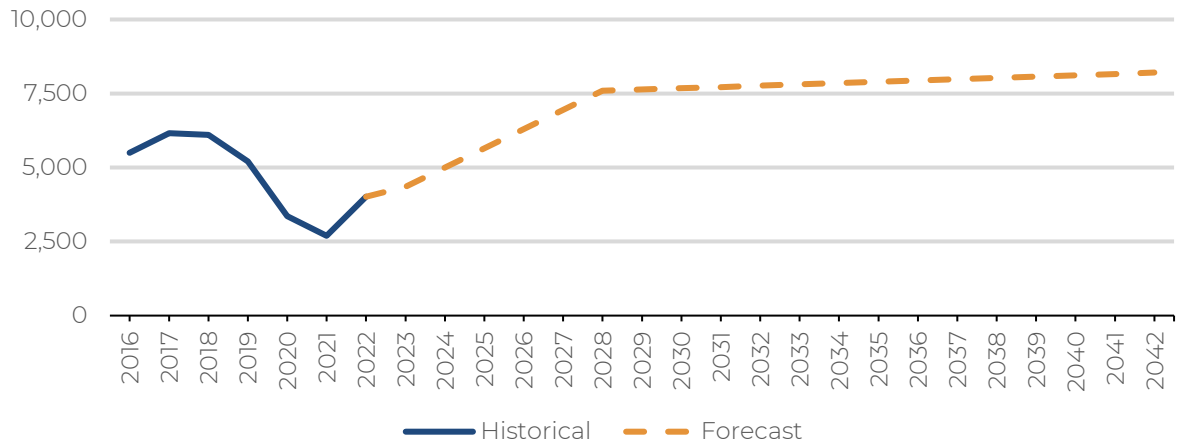
The cargo forecast assumes a 5.9% annual growth rate from 2022-2027 based on the pre-pandemic growth rate before settling to 2.9% for the remainder of the planning horizon.

Figure 20: PSE – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



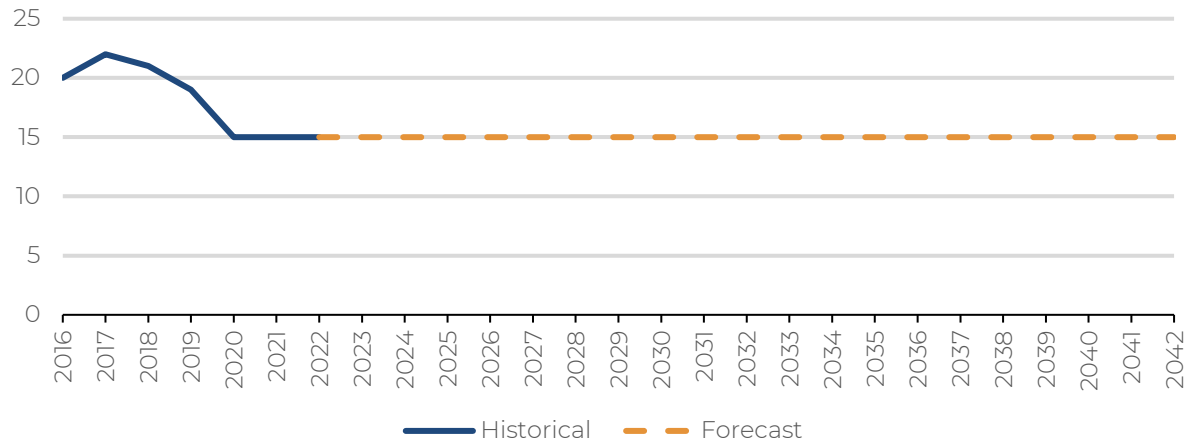
Source: PRPA Data 2023, FAA 2022 TAF

Figure 21: PSE – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



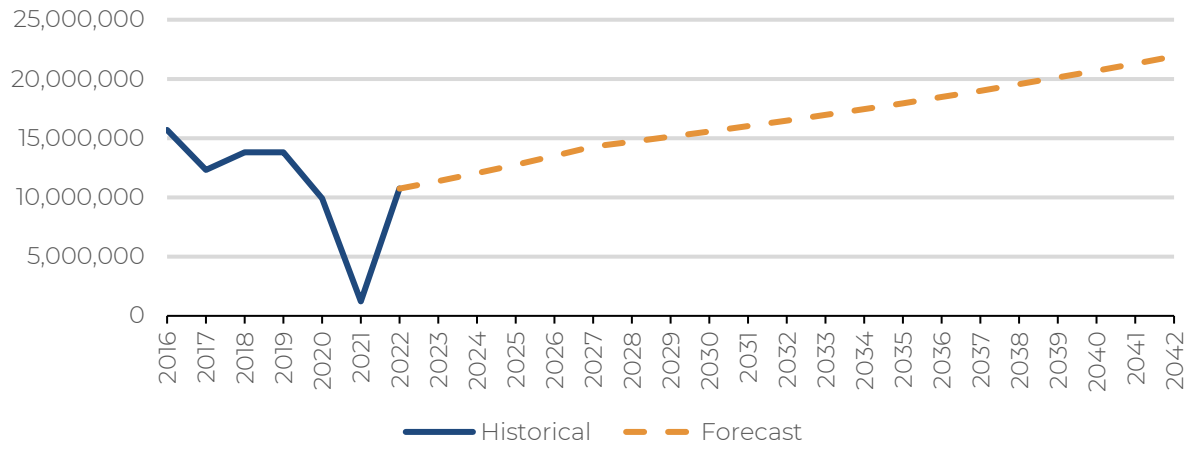
Source: PRPA Data 2023, FAA 2022 TAF

Figure 22: PSE – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 20212TAF, FAA Form 5010

Figure 23: BQN – Cargo Results (FY2016-FY2022) and Forecast (FY2022-FY2042) in 000s of Pounds



Source: PRPA Data 2023, FAA 2022 TAF

2.2.5. *Capital Investments*

2.2.5.1. BQN

The 5-year Capital Improvements Program ("CIP") for BQN includes 12 projects, or phases of projects, at an estimated cost of $250,500,000. The largest project is a multi-phased reconstruction of Runway 8-26. In September 2020, BQN was awarded $14,000,000 of discretionary funds for the project's first phase. In April 2021, approximately $20,000,000 were awarded for the second phase through the FAA AIP and the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") funds. It is assumed the airport will finish the final stages of the project (III, IV, and V) by June 2026. This project was deemed critical by the FAA because the poor pavement conditions have reduced the payload capacity of

aircraft using the runway by 25%. The total cost of this multi-phased project is estimated to be $166,500,000.

In addition, the BQN has other projects planned in its CIP over the next year to address many immediate concerns, such as security, safety, and an improved level of service for passengers in the terminal. Many of these projects will be funded by PRPA without assistance from the FAA.

There is also a new cargo apron project estimated at $42,000,000 planned for 2023-2026 and improvements to the passenger terminal, including the addition of boarding bridges at an estimated cost of $27,700,000. These projects are to be completed by June 2024. Table 7 shows the five-year CIP for BQN.

Table 7: BQN Capital Investment Plan in 000s USD

Project Description	Cost	Federal Funds	PRPA	PFC[15]	Start	End
Airport Master Plan Update	$1,200	$1,080	$120	$0	FY2024	FY2024
Terminal Improvements & Boarding Bridges	$27,700	$12,750	$14,950	$0	FY2022	FY2024
Hurricane Maria Damage Repairs	$6,500	$6,500	$0	$0	FY2023	FY2024
New Cargo Hangar and Apron	$42,000	$21,000	$21,000	$0	FY2024	FY2024
RW Pavements Repairs	$2,000	$0	$2,000	$0	FY2021	FY2023
Runway Reconstruction	$166,500	$154,442	$6,058	$6,000	FY2022	FY2026
Airfield Marking Rehabilitation	$1,800	$0	$1,800	$0	FY2022	FY2027
Acquisition of ARFF Vehicle	$450	$405	$45	$0	FY2023	FY2023
ARFF Equipment	$50	$0	$50	$0	FY2023	FY2023
Acquisition of ARFF Vehicle	$1,500	$1,500	$0	$0	FY2023	FY2023
Air Traffic Control Tower Cabin Repairs	$800	$0	$800	$0	FY2023	FY2023
Subtotal	$250,500	$196,177	$48,323	$6,000		

Source: PRPA, May 2023; RS&H, 2023

2.2.5.2. PSE

PSE's 5-year CIP (2023 to 2027) includes eight (8) projects estimated at $38,134,000. Some of the higher-priority projects for the airport include runway pavement rehabilitation, renovation of the terminal, and landside road improvements. PRPA has also planned a retrofit of the ARFF building to bring it to the current seismic code and acquire new equipment. Table 8 shows the five-year CIP for PSE.

[15] PFC means Passenger Facility Charge, which is an FAA program allowing the collection of fees for every eligible passenger at commercial airports, with the funds going toward upkeep and maintenance of the airport.

Table 8: PSE Capital Investment Plan in 000s USD

Project Description	Cost	Federal Funds	PRPA	Start	End
Airfield Pavement Repairs	$28,900	$26,010	$2,890	FY2022	FY2023
Hurricane Maria Damages Repairs	$734	$734	$0	FY2023	FY2023
Terminal Improvements	$1,000	$0	$1,000	FY2025	FY2025
Landside Roads Rehabilitation	$3,100	$2,790	$310	FY2023	FY2024
Runway Marking Rehabilitation	$2,250	$0	$2,250	FY2022	FY2027
Earthquake Repairs	$1,200	$1,200	$0	FY2024	FY2024
Acquisition of ARFF Vehicle	$900	$810	$90	FY2022	FY2023
ARFF Equipment	$50	$0	$50	FY2023	FY2023
Subtotal	$38,134	$31,594	$6,540		

Source: PRPA, May 2023; RS&H, 2023

2.3. General Aviation Airports

2.3.1. *General Overview*

SIG, also known as Isla Grande Airport, was initially constructed by the U.S. Navy and served as Puerto Rico's main international airport until 1954, when SJU was erected. This airport is in San Juan and hosts the American Cruise Ship Terminal. The airport's general aviation traffic includes many corporate aircraft operations. However, it operates several commercial passenger flights to CPX and VQS. The airport has a single 5,539-foot-long east-west runway, Runway 9-27, and serves as the primary reliever airport for SJU.

RVR in Ceiba opened in 2008 on the former Roosevelt Roads Naval Station site, replacing FAJ in Fajardo. This airport offers scheduled passenger service through three (3) commercial airlines to the islands of Vieques and Culebra. The airport encompasses approximately 1,600 acres and has a single 11,000-foot-long asphalt/concrete runway, Runway 7-25. RVR is also home to the Puerto Rico Aviation Maintenance Institute ("PRAMI").

MAZ in Mayagüez previously served as the main gateway to the western region of Puerto Rico before the opening of BQN. MAZ is of public use and offers limited domestic and commercial services. The city of Mayagüez hosts the second-largest campus of the University of Puerto Rico ("UPR") and several associated research centers. The UPR is the largest university in Puerto Rico. The airport encompasses approximately 172 acres and has a 4,998-foot-long asphalt runway, Runway 9-27. FAA's Essential Air Service program subsidizes MAZ.

ABO, also referred to as ARE by the International Air Transport Association ("IATA"), is three (3) miles southeast of Arecibo, Puerto Rico. The airport is a public-use, general aviation airport where many light-sport aircraft and ultralights operate and are based. The airport is home to a private skydiving school and is popular with the skydiving community. The airport encompasses approximately 178 acres and has a 3,963-foot-long asphalt runway, Runway 8-26.

CPX is located on the island of Culebra. The airport is of public use, a general aviation airport offering regularly scheduled passenger services. The airport is noted for a mountain less than 1,000 feet from the north end of the runway. This obstacle, coupled with the short length of the runway, restricts the aircraft type utilizing the airport to propeller aircraft with 10 seats or less. The airport encompasses approximately 15 acres and has a single 2,600-foot-long asphalt runway, Runway 13-31.

VQS is located in Vieques and is a destination for several small airlines. The airport is also the hub of Vieques Air Link. Although the airport does not accept jet aircraft, several international flights operate from it, though most commercial operations are domestic. The airport encompasses approximately 124 acres and has a 4,301-foot-long asphalt runway, Runway 9-27.

X63 is a public-use general aviation airport located in Humacao. The airport is mainly used by small single general aviation aircraft, light-sport aircraft, and ultralights for recreational purposes. This airport encompasses approximately 14 acres and has a 2,450-foot-long asphalt runway, Runway 10-28.

2.3.2. *Functions and Services*

The role and classification of each non-Part 139 airports referenced in NPIAS and the NPIAS 2021-2025 Report is as follows:

- SIG provides air service to San Juan and the surrounding area. SIG is classified as a Primary Non-hub commercial service airport. SIG is served by charter and air taxi services that fly to Puerto Rico's smaller islands. SIG is one of the busiest general aviation airports in the Caribbean and an important base for corporate aircraft from local businesses and corporations.
- RVR provides air service to Ceiba and the surrounding area. RVR is classified as a Primary Non-hub commercial service airport. RVR is served by charter and scheduled passenger air carrier service on small aircraft that fly mainly to the islands of Vieques and Culebra.
- MAZ provides air service to Mayagüez and the surrounding area. MAZ is classified as a Regional Nonprimary commercial service airport. MAZ is more oriented towards charter air service to local cities and destinations.
- ABO provides air service to Arecibo and the surrounding area. ABO is classified as a Local GA airport and is considered a popular airport for recreational flying and some commercial business aviation such as small charter flights to other cities in Puerto Rico (including Vieques and Culebra) and transportation of small packages from Fedex.
- CPX provides essential air service to Culebra and the surrounding area. CPX is classified as a Primary Non-hub commercial service airport. CPX service is oriented toward air taxis, charter air service, and recreational flying.
- VQS provides essential air service to Vieques and the surrounding area. VQS is classified as a Primary Non-hub commercial service airport. VQS serves as charter, air taxi services, and recreational flying.
- X63 provides air service to Humacao and the surrounding area. X63 is classified as a Basic GA airport. X63 is more oriented towards recreational flying and emergency medical service.

2.3.3. *Essential Characteristics*

2.3.3.1. SIG

The Airport Reference Code of SIG is B-II. The existing runway configuration at SIG consists of a single runway, designated Runway 9-27. Runway 9-27 is a 5,542-foot long by 100-foot-wide asphalt runway and is oriented in an east/west direction. The runway has a weight-bearing capacity of 52,000 lbs. for single-wheel aircraft, 88,000 lbs. for dual-wheel aircraft, and 160,000 lbs. for dual-wheel tandem aircraft.

Figure 24. SIG Aerial Image

There are two (2) partial parallel taxiways. Taxiway A is a partial parallel and connector taxiway that begins as a connector taxiway with a width of 40 feet on the north side of Runway 9. It extends to the north for approximately 170 feet before making a 90-degree turn to the east, developing for about 4,500 feet as a 25-foot-wide partial parallel taxiway that intersects with Taxiway A5. Taxiway B, the other partial parallel taxiway, is 40 feet wide and located south of Runway 9-27. It begins at Taxiway B1, near the Runway 9 displaced threshold. It extends approximately 3,400 feet east and provides access to the south and main aprons. SIG also has 10 connector taxiways.

Three (3) apron areas are identified at SIG, totaling approximately 1.5 million square feet. The three aprons are Apron North, Apron South, and Apron Southeast. Both Apron North and Apron South have multiple sections of apron interconnected within them, used by various tenants and functions. Apron North is the most extensive apron, with 563,409 square feet. It begins as an angular pavement associated with GA hangars in the northwest portion of the Airport. It continues south and is adjacent to most of the parallel part of Taxiway A on the north side, ending between Taxiway A3 and A4.

Currently, the FAA has plans to install an Automated Surface Observing System ("ASOS") at SIG in the near term. Visual aids at SIG include 2-light PAPIs for Runway 9, an airport rotating beacon, segmented circle and wind cone, runway, taxiway edge lights, and signage.

The SIG passenger terminal is located on the south side of the airfield along Calle Lindbergh, immediately northwest of the Army Air National Guard facilities. The facility is a one-story building with a footprint totaling approximately 11,000 square feet that was recently renovated. The terminal has four marked aircraft parking positions from a standard hold room in the terminal building.

SIG has two FBOs, Million Air and Signature. Tenant facilities at SIG are divided into the Apron North and Apron South areas. The tenants on the North Apron generally consist of flight schools, smaller hangars, and small aircraft tie-down aprons. Several large hangars are located on the west end of the North Apron, but several sustained damages during the Hurricanes have not yet been repaired. The Puerto Rico United Forces of Rapid Action ("FURA"), an agency within the Puerto Rico Police Department, runs its helicopter operations out of a new hangar on the North Apron between Taxiways A3 and A4.

The South Apron tenants are larger operators with larger apron areas to accommodate jet aircraft. Aside from the two (2) FBOs mentioned above, tenants on the South Apron include Caribbean Heli-Jets, Ecolift, Air Flamenco, and Inter-American University School of Aeronautics. The old FURA hangar and attached facilities are located at the western end of the south airfield. These facilities suffered significant damage during the Hurricanes, forcing FURA to relocate to their current facility on the North Apron.

The ATCT at the airport is located immediately west of the passenger terminal. The SIG ATCT is an FCT facility operated and staffed by RVA-CI-Squared, Inc, through a contract with the FAA. The tower is staffed from 7:00 am to 7:00 pm AST daily. SIG has two (2) ARFF vehicles north of the ATCT. As SIG is not a certificated Part 139 airport, the ARFF facilities for these vehicles are not required.

2.3.3.2. RVR

The Airport Reference Code of RVR is D-V. The existing runway configuration at RVR consists of a single runway, designated Runway 7-25. Runway 7-25 is an 11,000-foot long by 150-foot-wide asphalt/concrete runway oriented in a northeast/southwest direction. The runway has a weight-bearing capacity of 122,000 lbs. for single-wheel aircraft, 185,000 lbs. for dual-wheel aircraft, 175,000 lbs. for dual-wheel tandem aircraft, and 338,000 lbs. for dual-wheel double tandem aircraft.

Figure 25. RVR Aerial Image

RVR has one (1) parallel taxiway. Taxiway A is a 75-85 ft. wide parallel taxiway with connectors. The width varies in some locations. Taxiway A extends the entire length of nearly 13,000 ft. in its entirety. Acting as the primary taxiway, A intersects with each connector taxiway identified in this report. The taxiway A centerline is approximately 500 feet from the runway centerline in its parallel segments. RVR also has five (5) connector taxiways.

There are six (6) apron areas identified at RVR, totaling approximately 2 million square feet. Aircraft aprons are located west of Runway 7-25 and provide spaces for aircraft parking, loading, unloading, maintenance, and fueling. Apron 5 is the largest of these aprons, with a total area of 1,717,795 square feet. It extends west from Taxiway C and provides access to the terminal building and four smaller aprons. The terminal section of the apron occupies 456,000 square feet. Apron 5 is connected to Taxiways B, C, and D.

Visual aids at RVR include 4-light PAPIs for each runway ends 07 and 25, an airport rotating beacon, a segmented circle, a winding cone, runway and taxiway edge lights, and signage. RVR's passenger terminal is located on the airport's north side along Airport Drive. The facility is a converted aircraft hangar with an approximate footprint of 40,000 square feet. The airport shares the building with the FBO (Million Air). Both Million Air and the terminal occupy 20,000 square feet of the building. The terminal apron has marked spaces for six-passenger aircraft, all ground-loaded. The gate positions are sized for ADG I aircraft (wingspans up 49 feet) to be simultaneously parked. Million Air is a full-service FBO providing charter, aircraft parking, maintenance, and fueling services. The Airport has two major tenants: Puerto Rico Aviation Maintenance Institute (PRAMI) and Arlet Aviation.

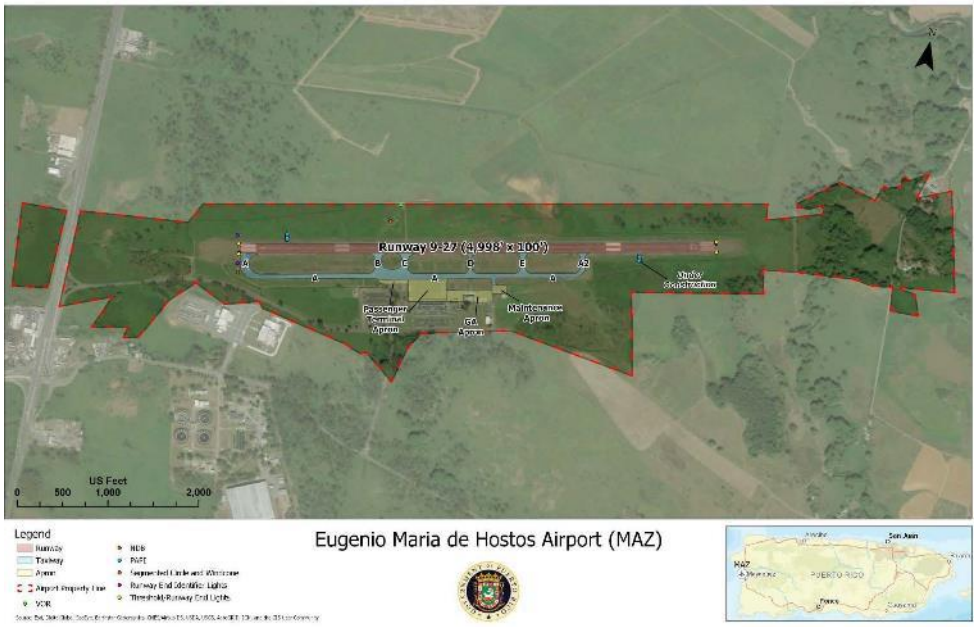
There is an ATCT located on the northeast side of the Airport to the east of the terminal, but the ATCT is no longer operational. RVR has two (2) ARFF vehicles east of the terminal building. As RVR is not a certificated Part 139 airport, the ARFF facilities for these vehicles are not required.

2.3.3.3. MAZ

The Airport Reference Code of MAZ is B-II[16]. The existing runway configuration at MAZ consists of a single runway, designated Runway 9-27. Runway 9-27 is a 4,998-foot long by 100-foot-wide asphalt runway and is oriented in an east/west direction. The runway has a weight-bearing capacity of 85,000 lbs. for single-wheel aircraft, 108,000 lbs. for dual-wheel aircraft, and 170,000 lbs. for dual-wheel tandem aircraft.

[16] For definition and the significance of Airport Reference Code refer to FAA AC 150/5300-13A

Figure 26. MAZ Aerial Image



The airport has one (1) parallel taxiway and five (5) connector taxiways. Taxiway A is a 50-foot-wide parallel taxiway that extends from the Runway 9 threshold to the east, ending approximately 1,400 feet short of the Runway 27 threshold. Taxiway A intersects with each of the other five connector taxiways.

There are three (3) apron areas identified at MAZ totaling approximately 170,000 square feet. The three (3) aircraft aprons provide areas for aircraft parking, loading, unloading, maintenance, and fueling. The Passenger Terminal Apron is the largest of the three (3) aprons and services Cape Air, an air taxi company that provides passenger service to MAZ. The Passenger Terminal Apron is located south of Runway 9-27 and north of the passenger terminal, with a small section extending west between Taxiways B and C. This apron occupies 109,740 square feet and is connected to the airfield by Taxiways A, B, and C. It provides space for commercial aircraft parking, five (5) marked tie-down areas, and access to the airport's terminal.

NAVAIDS found at the airport includes the Very High-Frequency Omni-Directional Range Radio-Beacon ("VOR") with distance measuring equipment ("DME") and a non-directional radio beacon ("NDB"). The NDB at the airport is located southeast of Runway 9 threshold, adjacent to Taxiway A. The VOR/DME radio beacon is north of Runway 9-27. Visual aids at MAZ include 4-light PAPIs for each runway ends 09 and 27, an airport rotating beacon, segmented circle and wind cone, runway edge lights, and signage.

The MAZ terminal is located approximately ¾ mile from PR-2, four miles north of Mayagüez, and is a one-story building with a footprint totaling about 33,400 square feet. The terminal building has three (3) gates and an everyday-use hold room.

General aviation facilities at MAZ consist of two (2) active private hangars for aircraft storage. There are no fixed base operators at the airport. The FURA formerly operated out of MAZ for helicopter operations. The unused FURA hangar is located west of the passenger terminal between Taxiways B and C.

The former ATCT is located east of the passenger terminal and south of the general aviation apron. The ATCT has not been in active use for several years and has not been maintained. The airport's former ARFF facility is immediately east of the passenger terminal. The facility has a two-bay open garage, office areas, and an equipment storage room. The facility is no longer in use.

2.3.3.4. ABO

The Airport Reference Code of ABO is B-I[17]. The existing runway configuration at ABO consists of a single runway, designated Runway 8-26. Runway 8-26 is a 3,954-foot long by 60-foot-wide asphalt runway oriented in a southwest/northeast direction. The runway has a weight-bearing capacity of 22,000 lbs. for single-wheel aircraft.

Figure 27. ABO Aerial Image

There are three (3) taxiways at ABO. Taxiway A is a 35 feet L-shaped taxiway, beginning near the threshold of Runway 8 and extending to the southeast as a connector taxiway for approximately 250 feet. After about 250 feet, Taxiway A makes a 90-degree turn and extends to the northeast as a partial parallel taxiway for about 1,400 feet, ending at Taxiway B.

[17] For definition and the significance of Airport Reference Code refer to FAA AC 150/5300-13A

Two (2) apron areas are identified at ABO, totaling approximately 128,000 square feet. The main apron is located south of Runway 8-26 and is connected to the airfield by Taxiway B. It provides 11 marked tie-down spaces, additional tie-down space on the south apron edge with room for approximately seven (7) small piston aircraft, and three (3) transient aircraft spaces near the Airport's terminal.

There are no NAVAIDs or meteorological equipment at ABO. A segmented circle, wind cone, medium-intensity runway lights ("MIRL"), and runway end/threshold lights exist.

The ABO passenger terminal is located on the airport's south side between the two (2) aprons at the end of the airport's access roadway. The facility has a non-aviation tenant, a doctor's office encompassing approximately 1,800 square feet of the 3,500-square-foot building footprint. The terminal apron has marked spaces for three aircraft loading positions for transient activity. The loading positions are sized for two ADG I aircraft (wingspans up to 49 feet) and one ADG II aircraft (wingspans up to 79 feet).

The general aviation facilities at ABO consist of four (4) private hangars for aircraft storage, the foundation for a fifth hangar, and two (2) skydiving businesses on the airfield. The fifth hangar facility (belonging to Medic Air Transport Corporation) was damaged during Hurricane Maria in 2017, and the structure has not been rebuilt. ABO has two (2) other tenants operating non-aeronautical facilities on airport property: United Parcel Service and Light Gas Corporation.

2.3.3.5. CPX

The Airport Reference Code of CPX is B-I. The existing runway configuration at CPX consists of a single runway, designated Runway 13-31. Runway 13-31 is a 2,600-foot long by 60-foot-wide asphalt runway oriented in a northwest/southeast direction. The runway has a weight-bearing capacity of 12,500 lbs. for single-wheel aircraft.

Figure 28. CPX Aerial Image

There are seven (7) taxiways and one (1) taxi lane at CPX. Taxiway A is 25 feet wide and constructed from asphaltic concrete. It is a partial parallel taxiway located south of the runway. It is connected to the runway by a short connector segment that begins on the southern edge of Runway 13 and extends to the southwest. After approximately 100 feet, Taxiway A makes a 90-degree turn and extends to the southeast as a partial parallel taxiway for about 2,200 feet, ending at Taxiway A3.

Three (3) apron areas are identified at CPX, totaling approximately 200,000 square feet. The main apron is located south of Runway 13-31 and is connected to the airfield by Taxiway A and Taxiway A2. It provides multiple tie-down spaces and access to the airport's terminal.

CPX has no NAVAIDS. Visual aids at CPX include a rotating beacon, a lighted wind cone, runway edge lights L, and runway end/threshold lights.

The CPX passenger terminal is located on the airport's south side. The facility is a single-story building constructed in 1994 with an approximate footprint of 4,900 square feet. The terminal apron has marked spaces for five-passenger aircraft, all ground loaded. The gate positions are sized for five ADG I aircraft (wingspans up to 79 feet) to be simultaneously parked.

There are two (2) GA aprons located on the north side of the airfield. The largest GA apron is approximately 85,000 square feet, and a smaller apron is about 30,000 square feet. The two (2) GA aprons are connected via a taxiway to the runway and the terminal apron.

2.3.3.6. VQS

The Airport Reference Code of VQS is B-II. The existing runway configuration at VQS consists of a single runway, designated Runway 9-27. Runway 9-27 is a 4,301-foot long by 75- foot-wide asphalt runway oriented in an east/west direction. The runway has a weight-bearing capacity of 20,000 lbs. for single-wheel and 40,000 lbs. for double-wheel aircraft.

Figure 29. VQS Aerial View

VQS Taxiway A is a full-length parallel taxiway and the main taxiway. Its length equals the runway at 4,301 feet and is 35 feet wide.

There are two (2) apron areas identified at VQS totaling approximately 212,000 square feet. The GA apron is the larger of the two (2) and services the GA aircraft. The GA Apron is south of the runway and Taxiway A on the airport's east end, just west of the passenger terminal building. The apron has an area of 116,561 square feet and is connected to the airfield by Taxiways D and D1. The fuel farm is centrally located on the southern edge of the apron, and there is also an Air Vieques maintenance hangar on its western border.

Visual aids at VQS include one 4-light PAPI for Runway 09, an airport rotating beacon, segmented circle and wind cone, runway and taxiway edge lights, and signage. The VQS passenger terminal is located on the north side of the Airport along Highway 22.

The two-story facility is approximately 13,000 square feet. The terminal apron has marked spaces for six-passenger aircraft, all ground-loaded. The gate positions are sized for ADG I aircraft (wingspans up 49 feet) to be simultaneously parked.

The general aviation ramp is to the west of the air carrier apron. It has a ramp capacity of approximately 12 single-engine piston aircraft. There is no separate public aviation terminal building. One major tenant at the airport, Vieques Air Link, has a maintenance facility and hangar west of the general aviation ramp. The hangar is approximately 9,000 square feet and houses multiple aircraft undergoing maintenance.

VQS has a dedicated and staffed ARFF facility west of the passenger terminal. The facility has three vehicle bays. The ARFF facility is approximately 3,000 square feet with offices and support areas next to the garage, about 1,700 square feet of space.

2.3.3.7. X63

The Airport Reference Code of X63 is B-I. The existing runway configuration at X63 consists of a single runway, designated Runway 10-28, and is a 2,458-foot long by 60-foot-wide asphalt runway oriented in an east/west direction. The runway has a weight-bearing capacity of 12,000 lbs. for single-wheel aircraft.

Figure 30. X63 Aerial Image

There are three (3) unnamed taxiways at X63. For this Study, they will be unofficially identified as Taxiway A (located on the west side of the airfield), Taxiway B (located at the center of the airport), and Taxiway C (located on the east side of the terminal).

Taxiway A is approximately 15 feet wide and extends north from the Runway 10 threshold for about 140 feet. Taxiway B is about 25 feet wide and extends north from Runway 10-28 for approximately 185 feet to the airport's main apron. Taxiway C is about 25 feet wide and is a taxiway turnaround for the Runway 28 end. The entire taxiway is approximately 470 feet long.

There is only one apron at X63, approximately 72,250 square feet. It is located on the north side of Runway 10-28 and is connected to the runway by Taxiway B. It provides multiple tie-down spaces and access to the airport's terminal. Visual aids at X63 include a rotating airport beacon, two (2) lighted wind cones, and runway and taxiway edge lights.

The airport's passenger terminal is located on the airport's north side. The facility is a single-story building with an approximate footprint of 2,250 square feet. The terminal apron has two (2) marked tie-down spaces for small transient aircraft. X63 has one flight school, FAS Aviation, located on airport property. FAS Aviation provides flight training services for students.

2.3.4. *History and Projections of Demand*

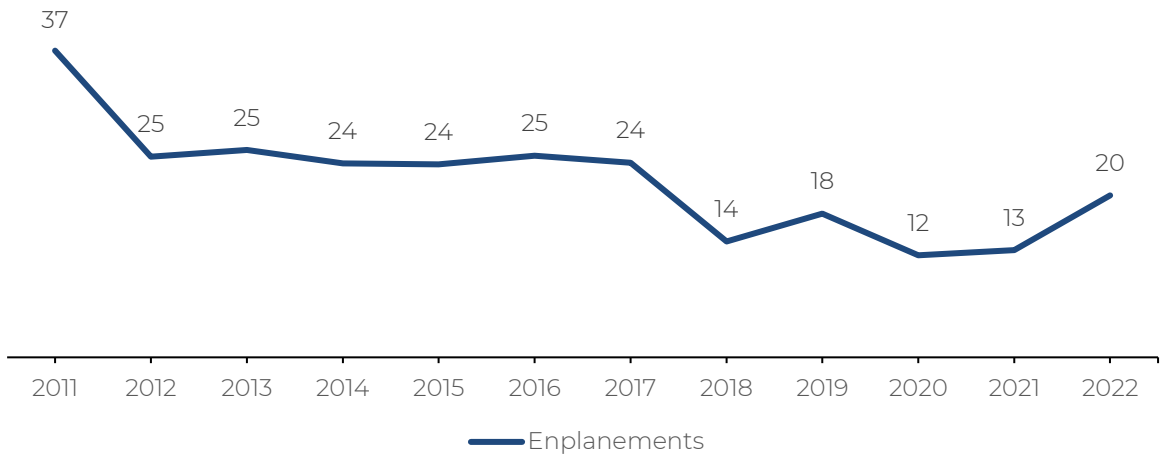
2.3.4.1. SIG

SIG had a total of 18,000 enplanements in 2019. Between 2011 and 2019, the enplanements at SIG have decreased by around 20,000, or 8% annually. In 2020, the enplanements at SIG decreased by 34% but increased by 45% in 2022, with 19,775 enplanements recorded.

From 2011-2019, SIG averaged 100,000 total operations, which was more significant than the other Regional Airports. While the airport is regularly used for air carriers, air taxis & commuters, and military operations, most operations are itinerant and local general aviation. In 2020 the airport's total operations decreased by 33% but increased by 16% in 2022, with 81,809 operations.

Based aircraft at SIG has been more significant than the other Regional Airports, with an average of 217 from 2011-2020. The airport retained 210 based aircraft in 2020 during COVID-19. SIG has averaged 940,000 pounds of cargo from 2016-2019. As a result of COVID-19, cargo decreased by 66% in 2020 but has increased closer to pre-pandemic levels, with 923,889 pounds of freight recorded in 2022.

Figure 31: SIG – Enplanements Historic Trend (FY2011-FY2022) in 000s



Source: PRPA Data 2023

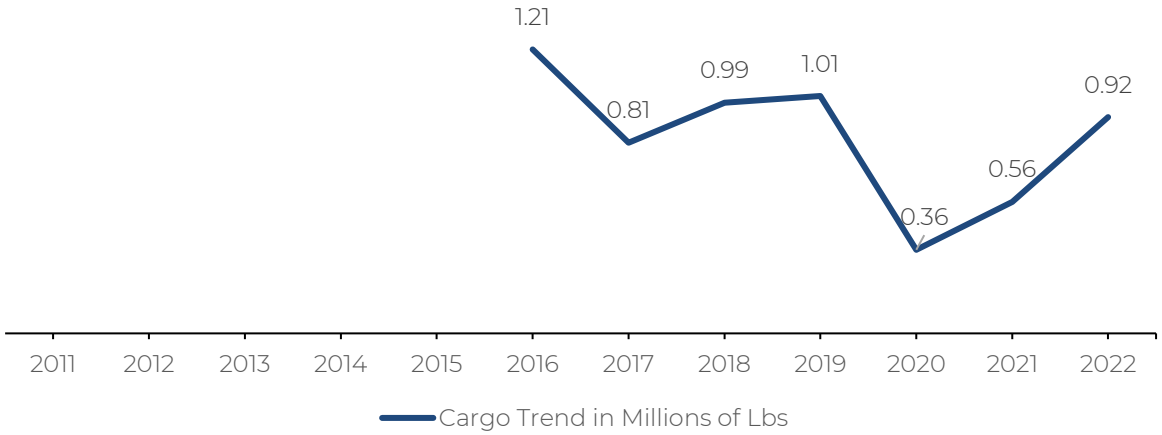
Figure 32: SIG – Operations Historic Trend (FY2011-FY2022) in 000s

Source: PRPA Data 2023

Figure 33: SIG – Based Aircraft Historic Trend (FY2011-FY2022)

Source: PRPA Data 2023,

Figure 34: SIG– Cargo Trend (FY2016-FY2022) in Millions of Pounds



Source: PRPA Data 2023

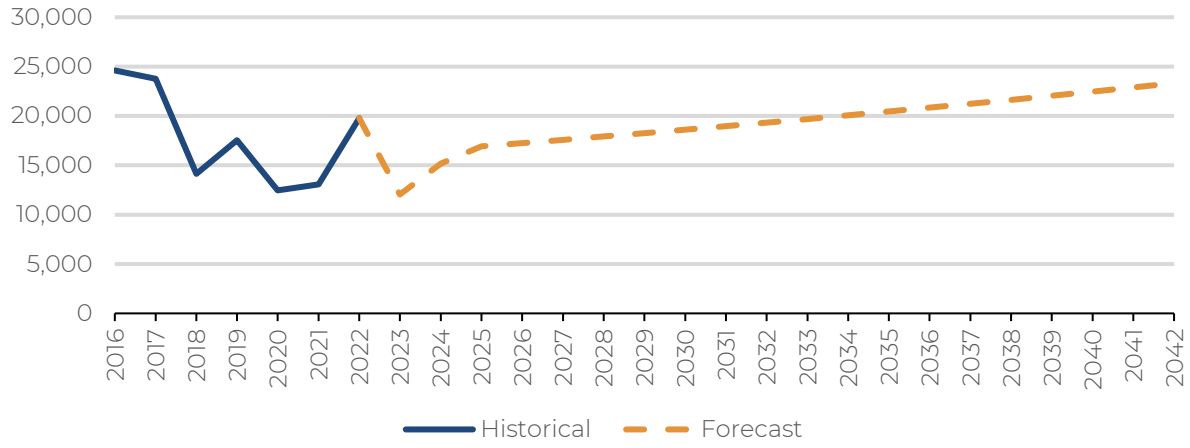
Enplanements at SIG have already recovered to pre-pandemic levels and are projected to increase at 1.9% annually based on the FAA TAF 2022. Ultimately, the airport is projected to increase to 23,000 annual enplanements by 2042.

Based on the FAA TAF 2022, it is assumed that SIG will recover from its decline in 2020 operations related to COVID-19 back to 100,000 total operations or (2019 totals) by 2025. During that time, it is assumed the airport will retain its role as a reliever airport, with most of its activity from its general aviation community. From 2022-2042, SIG's operations will increase at an annual rate of 1.3%.

The FAA TAF 2022-based aircraft forecast for SIG shows sustained growth for the next 20 years, with an annual growth rate of 1.7%, increasing the airport's total to over 297 by 2042.

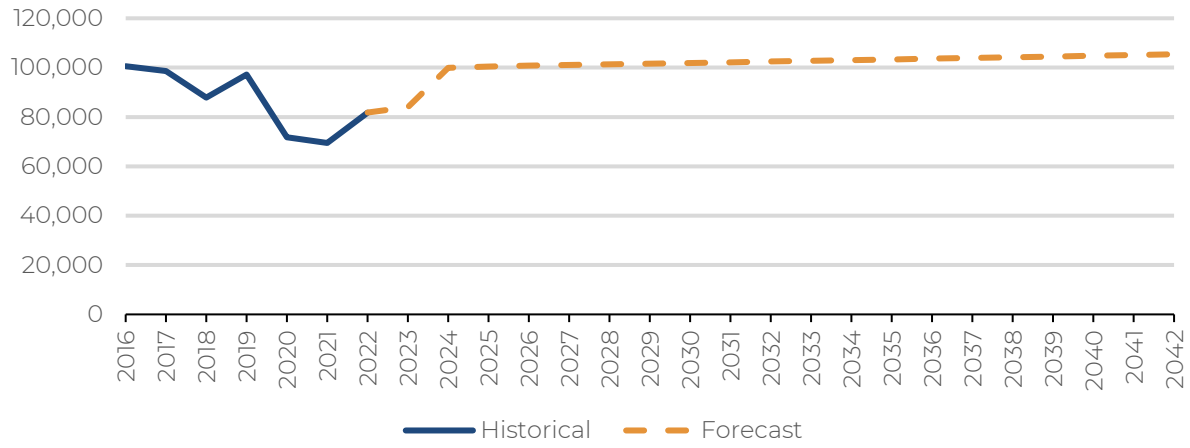
As shown in Figure 38, cargo has already returned to pre-pandemic numbers. It is assumed to increase by 3% annually for the planning horizon based on the historical growth rate of the airport.

Figure 35: SIG – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)[18]



Source: PRPA Data 2023 FAA 2022TAF

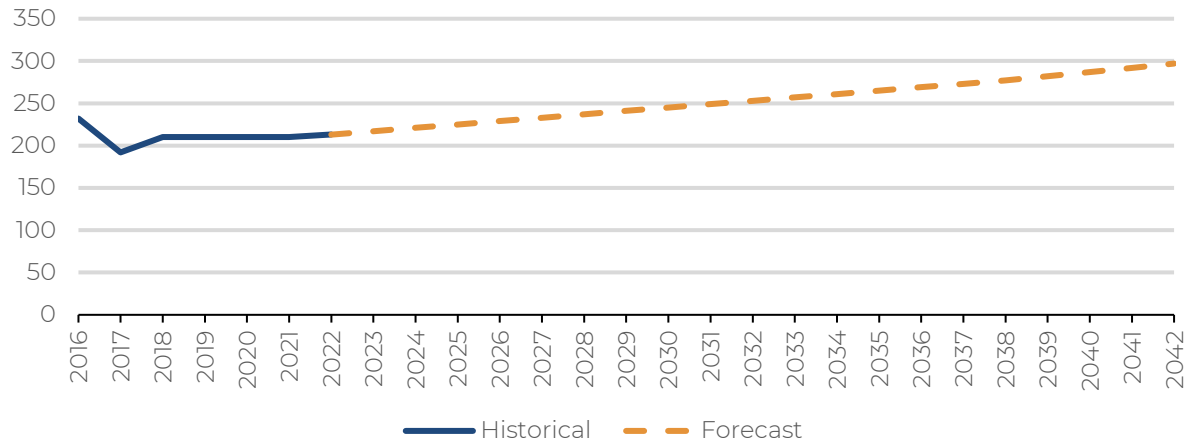
Figure 36: SIG – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023 FAA 2022TAF

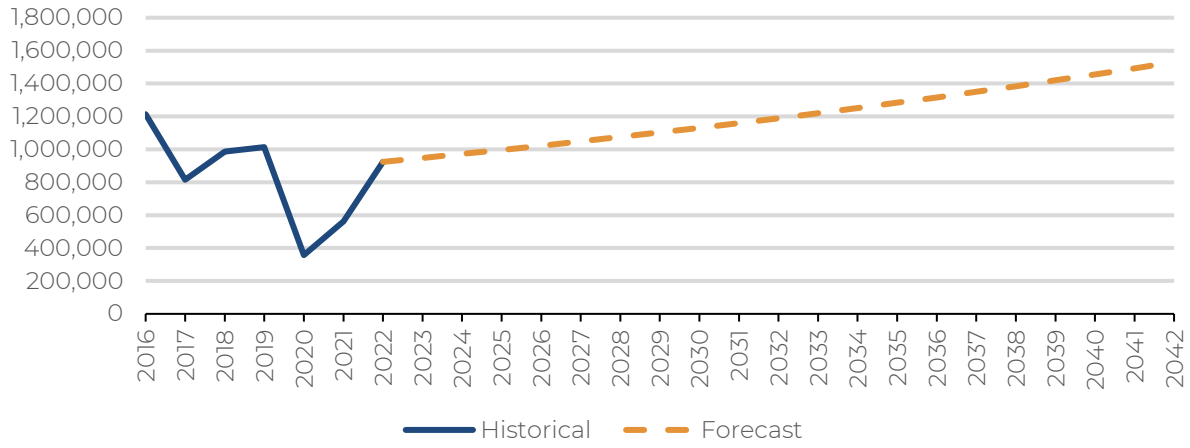
[18] The decrease in enplanements expected for 2023 is largely a result of the FAA changing their forecasting methodology for smaller airports from previous years, In previous years FAA estimated a higher post pandemic recovery growth rate than what actually happened at many of the smaller airports nationwide thus it's model was adjusted. Because their model is a national model, they've reduced future traffic volumes for many of the smaller commercial and GA airports based on their new forecast model.

Figure 37: SIG – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

Figure 38: SIG – Cargo Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, RS&H Calculations 2023

2.3.4.2. RVR

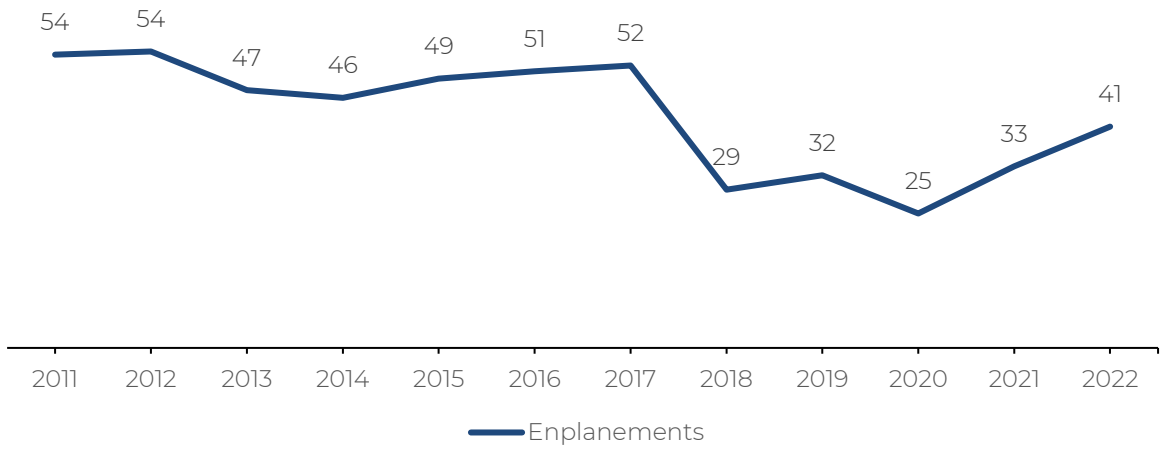
RVR had 24,620 enplanements in 2020. From 2011-2019, enplanements have decreased by 40% or 5% annually. The number of enplanements at RVR decreased by 22% in 2020 due to the impact caused by COVID-19 but increased by 39% in 2022, with 40,548 enplanements recorded.

Operations at RVR have also decreased from 2011-2019, but at a lesser rate than some other Regional Airports. Except for the 2013-2014 decline, the sharpest decline before the pandemic was observed in 2018. Like the other airports, RVR's annual operations decreased by 36% in 2020 due to COVID-19 but have reached pre-pandemic numbers in 2022 with 21,046 operations recorded.

Based aircraft have shown an increasing trend over the past 10 years, with five (5) in 2011 increasing to 20 in 2017.

Cargo volumes at RVR have historically been shallow, mainly airmail, and are not regularly recorded by PRPA. [19]

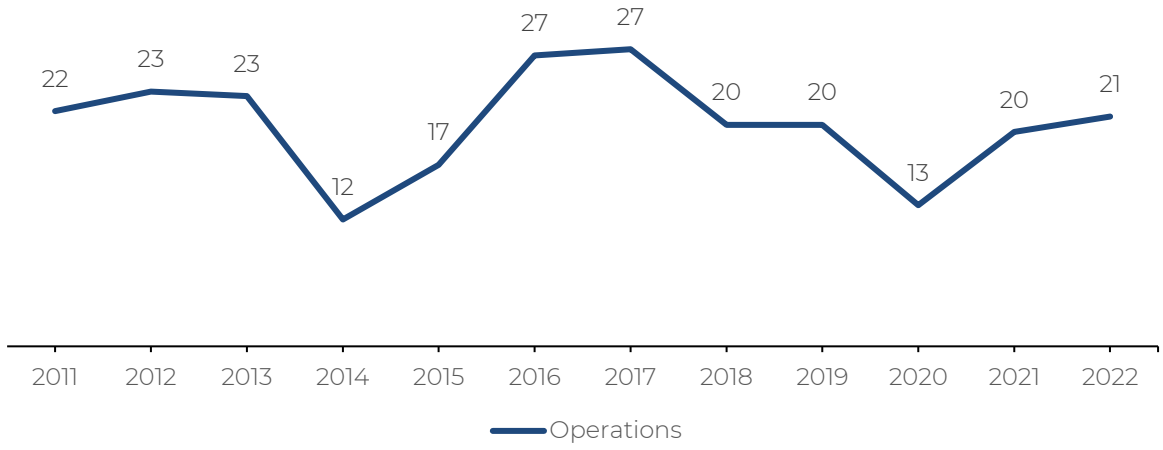
Figure 39: RVR – Enplanements Historic Trend (FY2011-FY2022) in 000s



Source: PRPA Data 2023

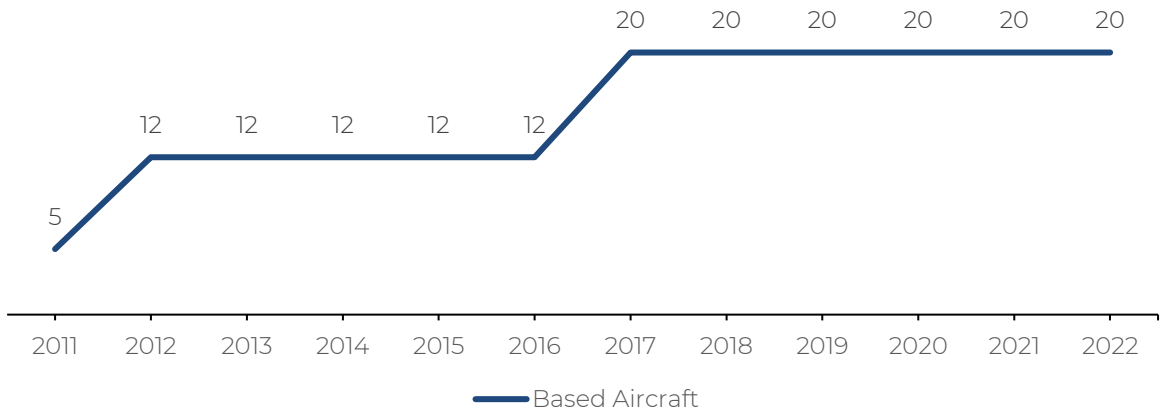
[19] FAA requires all commercial air carriers to report air cargo transported loads but not cargo transported on small charter aircraft. Therefore, PRPA is not legally required to report cargo transported on small, non-commercial aircraft.

Figure 40: RVR – Operations Historic Trend (FY2011-FY2022) in 000s



Source: PRPA Data 2023

Figure 41: RVR – Based Aircraft Historic Trend (FY2011-FY2022)

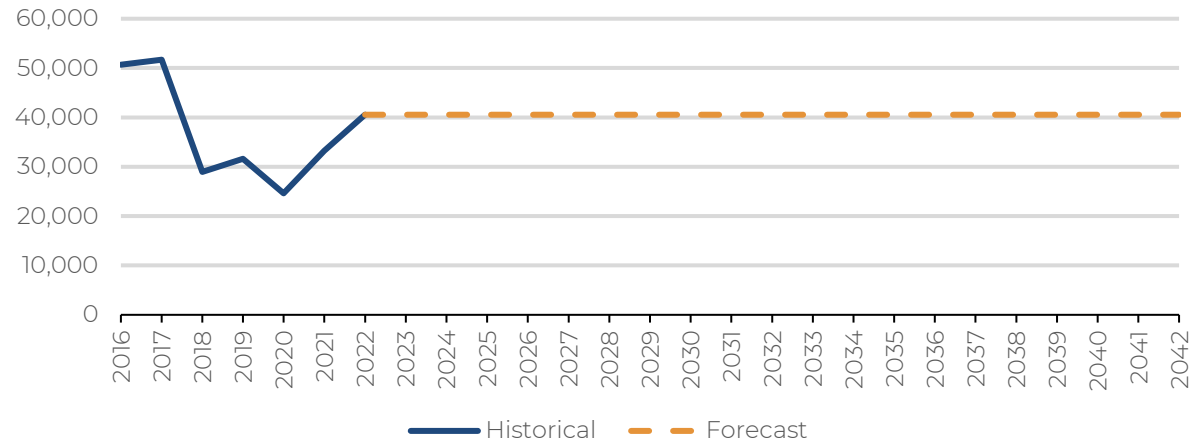


Source: PRPA Data 2023, FAA Form 5010

The FAA TAF 2022 forecasts that the passenger activity at RVR will remain constant over the 20-year planning horizon.

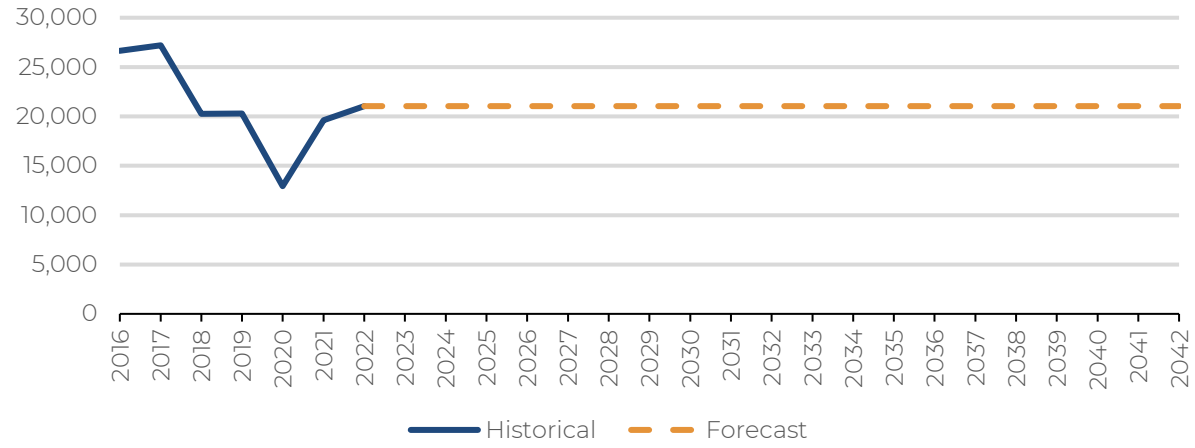
Similarly, the FAA TAF 2022 projects no change in RVR's total annual operations or distribution of operation types. Thus, the airport will continue to be used mainly for air taxi and commuter operations.

Figure 42: RVR – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



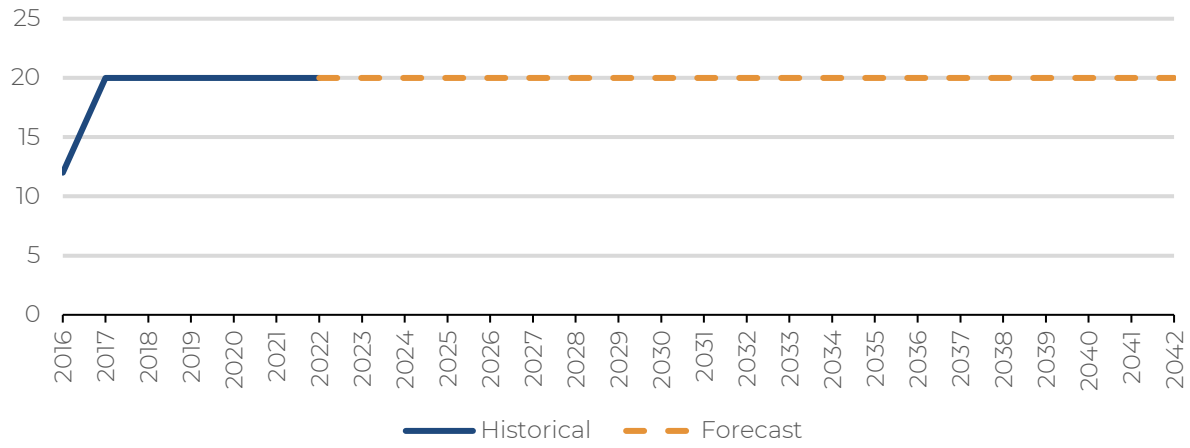
Source: PRPA Data 2023, FAA 2022 TAF

Figure 43: RVR – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

Figure 44: RVR – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2022, FAA 2022 TAF

2.3.4.3. MAZ

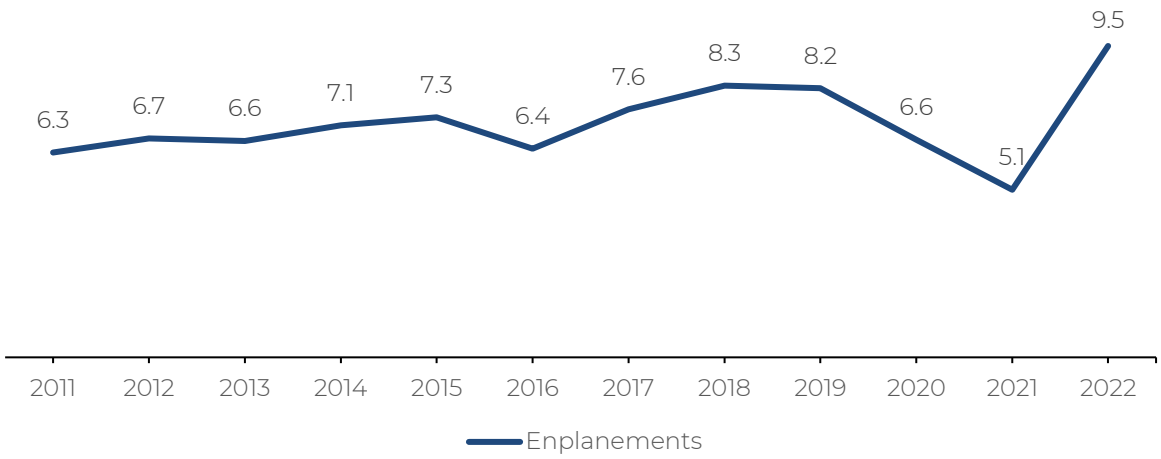
MAZ had a total of about 8,000 enplanements in 2019. From 2011-2019, MAZ enplanements increased at an annual rate of 5%. Then in 2021, they decreased by 38% due to the pandemic but rebounded to 9,504 enplanements recorded in 2022. Cape Air has steadily increased the frequency to four daily flights as more tourist and local business people opt to fly instead of driving to and from San Juan.

By 2019, there were 5,200 operations at MAZ, primarily air taxi and commuter, general aviation, and military. Like enplanements, in 2021, the airport experienced a -34% reduction in activity but is returning to pre-pandemic levels with 4,896 operations recorded in 2022.

Based aircraft fluctuated between 2011-2022 with only nine (9) aircraft in 2011 and increasing to 30 in 2017. Since the peak in 2017, numbers have decreased to 13 based aircraft recorded in 2022.

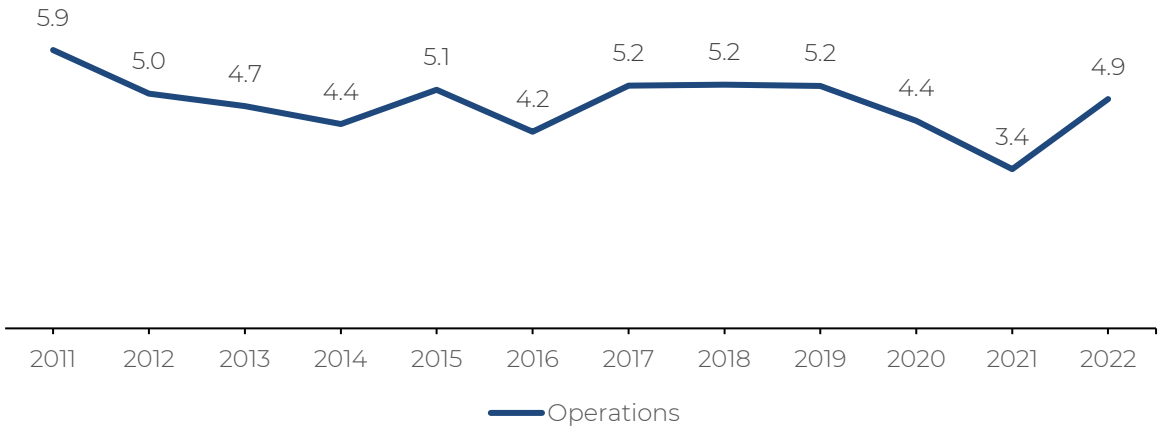
Total cargo at MAZ has shown stability, with an average of more than 600,000 pounds over the past five (5) years. In 2021, the airport experienced a decrease of 36% due to impacts from COVID-19 but has since surpassed pre-pandemic numbers with 725,840 pounds of cargo recorded in 2022.

Figure 45: MAZ – Enplanements Historic Trend (FY2011-FY2022) in 000s



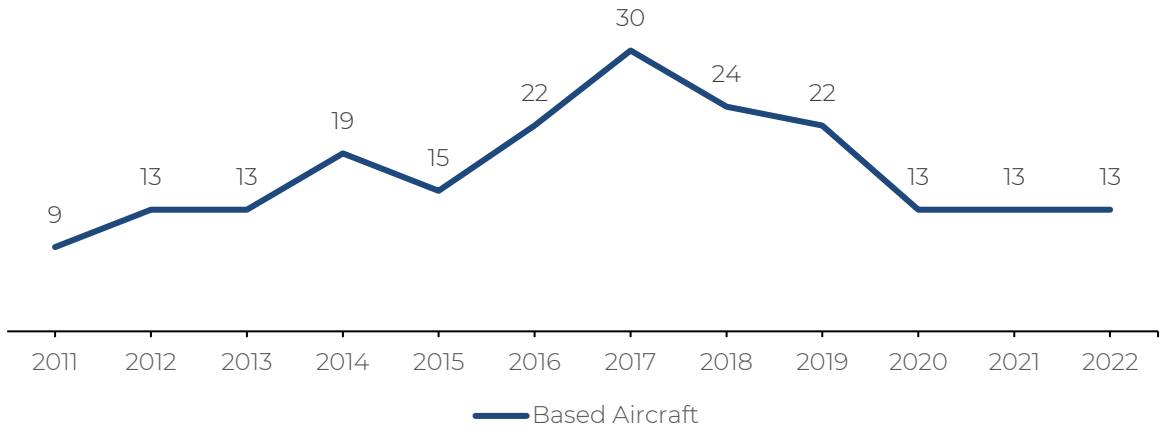
Source: PRPA Data 2023

Figure 46: MAZ – Operations Historic Trend (FY2011-FY2022) in 000s



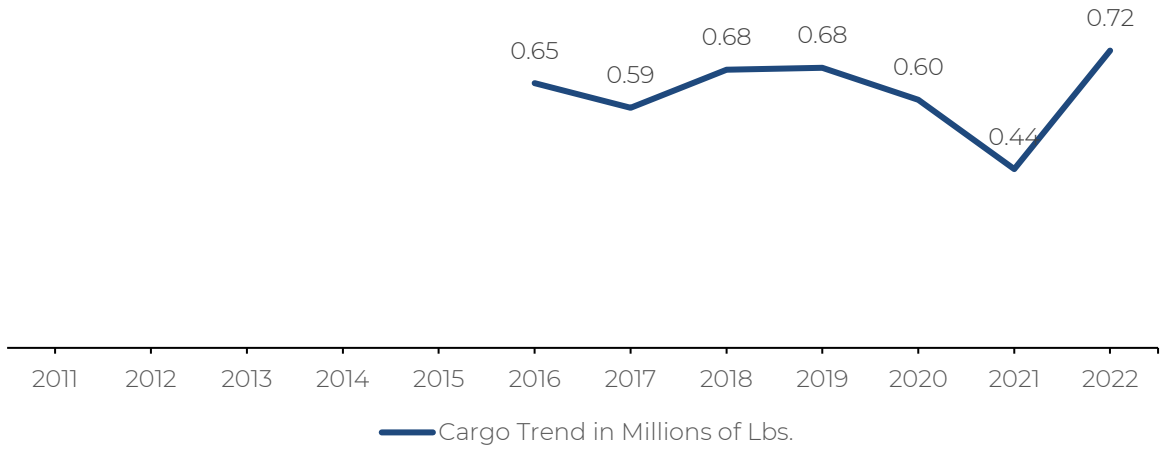
Source: PRPA Data 2023

Figure 47: MAZ – Based Aircraft Historic Trend (FY2011-FY2022)



Source: PRPA Data 20213 FAA Form 5010

Figure 48: MAZ– Cargo Trend (FY2016-FY2022) in Millions of Pounds



Source: PRPA Data 2023

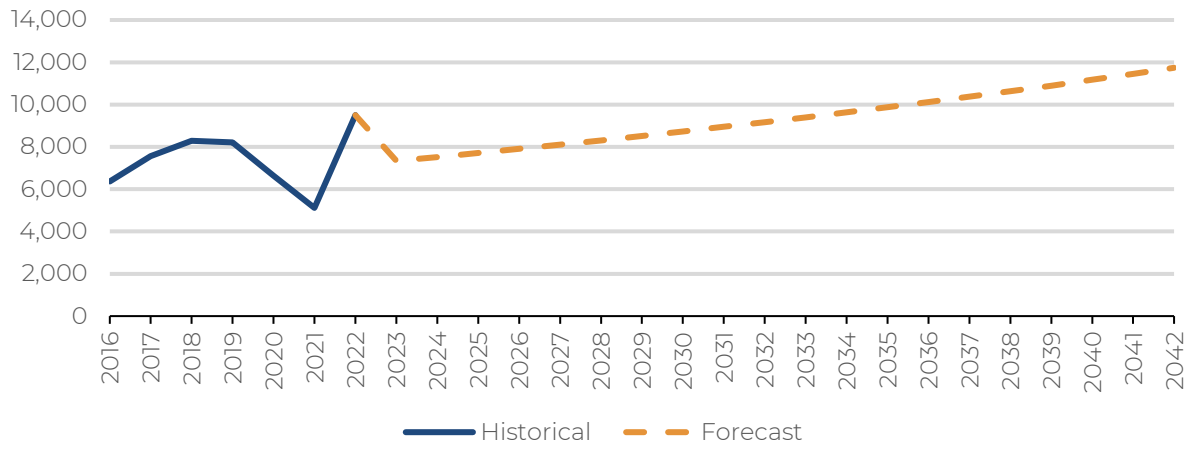
As seen in Figure 49, the FAA TAF 2022 project enplanements will increase at a 2.5% annual growth rate, ultimately reaching 11,740 enplanements by 2042.

The FAA TAF 2022 projects total aircraft operations to increase by 0.7% annually from 2032. This growth rate shows that MAZ's operations will increase from 4,300 in 2020 to nearly 5,000 in 2042.

Based on the airport's FAA 5010-1 Form, MAZ had an estimated 13 based aircraft in 2022. It is projected for this number to stay the same over the next 20 years.

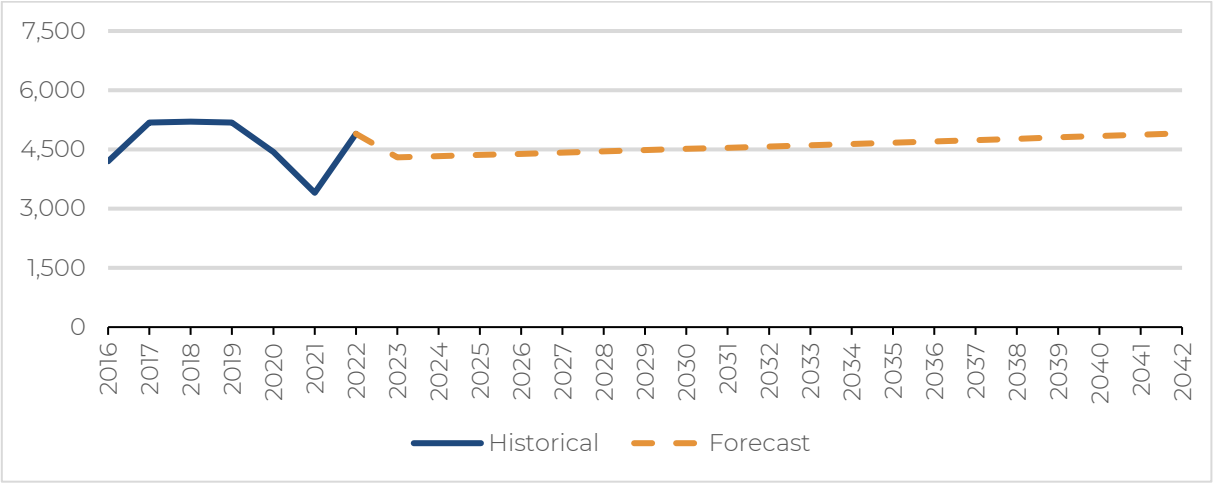
After a decrease in cargo operations in 2020 and 2021, MAZ is projected to increase over the next 20 years. The total cargo activity is projected to grow annually at 1.9% based on the historical growth rate and reach over 1 million pounds of cargo processed by 2042.

Figure 49: MAZ – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)[20]



Source: PRPA Data 2023

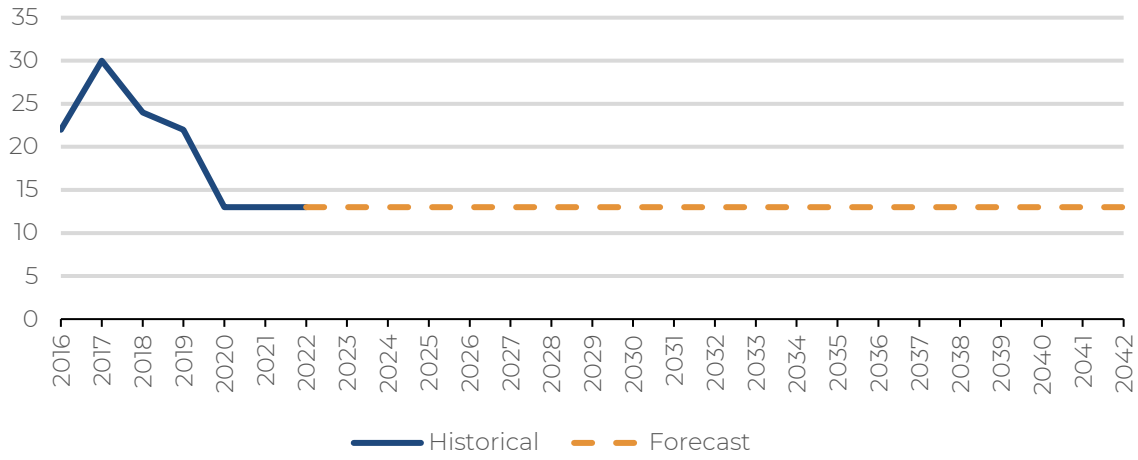
Figure 50: MAZ – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

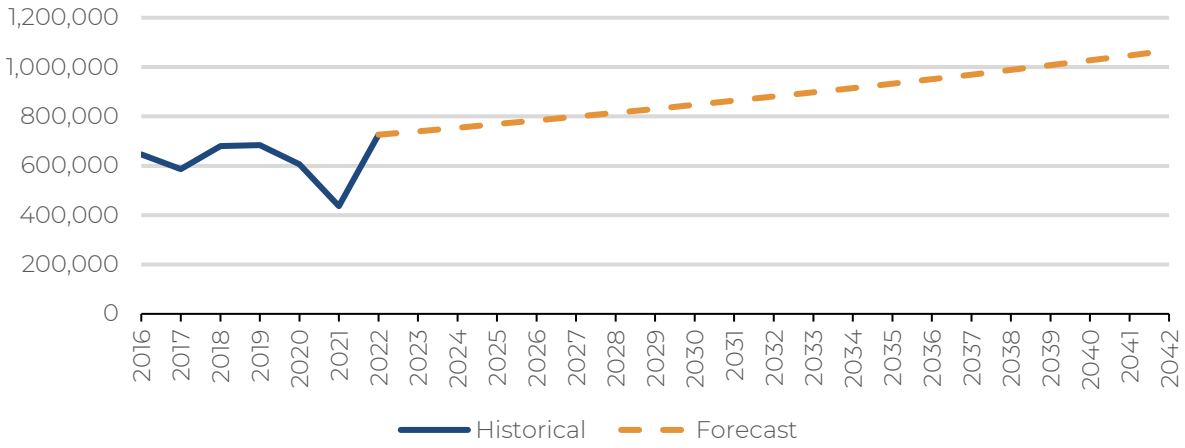
[20] The decrease in enplanements expected for 2023 is largely a result of the FAA changing their forecasting methodology from the previous years, In previous years FAA estimated a higher post pandemic growth rates than what actually happened at many of the smaller airports nationwide thus it's model was adjusted. Because their model is a national model, they've reduced future traffic volumes for many of the smaller commercial and GA airports based on their new forecast model.

Figure 51: MAZ – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

Figure 52: MAZ – Cargo Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, RS&H Computations 2023

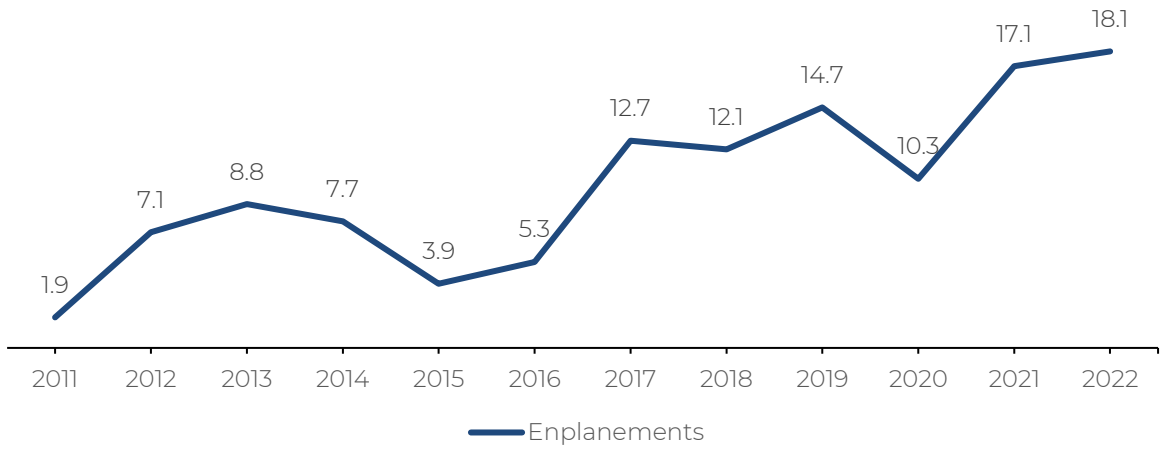
2.3.4.4. ABO

ABO had approximately 2,000 passenger enplanements in 2011. Its passenger traffic has increased significantly, reaching its highest volume of almost 15,000 in 2019. From 2019-2020, enplanements at ABO decreased by 30% but have surpassed pre-pandemic levels, with a recorded 18,101 enplanements in 2022.

The airport's total aircraft operations ranged from 2.4 to 8.7 from 2011 through 2019. Most of these operations were itinerant local general aviation. In 2020, operations decreased slightly but have risen since, recording 6,693 operations in 2022.

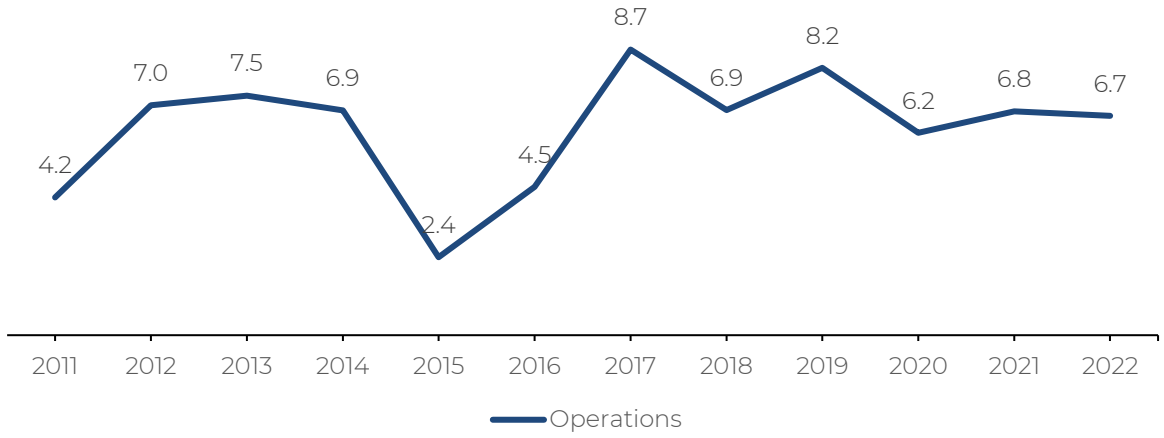
In 2013, ABO had 14 based aircraft, peaking to 42 in 2015 and decreasing to about 27-29 aircraft between 2018 and 2020. There are 28 recorded-based aircraft at ABO in 2022.

Figure 53: ABO – Enplanements Historic Trend (FY2011-FY2022) in 000s



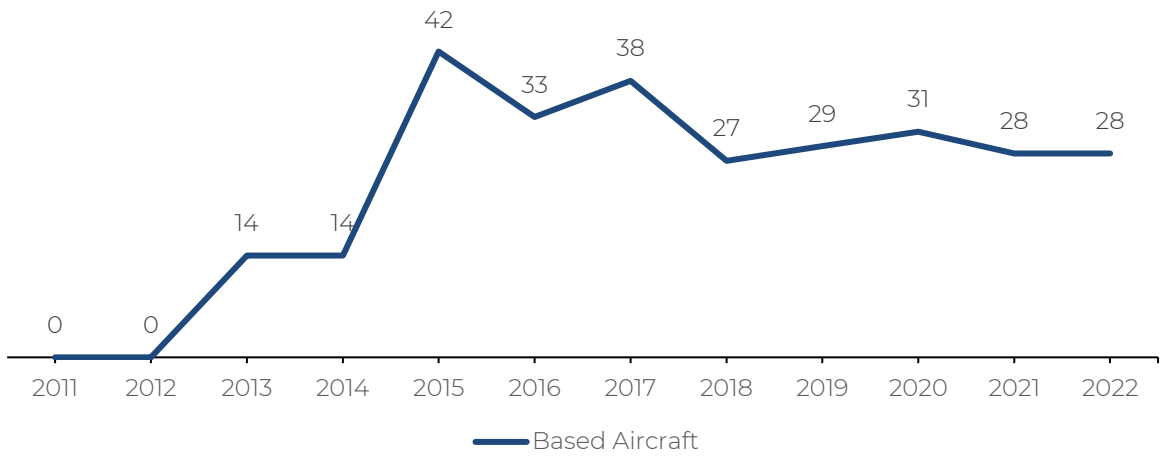
Source: PRPA Data 2023

Figure 54: ABO – Operations Historic Trend (FY2011-FY2022) in 000s



Source: PRPA Data 2023

Figure 55: ABO – Based Aircraft Historic Trend (FY2011-FY2022)



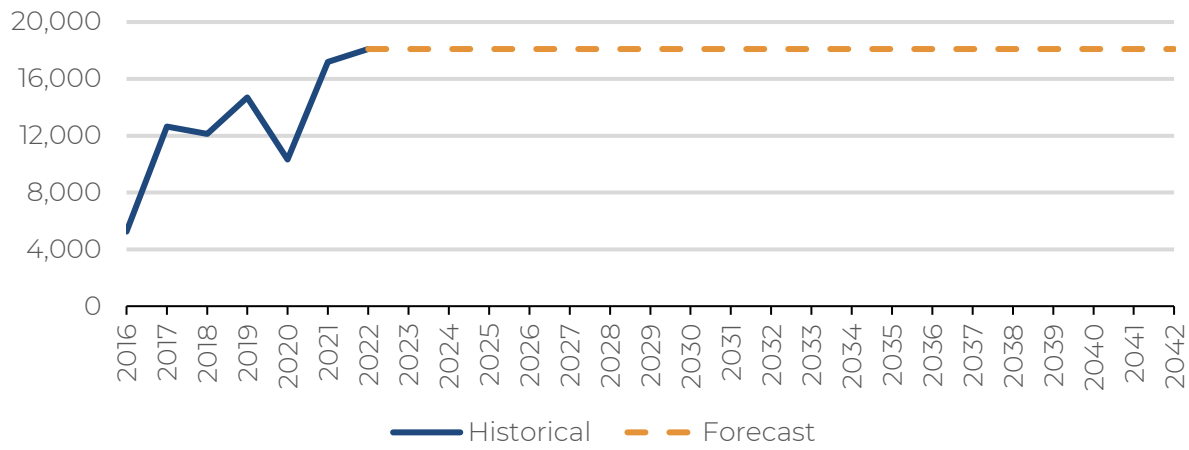
Source: PRPA Data 2022, FAA Form 5010

As shown in Figure 56, FAA TAF 2022 projects ABO will have no growth in the number of enplaned passengers between 2022-2042. Therefore, the total enplanements of 18,101 (based on PRPA's records) will remain constant for the next 20 years.

The FAA TAF 2022 projects that operations at ABO will remain constant through the forecasted period at approximately 6,693 operations.

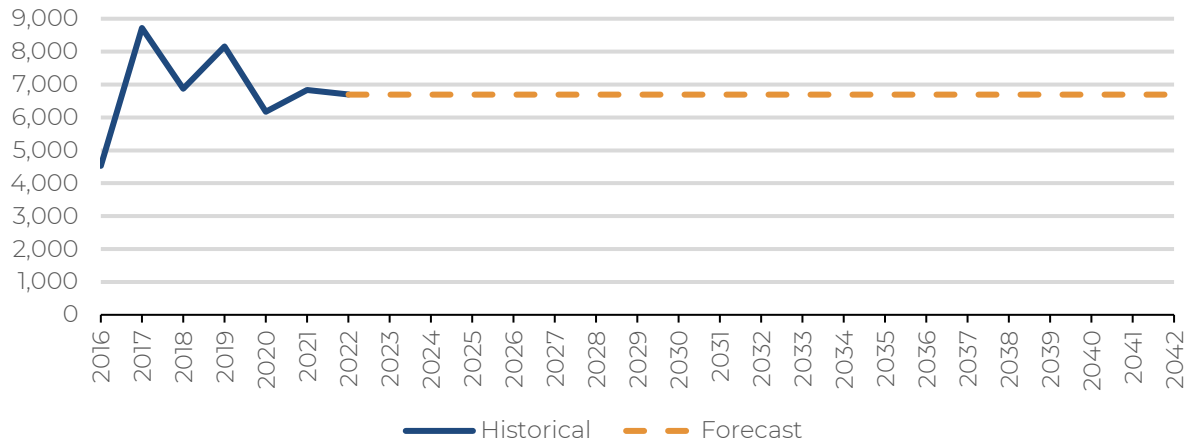
The FAA 5010-1 Form indicates that ABO had 28 based aircraft in 2022, which is projected to remain constant over the next 20 years.

Figure 56: ABO – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



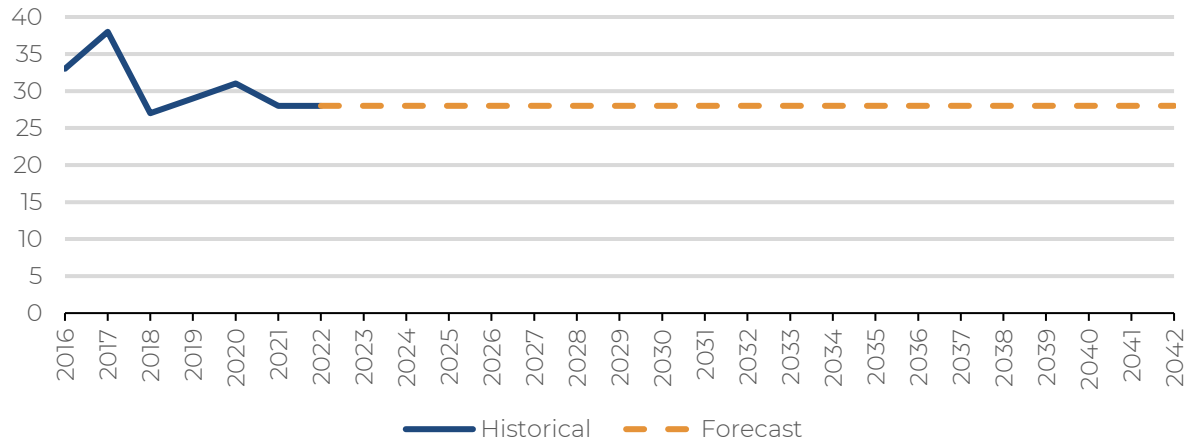
Source: PRPA Data 2023, FAA 2022 TAF

Figure 57: ABO – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023 FAA 2022TAF

Figure 58: ABO – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

2.3.4.5. CPX

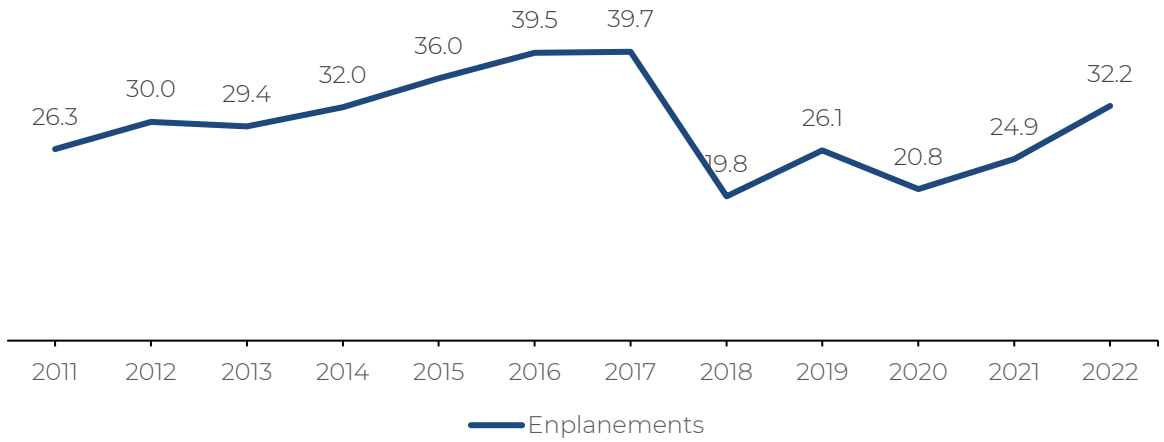
CPX had a total of 26,000 enplanements in 2019. From 2011, the number of enplanements at CPX steadily increased until 2018 when Puerto Rico was hit by Hurricanes, causing major traffic interruptions at CPX. After a mild recovery in 2019, passenger counts decreased by 20% in 2020 but have rebounded to nearing pre-Hurricane levels in 2022 with 32,223 recorded enplanements.

As with enplanements, total aircraft operations at CPX increased steadily until 2018. In 2019, operations showed a modest increase from 2018 levels and then decreased again due to the pandemic. Operations are steadily recovering, with 20,082 operations recorded in 2022.

Based aircraft have increased from three (3) in 2011 to nine (9) in 2022.

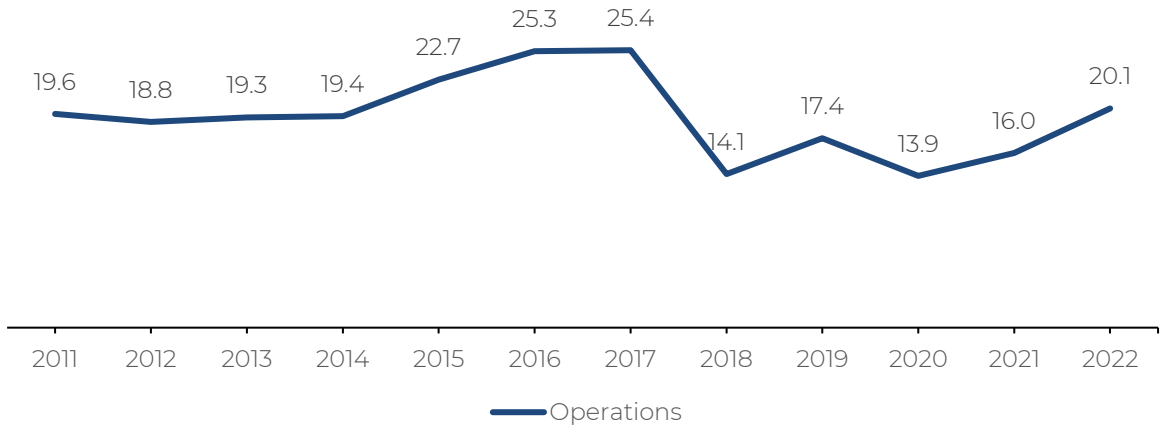
Total cargo at CPX has averaged 200,000 pounds over the past five (5) years. The pandemic had the opposite effect on cargo as on enplanements and operations. In 2022, the cargo processed through CPX increased by 28% from 2019.

Figure 59: CPX – Enplanements Historic Trend (FY2011-FY2022) in 000s



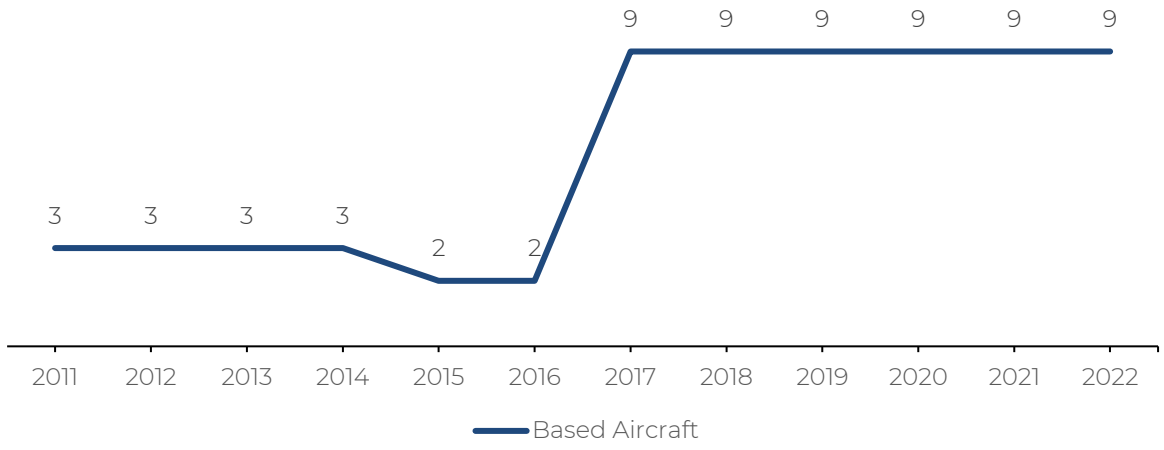
Source: PRPA Data 2023

Figure 60: CPX – Operations Historic Trend (FY2011-FY2022) in 000s



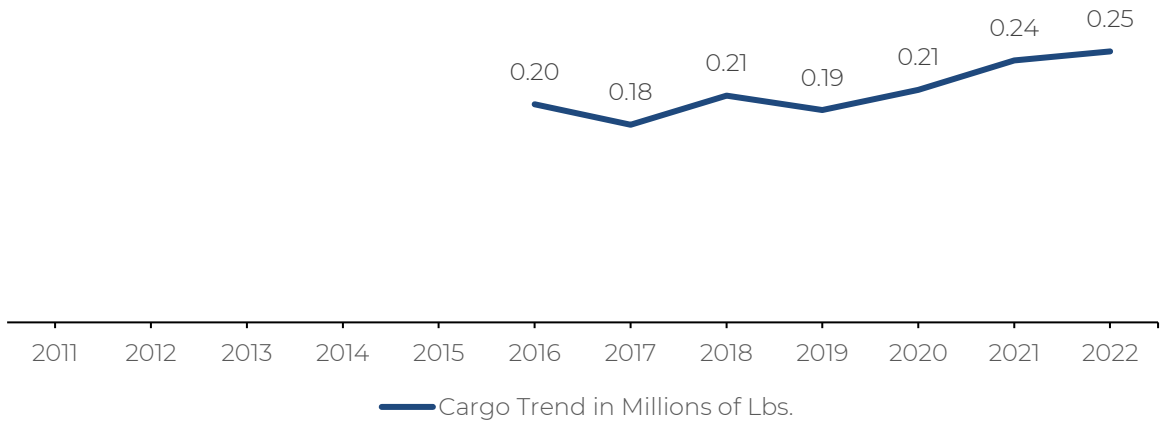
Source: PRPA Data 2023

Figure 61: CPX – Based Aircraft Historic Trend (FY2011-FY2022)



Source: PRPA Data 2023, FAA Form 5010

Figure 62: CPX – Cargo Trend (FY2016-FY2022) in Millions of Pounds



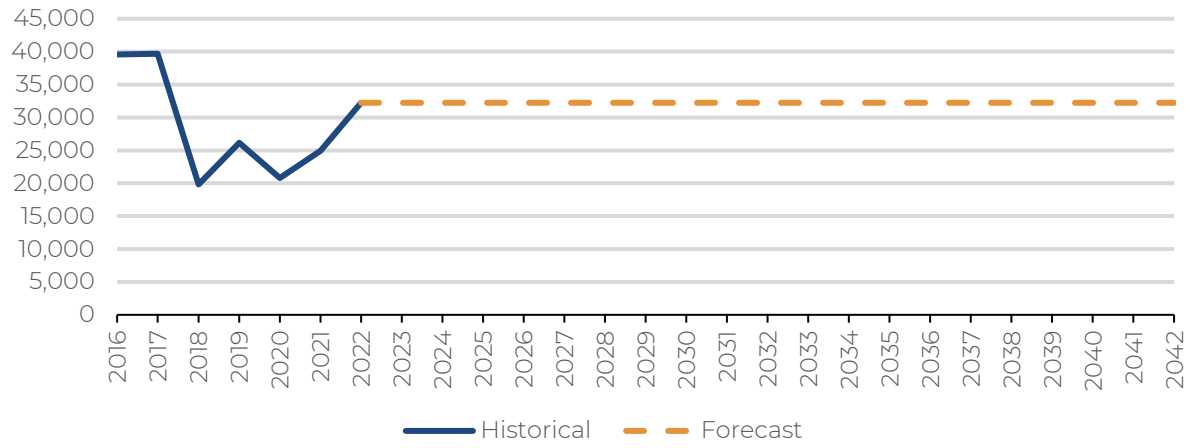
Source: PRPA Data 2023

As shown in Figure 63, the enplanements forecast for projects enplanements is expected to remain constant from 2022 through 2042.

Similarly, to enplaned passengers and aircraft operations, FAA 2022 TAF assumes that the based aircraft at CPX are projected to remain constant at nine (9) aircraft over the forecast horizon.

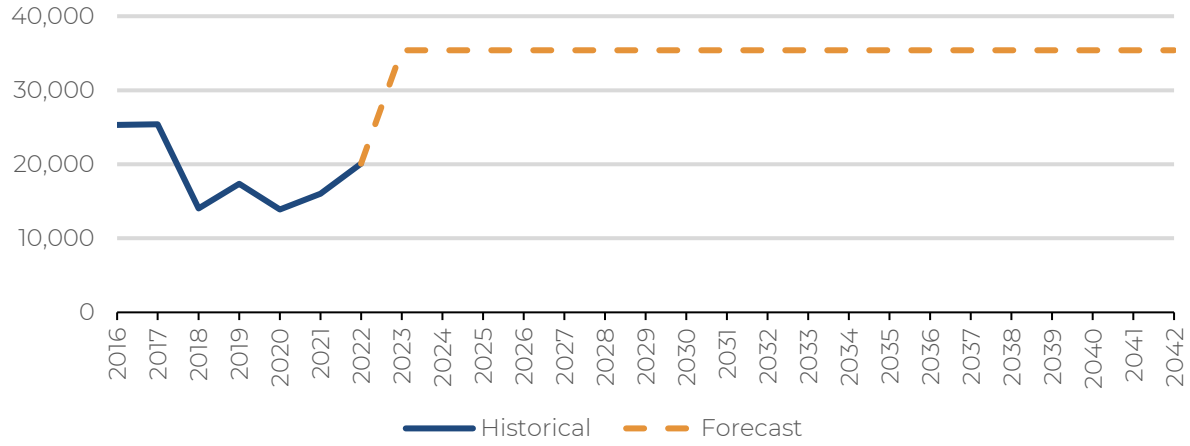
As shown in Figure 66, the cargo activity forecast assumes that due to the nature of CPX's role on the island, cargo volumes will continue to grow at the same historical annual growth rate of 3%.

Figure 63: CPX – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



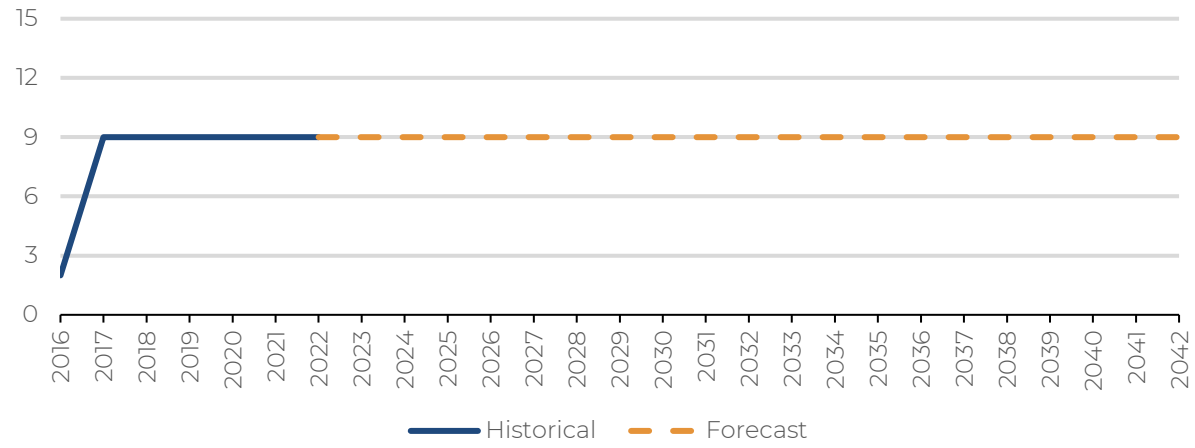
Source: PRPA Data 2023, FAA 20212TAF

Figure 64: CPX – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



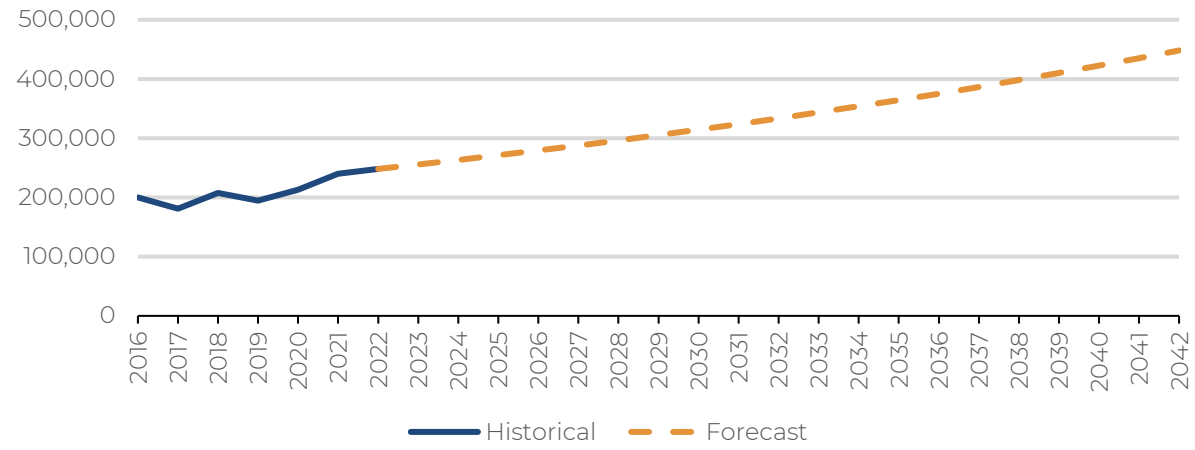
Source: PRPA Data 2023, FAA 2022TAF

Figure 65: CPX – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

Figure 66: CPX – Cargo Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, RS&H Computations 2023

2.3.4.6. VQS

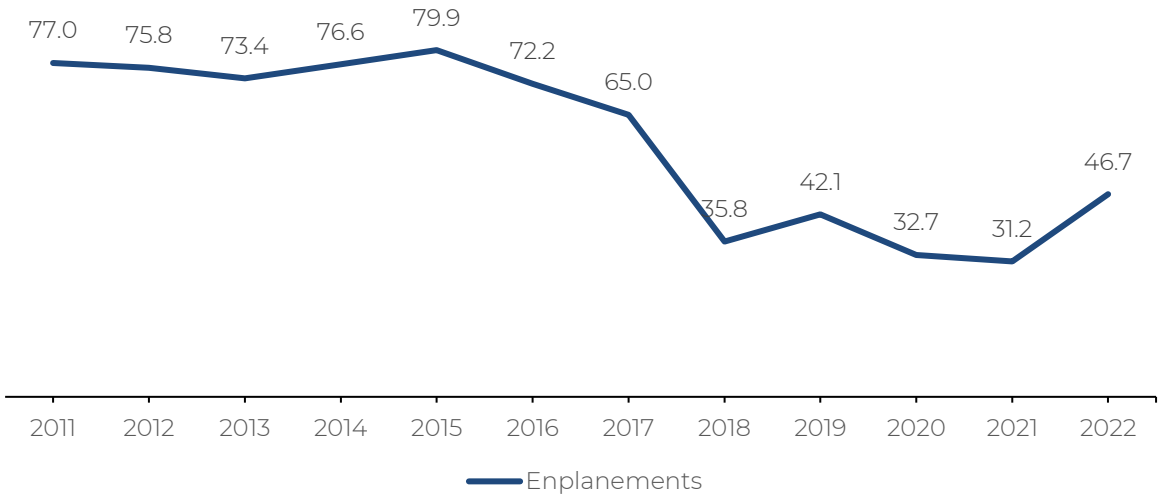
VQS had a total of 42,000 enplanements in 2019, representing the airport with the third most enplanements of all Regional Airports. However, passenger volumes have decreased at an annual rate of 5.7% from 2011-2019, and then by 22% from 2019 to 2020. Enplanements have surpassed pre-pandemic numbers recording 46,729 in 2022.

From 2011-2020, VQS averaged 29,000 total operations. Most operations at VQS are air carriers, air taxis, and commuters, although there are small numbers of general aviation and military. In 2020 the airport's total number of operations decreased by 20% due to the impact caused by COVID-19. Like enplanements, VQS has surpassed pre-pandemic numbers of operations, recording 25,032 in 2022.

Based aircraft at VQS decreased from nineteen in 2011 to four from 2013-2016, increasing to 33 between 2017-2022.

VQS has averaged 1,000,000 pounds of cargo from 2016-2022. VQS also experienced growth amidst the pandemic, as its cargo increased by 32% in 2021 and saw nearly the same cargo in 2022.

Figure 67: VQS – Enplanements Historic Trend (FY2011-FY2022) in 000s

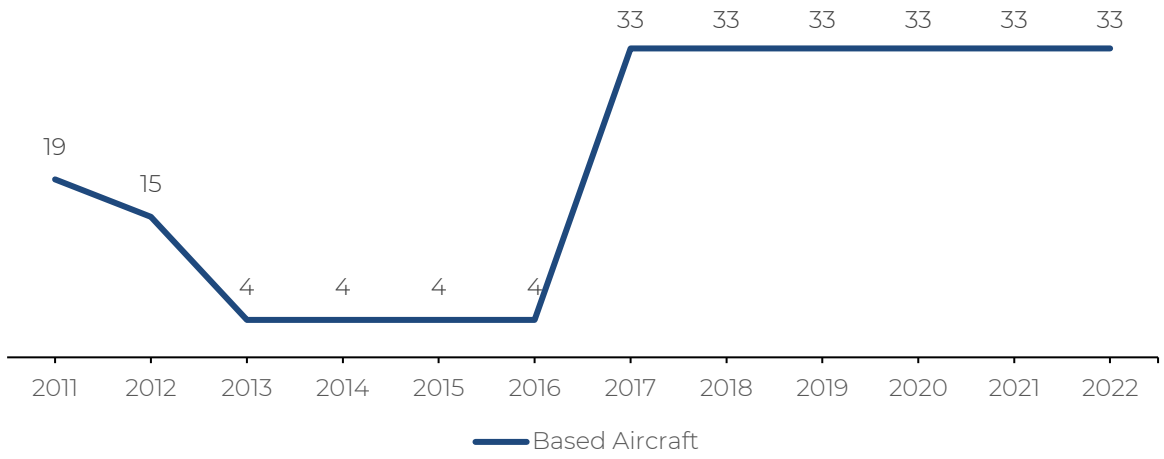


Source: PRPA 2023 Data

Figure 68: VQS – Operations Historic Trend (FY2011-FY2022) in 000s

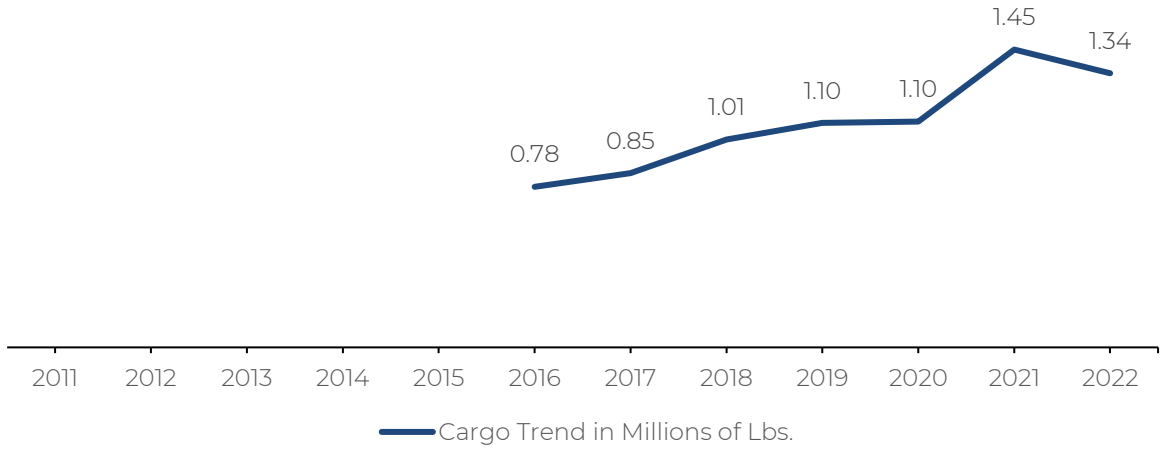
Source: PRPA Data 2023

Figure 69: VQS – Based Aircraft Historic Trend (FY2011-FY2022)



Source: PRPA Data 2023, FAA Form 5010

Figure 70: VQS – Cargo Trend (FY2016-FY2022)) in Millions of Pounds



Source: PRPA Data 2023

As shown in Figure 71, FAA's TAF 2022 expects that passenger activity levels at VQS will remain constant over the forecast horizon.

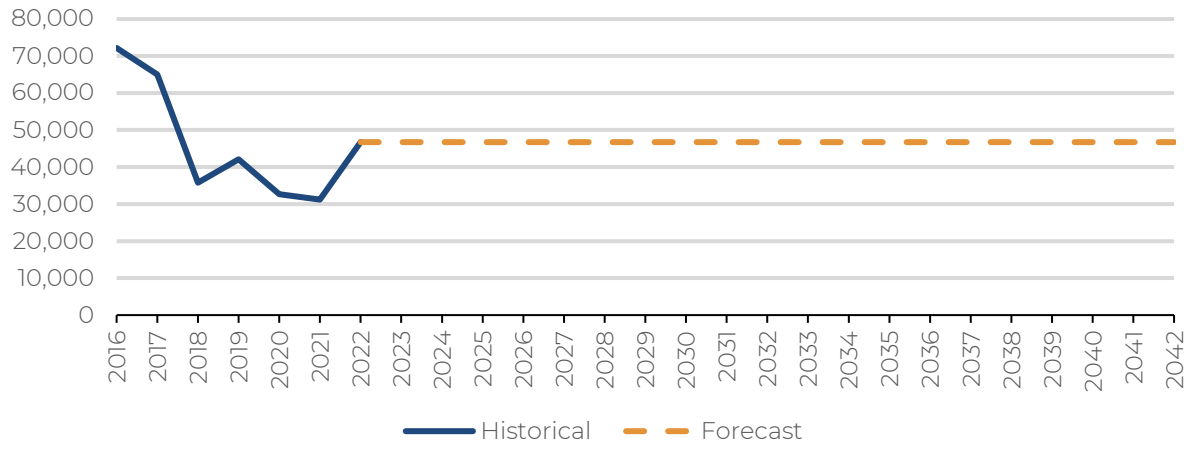
According to the FAA TAF 2022, the total annual operations are projected to increase to 30,898 in 2023 and remain steady through 2042.

FAA TAF 2022 estimates that based aircraft will remain constant over the forecast horizon, sustaining 33 based aircraft annually.

Despite COVID-19 and the impacts of hurricanes Irma and Maria in Vieques in 2017, the airport's air cargo annual volumes have continued to grow. As a result, air cargo is projected to increase at a 6.1% yearly rate until 2030 and then reduce to a 3.5% annual

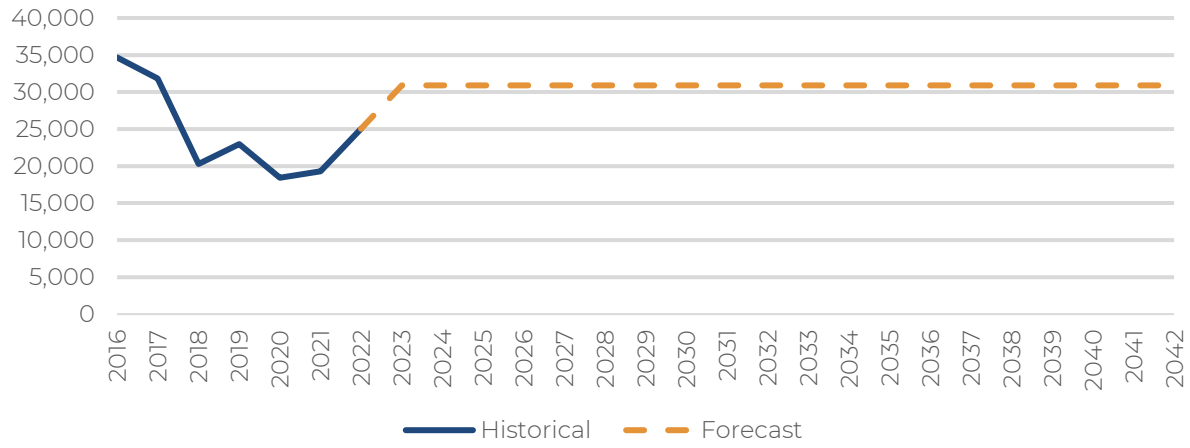
growth rate until 2042. By 2042, the airport is expected to process over 3,400,000 pounds of cargo annually.

Figure 71: VQS – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



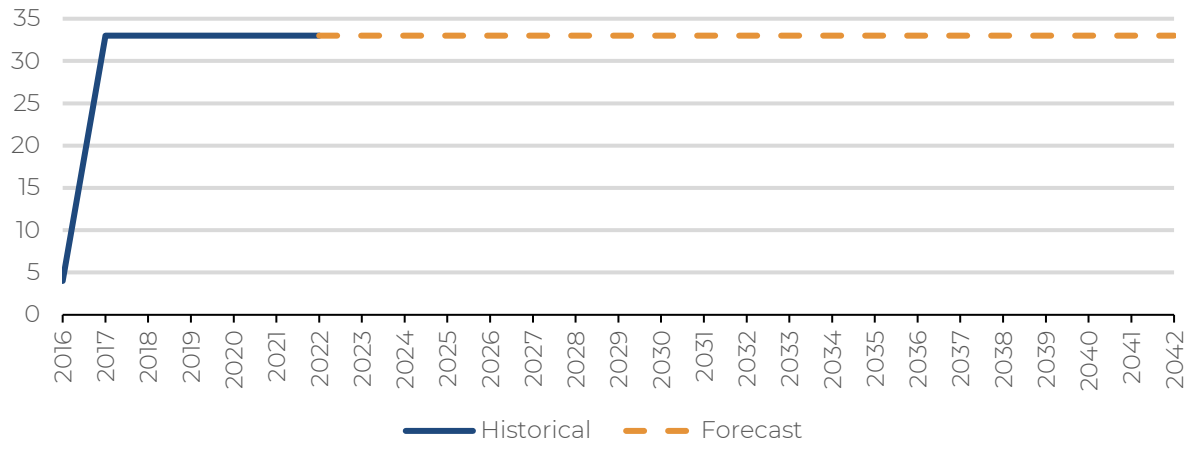
Source: PRPA Data 2023, FAA 2022 TAF

Figure 72: VQS – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



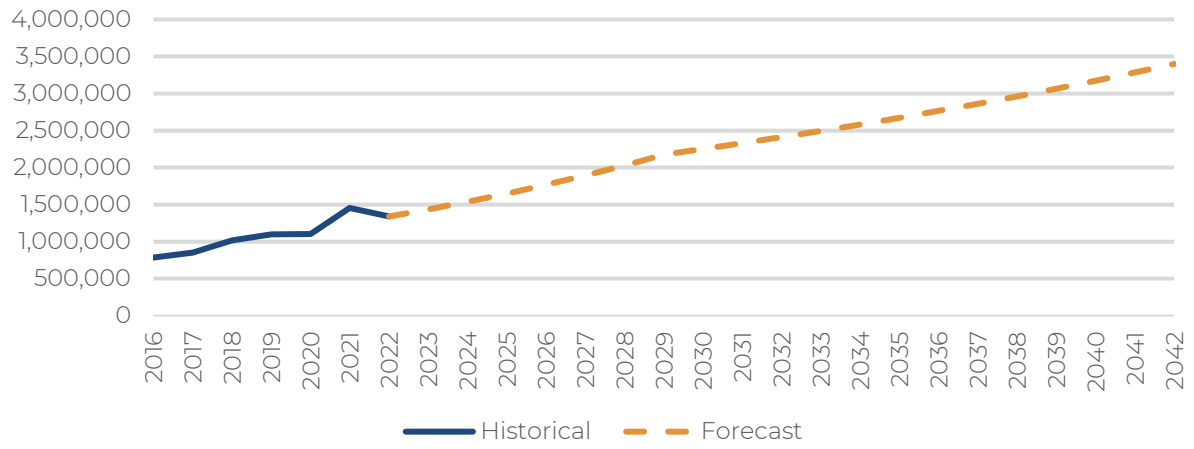
Source: PRPA Data 2023, FAA 2022 TAF

Figure 73: VQS – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

Figure 74: VQS – Cargo Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2021, RS&H Computations

2.3.4.7. X63

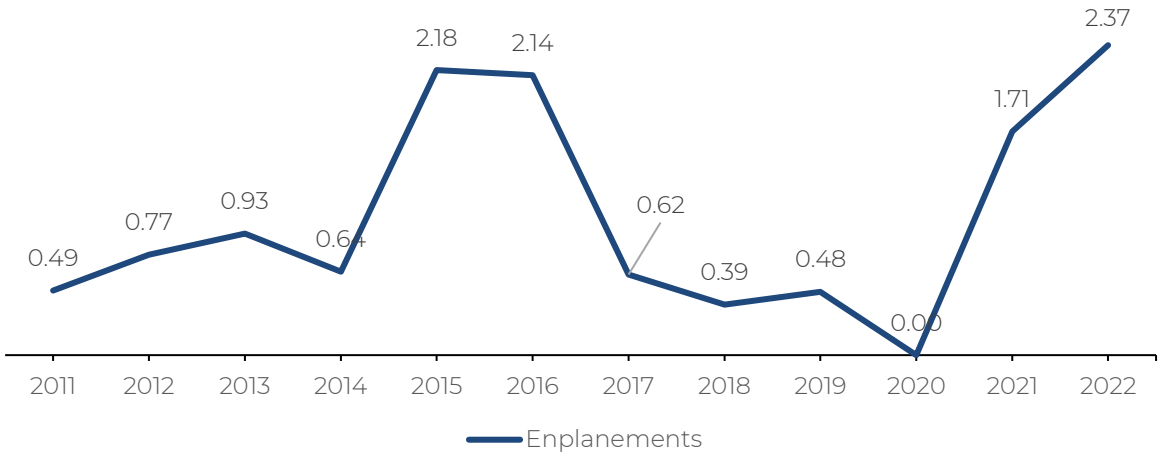
X63 had the fewest enplanements of any of the regional airports since 2011. In 2019, X63 totaled just 465 enplanements, with its highest annual volumes of over 2,100 between 2015 and 2016. The pandemic brought enplanements to 0 in 2020 but surpassed pre-pandemic levels, with 2,365 enplanements recorded in 2022.

From 2011-2020, X63 averaged 1,700 total operations. Most of these operations were general aviation. In 2020 the airport increased its operations by 429% compared to decreasing totals exhibited by five (5) Regional Airports. 2022 records have operations at their highest totals since 2011, with 3,674.

Based aircraft at X63 increased from four in 2011 to a peak of 27 in 2013 and 2014. The crafts then decreased to 20 from 2017-2019, with a recorded number of based aircraft at 9.

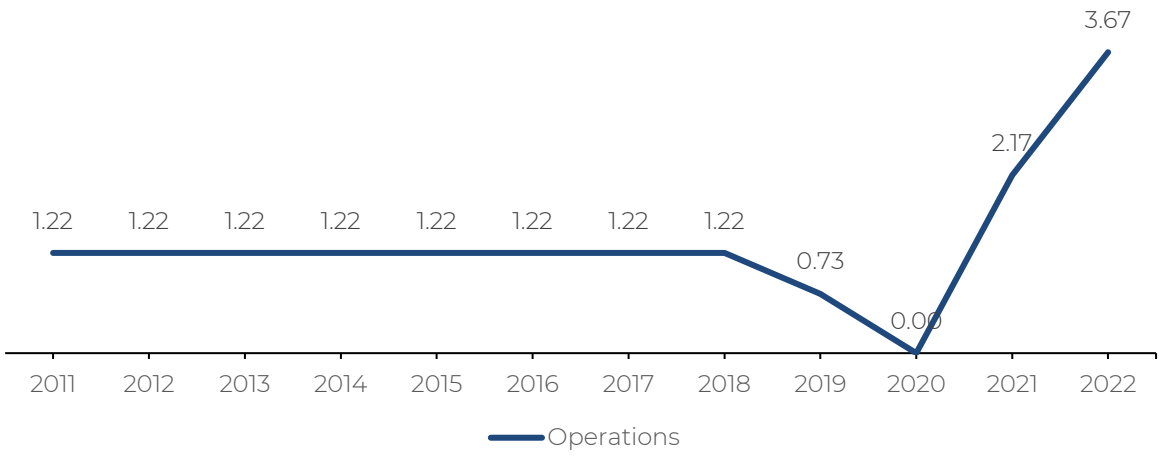
Minimal amounts of cargo are transported through X63, mainly by air mail. PRPA doesn't keep a record of cargo volumes at X63.[21]

Figure 75: X63 – Enplanements Historic Trend (FY2011-FY2022) in 000s



Source: PRPA Data 2023

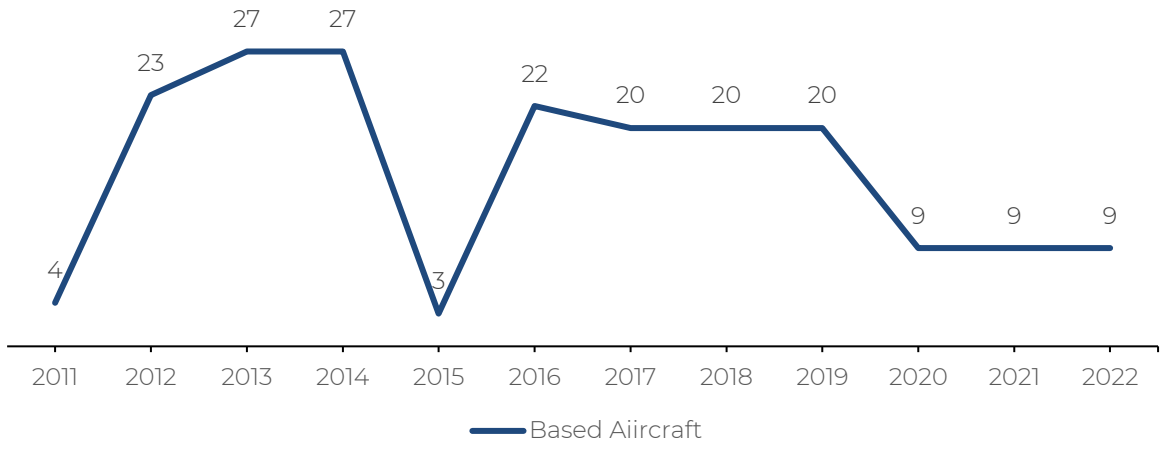
Figure 76: X63 – Operations Historic Trend (FY2011-FY2022) in 000s



Source: PRPA Data 2023

[21] FAA requires all commercial air carriers to report air cargo but not cargo transported on small charter aircraft. Therefore, PRPA is not legally required to report cargo transported on small, non-commercial aircraft.

Figure 77: X63 – Based Aircraft Historic Trend (FY2011-FY2022)



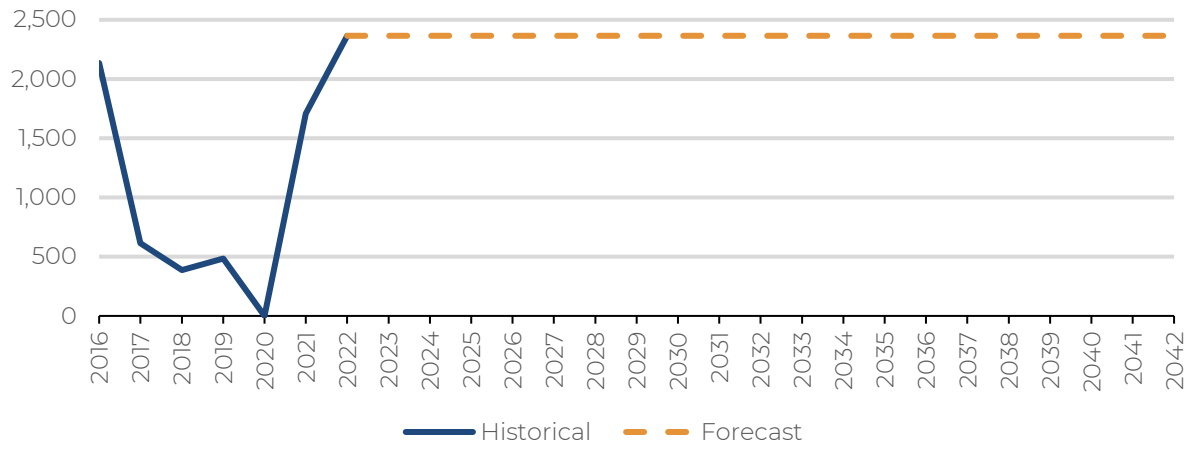
Source: PRPA Data 2023, FAA form 5010

The FAA TAF 2022 does not project enplanements for X63. Thus the 2,365 passenger enplanements from PRPA records are projected to remain constant over the next 20 years.

As the airport works out the impacts of the pandemic, the FAA 2022 TAF projects no growth from the 3,674 annual operations at X63 over the next 20 years.

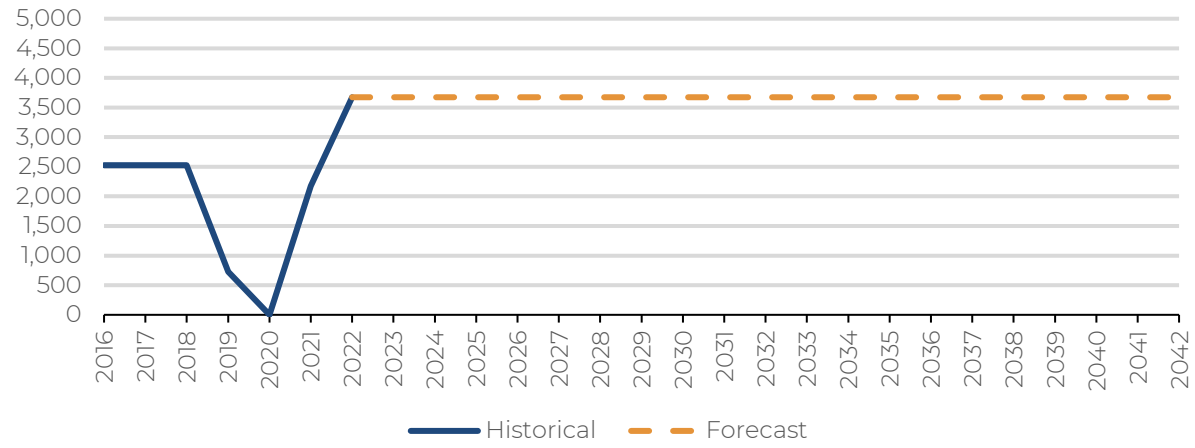
The FAA TAF 2022 shows no projections for the nine-based aircraft forecast for 2022 to increase over the next 20 years.

Figure 78: X63 – Enplanements Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



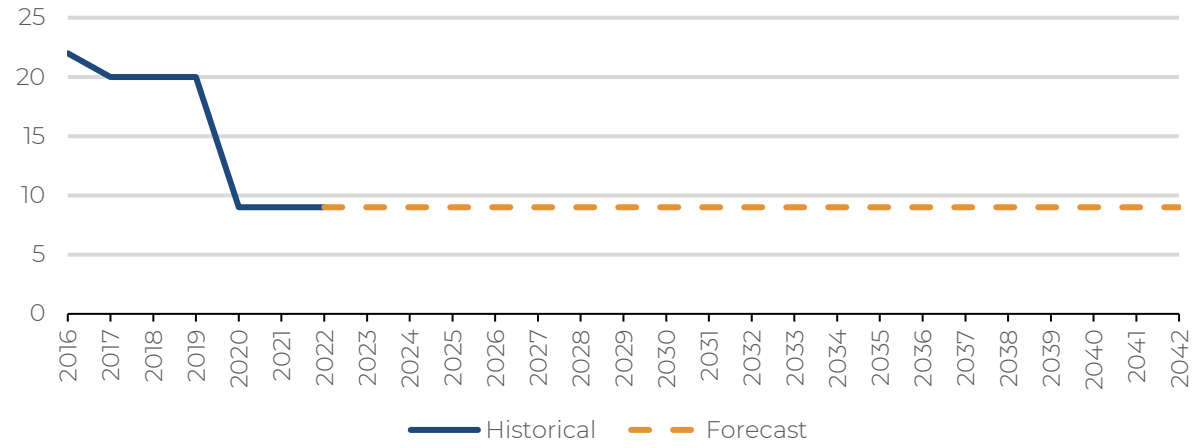
Source: PRPA Data 2023, FAA 2022 TAF

Figure 79: X63 – Operations Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

Figure 80: X63 – Based Aircraft Results (FY2016-FY2022) and Forecast (FY2022-FY2042)



Source: PRPA Data 2023, FAA 2022 TAF

2.3.5. *Capital Investments*

2.3.5.1. SIG

The five-year CIP for SIG includes eight (8) planned projects estimated at $39,152,000; Table 9 shows SIG's CIP. In September 2020, the FAA awarded $2,450,000 of AIP funds and $270,000 of CARES Act funds to SIG for the following projects:

- Reconstruction of airport beacon;
- Acquisition or rehabilitation of emergency generator;
- Rebuilding or replacement of airport lighting vault; and
- Reconstruction of runway lighting.

The largest funding source for the proposed CIP will come from the FAA, accounting for over $31,000,000 in project costs or 79.2 percent of the total proposed CIP investment.

Table 9: SIG Five-Year (FY2023 to FY 2027) Capital Investment Plan

Project Description	Costs Incurred	Federal Funds	PRPA	Start	End
Runway Safety Area Improvements - Environmental Assessment	$950	$855	$95	FY2023	FY2023
Airfield Pavement Rehabilitation	$500	$0	$500	FY2023	FY2023
Upgrade to Airports Visual Aids System	$2,920	$1,635	$1,285	FY2021	FY2022
Runway Pavement Rehabilitation	$11,000	$9,900	$1,100	FY2022	FY2024
Hurricane Maria Damages Repairs	$10,332	$10,032	$0	FY2023	FY2024
New Passenger Terminal Building	$9,200	$8,280	$920	FY2026	FY2027
Road Pavement Rehab North	$300	$0	$300	FY2022	FY2022
Road Pavement Rehab South	$850	$0	$850	FY2024	FY2024
New ARFF Building	$2,500	$0	$2,500	FY2023	FY 2024
Terminal Building Improvement	$450	$0	$450	FY2023	FY2024
Terminal Building AC	$150	$0	$150	FY2022	FY2024
Subtotal	$39,152	$31,0025	$8,150		

Source: PRPA, 2023; RS&H, 2023
Notes: Incurred estimate 6-30-2022; 2 – Shown in thousands of U.S. Dollars

2.3.5.2. RVR

The five-year CIP for RVR includes seven (7) projects estimated at $19,250,000. Table 10 shows the list of projects included in the CIP, the largest of which is the rehabilitation and improvements to the airport's Runway 7-25. The largest funding source for the proposed CIP will come from the FAA and Federal Emergency and Management Agency ("FEMA"), at 78% of the total proposed CIP investment.

In September 2020, the FAA awarded $930,000 of AIP funds and $100,000 of CARES Act funds to RVR to rehabilitate its main parallel taxiway.

Table 10: RVR Five-Year (FY2023 to FY 2027) Capital Investment Plan

Project Description	Cost	Federal Funds	PRPA	Start	End
Terminal Improvements	$200	-	$200	FY2022	FY2022
Airfield Pavement Improvements - RW 7-25	$8,850	$7,965	$885	FY2023	FY2025
Water Line Distribution Repairs	$2,000	$0	$2,000	FY2022	FY2023
Utility Repairs	$300	$0	$300	FY2022	FY2023
Hurricane Maria Damages Repairs	$7,100	$7,100	$0	FY2023	FY2023
EA Spaceport Licensing	$800	$0	$800	FY2022	FY2024
Subtotal	$19,250	$15,065	$4,185		

Source: RS&H, 2023; Puerto Rico Ports Authority, 2023
Notes: All costs shown in thousands of U.S. Dollars

2.3.5.3. MAZ

The five-year CIP for MAZ includes three (3) planned projects estimated at $2,650,000, the largest of which is the Terminal Improvements, except for Hurricane Maria damages repairs. In September 2020, the FAA awarded $110,000 of AIP funds and $6,000 of CARES Act funds to MAZ for:

- Installation of miscellaneous NAVAIDS; and
- Reconstruction of airport beacon.

Table 11: MAZ Five-Year (FY2023 to FY 2027) Capital Investment Plan

Project Description	Cost	Federal Funds	PRPA	Start	End
Terminal Improvements	$1,050	$0	$1,050	FY2023	FY2024
Hurricane Maria Damages Repairs	$1,500	$1,500	$0	FY2023	FY2023
Access Road Pavement Improvements	$100	$0	$100	FY2023	FY2023
Subtotal	$2,650	$1,500	$1,150		

Source: RS&H, 2023; Puerto Rico Ports Authority, 2023.
Notes: All costs shown in thousands of U.S. Dollars

2.3.5.4. ABO

The five-year CIP for ABO includes four (4) projects estimated at $7,170,000, as illustrated in Table 12. The largest funding source for the proposed CIP will come from the FAA, at 95.8 percent of the total proposed CIP investment.

In September 2020, the FAA awarded $1,600,000 of AIP funds and $180,000 of CARES Act funds for:

- Installation of miscellaneous NAVAIDS;
- Rehabilitation of airport beacons;
- Acquisition or restoration of the emergency generator;
- Reconstruction of airfield guidance signs;
- Rebuilding or replacement of airport lighting vault;
- Repair of taxiway lighting; and
- Reconstruction of runway lighting.

Table 12: ABO Five-Year (FY2023 to FY 2027) Capital Investment Plan

Project Description	Cost	Federal Funds	PRPA	Start	End
Airfield Improvements - GA Apron	$100	$0	$100	FY2024	FY2024
Upgrade to Airports Visual Aids System	$1,920	$1,870	$50	FY2022	FY2022
Hurricane Maria Damages Repairs	$5,000	$5,000	$0	FY2023	FY2023
Septic Tank	$150	$0	$150	FY2022	FY2022
Subtotal	$7,170	$6,870	$300		

Source: RS&H, 2023; Puerto Rico Ports Authority, 2023.
Notes: All costs shown in thousands of U.S. Dollars

2.3.5.5. CPX

CPX's five-year CIP includes three (3) planned projects estimated at $11,300,000, see Table 13. The largest funding source for the proposed CIP will come from the FAA, at 95.1 percent of the total proposed CIP investment. In September 2020, the FAA awarded $6,650,000 of AIP funds and $740,000 of CARES Act funds to CPX for:

- Installation of miscellaneous NAVAIDS;
- Rehabilitation of airport beacon;
- Acquisition or repair of the emergency generator;
- Reconstruction of airfield guidance signs;
- Rebuilding or replacement of airport lighting vault;
- Rehabilitation of taxiway;
- Repair of taxiway lighting;
- Rehabilitation of runway; and
- Reconstruction of runway lighting.

Table 13: CPX Five-Year (FY2023 to FY 2027) Capital Investment Plan

Project Description	Cost	Federal Funds	PRPA	Start	End
Airfield Pavement Rehabilitation	$7,850	$7,600	$250	FY2021	FY2022
Rehabilitate Property Fence Project	$850	$765	$85	FY2022	FY2022
Hurricane Maria Repairs	$1,200	$1,200	$0	FY2023	FY2023
Terminal Improvements	$1,000	$1,000	$0	FY2023	FY2023
Airfield Pavement Improvements	$200	$0	$200	FY2022	FY2022
Emergency Generator	$200	$180	$20	FY2022	FY2022
Subtotal	$11,300	$10,745	$555		

Source: RS&H, 2023; Puerto Rico Ports Authority, 2023
Notes: All costs shown in thousands of U.S. Dollars.

2.3.5.6. VQS

Table 14 illustrates the 5-year CIP for VQS, which includes five (5) planned projects estimated at $18,050,000. The largest funding source for the proposed CIP will come from the FAA, at 84% of the total proposed CIP investment. In September 2020, the FAA awarded $11,800,000 of AIP funds and $1,300,000 of CARES Act for:

- Installation of miscellaneous NAVAIDs;
- Reconstruction of the airport beacon;
- Installation of airfield guidance signs;
- Acquisition or rehabilitation of emergency generator;
- Reconstruction or replacement of airport lighting vault;
- Rehabilitation of taxiway and taxiway lighting;
- Rehabilitation of apron;
- Reconstruction of runway lighting; and
- Rehabilitation of runway.

Table 14: VQS Five-Year (FY2023 to FY 2027) Capital Investment Plan

Project Description	Cost	Federal Funds	PRPA	Start	End
Airfield Pavement Rehabilitation	$500	$0	$500	FY2021	FY2023
Construction Runway Connectors and Visual Aids	$11,100	$11,100	$0	FY2021	FY2023
Hurricane Maria Damage Repairs	$1,700	$1,700	$0	FY2023	FY2023
Terminal Repairs	$2,300	$1,890	$410	FY2020	FY2023
Parking Pavement Rehabilitation	$150	$0	$150	FY2023	FY2023
ARFF Equipment Acquisition	$50	$0	$50	FY2022	FY2023
Subtotal	$18,050	$15,218	$1,360		

Source: RS&H, 2023; Puerto Rico Ports Authority, 2023.
Notes: All costs are shown in thousands of U.S. Dollars.

2.3.5.7. X63

The 5-year CIP for X63 includes two (2) planned projects estimated at $4,750,000, as shown in Table 15. The largest funding source for the proposed CIP will come from the FAA, at 92% of the total proposed CIP investment.

Table 15: X63 Five-Year Capital Investment Plan in 000s

Project Description	Cost	FAA	PRPA	Start	End
Airfield Pavement Improvements (including safety area)	$1,750	$1,350	$400	2022	2023
Construction	$1,750	$1,350	$400	2022	2023
Hurricane Maria Damages Repairs	$3,000	$3,000	$0	2022	2023
Subtotal	$4,750	$4,350	$400		

Source: RS&H, 2023; Puerto Rico Ports Authority, 2023.
Notes: All costs are shown in thousands of U.S. Dollars.

2.4. Environmental Assessment of the Airports

Under Section 7, Subsection (ix) of Act 29, a "*preliminary preparation of an analysis or identification of the environmental effects of the project…*"[22] may be considered on a case by case basis as part of a Desirability and Convenience Study.

The Environmental Baseline Study conducted by RS&H (see Appendix C: Environmental Baseline Study) fulfills the requirements of Act 29 by evaluating the existing environmental conditions of the on-airport property and potential environmental issues posed by the operation of all Regional Airports. It does not assess environmental conditions outside of an airport's property. It also briefly describes the National Environmental Policy Act ("NEPA"), the Environmental Protection Agency ("USEPA"), and recent FAA and NEPA-related guidance changes.

Table 16 lists the relevant environmental resource categories studied and describes potential environmental issues posed by the Regional Airports' future on-airport development and operation. The environmental impact categories described in this document are defined in FAA Order 1050.1F. The environmental impact categories are further categorized as either part of the Human Environment or the Natural Environment (see Table 16). The FAA environmental categories that are described in the Environmental Baseline Study are:

- Human Environment;
- Air Quality/Climate;
- Hazardous Materials, Solid Waste, and Pollution Prevention;
- Historical, Architectural, Archeological, and Cultural Resources;
- Natural Resources & Energy Supply;
- Natural Environment;
- Biological Resources;
- Coastal Resources;
- Farmlands; and
- Water Resources.

Several environmental categories are not described in this section because they do not occur on airport property and are not within the scope of the Environmental Baseline Study. The following environmental categories are not included in the Environmental Baseline Study:

- USDOT, Section 4(f) Resources;
- Land Use;

[22] Act No. 29. Retrieved April 2021, from: "Public-Private Partnership Authority Act" [Act 29-2009, as amended].

- Noise and Noise Compatible Land Use;
- Socioeconomics, Environmental Justice, or Children's Health and Safety; or
- Visual Effects.

These environmental categories can be indirectly affected by an airport project and should be studied further in NEPA documentation when an airport project is proposed. Accordingly, future stakeholders should coordinate with the FAA Atlanta Airport District Office (ADO) when determining whether NEPA documentation is necessary for future airport projects.

Table 16: Potential Environmental Issues by Airport

Puerto Rico Regional Airports	Environmental Impact Category							
	Human Environment				Natural Environment			
	Air Quality/Climate	Hazardous Materials, Solid Waste, and Pollution Prevention	Historical, Architectural, Archeological, and [illegible] [1]	Natural Resources & Energy Supply	Biological Resources	Coastal Resources	Farmlands	Water Resources [2]
BQN	N	Y	Y	Y	Y	Y	N	Y
PSE	N	Y	N	Y	Y	N	Y	Y
SIG	Y	Y	N	Y	Y	Y	N	Y
RVR	N	Y	N	Y	Y	Y	Y	Y
MAZ	N	Y	N	Y	Y	N	Y	Y
ABO	Y	Y	N	Y	Y	N	Y	Y
CPX	N	Y	N	Y	Y	Y	Y	Y
VQS	N	Y	N	Y	Y	Y	Y	Y
X63	N	Y	N	Y	Y	N	N	Y

Notes: Y – indicates potential for the environmental resource category to pose environmental issues with a future airport project; N – suggests a minimal possibility for the environmental resource category to pose environmental issues with a future airport project.
1. A "Y" indicates that environmental documentation provided by PRPA identifies historic resources on airport property. An "N" indicates no known NRHP-listed resources on airport property exist. However, it is essential to note that there is always potential for unlisted or unknown historical resources to be present on airport property, and proper coordination with the Puerto Rico State Historic Preservation Office should occur for future airport projects.
2. Water Resources – Water Resources include Floodplains, Groundwater, Surface Water, Wetlands, and Wild and Scenic Rivers.

3. Financial Analysis - Current and Historic

This section describes the current and historical financial situation of PRPA's Aviation Division, which only operates the Regional Airports. A forward-looking financial analysis of the optimal PPP concession scenario is presented in Section 6.

3.1. Historical and Current Regional Airports Revenue Streams

Airport revenue streams are commonly categorized as aeronautical or non-aeronautical revenue.

- Aeronautical revenues are related to airline, passenger, freight, and general aviation operations. Examples of aeronautical revenue include (i) take-off and landing fees, (ii) aircraft parking, (iii) passenger fees, (iv) cargo and ground handling, and (v) fuel charges.
- Non-aeronautical revenues comprise commercial revenues not directly related to the airline, passenger, general aviation, or freight operations, such as (i) car parking, (ii) retail and duty-free shopping, (iii) space rentals, (iv) land leases, (v) hotels, restaurants, and lounges, and (vi) advertising.

Table 17 summarizes the aeronautical and non-aeronautical revenues generated by each of the Regional Airports over the previous four (4) fiscal years.

Table 17: Regional Airports Aeronautical and Non-Aeronautical Revenues (in USD Millions)

	Aeronautical Revenues				Non-Aeronautical Revenues				Total Revenues			
	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022
BQN	5.08	2.97	4.14	5.58	0.45	0.07	0.16	0.26	5.53	3.04	4.31	5.84
ABO	0.10	0.09	0.11	0.10	-	-	-	-	0.10	0.09	0.11	0.10
RVR	0.83	0.48	0.80	0.76	0.21	0.21	-	0.01	1.04	0.69	0.80	0.77
CPX	0.10	0.06	0.11	0.07	-	-	-	0.01	0.10	0.06	0.11	0.08
C63	0.01	0.01	0.02	0.13	-	-	-	-	0.01	0.01	0.02	0.13
MAZ	0.04	0.04	0.05	0.05	-	-	-	-	0.04	0.04	0.05	0.05
PSE	1.23	0.65	0.37	0.55	-	-	0.01	-	1.23	0.65	0.38	0.56
VQS	0.15	0.08	0.09	0.10	-	-	0.01	0.00	0.15	0.08	0.09	0.10
SIG	2.00	1.76	2.04	2.27	3.03	3.03	2.70	2.54	5.03	4.79	4.75	4.81
Total	9.55	6.15	7.72	9.61	3.69	3.30	2.88	2.82	13.23	9.45	10.60	12.43

Source: PRPA Records. 2022 Results are preliminary at the time of development of this Study.

3.2. Current and Historical Financial Situation

3.2.1. *Federal Funds Granted to PRPA*

Between 2018 and 2022, the Regional Airports received the following federal funds: FAA Airport Improvement Program, FAA Consolidated Appropriations Act, and CARES Act.

- FAA AIP: The objective of the AIP grants is to assist public agencies — and, in some cases, private owners and entities — with the planning and development of airport infrastructure projects such as runways, taxiways, airport signage, airport lighting, and airport markings of public-use airports included in the NPIAS. The grants typically provided by the FAA cover 90% of eligible costs for a small primary, reliever, and general aviation airports. The Regional Airports have received $46.65 million from the AIP funds.
- FAA Consolidated Appropriations Act: Included a supplemental amount of $500 million for discretionary grants under the AIP statute. The supplemental funds are subject to some limitations and prioritize small airports. All supplemental funds were available until September 30, 2021.
- CARES Act: A $2.2 trillion economic stimulus bill passed by the U.S. Congress and signed into law on March 27, 2020, to support the nation's economy in response to COVID-19 in the United States. The FAA was awarded $10 billion. PRPA was granted almost $43 million, of which $33.4 million was appropriated to SJU. The funds were made available for airport capital expenditures, airport operating expenses, including payroll and utilities, and airport debt payments. The CARES Act also provided funds to increase the Federal share to 100% for grants awarded under 2020 appropriations for AIP and Supplemental Funds.

3.2.2. *Historical Financial Performance*

As a portfolio, the Regional Airports have historically operated at a deficit. Aside from operational performance, PRPA's Aviation Division carries several non-operational legacy obligations and revenue sources, which would not be transferred to a private operator under a PPP concession. These are broken out separately in the historical financial overview in Table 18 below.

PRPA Aviation Division's major non-operational costs and revenues can be summarized as follows:

- Maritime-related Revenues on SIG Property: Currently, there are maritime operations (piers) within the SIG airport layout, which generate revenues (e.g., wharfage and dockage fees) and costs (e.g., salaries and benefits, insurance, and O&M costs). Consistent with FAA's Use of Revenues policy, these non-aeronautical revenues within SIG's property must be used for SIG or other Regional Airports and therefore are allocated to PRPA's Aviation Division. The net income from such maritime operations has been positive, amounting to $8M in 2022.
- Aviation Bureau Costs: Management and staff salaries and benefits of aviation staff allocated in the main PRPA building.
- Revenue Sharing from the SJU Agreement. PRPA currently receives a 5% share of gross annual revenues from the operation of SJU from Aerostar under the terms of the SJU Agreement; from 2043, the revenue share will increase to 10%. This net annual revenue sharing (after accounting for PRPA obligations such as insurance) has been positive in the last years, amounting to $8.24M in 2022. The revenue sharing is expected to grow, on average, at 3% per year for the next five years.[23] According to the SJU Agreement and FAA's Use of Revenues Policy, these funds must be used for PRPA's Regional Airports. Therefore, this would be a possible recurring funding source for a potential PPP concession of the Regional Airports, if required.
- Retirement Obligations ("Pay-Go"). The Government requires PRPA to make annual payments toward legacy retirement obligations, which for the Aviation Division amounts to $5M per year. These obligations have not been met in practice, as Act 106-2017 significantly strained PRPA's finances. Under that statute, the Government's budget covers the Pay Go obligations for Central Government agencies but not for Public Corporations such as PRPA. As PRPA has not been able to make the required payments due to insufficient cash flow, a substantial liability continues to accrue on its balance sheet.

[23] Aerostar's estimates and consultant's calculations.

- **Central Overhead Costs.** PRPA's Aviation Division incurs significant central overhead costs that are not allocable to the operation of individual airports. These consist primarily of central management and staff salaries and benefits (approximately $5M per year) and certain types of insurance for fiscal year 2020 and prior years, calculated at roughly $2M per year.
- **Other:** Includes costs allocated to capex and opex match with FAA grant contributions and utilities payment plans.
- Historical operating income by Regional Airport for fiscal years 2018-2022 is presented in Table 18. Note that fiscal year 2019 was the most recent full fiscal year before the impact of COVID-19.

Table 18: Regional Airports' Operating Income (2018-2022) in USD Millions

Operating Income (Loss) by Airport					
	2018	2019	2020	2021	2022
BQN	1.0	0.3	(1.1)	(2.0)	(1.2)
ABO	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)
RVR	(0.6)	(1.2)	(1.9)	(2.3)	(2.9)
CPX	(0.3)	(0.2)	(0.4)	(0.3)	(0.4)
C63	(0.1)	(0.2)	(0.2)	(0.3)	(0.4)
MAZ	(0.7)	(0.6)	(0.7)	(0.8)	(1.1)
PSE	(1.3)	(1.3)	(1.5)	(2.2)	(3.0)
VQS	3.0	(0.7)	(0.6)	(0.7)	(0.9)
SIG	(0.6)	3.8	3.8	2.7	2.9
Total Operating Income (Loss) by Airport	**0.4**	**(0.2)**	**(2.7)**	**(5.9)**	**(7.2)**
Fajardo Airport[24]	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)
Maritime Revenues/Costs	9.4	10.0	9.9	5.9	8.2
Bureau Aviation Costs	(4.9)	(7.4)	(6.8)	(4.5)	(5.1)
SJU Revenue Share[25] & Others	2.2	4.4	7.0	6.8	8.3
Retirement Obligations ("Pay-Go")	(5.0)	(5.0)	(5.0)	(5.0)	(5.0)
Central Office Overhead	(4.7)	(4.7)	(7.4)	(5.3)	(5.2)
Others	(3.4)	(3.4)	(3.4)	(3.4)	(3.4)
Net Operating Income/loss	**(6.1)**	**(6.4)**	**(8.4)**	**(11.4)**	**(9.6)**

Source: 2022 PRPA Records

[24] FAJ is no longer operational though PRPA still owns and maintains the property.
[25] PRPA currently receives a 5% share of gross annual revenues from the operation of SJU from Aerostar under the terms of the SJU Agreement.

Detailed historical financials for each airport are provided in Appendix A: Historical Financial Statements per Airport.

Due to annual operational losses and insufficient cash flow, PRPA has had to defer payment on some of its obligations.

4. Market Sounding

During April and May 2021, the Authority and its Advisors conducted market-sounding interviews ("Market Sounding") with various airport operators and investors where potential PPP concession structures for the Regional Airports were discussed, and general interest in airport assets in Puerto Rico was explored.

Table 19. Market Sounding Participants

Name	Origin
Aeropuertos Andinos	Operating multiple facilities in Peru (as a bundle)
Aeropuertos del Oriente	Operating multiple facilities in Colombia (as a bundle)
Grupo Aeroportuario del Sureste ("ASUR")	Operating multiple facilities in Mexico (as a bundle) and in PR as Aerostar
AvPorts	Operating in the US, AvPorts was one of the proponents participating in the O&M Contract procurement.
DAA	Operating the Dublin airport and several international airports in Europe
Oaktree Capital	Equity investor with multiple investments in airport PPPs
ODINSA	Operating the Bogota and Guayaquil airports, with stakes in other facilities in LATAM
Star America	Equity investor

The Market Sounding was vital in identifying, analyzing, and formalizing the optimal PPP model structure to be elaborated and assessed in this Study.

Preliminary feedback from the market pinpointed several common concerns and recommendations across the group interviewed, particularly regarding the strategy to bundle the Regional Airports in separate PPP concessions ("bundling options").

The market feedback received showed limited potential interest in a single PPP concession. The participants raised the following concerns:

- Asset's functionality. While bundling different airport sizes is commonly seen as a concession strategy in the airport sector, Puerto Rico's Regional Airport assets are of different types, financial viability, and commercial potential. Bundling a mix of commercial and general aviation airports under one or various concession packages is not frequently seen in the market, even under O&M contract formats (as opposed to a traditional PPP concession contract).
- Improper business model. PPPs in aviation have been used primarily for commercial airports with predictable traffic and diversified revenue-generating bases. PPPs are seldom used for general aviation airports considering their limited revenue potential and investment returns.

- Current financial situation. Most Regional Airports are not financially sustainable on an individual or aggregate basis. A PPP of all Regional Airports would require some form of subsidy from the Government to bridge the fiscal deficit. COVID-19 has deepened this deficit, further damaging the upfront value of the portfolio of assets and the potential for an unsubsidized concession.
- Limited revenue growth potential. Although some of the Regional Airports have the potential to individually become financially viable through better commercial management and operational optimization brought by the private sector, significant traffic and non-aeronautical revenue growth are limited (mainly because of the presence of Low-Cost Carrier traffic and competition from other Caribbean destinations for tourism) to reach profitability in the medium term and turn around the profitability of the overall portfolio.
- Preference for revenue-based concession payments over upfront fees. Revenue sharing (or a fee per passenger) aligns more with the perceived risk profile and enables a private operator to manage downsides. An upfront fee is not feasible for low-margin, low-growth, loss-making assets.
- Non-aeronautical revenue potential. Land development, real estate, and other business prospects are attractive upsides. Still, the market considers them speculative and too unpredictable to be priced into a core business case, attract financing, and by extension, allow bidders to offer an upfront fee.
- Competition with SJU. SJU already has an established private operator. Traffic and cargo growth at the Part 139 airports will face competition from SJU in overlapping catchment areas.
- Overcapacity and overlap. Puerto Rico's many airports have been questioned, as they further split an already limited demand. Reducing the portfolio size may be necessary before seeking new airport concessionaires.

5. Project Delivery Options

This chapter first describes the main non-PPP options: status quo and O&M Contract. Various PPP delivery options, including the FAA application process, possible commercial structures, and bundling considerations, are described and analyzed. Finally, the optimal PPP scenario is identified and explained.

5.1. Status Quo

Under this approach, PRPA continues to operate the Regional Airports. Capital expenditure would continue deferred until PRPA has more funds, relying primarily on FAA grants for eligible capital improvement projects.

Based on the track record and limited resources available, it is not anticipated that PRPA would be able to materially improve the safety concerns, quality standards, or financial performance of the Regional Airports beyond the current level.

Based on PRPA Aviation Division's historical financial performance, the status quo is not financially sustainable and would result in increasing deferred payment accruals that PRPA cannot afford from internal funding sources under current circumstances. At some point in the future, PRPA will likely require external financial support.

In short, PRPA's objectives to improve the safety, operations, management, finances, and service level at its Regional Airports will be challenging to meet without the involvement of private operators and a significant increase in resources.

5.2. O&M Contract

As described in Section 1.2, PRPA procured a 7-year O&M Contract for all Regional Airports during 2019-2020. At the time, following initial project structuring and analysis and a thorough market-sounding process, PRPA determined that the project would best serve Puerto Rico and PRPA as a traditional service contract for the operation, maintenance, and management of the Regional Airports, whereby a private operator would assume specific responsibilities and risks in exchange for a fee. At the same time, PRPA would retain ultimate control, revenues, and certain related risks.

Following a successful procurement process resulting in a preferred bidder and negotiated contract, the O&M Contract could not be executed due to budget constraints. COVID-19 further exacerbated PRPA's fiscal strain, resulting in insufficient resources for the O&M Contract payments.

While a detailed review of the O&M Contract structure, PRPA RFP, and PRPA's prior attempt to procure such a contract falls outside the scope of this Study, critical features of the O&M Contract characteristics, rationale, and objectives are described below.

5.2.1. *Characteristics*

Key characteristics of the O&M Contract structure included the following:

- 7-year term;
- Service Fee structure:
    - Proposers were able to bid the level of Service Fee (fixed in real terms) for each of the seven (7) years of the O&M Contract;
    - Fixed Service Fee in real terms to be indexed by consumer price index ("CPI");
    - Service Fee included an annual budget for corrective, repair, and replacement maintenance that was specified in advance by PRPA; and
    - A Private operator would be eligible for an incentive payment (revenue sharing) if the Regional Airports generate increased revenue above a specified baseline.
- A private operator would be responsible for the following:
    - Operation and maintenance of all facilities and equipment at PSE and BQN in compliance with FAA's Part 139 certification requirements and settlement agreement;
    - Operation and maintenance of all general aviation airport facilities currently operated by PRPA following FAA requirements;
    - Routine and preventive maintenance of facilities;
    - Meeting performance standards to be associated with Key Performance Indicators ("KPIs") based on industry standards, comparable facilities, FAA requirements, and PRPA policies;
    - Preparation of a transition plan to facilitate a smooth externalization of the services;
    - Airport security and ARFF services as applicable;
    - Update as required of all necessary FAA documentation and reporting;
    - Management and administration of airport agreements, licenses, and leases with tenants and airport concessionaires;
    - Preparation of reports and statistics;
    - Purchase of airport equipment and materials; and
    - Administrative support functions, invoicing, and accounting.
- PRPA would be responsible for the following:
    - Payment of the Service Fee to the private operator;
    - Retention of Regional Airports revenues;

- Regional Airports ownership, operating certificates, and sponsorship obligations with FAA;
- Overall regulator of compliance with all obligations and responsibilities set in the O&M Contract in addition to FAA and the Department of Homeland Security ("DHS") requirements established by law, regulation, and/or grant agreements;
- Development, implementation, and funding of the CIP and capital expenditure policy;
- Approval of the annual operating budget prepared by the private operator; and
- Approval of Regional Airport rates and charges.

5.2.2. *Rationale*

PRPA's rationale for seeking a private operator through an O&M Contract was as follows:

- Foster compliance of the Regional Airports with FAA requirements;
- Incentivize economic growth in Puerto Rico, especially outside the San Juan Metropolitan Area;
- Optimize operational and maintenance of all Regional Airport facilities using a performance-based contract;
- Retain local expertise, particularly in Part 139 regional commercial airports and general aviation airports;
- Improve the commercial performance and management of existing leases, thus increasing revenues; and
- Prepare the Regional Airports facilities for a potential long-term concession through FAA's AIPP and expand their activities and usage.

5.2.3. *Objectives*

Objectives and requirements of the O&M Contract structure were as follows:

5.2.3.1. Operations:

- Secure safety & compliance under the FAA, DHS, the EPA, the Occupational Safety and Health Administration ("OSHA"), the Americans with Disabilities Act of 1990 ("ADA"), and other Federal and local requirements;
- Comply with all requirements needed for maintaining the Part 139 certificates for PSE and BQN;
- Revise, improve, and comply with PRPA's Airport Operation Manuals for non-Part 139 airports; and
- Enhance the operational safety, security, and efficiency of all Regional Airports.

5.2.3.2. Maintenance:

- Provide routine, corrective, and preventive maintenance; and
- Maintain, protect, and regularly update required documentation for the Regional Airports.

5.2.3.3. Commercial and Financial:

- Improve the overall financial condition of the Regional Airports;
- Increase aeronautical and non-aeronautical revenues;
- Increase services offered and enhance customer service satisfaction;
- Improve the exposure and marketing of the Regional Airports; and
- Manage/improve current and future lease contracts.

5.2.3.4. Organization:

- Define roles and functions to manage the Regional Airports as a single network;
- Understand the characteristics and challenges associated with the management of the facilities;
- Understand the management structure required for the operation of Part 139-certified airports and of the other non-Part 139 certified Regional Airports; and
- Incorporate local labor and resources into the organization.

5.2.3.5. Grants-in-Aid:

- Management of the process for the procurement of design, construction, inspections, and facility commissioning services following FEMA regulations and processes;
- General management and approach to other Government Grants-in-Aid that may become available during the service agreement; and
- Management and documentation process so PRPA is able to receive reimbursement from FEMA-approved funds and other Government Grants-in-Aid funding.

5.2.3.6. Transition:

- The transition of the O&M Contract and all other related functions from PRPA to the operator within the agreed period;
- Ensure regular uninterrupted operations;
- The transition of all responsibilities, including employees; and
- Entrance all systems, software, and processes into operation at all facilities within the transition period.

5.3. PPP Delivery Considerations

This Study aims to assess the rationale and feasibility of implementing one (1) or more PPP concessions to manage the Regional Airports. Setting aside the contract structure and certain scope aspects, most of the motivation and objectives for the O&M Contract procurement (see Section 5.2 above) remain valid for a PPP concession structure and, thus, are not repeated here.

Fundamental aspects of a PPP concession structure include the following:

- Following approval under the FAA's AIPP (see Section 5.3.1 below), PRPA would award one (1) or more PPP concessions to a private operator to repair, finance, operate, and maintain the Regional Airports and earn revenue from these.
- The concessionaire would be required to obtain and spend funds on operations, maintenance, and capital expenditures not covered by FAA grants.
- Nearly all rights and responsibilities for operating the Regional Airports would be transferred to the concessionaire in a concession. PRPA would remain the legal owner of the assets and primarily be responsible only for the management and compliance monitoring of the PPP contract.

Further relevant features and considerations are discussed below in the context of bundling considerations (see Section 5.3.3).

5.3.1. *FAA AIPP*

The AIPP falls under the FAA Authorization Act of 2018 and, previously, the 1996 Reauthorization Act, authorizing the FAA to establish an airport privatization program limited to five airports. Under the AIPP, commercial service airports can only be concessioned, and general aviation airports can be sold or concessioned. Currently, the AIPP allows FAA to accept applications from a sponsor for multiple airports as long as all airports are owned by the sponsor and located in the same state jurisdiction. A public sponsor may be interested in the private entity that purchases or concessions the airport.

The AIPP permits airports to explore privatization and removes certain grant assurances that require revenues to be used only for airport purposes. Under the AIPP, airport-generating revenues can be used for non-airport purposes. Regarding the Regional Airports' grant assurances agreed by PRPA with the FAA, PRPA would need to apply for approval to join a PPP concession through this program.

The application process, which typically takes approximately two (2) years, is summarized as follows:

- The sponsor submits a preliminary application for FAA approval.
- FAA has 30 days to review.
- The sponsor may select a private operator, negotiate an agreement, and submit a final application to the FAA. There is no timeline for the FAA to complete its last application review.

- After the FAA reviews and accepts the final application and agreement, it publishes a notice in the Federal Register for public review and comment period. During this period, the Department of Transportation, FAA, and Transportation Security Administration ("TSA") may conduct a public meeting in the community to solicit public comment.
    - The FAA completes its review, prepares its Findings and Record of Decision ("ROD"), addresses the public comments in the ROD, and publishes the agency decision.
    - If the FAA approves the application in the ROD, it monitors the legal settlement and transfer of the airport from the public owner and sponsors to the new private lessee and sponsor.

5.3.2. *Commercial Structure*

Under a traditional PPP structure, the private concessionaire bears risk and reward for all the assets' costs and revenues. The concessionaires operate the assets as a commercial business, so focusing on operational cash flows and the prospect of a positive business case is critical to attracting market interest. As a portfolio, the Regional Airports have historically operated at a deficit and are expected to continue operating at a deficit.

Furthermore, a PPP concession would require an encumbrance-free transfer of the assets included in the concession. PRPA carries several legacy obligations and non-operational revenue sources, which would not be transferred to a private operator under a PPP. According to informal discussions with the FOMB, it is probable that legacy obligations would have to be resolved before granting concession rights on the Regional Airports.

Value can be generated through a PPP delivery model in two (2) main ways:

- Upfront concession fee. The concessionaire pays the procuring authority at the beginning of the contract. Bidders calculate this amount by using a financial model to project cash flows over the term of the concession and solving for the amount they are willing to pay to the procuring authority for the right to operate the asset and receive those projected future cash flows while still meeting their required return on investment. The upfront concession fee is typically financed using limited-recourse project finance (debt and equity). Investors carry out substantial due diligence on the business case and risks to gain confidence that the expected future cash flows will materialize.
- Revenue sharing. While this payment mechanism can take a range of forms, a common feature is that revenue is shared with the authority throughout the concession period (usually measured annually) rather than as an upfront payment. Revenue-sharing structures can take the form of a percentage of gross revenue ("top line"), net profit ("bottom line"), only above a predetermined gross revenue or net profit baseline, periodic or cumulative, equity returned-based, constant or progressive scale, among other possibilities. This structure is seen as less risky by investors and operators, as payments to the authority depend on the actual performance of the assets. Without significant upfront capital expenditure, a revenue-sharing concession structure may not require a

considerable upfront debt and equity investment, making it less attractive for financial investors. On the other hand, airport operators typically prefer this type of structure and assert that it better aligns the interests of the private and public parties.

A combination of an upfront payment and ongoing revenue sharing is also possible, which is the structure used in the SJU Agreement.

Conceptually, PRPA would like to receive an upfront payment and/or revenue sharing in return for granting the concession(s). However, that option is unlikely given the loss-generating Regional Airports portfolio and limited growth prospects. On the contrary, for PRPA to receive any serious offer for a private operator to enter a concession for the Regional Airports, PRPA (or the Government) would need to subsidize the concession to make it financially viable. PRPA would have to pay the concessionaire to bridge the gap between the revenues generated by the Regional Airports and the costs of operating them, plus a reasonable profit to the concessionaire considering the risks it would assume.

5.3.3. *Bundling of Assets*

5.3.3.1. Rationale of Bundling Assets

As PRPA operates the Regional Airports, finding an optimal solution for the entire portfolio requires considering various bundling options and selecting an arrangement that will attract the interest of private operators while meeting PRPA's objectives.

Reasons for bundling include grouping assets to reach scale, stand-alone profitability, network operation optimization, or to streamline procurement by grouping multiple assets into a single procurement. Bundling as a strategy varies with economic and regulatory context, as well as the number and nature of the assets:

- Privatization by the sale of a public airport company. Where a group of public airports is managed by a state-owned operator, the company's ownership is sold in full or in part. For example, the public company ANA managing seven (7) airports in Portugal, including Lisbon's main international airport, was fully privatized as a single entity, where 100% of the ownership was sold to Vinci Airports (France).
- Multiple concession assets. An authority may choose to group various airports into a concession arrangement. Variation exists as to whether one concession agreement regulates all assets (master concession) or each asset is governed by a separate concession agreement, which may then be contractually connected (e.g., by cross-default provisions in each agreement). The choice is more of a regulatory consideration rather than an economic decision. It may be seen simply as more efficient to procure in the latter case.
- Creating scale. If an airport is considered too small to be financially viable or attractive to investors, it can be combined with other assets to reach a certain traffic threshold or create a financially consolidated bundle. In this case, however, it is common for smaller assets to be combined with a major international airport that partially subsidizes the smaller airports in the system.

In any case, the underlying rationale remains that, from a financial standpoint, the combined assets should present a strong enough business case for equity sponsors to reach a minimum return.

5.3.3.2. Benefits and Drawbacks

There are benefits to bundling airport assets. Irrespective of the concession model, bundling still requires bidders to construct an individual business case for each asset to formulate a bid strategy and understand the risk profile of the combined bundle. In addition, KPIs and default and termination provisions will have to be addressed at the individual airport level in the concession contract (or contracts), whether the contracting model is a master concession with multiple "appendices" (one for each asset or group of assets) or separate agreements signed by the same special purpose vehicle ("SPV") but executed independently from each other.

The main benefits sought by bundling include the following:

- Cross subsidization. Academic studies on the effect of nationwide privatization of regional airports in the United Kingdom have established that smaller airport facilities can benefit in their development and growth by being part of a more extensive portfolio (owned by a corporate group or fund), capitalizing on economies of scale, route optimization, and more importantly access to more competitive financing through their parent company.
- Cash flow vs. total traffic. While volume is an important factor, investors will primarily look at cash flow potential from all available sources. Not only can bundling increase the underlying traffic base to make investments more attractive, it also offers a risk mitigant by diversifying long-term cash flow sources. The impact of COVID-19 illustrates this trend, where it has been observed that smaller airports have continued to function with a minor reduction of operations, while Part 139 airports saw revenue temporarily drop by up to 90% as revenue is mainly generated from passenger and aircraft fees and related spending.
- Optimization of cash flows. Consistent with the above, optimization of cash flows not only depends on substantial traffic volumes but also on the potential to create synergies among a portfolio. For example, asset developers might put a higher value on landside development options because of the possibility of developing commercial properties around the airport, while pure airport operators focus primarily on passenger traffic, and by extension regulated charges and passenger spending at the airports (more specifically, the Part 139 airports).

While the benefits of bundling are clear, there are also drawbacks to factor into the procurement strategy; these include:

- Mix of revenue-generating assets. Forcing a combination of strong assets with some suffering from low operating cash flow potential may decrease market interest for the overall bundle, especially since most of PRPA's Regional Airports are not commercially viable, international airports. Taking market sounding

feedback into account, forcing an "all or nothing" approach can result in no bidders responding due to the wide diversity of assets in the portfolio.

- Cherry picking. If proponents are offered the option to "cherry pick" which assets they bid on, some facilities may not receive interest. Various strategies can mitigate this risk, though they introduce additional complexities into the procurement process. These strategies include:
    - Group assets in a consistent portfolio with other similar assets. This reduces the risk that some airports attract no bidders by focusing the procurement on targeted groups with different business activities or interests. In the case of the Regional Airports, this, however, does not thoroughly neutralize the risk that the seven (7) General Aviation airports do not find any takers, as these types of airports are rarely privatized under a concession model.
    - Give a bonus for certain facilities to stimulate bids by creating flexibility in how bid evaluations are designed (combination of technical and financial scoring, rather than pass/fail technical followed by priced-based ranking).
    - Conduct a subsequent tender for any facilities that have not been selected, assuming that unsuccessful bidders may be interested in another attempt to win a project and leverage their experience gained in the first round.
- Contractual complexity for performance incentives. Although each airport facility in a bundle will likely be subject to an individual set of KPIs, it is possible that a bidder acquires the bundle, focuses performance on those with greater financial profitability, then purposefully defaults on the others to streamline its bundle. The concept of cross-default becomes critical but contractually challenging concerning the bankability of the bundle as a whole.

Table 20 summarizes the benefits and drawbacks of bundling versus unbundling as a procurement and contracting strategy.

Table 20: Bundling vs. Unbundling Transaction Considerations

	Bundle	Unbundle
Effect on Bidding Success	(+) Higher probability of successful bidding for all airports. (+) Low risk of cherry-picking.	(-) Higher probability of failed bidding for some airports (i.e., some airports will be left out). (-) High risk of cherry-picking.
Effect on Bid Amount	(+) On an all-airports basis, it is more probable for all airports to get bids. (+) Decreased risk of bid coordination or collusion. (-) On a per-airport basis, it is possible for the most attractive airports not to get the best bids.	(+) On a per-airport basis, it is more likely for the most attractive airports to get the best bids. (-) On an all-airports basis, some airports are more likely to get no bids. (-) Increased risk of bid coordination/collusion/airport allocation.
Effect on Market Interest	(+) Bigger scale will attract larger qualified operators. Global operators prefer at least 1 million annual passengers and potential for international traffic. Investment size and traffic are major considerations. (-) Lack of flexibility will deter the interest of some operators. (-) Lack of consistency in the portfolio will deter the interest of some operators.	(+) Flexibility will create better interest. (-) Risk of reduced interest from larger qualified operators due to smaller scale. (-) Substantial risk of non-participation in case no assurance of scale is provided.
Effect on Winner Determination	* Evaluation will be on a per-bundle basis. (+) Prescribing fixed qualification criteria provides clarity to the evaluation.	* Evaluation will be on a per-airport basis. (-) The increased complexity in the qualification criteria may create the perception of unfairness or arbitrary evaluations.
Effect on Contract Implementation	(+) Cross-default / cross-guarantee adds performance security across all bundled airports.	(-) Performance security arising from cross-default / cross-guarantee may not be available (e.g., in case a bidder bids for and/or only wins one airport).

5.3.3.3. Practical Examples of Bundled Concessions

Besides the Portugal public company sale mentioned above, other examples of bundled airport concessions include:

- Colombia Northeast Airports: Concession is managed by Aeropuertos de Oriente, a group formed by Colombian Infrastructure Equity Fund ("CIEF"), EXI Cerpi Holding, and MIP Cerpi Holding. The concession includes six (6) regional commercial airports located in the northeast region of Colombia that moved over 6 million total passengers in 2021.
- Colombia North-Central Airports: The Sociedad Operadora de Aeropuertos Centro Norte is the airport operator responsible for six (6) airports in Colombia's northern central region. It began operating in 2008 after winning a 40-year concession contract. They are responsible for managing, operating, adapting,

upgrading, and maintaining the Olaya Herrera de Medellín, José María Córdova in Rionegro, Los Garzones in Montería, Antonio Roldán Betancur in Carepa, El Caraño in Quibdó, and Las Brujas in Corozal.

- Peru Aeropuertos Andinos: Aeropuertos Andinos del Perú S.A. ("AAP") is a consortium based in Lima, composed of Corporación América from Argentina and Andino Investment Holding from Peru. In 2010, APP was awarded a 25-year concession to operate, construct, enhance, and maintain five international airports in the south of Perú, with a $265 million investment. The concession includes the airports Rodríguez Ballón in Arequipa; Inca Manco Cápac in Juliaca; Coronel FAP Alfredo Mendívil Duarte in Ayacucho; Padre Aldamiz in Puerto Maldonado; and Coronel FAP Carlos Ciriani Santa Rosa in Tacna. AAP serves over two million passengers annually, mostly for local flights.
- Aeropuertos Argentina 2000: Concession signed in 1998 for the operation, management, development, and commercial exploitation of 35 airports throughout Argentina, including the two (2) main airports in Buenos Aires. The concession handles over 36 million annual passengers, and its majority shareholder is Corporación America.
- Mexico OMA: This airport group operates and manages 13 airports in Mexico, carrying more than 23 million passengers. The airport concession includes airports in the central and northern regions of Mexico, including the airport in Monterrey, Mexico's second-largest business and industrial metropolis; the tourist destination cities of Acapulco, Mazatlán, and Zihuatanejo; the regional centers Chihuahua, Culiacán, Durango, San Luís Potosí, Tampico, Torreón and Zacatecas; and the border cities with the United States of Ciudad Juárez and Reynosa.
- Concession of Flemish regional airports (Belgium): The Belgian province of Flanders ran a joint procurement for the concession of up to three regional airports, where parties could bid for all assets. The local regulation required separate concession agreements for these airports. Two of the airports (Antwerp, which serves mainly business travel, and Oostende-Bruges, which serves cargo) were concessioned to Egis (France) for 25 years.
- Dominican Republic bundled concession: Aeropuertos Dominicanos Siglo XXI ("Aerodom") is operating across six (6) airports in the Dominican Republic, with a combined capacity of five million passengers. The company has a combined concession until 2030, which was acquired by global operator Vinci Airports in 2016.
- Greek Regional airports bundled privatization (Lot A and B): Fraport (Frankfurt airport) operates 14 airports in Greece, with a combined passenger capacity of 25 million, under a 40-year master concession agreement. The portfolio includes the country's second-largest airport (Thessaloniki) and multiple regional airports across the Greek islands, largely relying on tourism traffic. The tender was awarded in 2014 and closed in 2017.

5.4. PPP Assessment

5.4.1. *PPP Bundling Considerations for the Regional Airports*

There is no standard, formalized method, or industry standard to design bundled concessions. The decision must be analyzed from multiple angles. The critical driver remains (potential) profitability, as any PPP concession bundle should provide sufficient return to attract investor and operator interest.

When narrowly considering PRPA's objective to withdraw completely from the Regional Airports' day-to-day operations and instead only manage a PPP contract, the preferred scenario would be to group all Regional Airports in a single bundle. As explained in Table 21, this strategy has the highest likelihood of receiving a bid for all of the Regional Airports. However, this strategy also has risks and drawbacks, so bundling options need to be analyzed.

When considering a bundling strategy, it is useful to categorize assets with similar characteristics into groups, as consistency of asset types is a key factor in attracting market interest (see also Section 5.3.3.2). The purpose of these groupings is to organize further analysis and discussion and is a precursor to developing the optimal PPP concession scenario, which is presented in Section 5.4.5 below. PRPA's Regional Airports can be grouped as follows:

- Group A – Part 139 Commercial airports (BQN and PSE). This is the most attractive group for a concession, as these two (2) airports are the usual type of assets privatized in the form of a concession. They offer the most significant revenue potential (relatively) and are the type of assets international airport operators know and understand.
- Group B – Primary Commercial airports (RVR, CPX, SIG, and VQS). These include the non-part 139 airports with scheduled commercial services (mostly local flights, with SIG also serving business aviation traffic and some charter flights to the Dominican Republic). CPX and VQS are vital in providing accessibility between the islands of Culebra, Vieques, and the main island.
- Group C – General Aviation airports (ABO, MAZ, and X63). These are public utilities with limited revenue potential and no commercial passenger traffic. Although MAZ is formally considered a secondary commercial airport, with one scheduled service to SJU (subsidized), it is commercially more comparable to a General Aviation airport and therefore better fits with this group.

5.4.2. *Recommended Closure of Selected Regional Airports*

Regardless of the bundling or contracting approach, and subject to the approval of the FAA, closing the Group C airports (ABO, MAZ and X63) should be considered for the following reasons:

- Group C airports are redundant within the Puerto Rico airport system, and the costs of continuing to operate them likely outweigh the public benefits. The traffic at these facilities can be handled at other airports within the system.

- Although there may be broader considerations for PRPA to evaluate beyond financial aspects, closing the Group C airports would improve the likelihood of successfully procuring one or more PPP concessions for the Regional Airports. Such reduction of the portfolio would bring the dual benefits of (i) reducing the financial deficit of the overall Regional Airport system and (ii) increasing market interest, as private commercial operators typically are not keen to invest in the type of assets that characterize Group C (e.g., loss-making, limited growth prospects, catchment area overlap, cannibalization).
- With Group C airports being least likely to attract market interest, to the extent these assets cannot be packaged into a concession, PRPA would need to continue operating, maintaining, and subsidizing these airports less efficiently (given a smaller asset base over which to spread centralized costs). This result would not meet key objectives outlined in this Study.

5.4.3. *Further Key Considerations*

In addition to those discussed above, procuring one (1) or more PPP concessions for the Regional Airports faces several structural challenges, including:

- Structural financial deficit of PRPA's Aviation Division. In whichever configuration, the portfolio of Regional Airports as a whole will continue to require subsidization for the foreseeable future, even if the Group C airports were to be closed as recommended in Section 5.4.2. Even if the Regional Airports were bundled, it is doubtful that a slight increase in revenue and operational optimizations could reduce the group's structural financial deficit. See Section 3.2 for a snapshot of historical and current financial situation and Section 6 for forward-looking financial analysis.
- Public service need to continue subsidizing operations. Certain Regional Airports are utility-like and critical to accessibility (e.g., CPX, VQS) but are not financially viable. It is doubtful that the Part 139 airports could subsidize those (if bundled), as they are also currently running at a loss.
- Stakeholders' competing interests. There might be an inherent disconnection between the objectives of PRPA (e.g., exiting operations and bundling all Regional Airports) and what private airport investors and operators typically seek (e.g., commercial airports with traffic growth potential and medium to long-term profitability prospects).
- Legacy obligations of PRPA. Even if all Regional Airports were concessioned, PRPA would still face legacy costs such as pension obligations ("Pay-Go") and other liabilities (e.g., reassignment of staff not hired by concessionaire), which would likely exceed any revenue from potential concessions (expected to be limited, if any, due to low growth potential).

5.4.4. *Current PPP Prospects*

In light of the market-sounding feedback, understanding of Puerto Rico's airport system, and experience of the advisory group in the airport PPP concession market, conclusions

regarding prospects for PPP concession(s) of the Regional Airports, if pursued now, are summarized as follows:

- The airport portfolio's size, mix, and diversity make the attractiveness of having the entire Regional Airports under a PPP concession highly uncertain. Limited to no prospective operators/developers have the necessary mix of skills and qualifications to operate all of the airports, and many have little interest in operating airports with only General Aviation operations if not under an operations and management contract.
- A PPP concession of all Regional Airports still would not address the structural fiscal deficit and legacy obligations of the Aviation Division and PRPA in the broader sense.
- A possible proposition to the market may be a partial portfolio bundling, limited to the Part 139 airports (BQN, PSE) plus SIG. However, even this limited scenario would likely require financial subsidies from PRPA or the Government, at least in the near term.
- If a PPP concession were limited to only the Part 139 Airports (BQN and PSE) and SIG, PRPA would continue to operate the other regional airports, with increased budgetary uncertainties (e.g., reduced economies of scale, including a smaller asset base over which to spread centralized and fixed costs). That scenario would also not achieve PRPA's objective to withdraw from airport operations.
- If the reason for contemplating a concession is to generate revenues (by way of upfront payment and/or periodic revenue sharing) for PRPA to pay its debt and improve its financial situation, the Regional Airports' assets would not be successful in this strategy. If the driver is solely to improve safety, operations, services, and compliance, a private concessionaire would bring the necessary expertise and experience to achieve these goals; however, doing so would require subsidies to achieve financial viability.

Besides the identification of a suitable business model and contractual structure, there is a risk that launching a PPP procurement for all Regional Airports in the existing circumstances may result in one of the following outcomes:

- Concession is tendered but receives no response; or
- One or a few proponents submit a proposal. However, in light of the low-value business case, bids received are unattractive and still require PRPA financial contribution (i.e., negative market value). In such a scenario, the Authority and PRPA would negotiate with one possible proponent or cancel the entire procurement process, impacting future market interest.

5.4.5. *Future PPP Perspective*

While the outlook is weak for PPP concessions without subsidy for all Regional Airports under current conditions, there could be more promising PPP opportunities for the Regional Airports in the future.

One of the original goals behind PRPA's RFP for an O&M Contract was to improve the Regional Airports' overall operation, maintenance, and financial condition to prepare the assets for a more positive and attractive long-term PPP transaction in the future. The rationale for implementing an O&M Contract as an interim step toward future PPP concessions is compelling.

Therefore, while acknowledging the challenges and obstacles, this Study does not conclude that it will never be feasible to implement PPP concessions for the Regional Airports without subsidy. Looking to the future, at least five (5) years, with the Regional Airports operationally and financially improved compared to the current state (presumably under an O&M Contract), PRPA could reassess, prepare, and procure long-term PPP concessions for six (6) of the Regional Airports (Groups A and B). Under this future scenario, the Study assumes that PRPA has closed X63, ABO, and MAZ, and the following concessions will be procured:

- Concession 1 – Group A (BQN and PSE). BQN is the largest of the Regional Airports and has the highest potential from a business case perspective. PSE's relatively small size, significant financial deficit and more limited growth potential make it unlikely to attract market interest as a standalone concession. However, while having relatively low traffic compared with successful international precedent concessions (typically 1 million passengers per year or above), combining the two (2) in a bundle would increase the chance of success, creating enough scale to incentivize parties to mobilize resources to bid and thereby maximizing market interest and competition. Further analysis is required to gauge whether a concession of BQN and PSE would be feasible without subsidy. However, it seems likely that a subsidy may still be needed to cover operating losses in the near term until operations can be optimized and profitability achieved. In any case, a material upfront concession fee is not expected.
- Concession 2 – Group B (SIG, CPX, VQS, and RVR). Without scheduled international flights or significant cargo activity, these have limited growth potential as they only serve local trips (within Puerto Rico) or business aviation traffic, though SIG has some charter flights to the Dominican Republic. CPX and VQS are vital in providing accessibility between the islands of Culebra, Vieques, and the main island. SIG could present an interesting business case for operators interested in maintaining and increasing their corporate aviation business operations. The case of RVR is distinct, as this facility may be considered for other aeronautical businesses (such as a spaceport). It could potentially be split from this group and commercialized separately by PRPA. Together, these would require subsidy in the near term but may be able to become self-sufficient in the medium term if SIG and RVR are well managed to maximize commercial potential. This bundle would attract developers/operators with different profiles and visions than those interested in the Group A airports.

See Section 6 for a forward-looking financial analysis of the future oriented optimal P3 scenario described above.

6. Financial Analysis of Optimal PPP Scenario

Based on the historical operational financials and nature of the Regional Airports, reinforced by the market-sounding feedback, and bundling considerations explained above, it became apparent that one or more PPP concessions of all Regional Airports would not be feasible without subsidy. To test this assessment, the Authority and the advisory group determined an optimal future PPP scenario (see Section 5.4.5 above) for further financial analysis and defined detailed assumptions for future cost and revenue growth at each airport should they be transferred to a private operator under PPP concessions. This section presents a forward-looking analysis considering the historical track record and opportunities to improve the Regional Airports' portfolio's financial performance and business case.

6.1. Future Regional Airports Business Opportunities

PRPA acknowledges that it has not had adequate resources to maximize the operational and financial potential of the Regional Airports. It is expected that a private operator would be able to structurally increase revenue generation by attracting new tenants, consistently enforcing existing leases and managing existing leases and concessions on a market basis.

Table 21 below summarizes the potential for future business opportunities by airport.

Table 21: Regional Airports' Business Opportunities

Regional Airport	≈Available Land (Acres)	T-Hangers	Corporate Hangers	Cargo	MRO	Commercial/ Industrial	Other	Known Potential Projects
ABO	22	HP	HP	HP	MP	HP	HP	FedEx has been looking at the possibility of building a small facility
BQN	665	HP	HP	HP	HP	HP	HP	Cargo hub, expansion of existing Lufthansa Technik MRO, development of air routes
CPX	9	HP	HP	MP	LP	MP	MP	
X63	9	HP	HP	MP	LP	MP	MP	
MAZ	27	HP	HP	MP	LP	MP	MP	
PSE	7	HP	HP	HP	MP	HP	HP	Cargo hub
RVR	410	HP	HP	HP	HP	HP	HP	Spaceport, transfer of air national guard facilities
SIG	13	HP	HP	MP	MP	LP	LP	Avionics and aircraft repair school, additional corporate hangers
VQS	1	HP	HP	LP	LP	LP	LP	

HP: High Potential, MP: Medium Potential; LP: Low Potential

The above opportunities were discussed with private operators during the market sounding (see Section 4). While some of the opportunities were seen as having attractive upside potential, the consistent feedback from the market was that these business opportunities are largely considered too speculative for equity investors and lenders to price into a bid.

6.2. Financial Forecast Approach and Assumptions

A financial model has been prepared to analyze potential PPP concession scenarios under a range of assumptions. Results are summarized and explained in this section.

The financial analysis focuses on the operational cash flows of the Regional Airports. It does not factor in debt (e.g. legacy obligations mentioned in Section 3.2.2) and equity financing or certain other costs inherent in a PPP concession structure, such as bid development and transaction costs, SPV costs, concessionaire management, and overhead expenses. Additional costs not considered in the analysis included Pay Go pension obligations and significant capital improvements. As elaborated below, adding those elements would not impact the conclusions reached through operational cash flow analysis.

PRPA's historical operating revenues and costs for FY2022 were used as a starting point for most assumptions, allowing two to three years following the end of COVID-19 travel impacts to recover to similar pre-pandemic levels. It is important to note that some cost drivers (e.g., insurance) are not expected to go back to pre-pandemic levels; therefore, conducting a perfect comparison of the airports' pre-and-post-pandemic financials is not possible.

From this baseline, the Advisors built up detailed revenue and cost growth assumptions with the following observations:

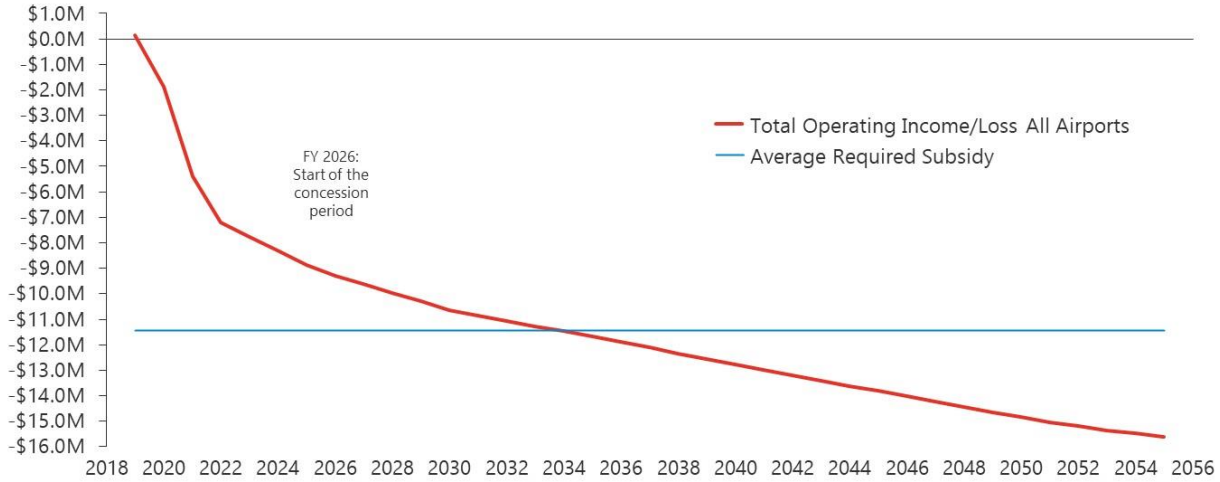
- The initial impact of a private operator was assumed to begin in 2026, the earliest realistic year in which a PPP concession could be implemented. Among other factors, this estimate is influenced by the lengthy expected process for applying for PPP approval under FAA's AIPP.
- Rapidly increasing insurance costs are a significant cost driver across the Regional Airports portfolio, impacting BQN and RVR the most. This worldwide trend is not expected to reverse in the foreseeable future. Insurance costs will likely, at some point, stabilize; however unlikely reverting to pre-pandemic levels, mainly due to increasing climate-and-natural disaster-related risks and the aftermath of COVID-19.
- Salaries and Benefits are significant in the Regional Airports finances, accounting for over 40% of the total operating costs yearly.
- There is some potential in developing revenue streams, mainly in potential land leases for BQN and PSE, but not significant enough to overcome the operating deficit.

6.2.1. *Results of Financial Analysis*

6.2.2. *Entire Portfolio – All Regional Airports*

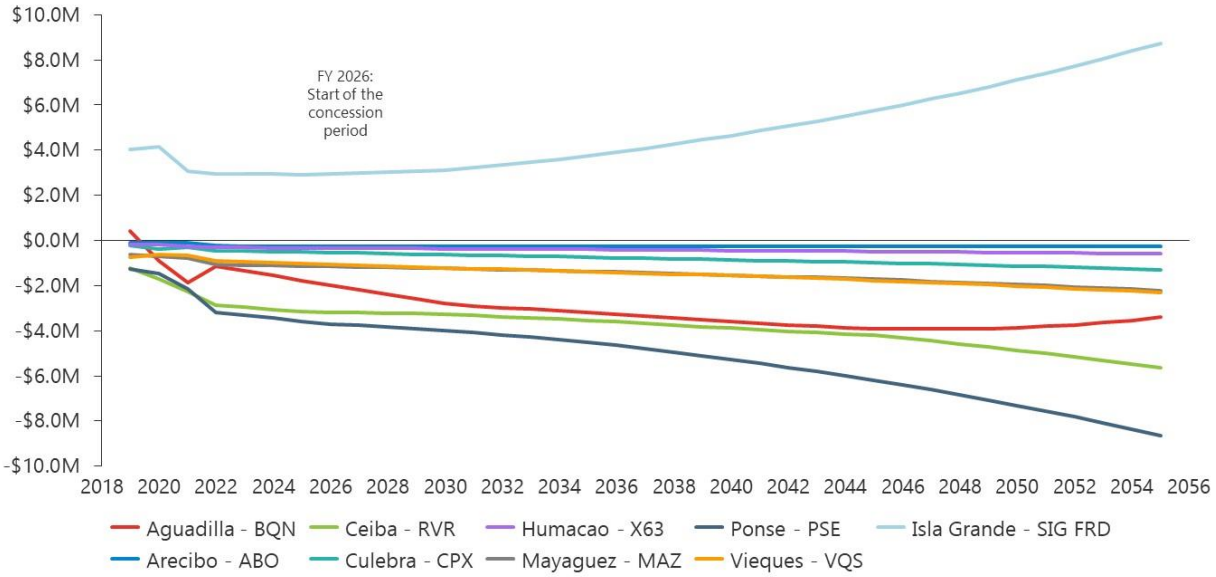
Before getting to the optimal PPP scenario, the following graph substantiates why a PPP concession for all Regional Airports would not be feasible without subsidy.

Figure 81: Regional Airports' Operating Cashflow



Source: PRPA Data 2022 and RS&H Calculations

Figure 82: Regional Airports' Operating Cashflow per Airport



Source: PRPA Data 2022 and RS&H Calculations

The results presented in the graphs above are driven by the following:

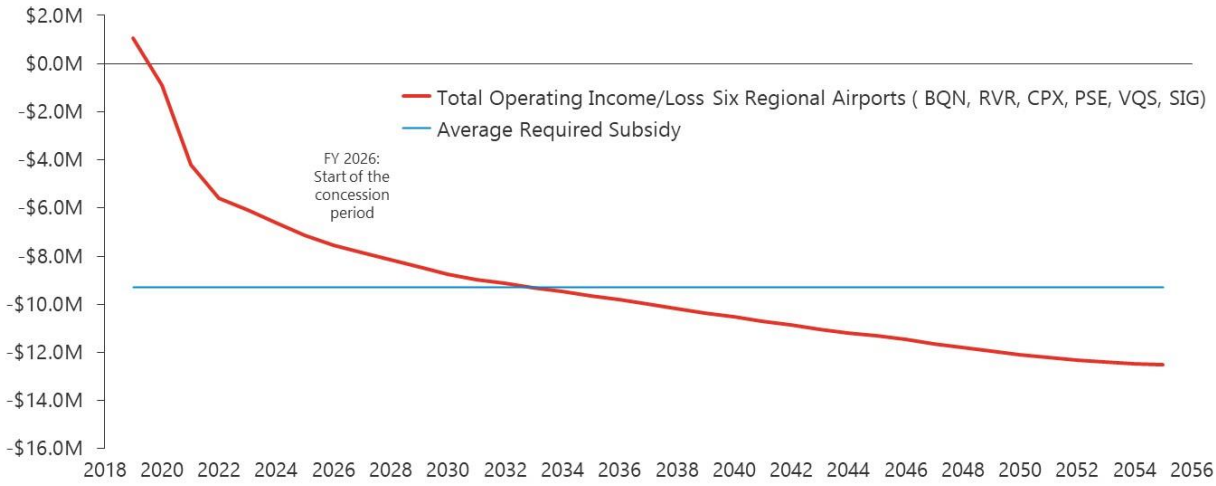
- Overall, the operational deficit has been significant historically and is expected to remain so throughout the forecasting period, with an average annual deficit of $11M. Although there are expected efficiencies to be gained under the control of a private operator, these are not expected to be significant enough to eliminate the operational deficit.
- SIG is the only airport that presents a positive operating margin historically and throughout the forecasting period. The primary source of revenue is a long-term non-aeronautical space rental of approximately $2.3 million per year (as of 2022). Even without the large non-aeronautical space rental revenue, SIG could still achieve a financial break-even dependent only on aeronautical revenues.
- PSE is a major driver of the Regional Airports' operating deficit and is not expected to have potential for significant new revenue streams going forward. PSE's current operational deficit is the largest of the Regional Airports, mainly due to disproportionately high insurance costs and salaries and benefits costs, compared to revenue generation. There is some growth potential in non-aeronautical revenues, however the starting point is so low (a few thousand) that it makes it challenging for revenue growth to keep up with costs. Costs are expected to grow at a faster pace than revenues.
- RVR has revenue potential during the forecasting period, particularly for space rental. Yet, it presents the second largest deficit after PSE, largely – over 70% – attributed to salaries & benefits as well insurance costs.
- Lastly, BQN presents a deficit, on average, of almost $3 million during the forecasting period. The last years of the concession are expected to result in better financial outcomes, mainly due to revenue generated by potential land leases. The latter will grow quickly (10% per year), but the total revenue stream is insufficient to close the gap during most of the concession period.

6.2.3. *Six Regional Airports*

In Section 5.4.2 above, three (3) Regional Airports are recommended to be closed as the public benefits may not outweigh their costs. While all three airports are consistently loss-making without significant prospects of financial improvement, they are also all relatively small – approximately $2 million annually in aggregate. Therefore, removing them from the analysis reduces the viability gap but not nearly enough to make a PPP concession of the other six Regional Airports feasible without subsidy (see

Figure 83 below).

Figure 83: Regional Airports' Operating Cashflow Except Recommended Closure Forecast



Source: PRPA Data 2022 & RS&H Calculations

6.2.4. *Optimal PPP Scenario*

As described in Section 5.4.5 above, the optimal future PPP scenario consists of two (2) separate PPP concessions, summarized as follows:

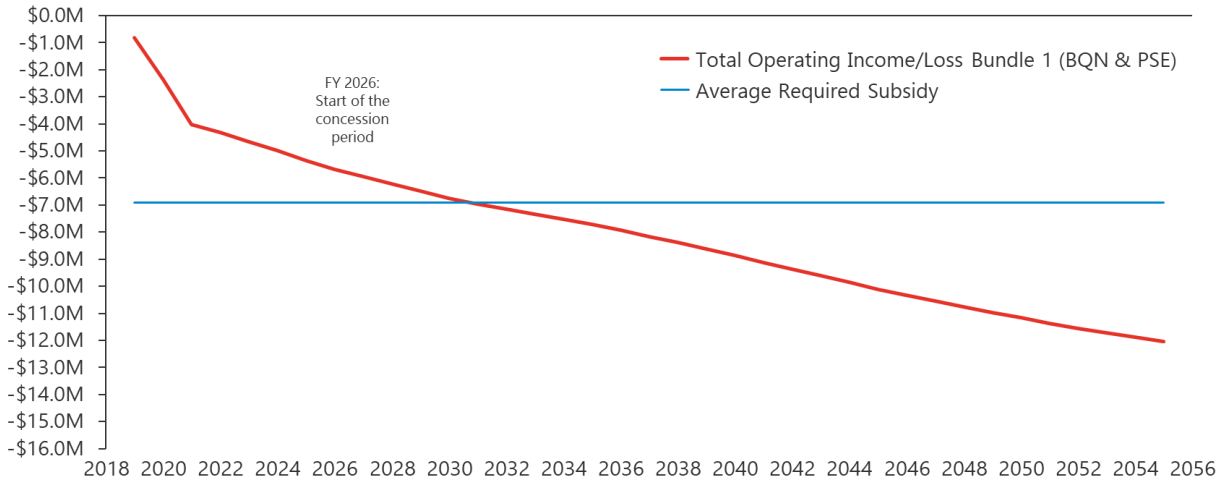
1. Group A (BQN and PSE); and
2. Group B (SIG, CPX, VQS, and RVR).

Financial analysis of each concession bundle is presented in the graphs below.

6.2.4.1. Group A (BQN and PSE)

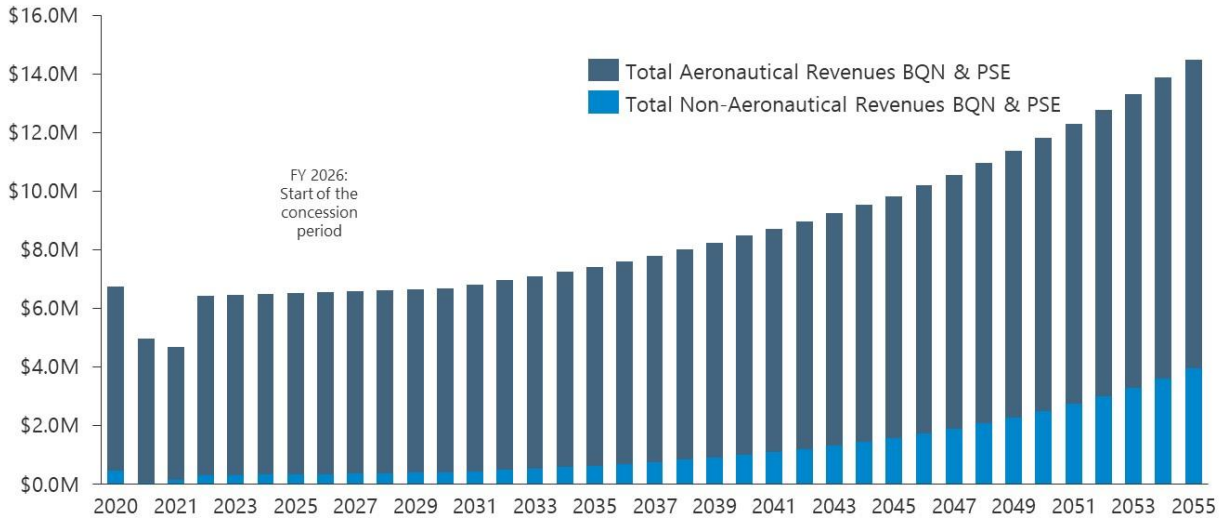
The combination of BQN and PSE has a weak starting point, and the deficit continues to widen during the forecasting period. Although BQN does not achieve an operating breakeven during the forecasting period, the biggest deficit driver is PSE, accounting for almost 90% of the average subsidy requirement of $7M. The primary source of income – driven by BQN – is space rental (part of aeronautical revenues). However, that revenue source is marginal, approximately $2M in the early years, compared to total costs of roughly $7M over the same period.

Figure 84: Part 139 Airports (PSE and BQN) - Operating Cashflow Forecast



Source: PRPA Data 2022 & RS&H Calculations

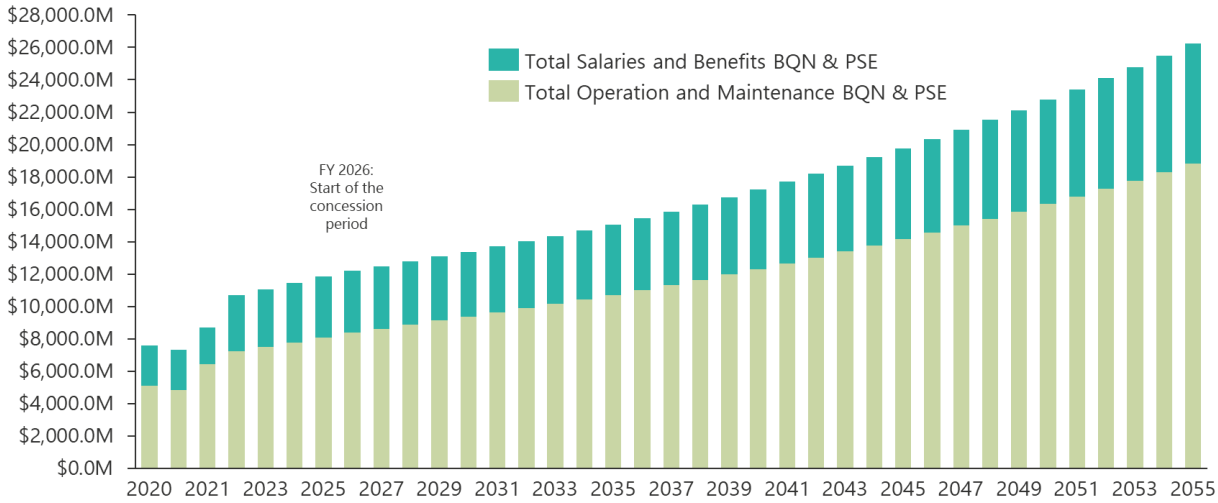
Figure 85: Part 139 Airports (PSE and BQN) – Aeronautical and Non-Aeronautical Revenues



Source: PRPA Data 2022 & RS&H Calculations

On the cost side, the main drivers include salaries and benefits, insurance mainly at BQN, followed by private police.

Figure 86: Part 139 Airports (PSE and BQN) – Salaries, Operational & Maintenance Costs

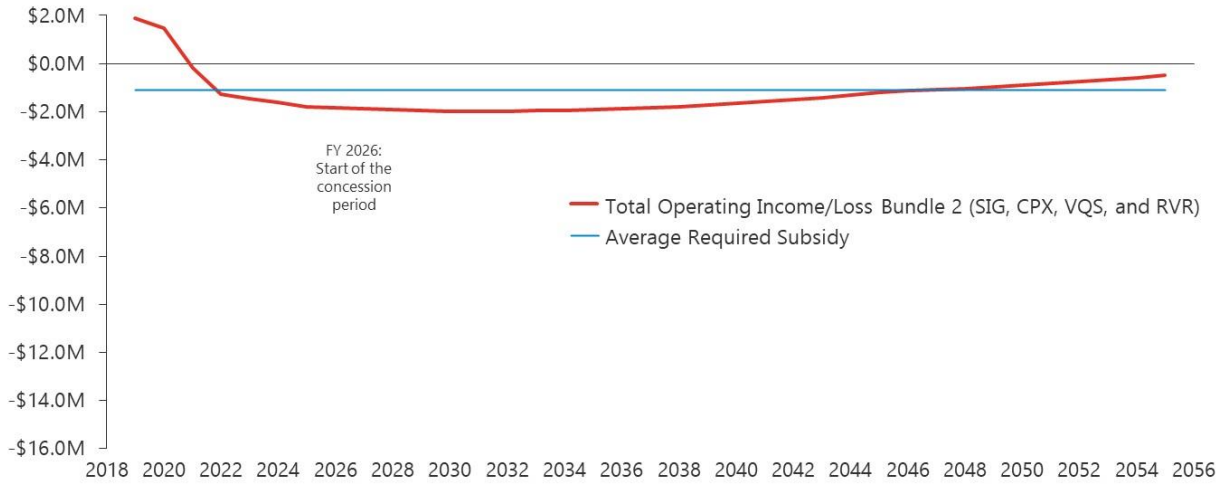


Source: PRPA Data 2022 & RS&H Calculations

6.2.4.2. Group B (SIG, CPX, VQS, and RVR)

For this bundle, the deficit is more modest than in the Group A concession scenario. SIG's profitable profile (thanks mainly to non-aeronautical space rental revenue) helps compensate for the structurally loss-making profiles of the other three airports, however there is still an average operating deficit of about $1 million during the expected concession period.

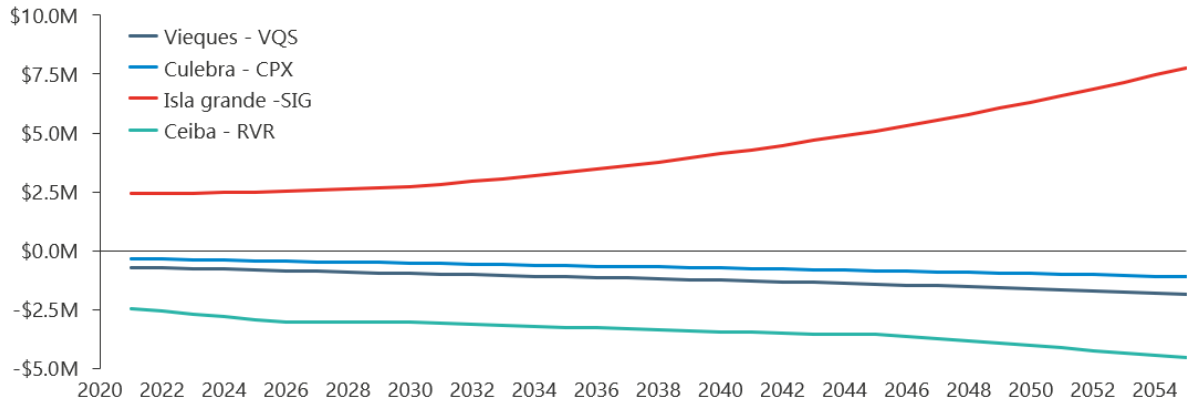
Figure 87:PSE – SIG / CPX / VQS / RVR Operating Cashflow Forecast



Source: PRPA Data 2022 & RS&H Calculations

As mentioned earlier in this section, SIG drives revenue generation, being the only airport with an operating margin.

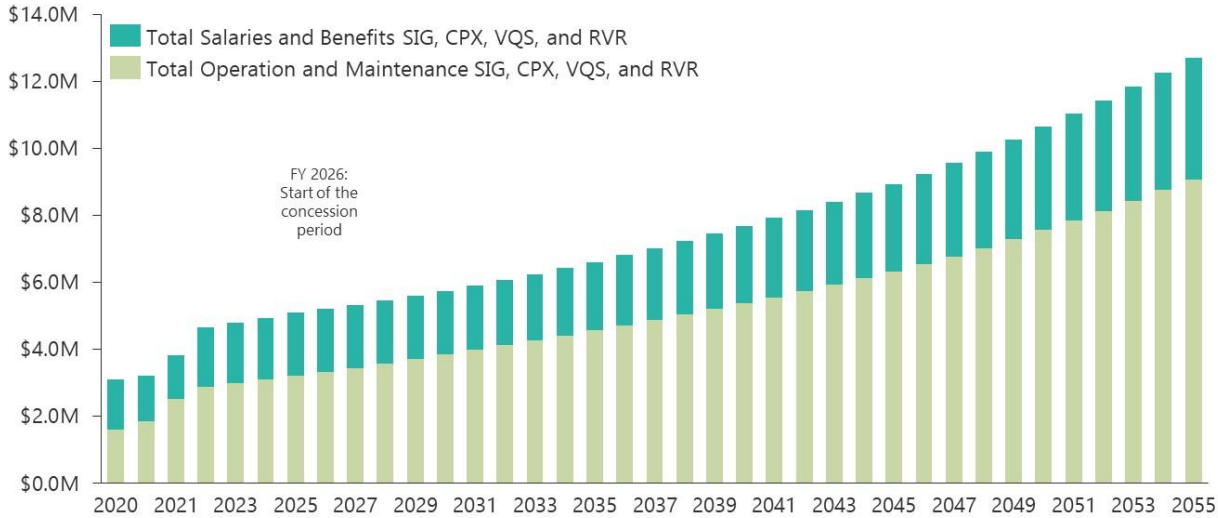
Figure 88: SIG / CPX / VQS / RVR – Aeronautical and Non-Aeronautical Revenues



Source: PRPA Data 2022 & RS&H Calculations

On the cost side, the main drivers are insurance (acutely reflected in RVR, representing over 30% of the total airport's costs), followed by employee salaries and benefits and private security. The latter creates a financial burden for all airports in this bundle.

Figure 89: SIG / CPX / VQS / RVR – Salaries, Operational & Maintenance Costs



6.3. Interpretation of the Financial Analysis Results

A positive business case is not expected for any of the scenarios presented in this section, implying that a subsidy from PRPA or the Government would be required to make any analyzed PPP concessions commercially feasible.

In addition, while the financial analysis is based on operational cash flows, it is essential to consider that the Regional Airports will need investment in capital improvements, not only during the concession period but also upfront at the commencement of the concession period, to bring the Regional Airports up to a minimum safety and quality standard. Such capital expenditures will pose a further strain on cash flow.

7. Conclusions

Considering all of the factors discussed in this Study, the recommended path forward can be broken down into two phases.

Phase 1: O&M Contract

Launching a PPP concession for all Regional Airports is currently not financially feasible and would not attract market interest without a substantial subsidy. Furthermore, tendering a PPP concession for a limited number of Regional Airports would not provide financial stability to PRPA nor improve safety, operations and service standards in all airports. It would probably worsen the unsustainable fiscal deficit for the Aviation Division, as potentially profitable airports would be concessioned, while deficit-generating airports would remain with PRPA (without the total revenue of the concessioned airport(s)).

Therefore, it is recommended to delay the PPP process to prepare the Regional Airport assets for a more attractive PPP transaction in the future.

As an interim step:

- If allowed by its internal procurement regulations, PRPA is recommended to reactivate the PRPA RFP for an O&M Contract, renegotiate the scope with the preferred bidder, and contract the private operation of the Regional Airports for seven (7) years to improve the overall operation, maintenance, and financial condition of six (6) of the Regional Airports and—with the assistance of the private operator—to facilitate the gradual closing of X63, ABO, and MAZ.
- While the execution of the O&M Contract has previously been halted due to PRPA's fiscal situation, doing nothing (i.e. maintaining the status quo) would also not be financially sustainable for PRPA, which has historically operated its Aviation Division at a loss, further exacerbated by COVID-19. Entering into a medium-term O&M Contract would be a path for gradual and sustained improvement of PRPA's financial condition.

Phase 2: PPP Concessions

Approximately two (2) to three (3) years before the end of the O&M Contract, reassess the commercial viability of a PPP structure and the extent to which the Regional Airports portfolio may still require a subsidy from PRPA or the Government. By then, X63, ABO, and MAZ should have ceased operations, and the remaining Regional Airports should be operationally and financially improved compared to the current state. The Authority and the advisory group anticipate that it will take a minimum of two (2) years to obtain FAA approval under the AIPP and prepare and execute one (1) or more PPP procurements. At that future time, if the operational financials of the Regional Airports and PRPA's fiscal situation allow, initiate one (1) or more PPP procurements for the remaining Regional Airports for the PPP concession contract(s) to commence at the end of the O&M Contract.

Consistent with the analysis and recommendations in Section 5.4.5, the following PPP concession bundles are proposed:

- Concession 1 – Group A (BQN and PSE). BQN is the largest of the Regional Airports and has the highest potential from a business case perspective. PSE's relatively small size, significant financial deficit and more limited growth potential make it unlikely to attract market interest as a standalone concession. However, while having relatively low traffic compared with successful international precedent concessions (typically 1 million passengers per year or above), combining the two (2) in a bundle would increase the chance of success, creating enough scale to incentivize parties to mobilize resources to bid and thereby maximizing market interest and competition. Further analysis is required to gauge whether a concession of BQN and PSE would be feasible without subsidy. Seen from present circumstances, it seems likely that a subsidy may still be needed for operating losses in the near term until operations can be optimized and profitability achieved, however it is expected that the commercial viability will have improved after four (4) to five (5) years of private operation under an O&M Contract. In any case, a material upfront concession fee is not expected.
- Concession 2 – Group B (SIG, CPX, VQS, and RVR). Without scheduled international flights or significant cargo activity, these have limited growth potential as they only serve local trips (within Puerto Rico) or business aviation traffic, though SIG has some charter flights to the Dominican Republic. CPX and VQS are vital in providing accessibility between the islands of Culebra, Vieques, and the main island. SIG could present an interesting business case for operators interested in maintaining and increasing their corporate aviation business operations. The case of RVR is distinct, as this facility may be considered for other aeronautical businesses (such as a spaceport). It could potentially be split from this group and commercialized separately by PRPA. Together, these would require subsidy in the near term but may be able to become self-sufficient in the medium term if SIG and RVR are well managed to maximize commercial potential. This bundle would attract developers/operators with different profiles and visions than those interested in the Group A airports.

As further described in Section 3.2.2, potential sources of subsidy for the Regional Airports include the following:

- SJU Agreement revenue share proceeds received annually by PRPA;
- Net revenue from maritime-related operations within SIG's property;
- Lease revenue from the PanAmerican 1-2 Piers once the San Juan Cruise Terminals PPP transaction closes;
- Any other lease revenue from other sources encumbered by FAA grant assurances not operated by the private operator, e.g. [CAF lease payments-TBC].
- Additional sources of subsidy would likely also be required.

Appendix A: Historical Financial Statements per Airport

BQN

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	1,635.4	1,674.2	1,517.8	1,727.5
Landing Fees	1,067.6	699.2	443.3	776.3
Passenger Fees	619.4	494.6	63.0	464.4
Space Rental (Aeronautical)	544.9	594.2	1,823.9	2,127.7
Space Rental (Non-Aeronautical)	452.7	68.7	162.0	259.7
Utilities, Gas, & Others	1,214.2	499.4	294.7	483.6
L - LESS: PROV DOUBT ACCT	(113.9)	(208.3)	(109.5)	(23.7)
L - LESS: PROV DOUBT ACCT GOVERMT				
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**5,420.3**	**3,822.0**	**4,195.3**	**5,815.5**
Expenses				
Salaries & Employee Benefits	1,743.8	1,748.9	1,588.1	2,166.3
Repairs and Maintenance	91.7	119.1	270.0	99.4
Insurance	431.3	474.0	933.3	1,027.0
Professional Services	23.5	17.9	51.0	25.6
Private Police	1,197.3	1,420.7	1,916.4	2,092.5
Light Power	603.3	680.2	573.8	861.4
Water Sewer	57.2	16.6	5.8	8.1
General & Administrative & Cleaning Services	954.6	463.5	821.8	702.5
Net Operating Expenses	**5,102.6**	**4,941.0**	**6,160.2**	**6,982.7**
Net Operating Income	**317.7**	**(1,119.0)**	**(1,964.9)**	**(1,167.1)**

ABO

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	69.5	65.6	75.5	63.0
Landing Fees	22.7	20.1	25.9	26.0
Passenger Fees	0.5	2.4	2.1	-
Space Rental (Aeronautical)	0.9	3.6	6.8	7.7
Space Rental (Non-Aeronautical)	-	-	-	
Utilities, Gas, & Others	4.4	3.4	3.4	5.0
L - LESS: PROV DOUBT ACCT	(1.3)	(2.3)	(2.4)	
L - LESS: PROV DOUBT ACCT GOVERMT			(0.6)	
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**96.8**	**93.0**	**110.6**	**101.7**
Expenses				
Salaries & Employee Benefits	69.8	77.6	79.2	197
Repairs and Maintenance	2.4	3.6	0.2	0
Insurance	20.3	22.3	18.1	20
Professional Services	4.4	8.0	2.6	-
Private Police	73.7	80.6	96.0	104
Light Power	0.9	5.3	0.1	1
Water Sewer	4.0	5.1	5.5	5
General & Administrative & Cleaning Services	29.2	11.4	28.5	13
Net Operating Expenses	**204.6**	**213.9**	**230.1**	**339.2**
Net Operating Income	**(107.8)**	**(120.9)**	**(119.5)**	**(237.5)**

RVR

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	516.9	267.8	464.7	266.2
Landing Fees	93.2	79.4	85.3	174.2
Passenger Fees	22.1	31.3	33.4	55.2
Space Rental (Aeronautical)	171.4	159.5	134.4	114.5
Space Rental (Non-Aeronautical)	205.8	-	1.1	12.3
Utilities, Gas, & Others	3.5	3.7	78.2	148.9
L - LESS: PROV DOUBT ACCT	(4.5)	(8.3)	(17.0)	
L - LESS: PROV DOUBT ACCT GOVERMT			(4.5)	(22.8)
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**1,008.4**	**533.3**	**775.8**	**748.5**
Expenses				
Salaries & Employee Benefits	1,054.3	1,031.0	976.6	1,279
Repairs and Maintenance	197.4	172.4	150.6	139
Insurance	242.6	266.7	1,258.1	1,377
Professional Services	(1.4)	69.6	93.8	21
Private Police	223.1	109.2	268.5	388
Light Power	47.1	682.1	211.3	301
Water Sewer	-	-	-	-
General & Administrative & Cleaning Services	454.3	131.2	115.0	132
Net Operating Expenses	**2,217.5**	**2,462.2**	**3,073.9**	**3,637.5**
Net Operating Income	**(1,209.0)**	**(1,928.8)**	**(2,298.1)**	**(2,889.1)**

CPX

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	50.8	44.7	47.6	6.5
Landing Fees	18.2	22.9	21.8	27.6
Passenger Fees	22.1	15.6	18.3	24.2
Space Rental (Aeronautical)	6.5	7.4	10.0	10.8
Space Rental (Non-Aeronautical)		-	1.5	8.6
Utilities, Gas, & Others	5.1	2.6	8.3	14.3
L - LESS: PROV DOUBT ACCT	(0.7)	(1.4)	(2.3)	
L - LESS: PROV DOUBT ACCT GOVERMT			(0.6)	
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**102.0**	**91.8**	**104.5**	**91.8**
Expenses				
Salaries & Employee Benefits	151.9	211.9	161.4	241
Repairs and Maintenance	3.6	25.6	18.3	3
Insurance	40.4	44.4	36.0	39
Professional Services	-	-	-	-
Private Police	72.6	81.4	103.1	81
Light Power	10.1	29.6	32.3	74
Water Sewer	5.1	0.4	30.5	8
General & Administrative & Cleaning Services	27.6	65.6	40.2	76
Net Operating Expenses	**311.4**	**458.8**	**421.7**	**520.5**
Net Operating Income	**(209.4)**	**(367.1)**	**(317.1)**	**(428.7)**

X63

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	6.3	10.6	15.7	13.6
Landing Fees	2.6	0.4	0.1	1.3
Passenger Fees	-	-	-	-
Space Rental (Aeronautical)	-	-	-	-
Space Rental (Non-Aeronautical)	-	-	-	
Utilities, Gas, & Others	(1.4)	(2.5)	0.2	-
L - LESS: PROV DOUBT ACCT			(0.3)	(17.6)
L - LESS: PROV DOUBT ACCT GOVERMT			(0.1)	
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**7.5**	**8.4**	**15.6**	**(2.7)**
Expenses				
Salaries & Employee Benefits	53.6	53.9	54.0	194
Repairs and Maintenance	9.4	0.2	72.8	7
Insurance	33.7	37.0	13.7	15
Professional Services	-	-	-	-
Private Police	72.9	85.5	114.3	139
Light Power	3.6	2.6	(1.8)	43
Water Sewer	3.0	5.2	4.7	6
General & Administrative & Cleaning Services	10.3	11.8	22.2	37
Net Operating Expenses	**186.6**	**196.2**	**279.8**	**441.2**
Net Operating Income	**(179.1)**	**(187.8)**	**(264.3)**	**(443.9)**

MAZ

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	35.1	28.0	26.2	22.6
Landing Fees	(10.7)	11.2	12.4	11.4
Passenger Fees	7.3	6.1	4.3	10.0
Space Rental (Aeronautical)	6.8	6.8	6.3	7.7
Space Rental (Non-Aeronautical)	-	-	-	-
Utilities, Gas, & Others	1.2	0.4	0.1	0.1
L - LESS: PROV DOUBT ACCT	(3.8)	(7.0)	(1.0)	
L - LESS: PROV DOUBT ACCT GOVERMT			(0.3)	
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**35.9**	**45.6**	**48.1**	**51.8**
Expenses				
Salaries & Employee Benefits	306.2	311.6	291.9	577
Repairs and Maintenance	7.6	0.9	56.3	43
Insurance	80.9	88.9	191.6	210
Professional Services	2.1	13.2	18.2	1
Private Police	88.2	81.6	96.0	127
Light Power	147.0	191.8	123.3	64
Water Sewer	12.0	7.2	14.7	31
General & Administrative & Cleaning Services	31.8	41.2	41.0	67
Net Operating Expenses	**675.8**	**736.4**	**833.1**	**1,120.0**
Net Operating Income	**(639.9)**	**(690.8)**	**(785.0)**	**(1,068.3)**

PSE

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	658.5	580.3	313.2	331.6
Landing Fees	170.2	112.5	23.8	96.3
Passenger Fees	160.8	138.6	8.0	111.5
Space Rental (Aeronautical)	-	-	6.1	46.7
Space Rental (Non-Aeronautical)	5.4	7.1	6.6	49
Utilities, Gas, & Others	237.5	97.4	21.1	75.4
L - LESS: PROV DOUBT ACCT	(2.2)	(4.1)	(7.9)	
L - LESS: PROV DOUBT ACCT GOVERMT			(2.1)	
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**1,230.2**	**931.9**	**368.8**	**710.6**
Expenses				
Salaries & Employee Benefits	758.6	746.9	665.8	1,326
Repairs and Maintenance	137.2	187.5	177.6	398
Insurance	256.0	281.4	273.3	299
Professional Services	48.8	35.2	4.3	28
Private Police	496.6	560.6	665.5	811
Light Power	314.4	322.6	226.3	255
Water Sewer	57.0	12.7	100.3	112
General & Administrative & Cleaning Services	417.0	235.9	428.8	499
Net Operating Expenses	**2,485.5**	**2,383.0**	**2,542.0**	**3,727.0**
Net Operating Income	**(1,255.3)**	**(1,451.1)**	**(2,173.2)**	**(3,016.4)**

VQS

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	75.1	79.0	22.2	49.0
Landing Fees	34.5	28.2	26.1	35.7
Passenger Fees	43.0	35.2	30.2	56.4
Space Rental (Aeronautical)	7.7	7.1	5.7	4.9
Space Rental (Non-Aeronautical)	-	-	0.2	2
Utilities, Gas, & Others	(6.8)	0.4	0.4	0.5
L - LESS: PROV DOUBT ACCT	(0.5)	(0.8)	(1.8)	
L - LESS: PROV DOUBT ACCT GOVERMT			(0.5)	
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**153.0**	**149.1**	**82.5**	**148.5**
Expenses				
Salaries & Employee Benefits	431.7	342.8	315.7	481
Repairs and Maintenance	11.7	11.3	2.1	88
Insurance	134.8	148.2	89.1	98
Professional Services	9.7	-	0.5	7
Private Police	127.6	96.1	131.9	122
Light Power	58.7	72.9	64.1	78
Water Sewer	1.5	3.1	35.5	25
General & Administrative & Cleaning Services	113.4	88.4	110.9	117
Net Operating Expenses	**889.1**	**762.7**	**749.6**	**1,015.9**
Net Operating Income	**(736.1)**	**(613.6)**	**(667.1)**	**(867.4)**

SIG

In 000$	FY2019	FY2020	FY2021	FY2022
Revenues				
Equipment and Property Rental	900.6	991.4	803.8	1,207.6
Landing Fees	249.8	187.8	247.8	297.2
Passenger Fees	37.8	22.6	27.9	36.3
Space Rental (Aeronautical)	403.4	639.1	884.2	670.9
Space Rental (Non-Aeronautical)	3,027.4	2,885.8	2,464.9	2,539
Utilities, Gas, & Others	411.6	115.8	79.0	45.9
L - LESS: PROV DOUBT ACCT	(134.9)	(246.8)	(87.7)	
L - LESS: PROV DOUBT ACCT GOVERMT	(59.8)		(23.1)	(3.1)
L - LESS: DISCOUNT / INCENTIVE				
Net Operating Revenues	**4,836.0**	**4,595.7**	**4,396.8**	**4,793.6**
Expenses				
Salaries & Employee Benefits	606.8	619.3	617.0	729
Repairs and Maintenance	10.8	17.3	22.0	21
Insurance	67.4	74.0	707.6	774
Professional Services	0.9		6.2	-
Private Police	69.3	48.9	88.9	85
Light Power	89.2	(10.7)	79.3	131
Water Sewer	52.4	63.7	70.8	70
General & Administrative & Cleaning Services	103.5	36.5	102.2	55
Net Operating Expenses	**1,000.2**	**849.1**	**1,694.1**	**1,864.3**
Net Operating Income	**3,835.8**	**3,746.6**	**2,702.8**	**2,929.3**

Appendix B: History & Condition of the Airports

The attached technical reports have been prepared for each of the Regional Airports to provide readers with a high-level overview of existing facilities and operational areas of each airport. Each technical report covers the following topics:

- Airport Setting and Classification;
- Airfield Facilities;
- Passenger Terminal Facilities;
- Landside Facilities;
- Tenant Facilities;
- Airport Support Facilities;
- Aviation Activity Summary;
- Historic Aviation Activity;
- Future Aviation Activity Projections; and
- Capital Improvement Program.

Appendix C: Environmental Baseline Study

See attached.

ANTONIO (NERY) JUARBE POL AIRPORT (ABO)

TECHNICAL REPORT

MAY 2023

RS&H

ANTONIO (NERY) JUARBE POL AIRPORT (ABO)

TECHNICAL REPORT

Version No. 2.0
May 2023
Arecibo, Puerto Rico

RS&H No.:
242-0047-000

Prepared by RS&H, Inc. at the direction of the Puerto Rico Public Private Partnerships Authority

RS&H

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1 INTRODUCTION

The Government of Puerto Rico through the Puerto Rico Public Private Partnerships Authority (PPPA) is exploring the possible transfer of the operation, maintenance, development, and administration of nine regional airports to the private sector through a Public Private Partnership (P3). This includes the Antonio (Nery) Juarbe Pol Airport (ABO or the Airport) in Arecibo. The Public-Private Partnership Authority Act (Act 29) requires the PPPA to conduct a study on desirability and convenience to determine whether establishing such partnership is advisable.

1.1 REPORT DISCLAIMERS

The main objective of this technical report is to provide readers with a high-level technical overview of Antonio (Nery) Juarbe Pol Airport in support of the Desirability and Convenience Study required by Act 29. The report and its content are only provided for informational purposes and its content should not be construed as a condition's report or any other form of technical report. Even though the information included in the report was obtained from the Puerto Rico Ports Authority and other reliable sources, RS&H, Inc. does not make any warranties about their completeness, reliability, or accuracy. Use of the information included in this report is at the risk of the user/reader.

1.2 DOCUMENT CONTENTS

The main purpose of this document is to provide readers with a high-level overview of existing facilities and operational areas of the Airport.

The report is organized under the following topics:

- Airport Setting and Classification;
- Airfield Facilities;
- Passenger Terminal Facilities;
- Landside Facilities;
- Tenant Facilities;
- Airport Support Facilities;
- Aviation Activity Summary;
  - Historic Aviation Activity;
  - Future Aviation Activity Projections; and
- Capital Improvement Program.

1.3 CURRENT CONDITION

The following pictures provide a visual representation of current conditions of each of the major components at the Airport as of the middle of January 2019. Additional pictures are provided in **Appendix E**.

Appendix B provides a list of repairs identified by PRPA to the Federal Emergency Management Agency (FEMA) as damages caused by Hurricane Maria in September 2017. These repairs are to be funded by FEMA. The preliminary cost estimates for ABO are approximately $1,700,000 with an estimated project progression of 35 percent. FEMA repairs are projected to commence in Q1 2020.[1]

General Overview

Source: RS&H, Inc., 2019

Runway

Source: RS&H, Inc., 2019

[1] The preliminary cost, project progress, and date of commencement are estimated values and the actual value and commencement of the repairs might change once the procurement process is implemented.

Taxiway


Source: RS&H, Inc., 2019

Terminal Apron


Source: RS&H, Inc., 2019

Terminal Building


Source: RS&H, Inc., 2019

Access Road, Curbfront and Parking


Source: RS&H, Inc., 2019

2 AIRPORT SETTING AND CLASSIFICATION

2.1 LOCATION AND REGIONAL SETTING

The Municipality of Arecibo is located in the central portion of the northern coast of Puerto Rico, approximately 50 miles west of San Juan. Based on the 2020 U.S. Census, the population of the Municipality of Arecibo was 87,754[2].

The Airport is located approximately three miles southeast of the Arecibo city center, just north of Puerto Rico Route 2. **Figure 2-1** shows the Airport's general location and vicinity.

2.2 FEDERAL ROLE AND CLASSIFICATION

The Federal Aviation Administration (FAA) through the National Plan of Integrated Airport Systems (NPIAS) has designated ABO as a non-primary basic general aviation service airport. General aviation airports are public-use airports with less than 2,500 annual passengers and no scheduled service. The FAA and aviation community completed further analysis on general aviation airports to capture the diverse functions and economic contribution the airport provides to the community and nation. The basic role links to the community with the national airport system and supports GA activities[3].

2.3 STATE ROLE AND CLASSIFICATION

The PRPA Aviation System Plan defines four functional levels in their classification system for Puerto Rico's airports:

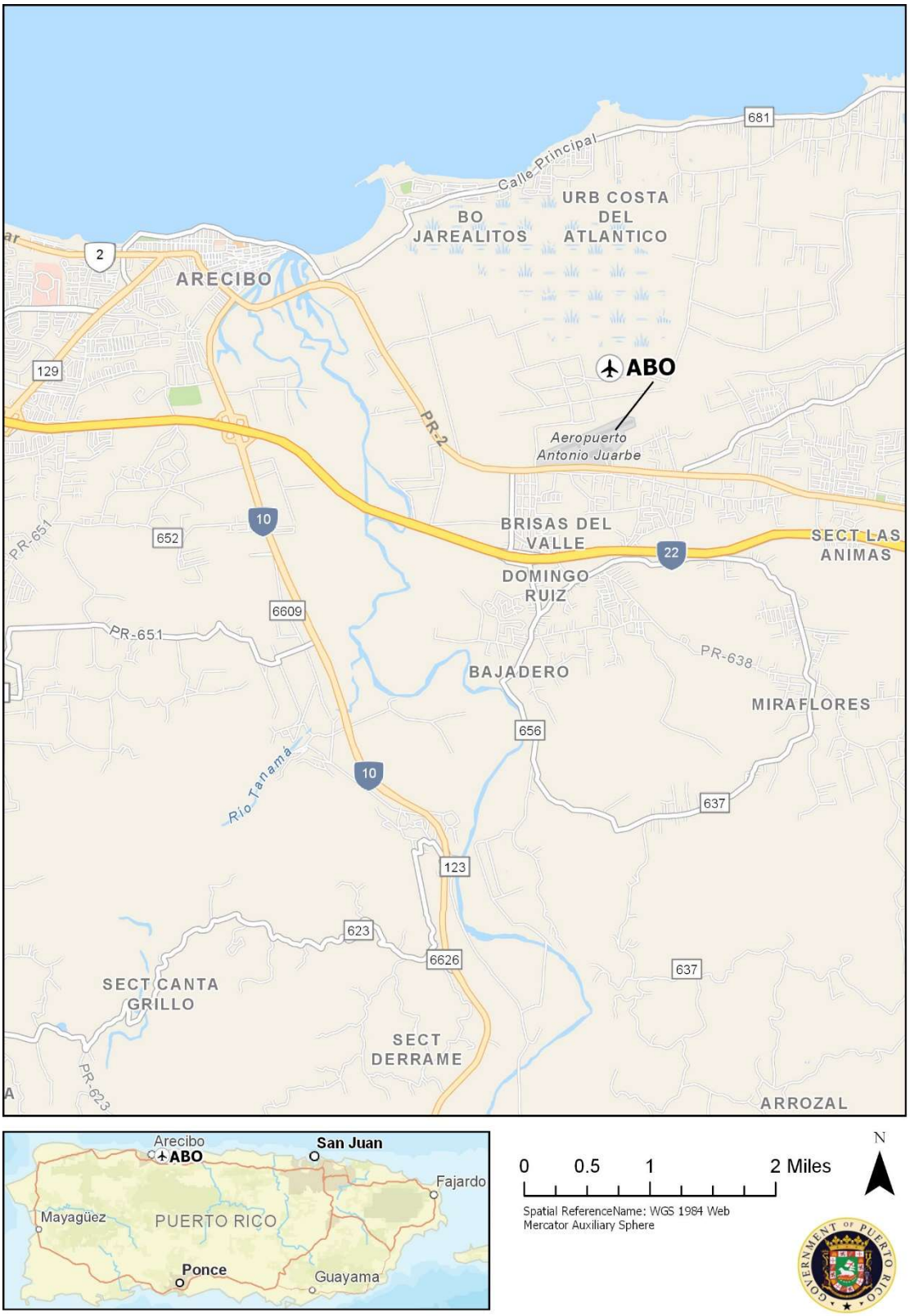
- International Commercial;
- Large Commercial;
- Regional Commercial; and
- General Aviation.

ABO is currently classified as a General Aviation airport in the PRPA Aviation System Plan. Under the system plan classification:

> *"General Aviation airports serve a supplemental contributing role for the local economy. General Aviation airports focus on providing aviation access for small business, recreational, and personal flying activities throughout Puerto Rico. These airports are located throughout the Commonwealth to serve local needs and provide a connection to the State's transportation infrastructure."*[4]

[2] https://www.census.gov/quickfacts/arecibomunicipiopuertorico
[3] National Plan of Integrated Airport Systems, 2023-2027, Federal Aviation Administration
[4] Puerto Rico Interactive Planning System Technical Report, Puerto Rico Aviation Demand Classification Definitions, Wilbur Smith Associates, 2007.

FIGURE 2-1
AIRPORT LOCATION AND VICINITY MAP



Source: RS&H, Inc. 2021.

2.4 OPERATIONS AND MANAGEMENT STRUCTURE

PRPA currently uses the following structure to manage the nine Airports. At the top of the administrative structure is the Director of the Aviation Bureau, who oversees the administration for all nine Airports. Each Airport has a designated manager supervised by the Director of the Aviation Bureau. **Figure 2-2** provides a general organization chart for the aviation bureau. The Airport Manager for each Airport is responsible for directing, coordinating, and reviewing all aircraft operations, maintenance of the airfield, facilitating community relations, overseeing finances, and reporting Airport statuses to the Director. The Airport Manager is responsible for the following:

- Airport personnel and scheduling;
- Airport Operations;
  - ABO is fully staffed Monday through Friday from 0730 - 1600[5]
- Airport Maintenance
- Support and Coordinate with the Authority's Engineering and Construction Bureau implementation of repairs and Capital Projects;
- Development of the Airport to include evaluating needs, studying areas of improvement, and implementing plans for improvement;
- Anticipated Capital Improvement Projects; and
- Daily Airport Safety and Security Inspections.

Major Airport improvement and repairs at all Airports are executed through a centralized Capital Improvement Program (CIP) managed by the Authority's division of planning and engineering. The CIP helps identify a list of projects, their priority, and implementation timeline for the Airport over a five-year period. The CIP is reviewed and approved on an annual basis by the Authority's Board and eligible projects are coordinated with the FAA. The projects are then funded from various funding sources including FAA grants and Authority's own funding.

The number one responsibility of the Authority and each Airport manager is to provide for the safety and efficiency of the Airport. The Airport Manager is not only responsible for reporting to the Director, but the Airport Manager is also responsible for conveying the Airport functions and activities to the community. The management functions included in the role of Airport Manager are:

- Planning;
- Organizing;
- Staffing;
- Leading; and
- Controlling.

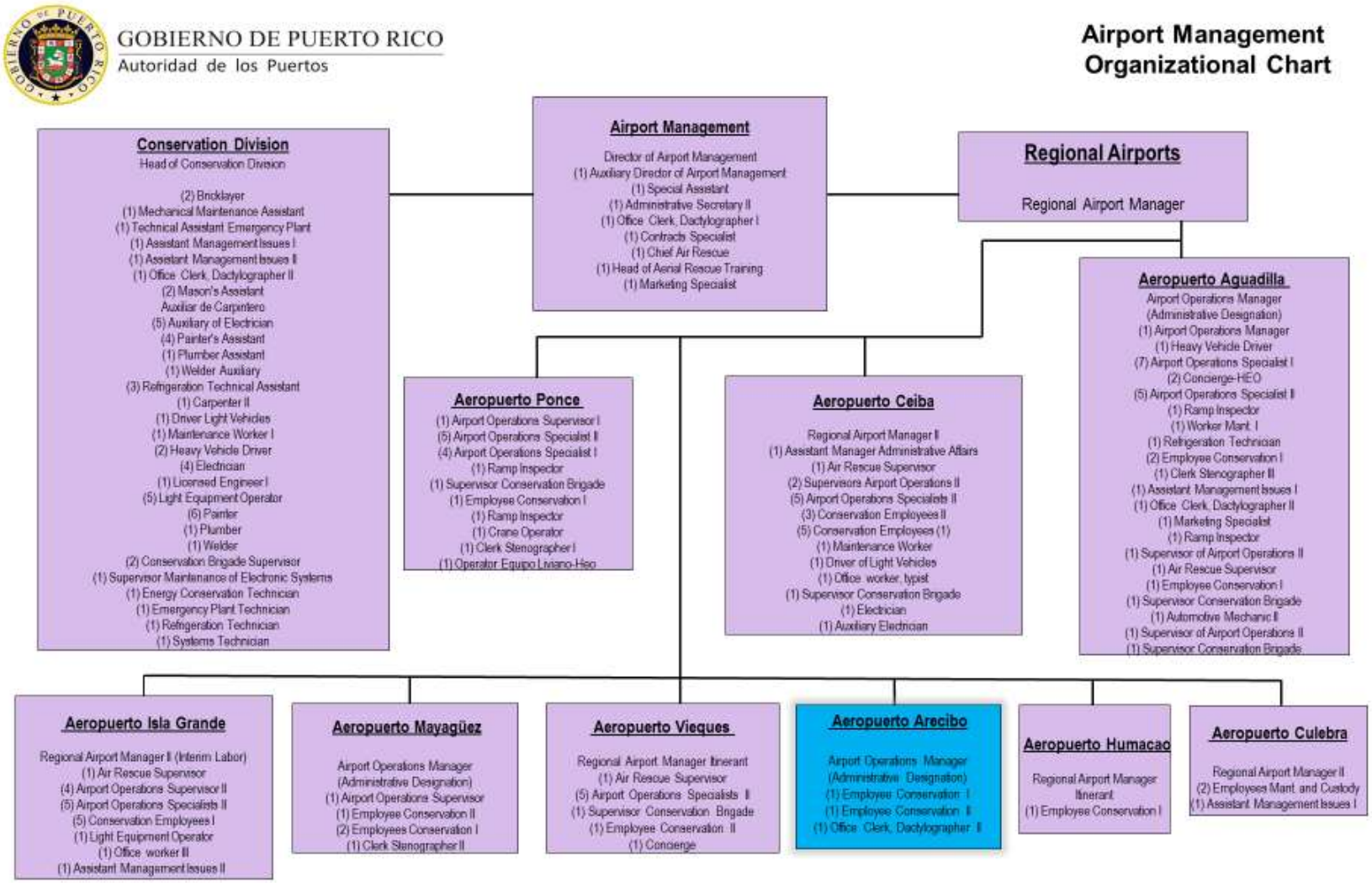
PRPA manages the nine publicly owned airports and are subject to a number of Federal, State, and Local regulations. These regulations help to regulate aircraft, airmen, airports, and airspace. The Federal

[5] https://www.airnav.com/airport/TJAB

Regulations are identified in *Title 14 U.S. Code of Federal Regulations (CFR), Chapters I and II, Federal Aviation Regulations (FARs) and Title 49 CFR code (DHS-TSA)*.

Additional standards and guidance used by the Authority can be found in the FAA Advisory Circular 150 series. The Authority also operates the Airports under the state and local regulations pertaining to stormwater runoff, wetland protection, zoning, labor requirements, wage rates, working hours, and noise ordinances.

FIGURE 2-2
AIRPORT MANAGEMENT ORGANIZATIONAL CHART



Source: PRPA, 2019

3 AIRFIELD FACILITIES

This section summarizes existing airfield facilities at the Airport. These facilities include runways, taxiways, apron areas, and navigational aids. The existing layout of the airfield is shown in **Figure 3-1** and the airport layout plan is displayed in **Appendix A** to this report.

3.1 RUNWAY SYSTEM

The existing runway configuration at ABO consists of a single runway, designated Runway 8-26. Runway 8-26 is a 3,954 -foot long by 60-foot-wide asphalt runway oriented in a southwest/northeast direction. The runway's surface is in excellent condition, and it has basic markings which are in good condition. The runway has a weight bearing capacity of 22,000 lbs. for single wheel aircraft.

Table 3-1 provides detailed information on the Airport's runway system and **Appendix D** to this report contains the Airport Master Record, FAA Form 5010-1.

TABLE 3-1
RUNWAY CHARCTERISTICS

Characteristic		Runway 8-26	
Length (ft.)		3,954	
Width (ft.)		60	
Runway Surface Type		Asphalt	
Runway Surface Condition		Excellent	
Runway Surface Treatment		N/A	
Load Bearing Capacity (lbs.)	Single Wheel	22,000	
	Dual Wheel	N/A	
	Dual Wheel Tandem	N/A	
	Dual Wheel Double Tandem	N/A	
Runway Edge Light Intensity		Medium	
Runway End		**8**	**26**
Markings/Condition		Basic/Good	Basic/Good
Visual Glide Slope Indicator		No	No
Displaced Threshold		No	No
Runway End Indicator Lights		No	No
Approach Lights		No	No

Source: FAA Form 5010-1: Airport Master Record, Accessed February 2021; PRPA, 2021

FIGURE 3-1
ABO AIRFIELD LAYOUT

Source: RS&H, Inc., 2021

3.1.1 Declared Distances

Declared distances identify different lengths of runway pavement available for various aircraft operations due to different circumstances. The declared distances at ABO equal the full extent of the runway pavement for Takeoff Run Available (TORA), Takeoff Distance Available (TODA), Accelerate Stop Distance Available (ASDA), and Landing Distance Available (LDA). The declared distances of ABO are shown in **Table 3-2**.

TABLE 3-2
DECLARED DISTANCES

Runway	TORA	TODA	ASDA	LDA
8	3,954	3,954	3,954	3,954
26	3,954	3,954	3,954	3,954

Source: FAA Form 5010-1; Airport Master Record, Accessed February 2021; PRPA, 2021
Notes: All distances in feet.

3.1.2 Pavement Condition

In 2016, PRPA executed a Regional Airport Pavement Maintenance and Management Plan (PMMP) for all pavements within any of the publicly owned airports in Puerto Rico. As a result, PRPA completed a pavement maintenance management program report for ABO with a visual condition survey inspection for each of the airfield's areas. Within the report, each of the inspected airfield areas had a Pavement Condition Index (PCI) calculated, using guidance from *FAA Advisory Circular 150/5380-7B, Airport Pavement Management Program (PMP).* The purpose of a PCI value is to reflect the structural integrity and surface operational condition of each area of pavement inspected. ABO's PMMP concluded that based on ASTM D 5340-12, the airside facilities of ABO had an overall area-weighted PCI average of 82, which represents a satisfactory overall condition for its airfield network.[6]PRPA recently seal coated the airfield pavement and sealed various cracks throughout in an effort to extend the useful life of ABO's pavements. Work also included new pavement marking.

The pavement of Runway 8-26 is composed of an Asphalt Concrete Overlay on Asphaltic Concrete pavement. It was last constructed in 2015 and 2016 and received a PCI rating of 100 (good) for each of the three separate areas investigated in the ABO PMMP.

The overall 2016 PCI map from the PMMP is included in the **Appendix C** to this report for reference.

3.2 TAXIWAY SYSTEM

There are three taxiways at ABO. Taxiway A is 35-foot wide and constructed out of asphalt concrete (AC) pavement. It is L-shaped, beginning near the threshold of Runway 8, and extending to the southeast as a connector taxiway for approximately 250 feet. After approximately 250 feet, Taxiway A makes a 90 degree turn and extends to the northeast as a partial parallel taxiway for approximately 1,400 feet where it ends at Taxiway B. As of the 2016 ABO PMMP, the inspected areas of Taxiway A had a PCI rating of good.

[6] Kimley Horn and Associates, Inc. (2016) *Regional Airports Pavement Maintenance and Management Program, Antonio (Nery) Juarbe Pol Airport (ABO)*

Taxiway B is 35-40 feet wide and constructed of both AC and AAC pavement. It is also L-shaped, beginning at a point on the southern edge of the runway approximately 1,500 feet from the threshold of Runway 8. The initial part of the taxiway that connects to the runway extends to the southeast for approximately 525 feet. After approximately 525 feet, Taxiway B makes a 90 degree turn and extends to the northeast, running adjacent to the main apron for approximately 900 feet where it ends at Taxiway C. As of the 2016 ABO PMMP, the inspected areas of Taxiway B had PCI ratings that ranged from fair to good.

Taxiway C is 30 feet wide and constructed of AC and AAC pavement. It connects to the runway at a point approximately 1,600 feet from the threshold of Runway 26. It extends to the southeast and is approximately 600 feet long providing access to the GA apron. As of the 2016 ABO PMMP, the inspected areas of Taxiway C had PCI ratings that ranged from fair to good. Given the construction dates of the taxiway system, it is assumed that 33,000 sq. ft. of Taxiway B and 19,000 sq. ft. of Taxiway C need a full reconstruction by 2024.

Table 3-3 provides detailed information on the Airport's taxiway system.

TABLE 3-3
TAXIWAY CHARACTERISTICS

	Taxiway		
Characteristic	**A**	**B**	**C**
Width (ft)	35	35-40	30
Surface Type	AC	AC; AAC	AC; AAC
Pavement Condition (PCI)	87-100	67-100[1]	62-100[1]
Lighting	MITL	MITL	MITL

Note: It is assumed that the lifecycle of airfield pavement at ABO is 20-years, therefore, the current PCI is likely in poor or very poor condition by the time it reaches 20-years.
Source: PRPA RAPMMP, Antonio Nery Juarbe Pol Airport (ABO), 2016

3.3 APRONS

There are two aprons at ABO. The main apron is located south of Runway 8-26, and is connected to the airfield by Taxiway B. It provides eleven marked tie-down spaces, additional tie-down space on the south apron edge with room for approximately seven small piston aircraft, and three transient aircraft spaces nears the Airport's terminal. The 2016 ABO PMMP notes that the main apron was last constructed in 2005 and is constructed of AC pavement. As of the 2016 ABO PMMP, the main apron had a PCI rating of fair.

The general aviation (GA) apron is located northeast of the terminal and main apron at the end of Taxiway C. It has six marked tie-down spaces, with additional aircraft being stored along the north edge of the apron on the grass. The Airport's main hangar areas are located along the south edge of the GA apron. The 2016 ABO PMMP notes that the GA apron was last constructed in 1967 and is constructed of AC pavement. As of the 2016 ABO PMMP, the GA apron had a PCI rating of serious to poor. The GA apron has been added to the Airport's current capital improvement program (CIP) for repairs in 2021.

Table 3-4 provides a summary of the two aprons at ABO, and **Figure 3-1** displays them.

TABLE 3-4
APRON CHARACTERISTICS

Apron Type (By usage)	Pavement Condition Index (PCI)	Total Combined Apron Area (square feet)
Main	69	78,515
General Aviation	20-47	49,367

Source: PRPA RAPMMP, Antonio Nery Juarbe Pol Airport (ABO), 2016

3.4 NAVIGATIONAL AIDS

Navigational Aids (NAVAIDS) are electronic, visual, and meteorological air navigation equipment that facilitate flight operations at an airport. Visual aids include airfield lighting, which enhance flight safety during instances of inclement weather and/or darkness. Electronic aids are devices used for aircraft instrument approaches. Meteorological aids provide an airport with real time weather updates for air traffic control personnel and pilots.

There are no electronic or meteorological NAVAIDs at ABO. There is a segmented circle and wind cone, medium intensity runway lights (MIRL), and runway end/threshold lights. The segmented circle and wind cone is located approximately 325 feet northwest of the runway centerline, midway between the runway ends. A segmented circle provides traffic pattern guidance for non-towered airports by using the wind cone's direction in relation to the segmented circle to indicate traffic pattern and runway end to be used for landing. Each end of Runway 8-26 also has threshold/runway end lights. These lights are two-sided colored lights, with the green side for recognition of the threshold of a runway for aircraft on an approach, and the red side for recognition of the end of a runway for aircraft on a departure. An airport beacon used to be located south of the terminal building, but the device was destroyed during Hurricane Maria in 2017, and as of this report has not been replaced.

Table 3-5 identifies the navigational aids found at the airport. **Figure 3-1** highlights the various NAVAIDS found at the Airport.

TABLE 3-5
NAVAIDS

Electronic NAVAIDs	Runway 8	Runway 26
VOR	-	-
Glideslope	-	-
Localizer	-	-
Visual NAVAIDs	**Runway 8**	**Runway 26**
Airport Rotating Beacon (APBN)	Yes	
Medium Intensity Runway Lights (MIRLs)	Yes	Yes
Runway End Identifier Lights (REILs)	-	-
Threshold/Runway End Lights	Yes	Yes
Precision Approach Path Indicator (PAPI)	-	-
Segmented Circle and Wind Cone	Yes	Yes
Wind Cone	Yes	
Meteorological NAVAIDs	**Runway 8**	**Runway 26**
ASOS	-	-
AWOS	-	-

Source: FAA Form 5010-1: Airport Master Record, Accessed June 2021.

4 PASSENGER TERMINAL FACILITIES

4.1 GENERAL INFORMATION

The Airport's passenger terminal is located on the south side of the Airport between the two aprons at the end of the Airport's access roadway. The facility has a non-aviation tenant, a doctor's office that encompasses approximately 1,800 square feet (SF) of the 3,500 SF building footprint. The Airport's terminal, landside, and tenant facilities are outlined in **Figure 4-1**.

4.2 AIRCRAFT PARKING POSITIONS AND GATES

The terminal apron has marked spaces for three aircraft loading positions for transient activity. The loading positions are sized for two ADG I aircraft (wingspans up to 49 feet) and one ADG II aircraft (wingspans up to 79 feet). The terminal building contains a single holdroom with one gate door with access to the terminal ramp.

4.3 TERMINAL BUILDING OVERVIEW

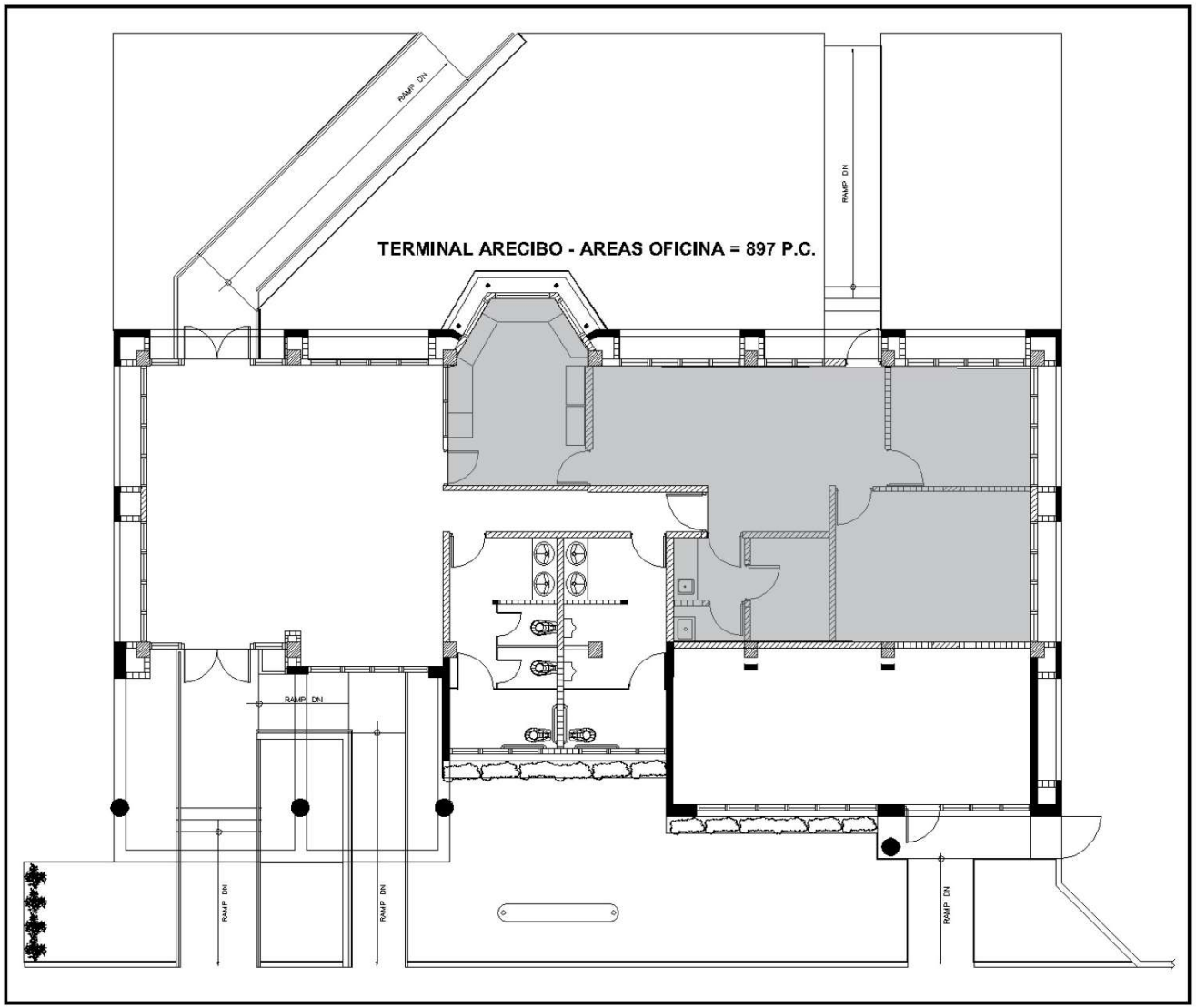
The existing terminal building provides a counter service, a holdroom, pilot lounge, administrative office space, restroom facilities, parking facilities, and a vending machine. Access to the terminal building is provided by a shared parking lot with approximately 22 spaces. The holdroom provides approximately 50 seats. There is one pilot lounge with a kitchen and four administrative offices for employees.

Figure 4-2 shows the terminal layout and the administrative space currently designated for and operated by PRPA within the Airport Terminal.

FIGURE 4-1
ABO LANDSIDE AND TENANT FACILITIES

Source: RS&H, Inc., 2021

FIGURE 4-2
TERMINAL ADMINISTRATIVE SPACE



Source: PRPA, 2019

5 LANDSIDE FACILITIES

This section describes the airport access roadways system, including off-airport and on-airport roadways, terminal curbside areas, and public and employee parking facilities.

5.1 REGIONAL ROADWAY CONNECTIVITY

Roadway access to the terminal building and parking lot is available by Calle Aeropuerto. From Calle Aeropuerto and traveling east, access to the regional roadway network is available via Puerto Rico Highway 2 which ends at Puerto Rico Highway 22, approximately three miles to the east. Traveling west from Calle Aeropuerto, vehicles can access Puerto Rico Highway 22, via Highway 2 and Avenue Domingo Ruiz.

5.2 AIRPORT ACCESS ROADWAY SYSTEM

Airport facilities are located on the south side of the airfield and accessed by Calle Aeropuerto, Highway 2, and Highway 22. Calle Aeropuerto is a two-lane road two-way roadway and provides the only vehicular access to Airport facilities.

5.3 TERMINAL CURBFRONT

The Airport does not have a dedicated terminal curbfront area. All vehicles are required to park in the Airport's parking lot in front of the terminal building.

5.4 COMMERCIAL VEHICLE AND RENTAL CAR FACILITIES

The Airport does not provide a rental car facility or services and commercial vehicles utilize the terminal parking lot for deliveries.

5.5 PUBLIC PARKING FACILITIES

The Airport has one public parking facility located immediately south of the terminal. The free public parking lot is approximately 3,500 SF of paved asphalt surface with 22 marked parking spots that service the Airport and the current non-aviation tenant in the terminal building.

6 TENANT FACILITIES

6.1 CARGO FACILITIES

There are no cargo facilities or operations at the Airport.

6.2 GENERAL AVIATION FACILITIES

The general aviation facilities at ABO consist of four private hangars for aircraft storage and the foundation for a fifth hangar, and two skydiving businesses on the airfield. The fifth hangar facility (belonging to Medic Air Transport Corporation) was damaged during Hurricane Maria in 2017 and the structure has not been rebuilt.

The two skydiving tenants on the airfield are Skydive Puerto Rico and Xtreme Divers. Skydive Puerto Rico is located to the southwest of the terminal apron and operates out of two buildings for a total of 1,600 sf located on 7,000 sf of gravel and a dirt parking lot at 4,000 sf with access to Calle Aeropuerto. Skydive Puerto Rico is currently constructing another hangar just west of their currently facilities. Xtreme Drivers is located immediately east of the terminal building adjacent to the main parking lot.

6.3 OTHER TENANT FACILITIES

ABO has two other tenants operating non-aeronautical related facilities on airport property: UPS and Light Gas Corporation. UPS's leasehold is located to the west of Calle Aeropuerto just north of Highway 2. UPS maintains a package pickup center building for customers and a truck storage area at this facility. Light Gas Corporation's leasehold is located southeast of the general aviation hangars and has a separate vehicular access point to Highway 2 and does not connect to Calle Aeropuerto. The facility has several diesel storage tanks and associated small buildings.

Table 6-1 provides a list of tenants at the Airport. Tenants at ABO are constantly evolving with the construction of new contracts/tenants, the renewal of existing contracts, or the expiration of terminating contracts. The list of tenants provided below is from a snapshot in time and may not accurately reflect the existing conditions.

TABLE 6-1
TENANT ACTIVITY

Lessee	Term of Contract	Date Signed	Contract Expiration Date	Object of the Lease
Angel L. Pérez Villanueva	5 yrs.	22-Oct-2007	21-Oct-2012	
Borinquen Lawn Service, LLC	5 yrs.	13-Oct-2016	12-Oct-2021	Maintenance of green areas (Includes Aguadilla, Arecibo, Ceiba, Fajardo, Humacao y Ponce)
Fernando Pérez	5 yrs.	04-Aug-2008	03-Aug-2013	Hangar
Light Gas, Corp.	5 yrs.	07-Jun-2012	06-Jun-2017	Gas Supply
Medic Air Transport, Corp.		01-Jun-2007	01-Jun-2013	
Professional Medical Services Doctor J. Díaz	5 yrs.	30-Aug-2016	14-Jul-2021	Office Space in Terminal Bldg.
Skydive Puerto Rico, LLC	5 yrs.	14-Nov-2016	13-Nov-2021	Open area & aircraft parking area and authorization for construction.
United Parcel Services (UPS)	10 yrs.	15-Dec-1992	14-Dec-2002	
WRI Vending Machine, Inc.	2 yrs.	30-Aug-2016	01-Sep-2018	Lease of space in Attachment B (not included in documents provided) for 41 vending machines.
WRI Vending Machine, Inc.	2 yrs.	30-Aug-2016	02-Sep-2018	To include clause 31 related to compliance with laws and regulations, including FAA (Grant Assurance).
Gilberto Davila Toledo	4 months	18-Sep-2014	08-Dec-2014	Private Aircraft parking (Hangar)
Gilberto Ilarraza Cruz	5 yrs.	21-Nov-1995	21-Nov-2005	Hangar.
Medical Air Transport Corp	5 yrs.	02-Jun-2008	02-Jun-2013	Construction of Hangar 100 x 51 for Aircraft and Helicopter (Emergency Services). Lot E.
Angel Perez Villanueva	5 yrs.	22-Oct-2007	22-Oct-2012	Construction of Hangar for private Aircraft.
Benjamin Hernandez Ramos	5 yrs.	28-Jun-2004	28-Jun-2009	Construction of Hangar for private aircraft.
Harry Thomas Johnson Gomez	3 yrs. (1-Jan-92)	04-Apr-1995	31-Dec-1994	Removable Hangar under construction - private aircrafts.
Harry Thomas Johnson Gomez	3 yrs. (1-Jan-95)	16-Oct-1993	31-Dec-1997	Same as above.
Harry Thomas Johnson Gomez	Remaining time	28-Oct-1996	31-Dec-1997	To clarify Public Services Fees retroactive clause.
Xtreme Divers, Inc.	3 yrs.	01-May-2012	01-May-2015	Portions of Lots of A and B, Office Space in Terminal Bldg., Area for Gas Storage.
Xtreme Divers, Inc.	2 yrs.	11-Feb-2014	16-Feb-2016	To include an area of 41,300 sq. ft. from 12-Feb-14 to 16- Feb-16 only.

Source: PRPA, 2019
Note: Red text identifies expired contracts

7 AIRPORT SUPPORT FACILITIES

7.1 AIRPORT TRAFFIC CONTROL TOWER

ABO does not have an Airport Traffic Control Tower (ATCT).

7.2 AIRCRAFT RESCUE AND FIRE-FIGHTING FACILITIES

ABO is not a certificated Part 139 airport and therefore does not require Aircraft Rescue and Fire Fighting (ARFF) facilities.

7.3 AIRPORT MAINTENANCE FACILITIES

Separate airport maintenance buildings are not currently available at ABO. The Airport stores miscellaneous maintenance equipment at various points across airport property, but primarily in close proximity to the terminal building.

7.4 AIRCRAFT FUELING FACILITIES

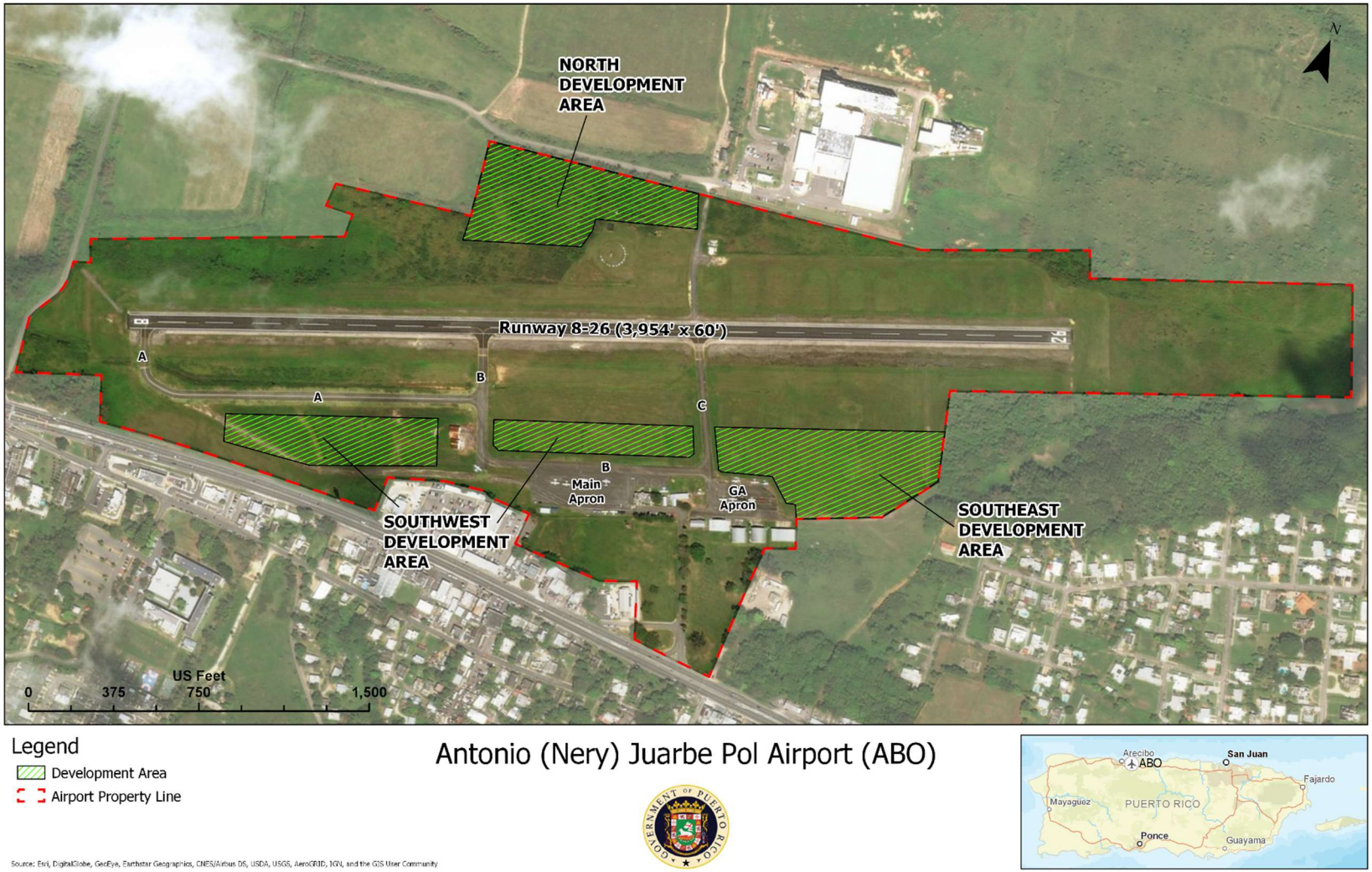
There are no dedicated fueling facilities or fuel tanks on airport property. Aircraft fuel is trucked into the Airport.

7.5 ADDITIONAL AIRPORT DEVELOPABLE AREAS

Four developable opportunity areas exist on airport property at ABO for aeronautical related development, as shown on **Figure 7-1**. The areas south of the runway were identified as part of the last ABO Master Plan for T-hangar development, tie-down apron space, and corporate apron and hangar space, respectively from west to east. The area north of the runway was identified for future potential cargo development.

Additional areas of undeveloped land still exist along Calle Aeropuerto around the UPS facility and south of the terminal parking lot. The last Master Plan for ABO dedicated this area to the expansion of the terminal area and addition of a fuel farm should the need arise but was not focused on airfield/airside related development.

FIGURE 7-1
AIRPORT DEVELOPABLE AREAS



Source: RS&H, Inc., 2021

8 AVIATION ACTIVITY SUMMARY

This section presents historic and available projections of aviation activity at the Airport. The sections presenting historic aviation activity focus on enplaned passengers (number of passengers boarding commercial service and chartered flights), aircraft operations (landings and takeoffs by aircraft), and based aircraft (those aircraft permanently stored at the Airport).

The PRPA generally reports its passenger numbers and other airport related statistics for its fiscal year (FY) which runs from July 1 to June 30, as such all airport statistics included in this section of the report are shown for the Puerto Rico fiscal year.

Projections of aviation activity at the Airport into the future were not developed specifically for this report. Projections shown in this section are taken from the FAA's Terminal Area Forecast (TAF) 2022 published in March 2023.

8.1 HISTORIC AVIATION ACTIVITY

8.1.1 Passenger Activity

Historically, the number of enplanements (or passenger boardings) at ABO have been minimal. PRPA reported 465 enplanements starting in 2002 and reached 10,324enplanements in 2020. From 2019 to 2020 the Airport experienced a decrease in enplanements by -30 percent due to the impacts of the worldwide COVID-19 pandemic (Public Health Emergency or Coronavirus). Enplanements have surpassed pre-pandemic numbers in 2022 with a recorded number of 18,101 enplanements.

The second column in **Table 8-1** provides the total enplanements from 2001 to 2022.

8.1.2 Air Service

Currently there is no scheduled commercial air service at ABO, and there is none currently anticipated in the near future.

8.1.3 Aircraft Operations

An aircraft operation is defined as either a takeoff or a landing. General aviation operations represent the majority of aviation activity at ABO. Airfield activity at an airport is measured and forecast according to annual aircraft operations.

The third column in **Table 8-1** provides the total operations from 2001 to 2022. Much like the drop in enplanements because of the COVID-19 Public Health Emergency, the 2020 operations also experienced a decrease from 2019 totals by -24 percent. 2022 records show operations are still behind pre-pandemic levels at 6,693 or about 18 percent of 2019 operation levels.

8.1.4 Based Aircraft

A based aircraft is defined as any aircraft that is operational and airworthy, and based (or located) at a particular facility for a majority of the year. Historically, based aircraft at ABO have been steady at

approximately 13 from 2001 to 2014. Based aircraft more than doubled in 2015 and 2016 with over 30 based aircraft. In 2022, a total of 28 based aircraft were estimated at Antonio (Nery) Juarbe Pol Airport.

The last column of **Table 8-1** provides the based aircraft at ABO from 2001to 2022.

TABLE 8-1
ABO – HISTORIC AIRPORT STATISTICS

Fiscal Year	Enplanements	Operations	Based Aircraft
2001	0	0	13
2002	465	767	13
2003	1,184	1,468	13
2004	2,182	3,799	13
2005	4,093	4,645	13
2006	9,004	6,858	13
2007	8,517	7,455	13
2008	9,292	7,838	13
2009	7,658	8,219	13
2010	3,239	6,582	13
2011	1,865	4,203	13
2012	7,063	7,018	13
2013	8,783	7,315	14
2014	7,730	6,860	14
2015	3,910	2,380	42
2016	5,252	4,528	33
2017	12,653	8,718	38
2018	12,126	6,871	27
2019	14,683	8,160	29
2020	10,324	6,174	31
2021	17,193	6,836	28
2022	18,101	6,693	28

Source: PRPA Records; FAA TAF 2022; FAA 5010-1 Form, 2022Note: 2011-2012 Based Aircraft were recorded as 0 in the FAA TAF 2022 but assumed to be 13.

8.2 FUTURE AVIATION ACTIVITY PROJECTIONS

This section provides the FAA derived forecast identified as the FAA Terminal Area Forecast (TAF) 2022. The FAA TAF is an annual forecast prepared by the FAA and includes projections of operations by type, based aircraft counts, and projections of enplanements. The FAA TAF 2022 published by the FAA in March 2023, was used for the forecast of aviation activity from 2022-2042.[7] There is no cargo activity forecast for ABO from 2022 to 2042. **Table 8-2** shows the forecasts for ABO based on the FAA TAF 2022, published in 2022.

TABLE 8-2
AVIATION ACTIVITY FORECASTS - ABO (2022-2042)

Fiscal Year	Enplanements	Operations	Based Aircraft
2022	18,101	6,693	28
Forecast			
2023	18,101	6,693	28
2024	18,101	6,693	28
2025	18,101	6,693	28
2026	18,101	6,693	28
2027	18,101	6,693	28
2028	18,101	6,693	28
2029	18,101	6,693	28
2030	18,101	6,693	28
2031	18,101	6,693	28
2032	18,101	6,693	28
2033	18,101	6,693	28
2034	18,101	6,693	28
2035	18,101	6,693	28
2036	18,101	6,693	28
2037	18,101	6,693	28
2038	18,101	6,693	28
2039	18,101	6,693	28
2040	18,101	6,693	28
2041	18,101	6,693	28
2042	18,101	6,693	28
Annual Growth Rate			
2022-2032	0.0%	0.0%	0.0%
2032-2042	0.0%	0.0%	0.0%
2022-2042	0.0%	0.0%	0.0%

Note: 1) –PRPA records were used for 2022 totals
Source: PRPA Records; FAA 5010-1 Form, 2023

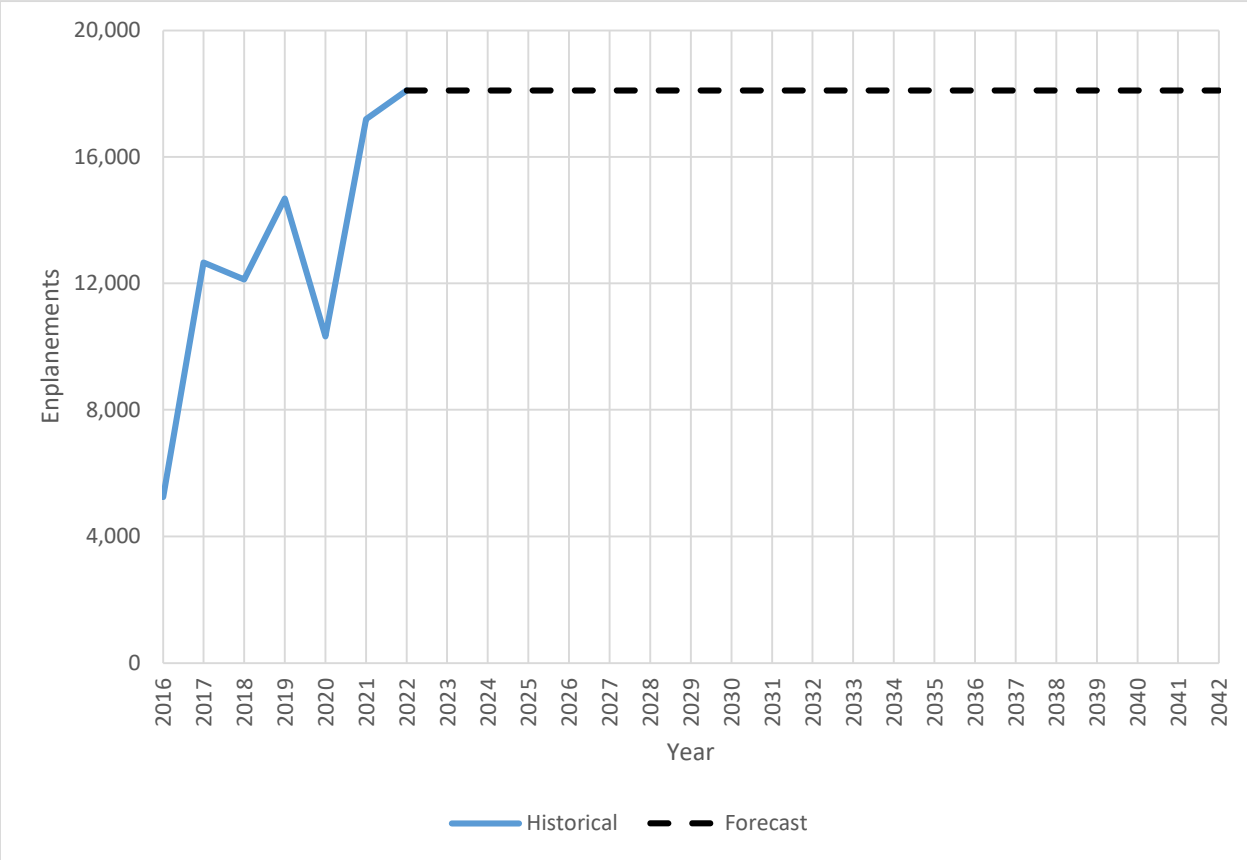
[7] While the growth rate for the 2022-2042 projections was used for annual enplanements, operations, and based aircraft, the 2022 totals varied in some instances where PRPA records showed differences. As a result, these totals were sometimes carried forward in forecasts that had no growth shown in the FAA TAF 2022, but still may be referenced as the FAA TAF 2022 Forecast.

8.2.1 Passenger Activity

The FAA TAF projects ABO will not have any growth in the number of its enplaned passengers from 2022-2042. Therefore, the total enplanements of 18,101 (which is based on PRPA records) will remain constant with an annual growth rate of 0.0 percent for each of the next 20 years.

Figure 8-1 shows the ABO enplanements forecast from 2022-2042.

FIGURE 8-1
ENPLANEMENTS FORECAST (2022-2042)



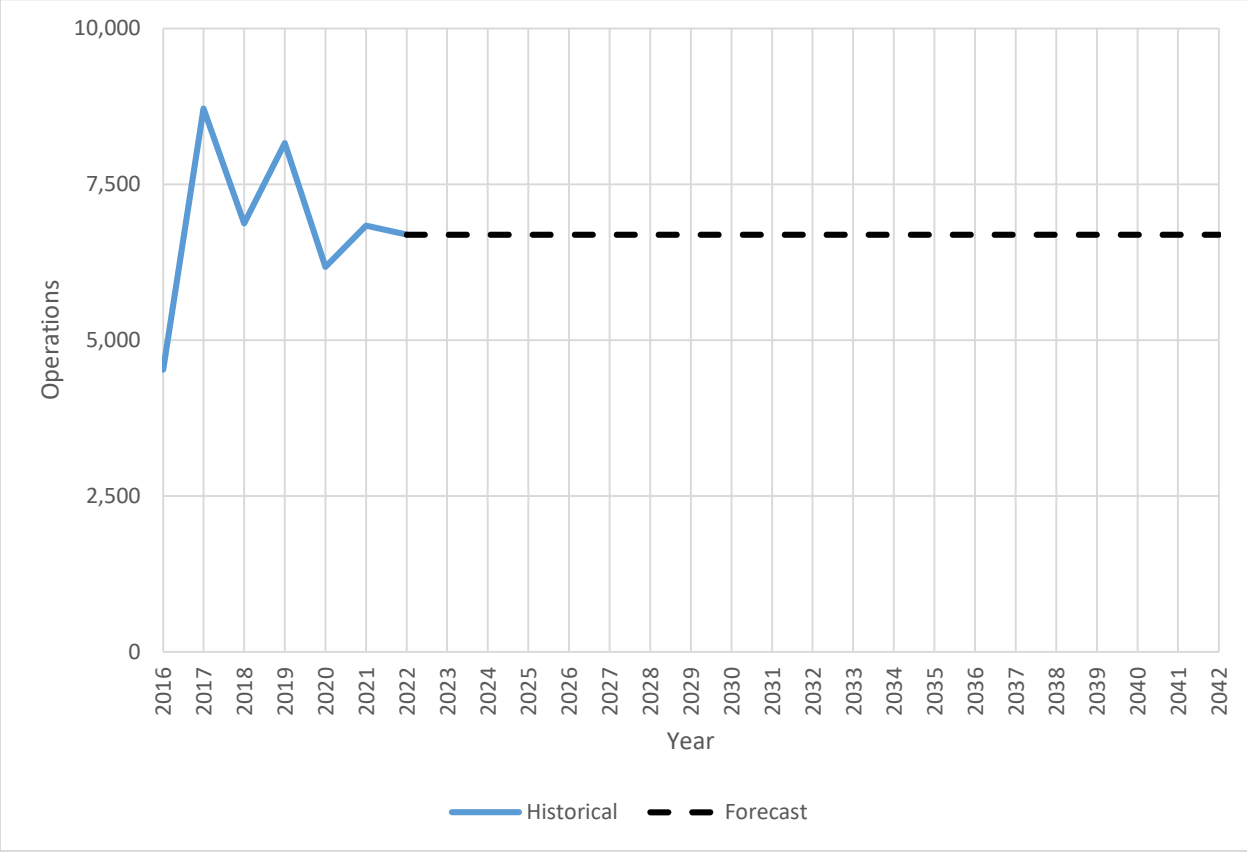
Sources: PRPA Records; FAA TAF 2022; RS&H, 2023

8.2.2 Aircraft Operations

The FAA TAF projects that ABO will also maintain a constant number of operations which is based on the PRPA 2022 totals of 6,693 operations and carried forward through 2042.

Figure 8-2 shows the ABO operations forecast from 2022-2042.

FIGURE 8-2
TOTAL OPERATIONS FORECAST (2022-2042)



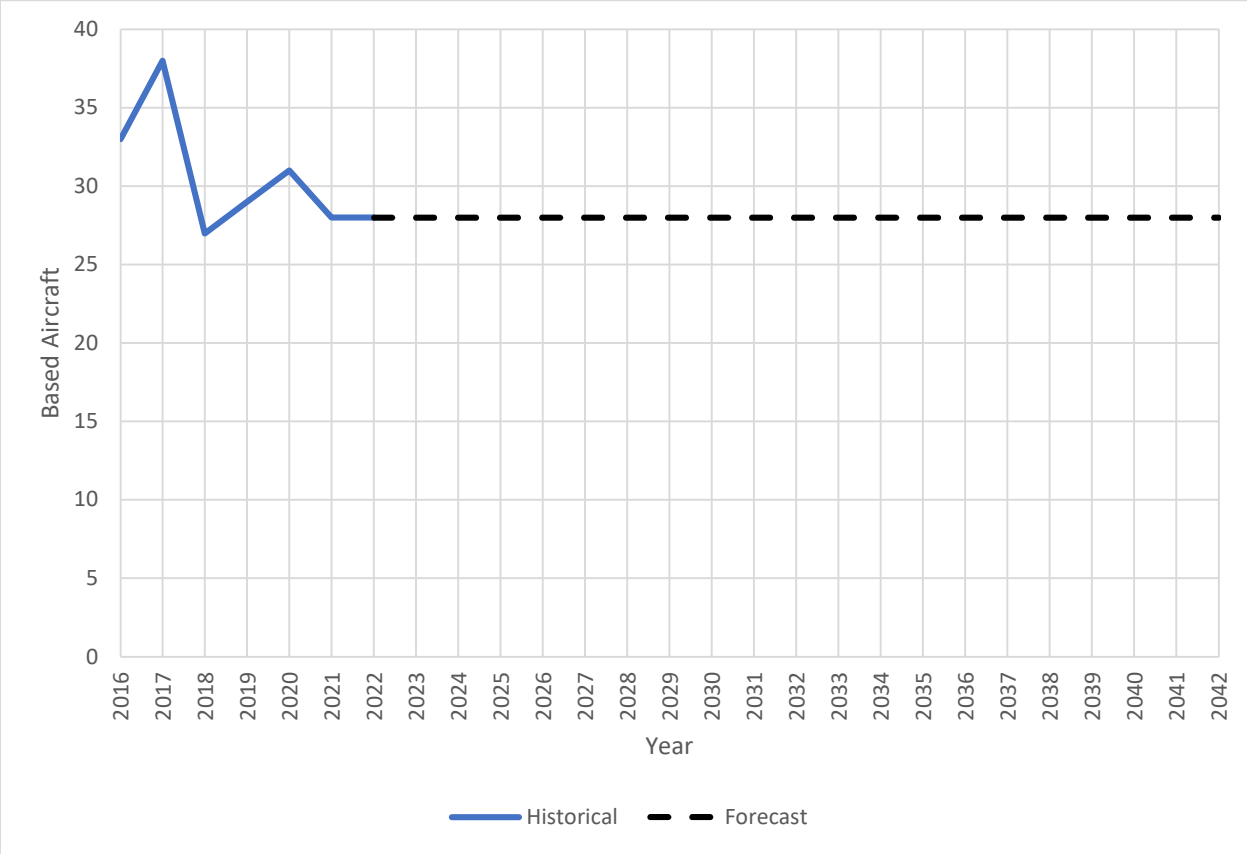
Sources: PRPA Records; FAA TAF 2022; RS&H, 2023

8.2.3 Based Aircraft

The FAA 5010-1 Form indicates that ABO had a total of 28 based aircraft in 2022, which is projected to remain constant over the next 20 years.

Figure 8-3 provides the ABO based aircraft forecast from 2022-2042.

FIGURE 8-3
BASED AIRCRAFT FORECAST (2022-2042)



Sources: PRPA Records; FAA TAF 2022; RS&H, 2023

9 CAPITAL IMPROVEMENT PROGRAM

This section presents the current Airport Capital Improvement Program (ACIP) for the Airport identifying capital projects that will be undertaken through 2027. Projects listed in the ACIP for ABO were provided by the PRPA[8].

9.1 CURRENT ACIP SUMMARY

Table 9-1 presents a summary of the current 5-year ACIP for the Airport, including the estimated cost and eligible funding sources.

TABLE 9-1
5-YEAR AIRPORT CAPITAL IMPROVEMENT PROGRAM AND FUNDING SOURCES (IN 000)

Project Description	Cost	Incurred *	Federal Funds	PRPA	Start FY	End FY
Airfield Pavement Improvements	**$100**	**$0**	**$0**	**$100**	**2024**	**2024**
Upgrade to Airports Visual Aids System Construction	**$1,920**	**$1,600**	**$270**	**$50**	**2022**	**2022**
Construction	$1,550	$1,300	$250	$0	2022	2022
Inspection-Supervision	$320	$300	$20	$0	2022	2022
Contingency	$50	$50	$135	$15	2022	2022
Hurricane Maria Damages Repairs	**$5,000**	**$0**	**$5,000**	**$0**	**2023**	**2023**
Septic Tank	**$150**	**$0**	**$0**	**$150**		
Subtotal	**$7,170**	**$1,600**	**$5,270**	**$300**		

Source: Puerto Rico Ports Authority, 2022. RS&H, 2023
Notes: 1) – Estimate incurred as of 6-30-2022; 2) - All costs shown in thousands of US Dollars

Total 5-year ACIP project costs are estimated to be $7.2 million over through the 2027 time period. A total of 96 percent of the funding is anticipated through FAA grants with the remaining four percent from PRPA funds.

9.2 BIPARTISAN INFRASTRUCTURE LAW

The Bipartisan Infrastructure Law (BIL) provides $15 billion for airport-related projects as defined under the existing Airport Improvement Grant and Passenger Facility Charge criteria. The money can be invested in runways, taxiways, safety, and sustainability projects, as well as terminal, airport-transit connections and roadway projects.

For FAA fiscal year 2023 Antonio (Nery) Juarbe Pol Airport will receive $158,000 which is expected to be the same for the next three years.

[8] ABO CIP provided in May 2023.

APPENDIX A

AIRPORT LAYOUT PLAN