TURKS AND CAICOS ISLANDS AIRPORTS AUTHORITY

STRATEGIC MASTER PLAN FOR THE TCIAA

Executive Summary

October 2024

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Context of the TCIAA Strategic Master Plan

- **The Turks and Caicos Islands have a total of 8 airports**: 6 public airports managed by the Turks and Caicos Islands Airports Authority (TCIAA) and 2 privately managed airports (Pine Cay and Ambergris Cay)
- **Providenciales International Airport (PLS), under TCIAA ownership, is the primary gateway of the country, handling over 90% of the country's air traffic** (1.4 Mpax in 2023). **The airport is currently undergoing a transition to private management through a PPP process**. This will allow the TCIAA to focus on developing the secondary airports, while the private operator will manage and upgrade PLS under TCIAA supervision
- **Upgrading airport infrastructure aligns with the Turks and Caicos government's objectives** for modernizing its airports, aiming to enhance connectivity, boost tourism, and drive economic and social growth
- **Airports such as Grand Turk, South Caicos and North Caicos** primarily support domestic flights but have potential to attract international tourists by enhancing infrastructure. On the other hand, **Salt Cay** could also improve connectivity through increased flight frequencies and infrastructure upgrades
- **In this context, the TCIAA has decided to outline out a Strategic Master Plan for the entire organization**. This plan includes the development of an individual Master Plan for each airport within its network, as well as a strategic restructuring of the TCIAA, **guiding the expansion, investment, and long-term planning needed to support the evolving airport infrastructure**, in line with ICAO standards
- **The main objective of this document is to serve as the reference for the strategic planning of the TCIAA and its network of airports for a 30-year time horizon**

Contents of the TCIAA Strategic Master Plan

The first workstream consists of the development of a Master Plan for each airport, which becomes an essential process to ensure coherent planning. **To this end, the following sections are assessed:**

1. **Market analysis and traffic forecast**
2. **Airport infrastructure assessment & development plan**

The second block of the document focuses on the organizational needs of the TCIAA. This includes defining new roles and creating an updated organizational chart following the transfer of Providenciales to the private sector. Furthermore, it considers airspace needs, environmental strategy, and the Technology Master Plan for the entire airport system. **This restructuring process of the TCIAA includes the following sections:**

3. **TCIAA role, functions, and organizational structure**
4. **TCIAA financial plan**
5. **Airspace assessment and future requirements**
6. **Environmental strategy for the TCIAA**
7. **Technology master plan for the TCIAA**

Content

Market analysis and traffic forecast

Airport infrastructure assessment & development plan

TCIAA role, functions, and organizational structure

TCIAA financial plan

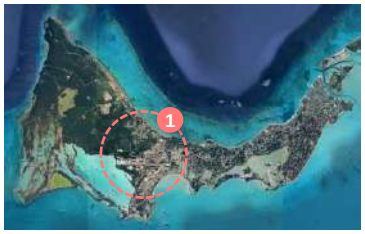
Airspace assessment and future requirements

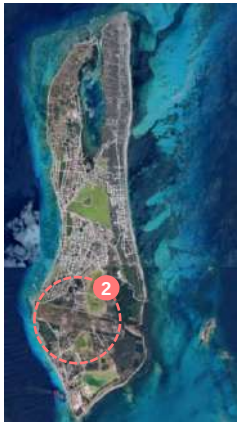
Environmental strategy for the TCIAA

Technology master plan for the TCIAA

The TCIAA network comprises 6 airports throughout the country, of which 5 are currently operative: PLS, GDT, XSC, SLX, and NCA

Turks and Caicos airport network – Current airports roles





1. **Providenciales Howard Hamilton Int'l Airport** (1.42 Mpax in 2023): located on Providenciales Island, it is the primary international gateway and busiest airport of the Turks and Caicos Islands and the only airport in the country offering regularly scheduled international flights
2. **JAGS McCartney International Airport** (90k pax in 2023): it is the 2nd largest airport in the territory, after PLS. Located 1.6km south of Cockburn Town, the airport handled over 90k scheduled passengers in 2023
3. **South Caicos Norman B. Saunders Sr. International Airport** (23k pax in 2023): with an 1,829 m asphalt runway, and a recently inaugurated terminal, it handled over 23k pax in 2023, with scheduled flights from PLS and GDT
4. **Salt Cay Henry Leon Wilson Airport** (0.9k pax in 2023): handling ~900 pax in 2023, it is the 4th busiest airport in the country ands serves Salt Cay island connecting mainly to Grand Turk
5. **North Caicos Airport** (0.2k pax in 2023): located adjacent to Major Hill Settlement and Bottle Creek Village, with plans for a boutique terminal, it caters to domestic charters and GA flights without commercial scheduled traffic

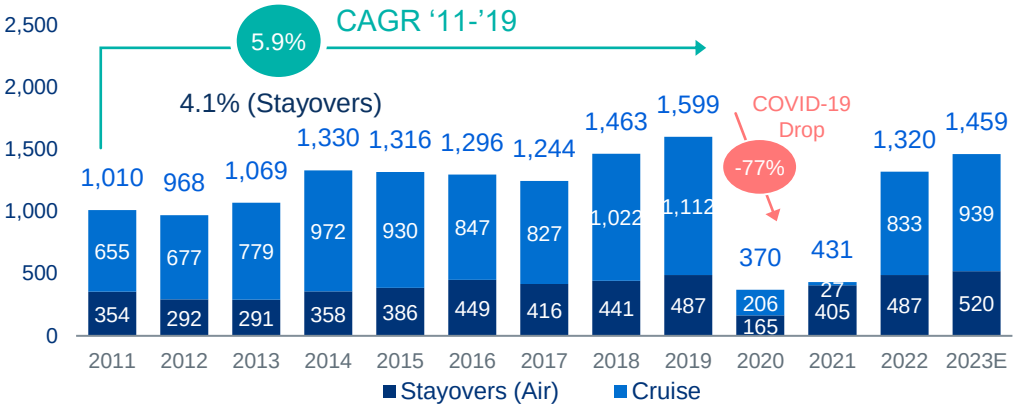
While Providenciales (PLS) is the international gateway of the country, the rest of the airports within the network provide domestic (and limited international) connectivity to their respective islands

Source: TCIAA, Google Earth, ALG Analysis

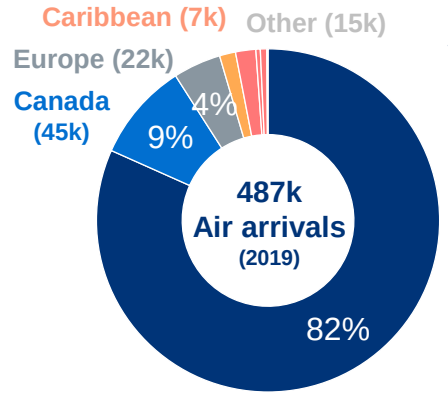
Tourism is the keystone industry of the TCI, with almost 1.5M visitors in 2023 (520k arriving by air), of which >90% originated in N. America

Turks and Caicos tourism overview

Total visitor arrivals evolution (`000)



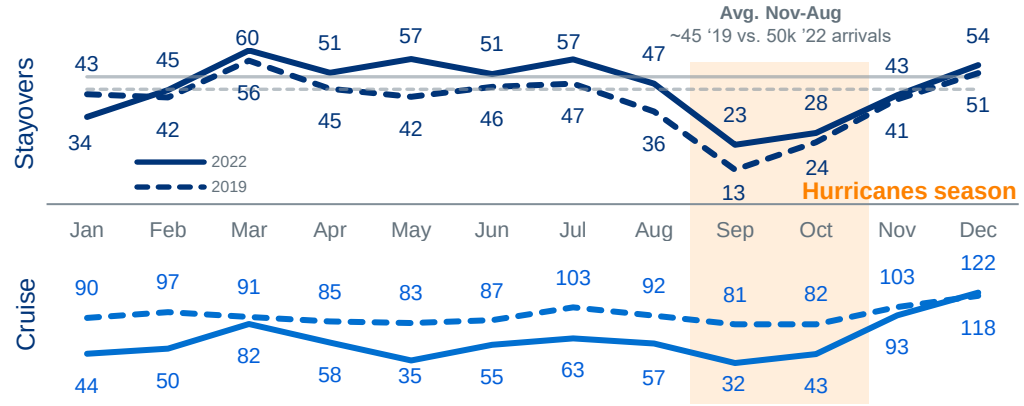
Air visitors by country of origin (2019)



>90% OF THE VISTORS ORIGINATE IN NORTH AMERICA (USA & CANADA)

Avg. stay length of ~7 days

Monthly visitor arrivals evolution ('000)



TCI Tourism Development Strategy objectives (2032)

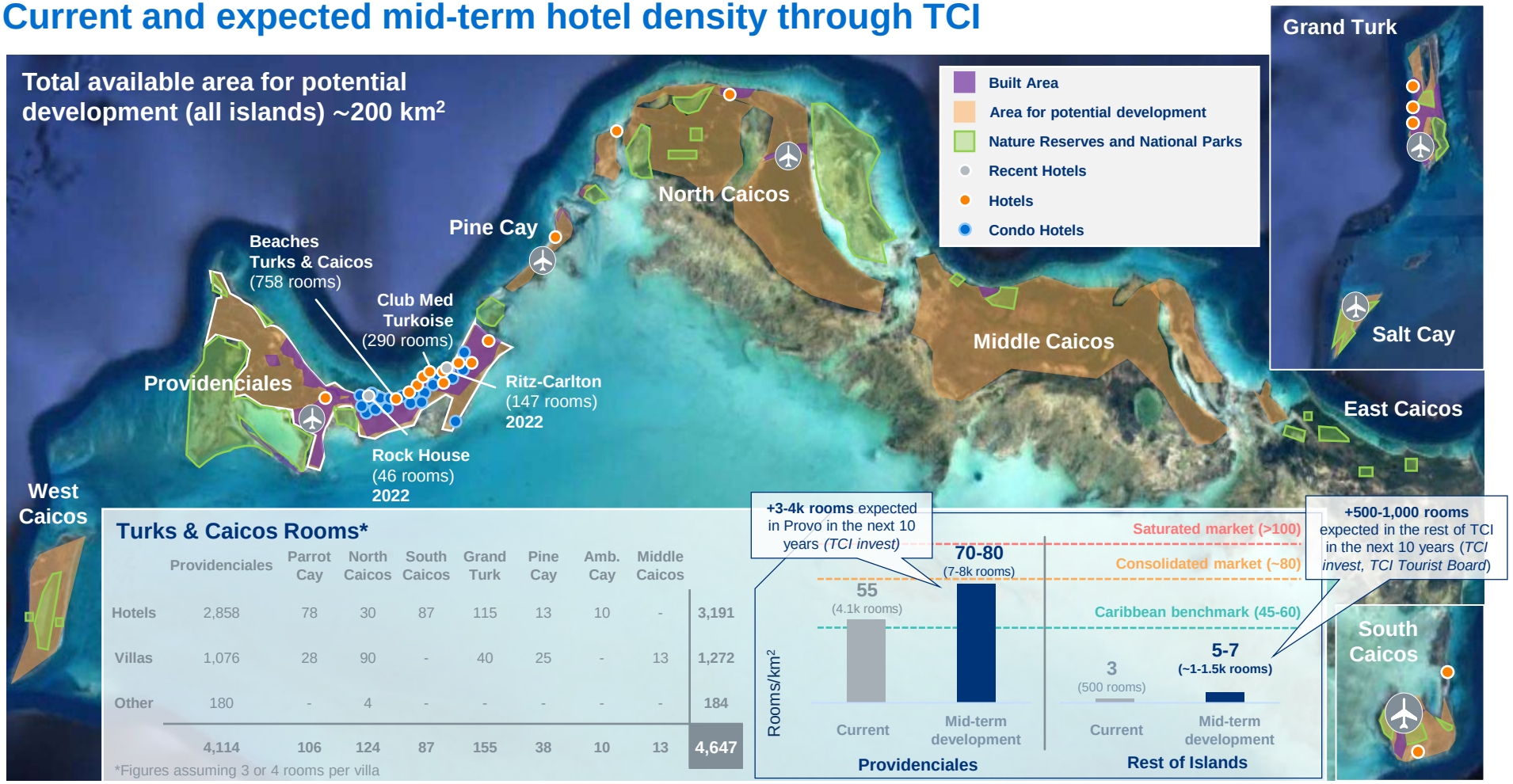
Number of visitors	Tourism revenue	Tourism infrastruc.	Visitor experience
+1.55 M Total visitors in 2032 (+0.6 Air arrivals)	**+US$1.7B** International receipts in 2032	**+1,500** Rooms in 2032 ! +3-4k in Provo next 10 years*	Overall sentiment 9.6/10 ↑5,5% Sustainable travel 9.5/10 ↑14,5%

*Based on the site visit and information from TCI Invest

Source: Turks & Caicos Islands Tourist Board, TCIAA Brochure Investment Opportunities 2022-23, National tourism strategy and implementation plan for Turks & Caicos, ALG analysis

The number of hotel rooms in the TCI, a factor that highly correlates with air traffic, is expected to continue increasing in the short/mid-term

Current and expected mid-term hotel density through TCI

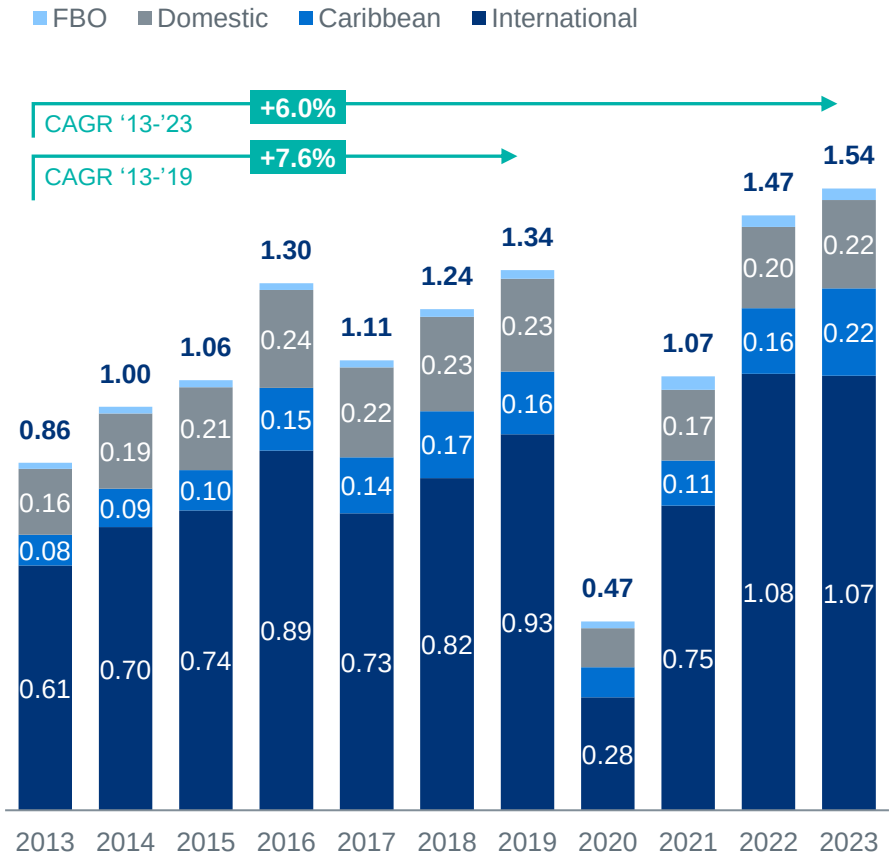


Source: Google earth, National Parks Order Maps, 2020 Tourism Report, National tourism strategy and implementation plan for Turks & Caicos, TCI Invest, ALG Analysis
Note: The area used for calculation of the hotel density considers the total area of the islands, except for their protected areas

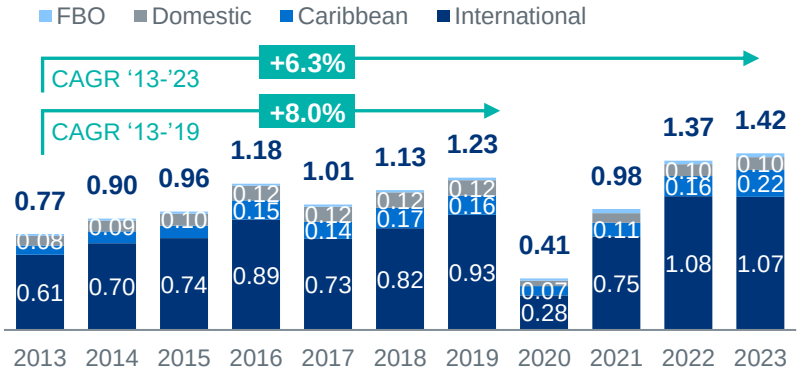
TCI has demonstrated a strong post-pandemic recovery, exceeding 2019 traffic levels, with both PLS and the country growing at >6% CAGR

Turks and Caicos air market evolution

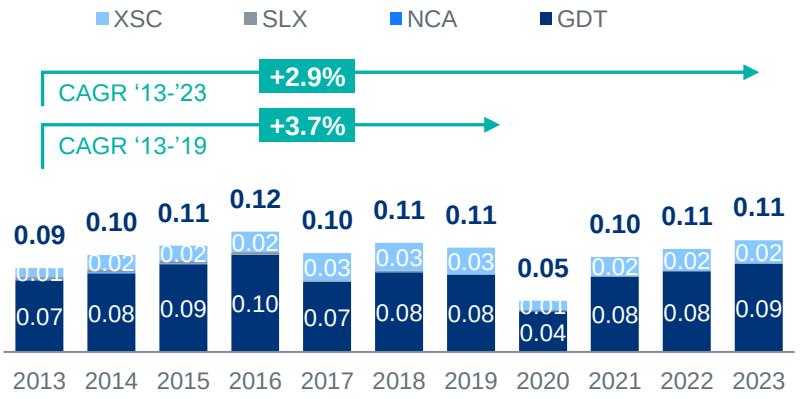
Passenger traffic evolution[1] (Mpax; 2013-2023)



PLS passenger evolution[2] (Mpax; 2013-2023)



Other TCI airports passenger evolution[3] (Mpax; 2013-2023)

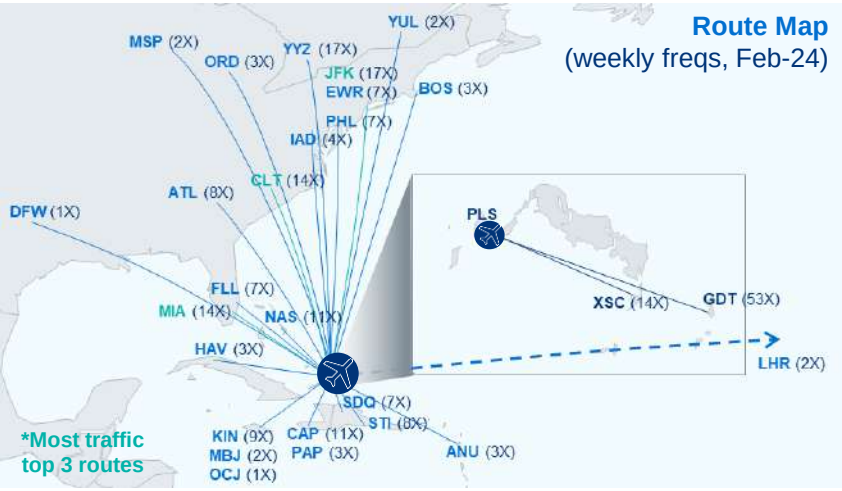


Source: TCIAA, OAG, ALG Analysis

Note 1: data is shown as the sum of all the airports (domestic is double counted)
Note 2: Caribbean passengers are estimated based on the capacity share
Note 3: Includes domestic flights and FBO operations, breakdown is not available

PLS is the TCI's Int'l gateway, maintaining significant connectivity with N. America, which is mainly served by airlines from the USA and Canada

Howard Hamilton International Airport – Providenciales Airport

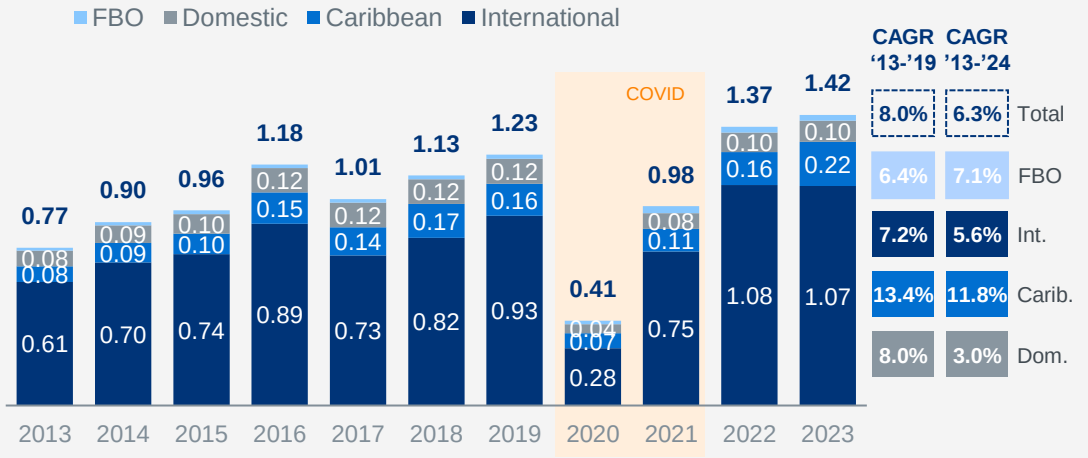


3 *Domestic commercial routes*

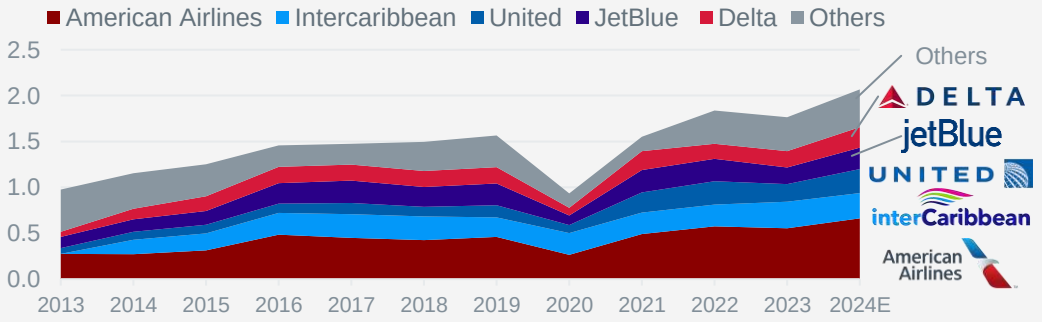
42 *International commercial routes*

- **PLS is undergoing a tender process for a Public-Private Partnership (PPP)** contract to operate, manage, maintain and renew the airport facilities
- **95% of its traffic is international**. Out of the **top 10 routes**, **8** are **to the USA**, **1 to the Bahamas**, and 1 is **a domestic route to GDT**
- **Over 15 airlines operate at PLS, acting as a hub/base for InterCaribbean and Caicos Express**, which serve DOM market
- **PLS also has a strong executive aviation presence**, run by 3 FBO companies which handle >12k ATMs/year

Evolution of Passengers (Mpax; 2013-2023)



Evolution of seat capacity by airline (MSeats; 2013-2024E)



Source: CAPA, TCIAA, OAG, ALG analysis

Grand Turk is the historic center and capital of TCI; with only domestic routes, it hosts the second-busiest airport of the country (90k pax 2023)

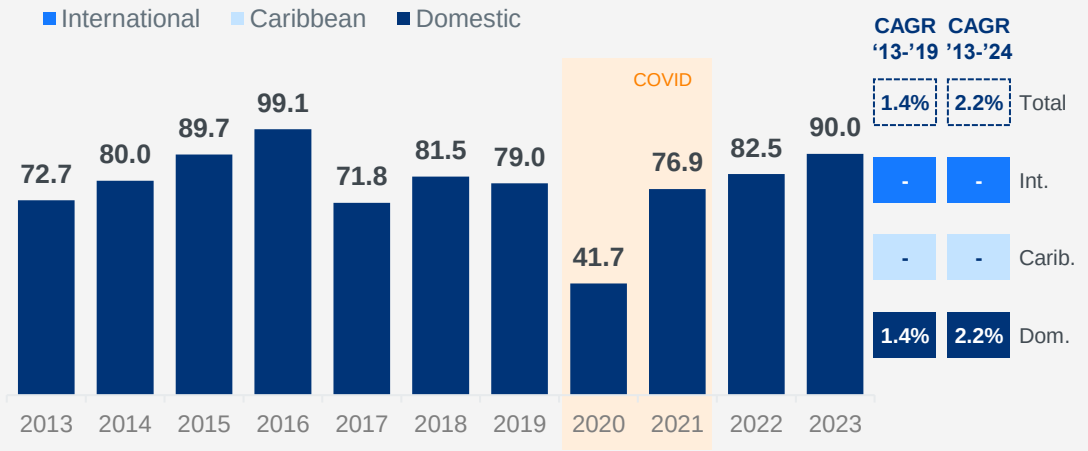
JAGS McCartney International Airport - Grand Turk Airport

Route Map
(weekly freqs, Feb-24)

3	*Domestic commercial routes*	-	*International commercial routes*

- GDT reopened its **newly refurbished facilities in July 2019**, following extensive repairs due to damage from Hurricanes Irma and Maria in 2017
- Approximately **94% of passengers travel to or from PLS**, with an average of **7-8 daily frequencies** between the two islands
- **Grand Turk also serves as the connecting point to Salt Cay**, since flights to Providenciales are limited
- The airport currently only **offers domestic scheduled commercial services, operated by Caicos Express and Intercaribbean**

Evolution of Passengers (kpax; 2013-2023)



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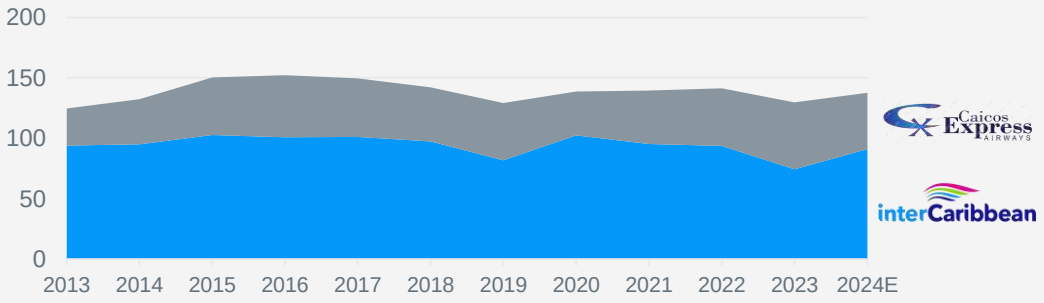


Source: CAPA, TCIAA, OAG, ALG analysis

South Caicos, the 3rd busiest airport in the country, primarily serves DOM commercial routes and private flights to the resorts of the island

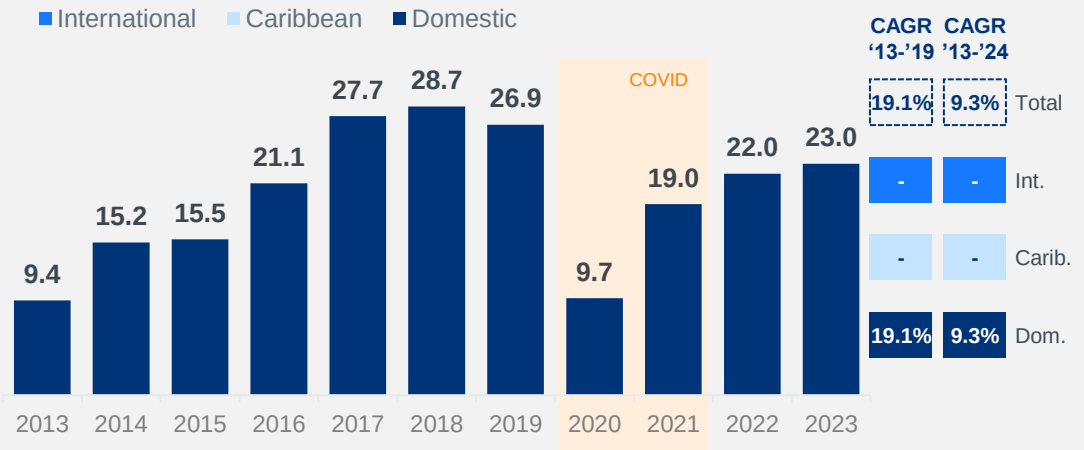
Norman B. Saunders Sr. International Airport - South Caicos Airport

Route Map
(weekly freqs, Feb-24)

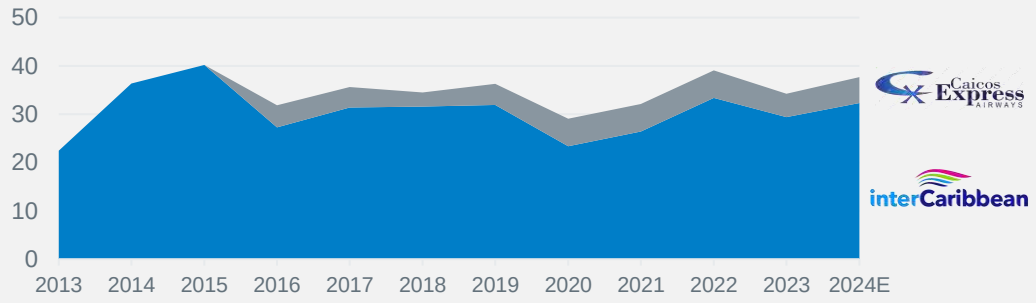
2	*Domestic commercial routes*	-	*International commercial routes*

- South Caicos Airport (XSC) has a **1,829 m runway** and a **new passenger terminal building** (opened in Aug-23)
- It is connected **with 2 daily frequencies to Providenciales and 1 to Grand Turk**; all of them operated with small turboprops
- The airport currently **only offers domestic scheduled commercial services with Caicos Express and Intercaribbean**
- Nevertheless, the expected **opening of a new 100-room hotel** by Jan-25 could act as a **catalyst** for the beginning of INT **flights**

Evolution of Passengers (kpax; 2013-2023)



Evolution of seat capacity by airline (kSeats; 2013-2024E)



Source: CAPA, TCIAA, OAG, ALG analysis

Salt Cay Airport, which features an 800m-long runway and an 80m² terminal, offers scheduled flights to GDT and, occasionally, to PLS

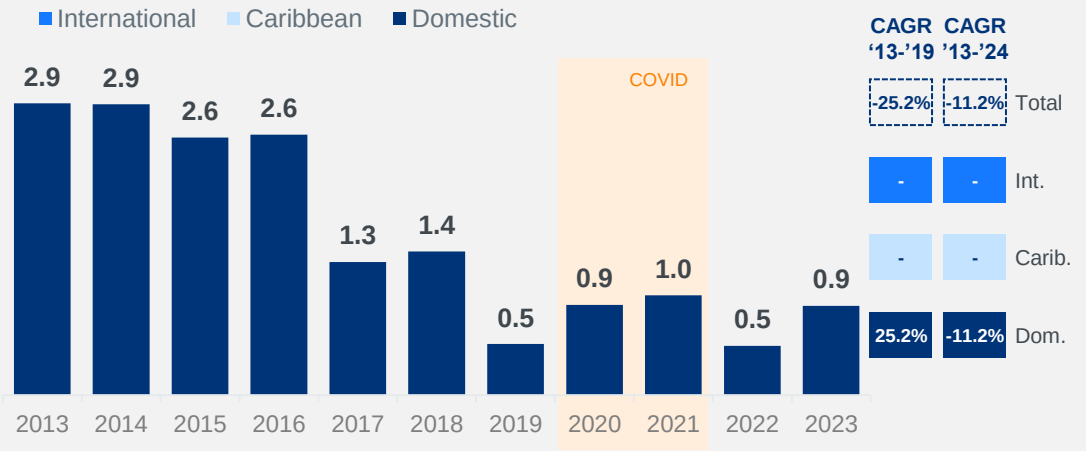
Leon Wilson Domestic Airport - Salt Cay

Route Map
(weekly freqs, Feb-24)

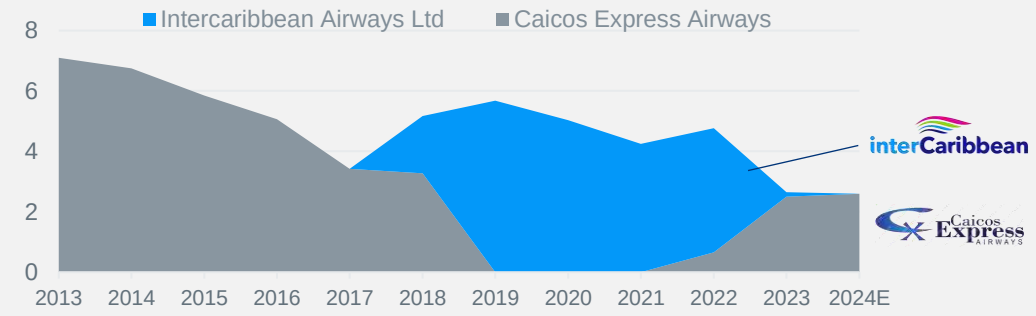
1	*Domestic commercial routes*	-	*International commercial routes*

- **Salt Cay Airport (SLX)** was re-opened in 2020 after being closed for more than a year due to repairs and upgrades
- The island's **connectivity is limited**, with only **3 weekly flights to Grand Turk** and a similar amount of ferry services (with no daily regular connectivity)
- SLX mainly operates these **domestic routes with Caicos Express and occasionally Intercaribbean**, along with a **series of private (GA) flights**

Evolution of Passengers (kpax; 2013-2023)



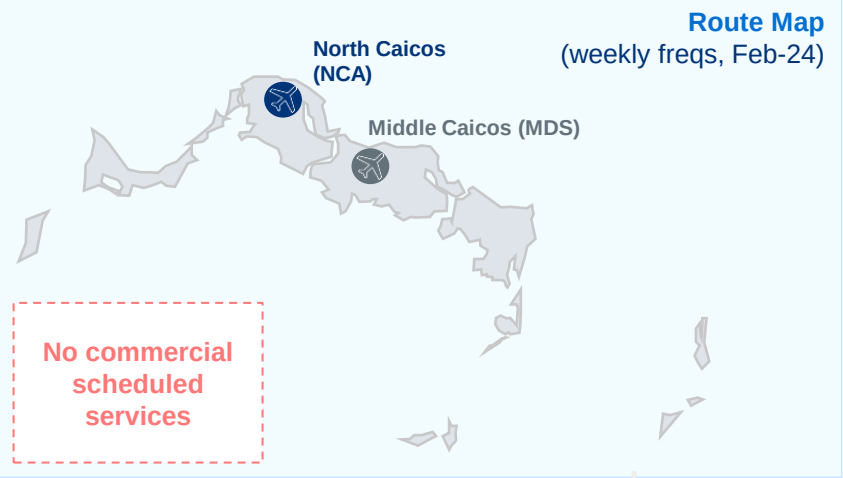
Evolution of seat capacity by airline (kSeats; 2013-2024E)



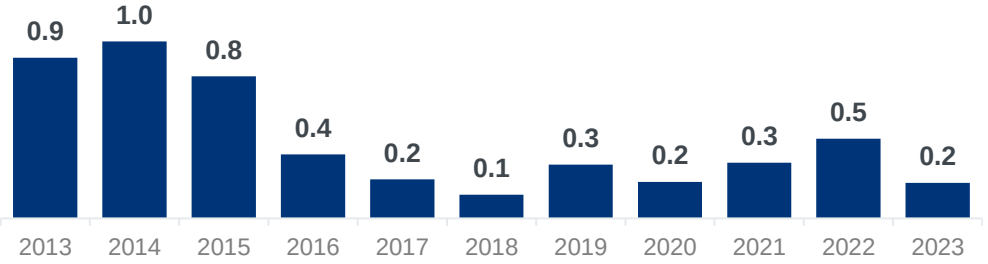
Source: CAPA, TCIAA, OAG, ALG analysis

While North Caicos (NCA) accommodates occasional charter and GA flights, Middle Caicos (MDS) has been closed for over 15 years

North Caicos Airport (NCA) & Middle Caicos Airport (MDS)



Evolution of North Caicos (NCA) passengers (kpax, 2013-2023)



- North Caicos Airport (NCA) features a single asphalt runway, accompanied by a solo terminal building. **Redevelopment plans include a new boutique terminal building**
- **It is operational**, serving mainly domestic charter flights and private aviators, with **no regular commercial service**

- **The Middle Caicos Airport is currently closed, with no flights or emergency services**
- In the past, scheduled **domestic flights were offered** to both NCA and MDS. However, with the **introduction of a ferry service** from Providenciales and the **construction of the causeway** (2007), demand was reduced to the extent that **local airlines ceased to operate** scheduled flights to the islands

Evolution of Middle Caicos (MDS) passengers (Mpax)

No traffic

Source: CAPA, TCIAA, OAG, ALG analysis

The TCIAA airport network has been classified based on each airport's mid-term targets and general airport strategies identified in the Caribbean

Airport development strategies within the Caribbean region

	Location/Hinterland	Volume of traffic	Route network	TCI mid-term target
International gateways	**Main city of the country** in terms of population/ tourism developments	**>1 Mpax**	**Highly developed international** connectivity **Hub for domestic** connectivity	**Providenciales**
Tourism-focused secondary airports	**Mid-low populated** areas but with **significant tourism attractiveness and hotel developments**	**100-1,000k pax**	**Strong domestic connectivity** with the main gateway Development of **scheduled short-haul int'l routes**	**South Caicos** **Grand Turk** **North Caicos**
Domestic secondary airports	**Mid-low populated** areas with **certain hotel developments**	**10-100k pax**	**Regular domestic connectivity** with the main gateway **Int'l** connectivity relies on **private/charter flights**	**Salt Cay**
General Aviation Airports	**Low populated** areas with **minor or none hotel developments**	**<10k pax**	**Minimal scheduled domestic operations** with small aircraft, usually **complemented with non-scheduled flights**	**Middle Caicos**

Source: ALG analysis

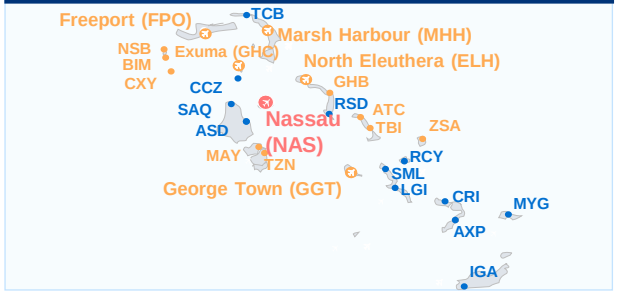
There are several airport networks within the Caribbean with a clear differentiation between their airports: gateway, secondary int'l, domestic

Caribbean region airport networks

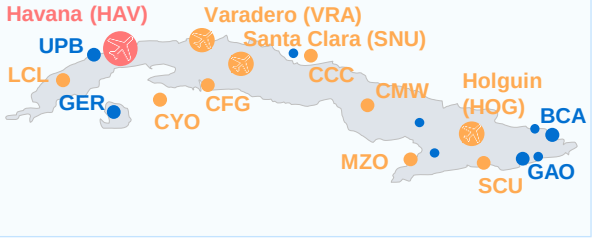
International gateway | Secondary airport with INT traffic | Secondary airport with only DOM traffic

Highly developed airport networks

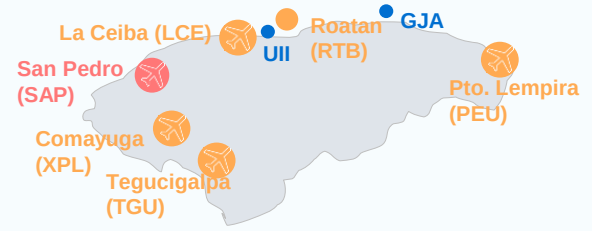
Bahamas



Cuba



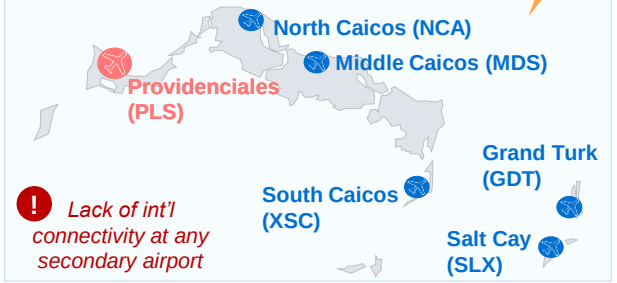
Honduras



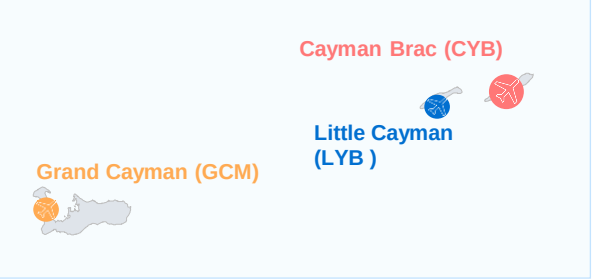
Less developed airport networks

Mid-term target for TCI, with the development of certain international connectivity in some secondary airports

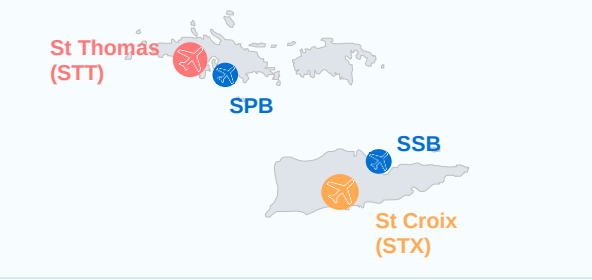
Turks and Caicos Islands



Cayman Islands



US Virgin Islands

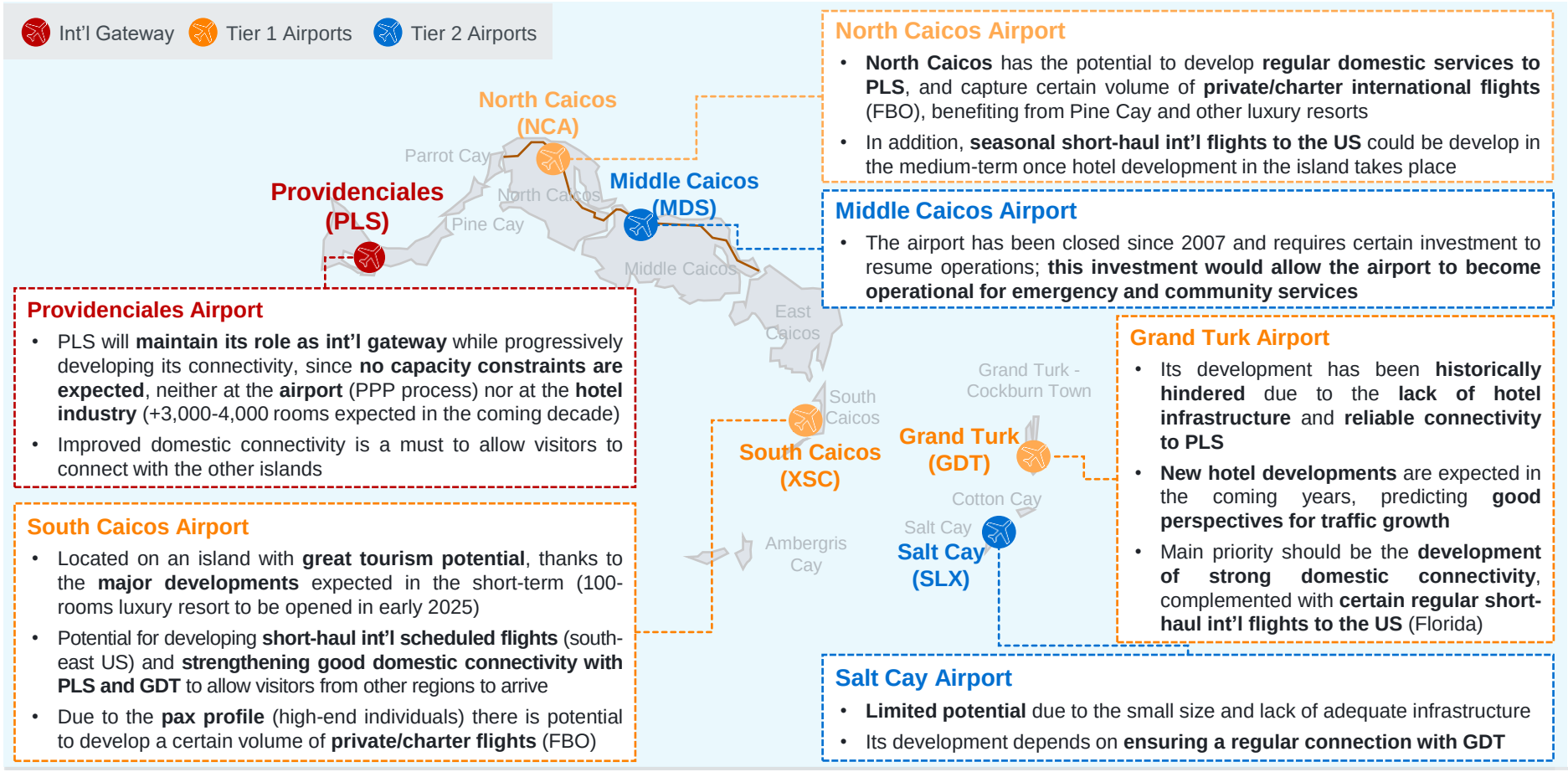


The traffic forecast aims to identify a development strategy for each of the airports in the TCIAA network, evolving it into a more developed network like others in the region (such as those in The Bahamas, Cayman Islands, etc.)

Source: CAPA, OAG, ALG analysis

The TCIAA airport network strategy for the long-term ultimately classifies each airport into one of three categories: INT gateway, Tier 1 and Tier 2

Turks and Caicos airport network – Future airports roles



North Caicos Airport

- **North Caicos** has the potential to develop **regular domestic services to PLS**, and capture certain volume of **private/charter international flights** (FBO), benefiting from Pine Cay and other luxury resorts
- In addition, **seasonal short-haul int'l flights to the US** could be develop in the medium-term once hotel development in the island takes place

Middle Caicos Airport

- The airport has been closed since 2007 and requires certain investment to resume operations; **this investment would allow the airport to become operational for emergency and community services**

Providenciales Airport

- PLS will **maintain its role as int'l gateway** while progressively developing its connectivity, since **no capacity constraints are expected**, neither at the **airport** (PPP process) nor at the **hotel industry** (+3,000-4,000 rooms expected in the coming decade)
- Improved domestic connectivity is a must to allow visitors to connect with the other islands

Grand Turk Airport

- Its development has been **historically hindered** due to the **lack of hotel infrastructure** and **reliable connectivity to PLS**
- **New hotel developments** are expected in the coming years, predicting **good perspectives for traffic growth**
- Main priority should be the **development of strong domestic connectivity**, complemented with **certain regular short-haul int'l flights to the US** (Florida)

South Caicos Airport

- Located on an island with **great tourism potential**, thanks to the **major developments** expected in the short-term (100-rooms luxury resort to be opened in early 2025)
- Potential for developing **short-haul int'l scheduled flights** (south-east US) and **strengthening good domestic connectivity with PLS and GDT** to allow visitors from other regions to arrive
- Due to the **pax profile** (high-end individuals) there is potential to develop a certain volume of **private/charter flights** (FBO)

Salt Cay Airport

- **Limited potential** due to the small size and lack of adequate infrastructure
- Its development depends on **ensuring a regular connection with GDT**

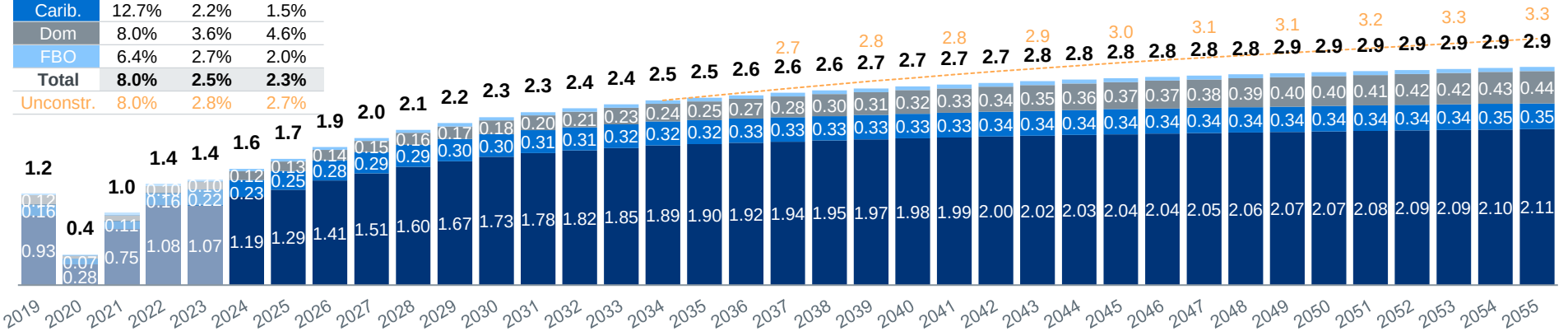
Source: ALG analysis

PLS is expected to reach 2.9 Mpax by 2055 with a traffic cap applied due to accommodation saturation; operations would reach 66k by 2055

PLS traffic forecast – Including traffic cap (MPax)

CAGR	'13-'19	'19-'55	'23-'55
Int'l	7.4%	2.3%	2.1%
Carib.	12.7%	2.2%	1.5%
Dom	8.0%	3.6%	4.6%
FBO	6.4%	2.7%	2.0%
Total	**8.0%**	**2.5%**	**2.3%**
Unconstr.	8.0%	2.8%	2.7%

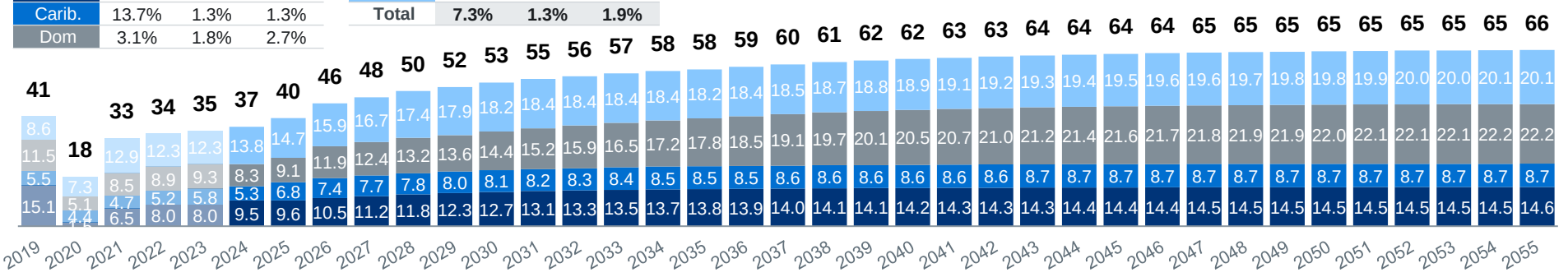
! Traffic cap applied due to accommodation saturation; assumes that Providenciales Island would be able to host up to 1M tourists annually, with the rest of islands able to absorb 370K tourists annually, based on the expected hotels development



PLS operations forecast (kATM)

CAGR	'13-'19	'19-'55	'23-'55
Int'l	10.1%	-0.1%	1.9%
Carib.	13.7%	1.3%	1.3%
Dom	3.1%	1.8%	2.7%

CAGR	'13-'19	'19-'55	'23-'55
FBO	5.8%	2.4%	1.5%
Total	**7.3%**	**1.3%**	**1.9%**

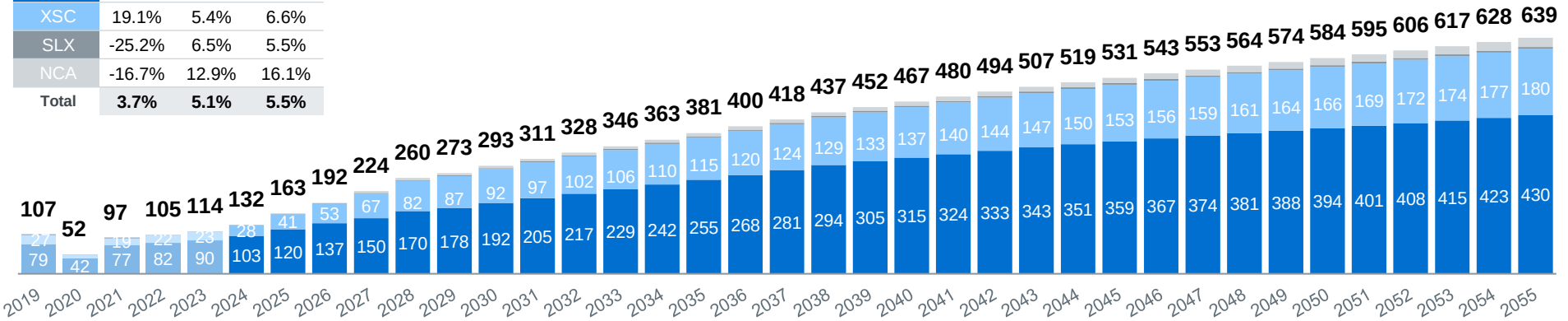


Source: OAG, CAPA, TCIAA, ALG Analysis

Other airports are expected to grow faster thanks to DOM network upgrades and INT traffic at GDT, XSC & NCA, reaching 639k pax by 2055

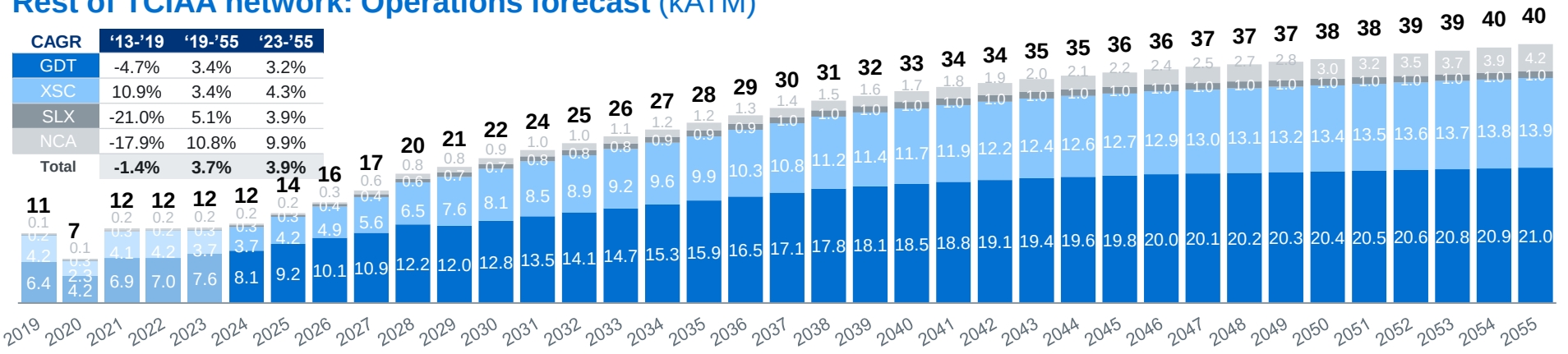
Rest of TCIAA network: Total traffic forecast (kPax)

CAGR	'13-'19	'19-'55	'23-'55
GDT	1.4%	4.8%	5.0%
XSC	19.1%	5.4%	6.6%
SLX	-25.2%	6.5%	5.5%
NCA	-16.7%	12.9%	16.1%
Total	**3.7%**	**5.1%**	**5.5%**



Rest of TCIAA network: Operations forecast (kATM)

CAGR	'13-'19	'19-'55	'23-'55
GDT	-4.7%	3.4%	3.2%
XSC	10.9%	3.4%	4.3%
SLX	-21.0%	5.1%	3.9%
NCA	-17.9%	10.8%	9.9%
Total	**-1.4%**	**3.7%**	**3.9%**



Source: OAG, CAPA, TCIAA, ALG Analysis

Content

Market analysis and traffic forecast

Airport infrastructure assessment & development plan

TCIAA role, functions, and organizational structure

TCIAA financial plan

Airspace assessment and future requirements

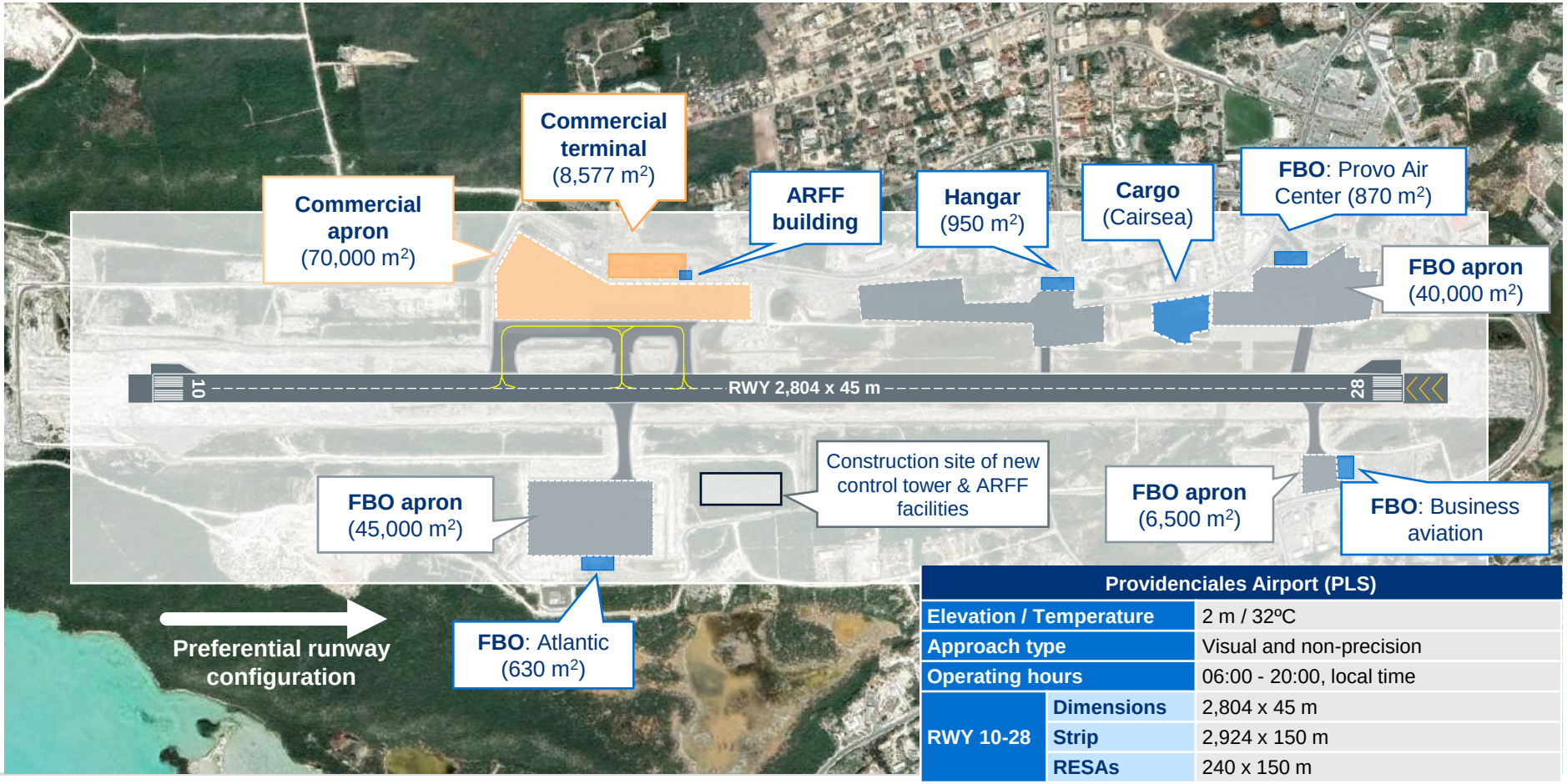
Environmental strategy for the TCIAA

Technology master plan for the TCIAA

Providenciales
Howard Hamilton International Airport (PLS)

Providenciales Int'l Airport is TCI's largest and busiest airport, with a runway, apron and terminal able to handle NB and WB int'l flights

Howard Hamilton Int'l Airport (PLS) – Airport Overview

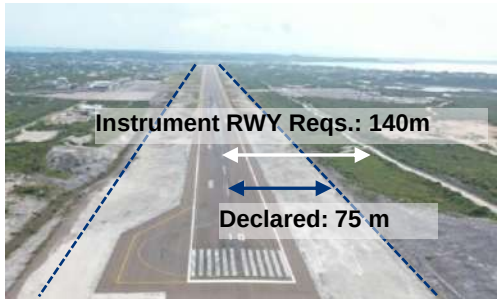


Providenciales Airport (PLS)		
Elevation / Temperature		2 m / 32ºC
Approach type		Visual and non-precision
Operating hours		06:00 - 20:00, local time
RWY 10-28	Dimensions	2,804 x 45 m
	Strip	2,924 x 150 m
	RESAs	240 x 150 m

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

Airfield complies with most ICAO guidelines and is in general good state, but certain issues arise with strip and transitional surface compliance

Current infrastructure assessment: Airfield



Pavement shifts on RWY 10

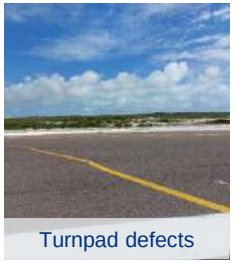

Rubber buildup along RWY


Drainage pit along RWY end


Turnpad defects


Hold short area RWY 10-28


Existing TWYs


Turnpad defects

Existing compliant infrastructure and advantages

- **RWY width & shoulders:** 45m-wide RWY (60m shoulders) is ICAO compliant
- **RESAs:** 240 x 150m declared on both thresholds; ICAO compliant
- **RWY length:** 2,800m-long RWY is enough to satisfy aircraft range requirements to the key markets for the TCI (USA, Canada, Western Europe)
- **RWY graded strip:** The declared strip is leveled and complies with the graded strip requirements (although not the entire runway strip requirements)
- **RWY and TWY surface condition:** Pavement foundations in good condition and no visible major defects; water drainage is effective
- **TWY width & shoulders:** 23m-wide TWY (38m shoulders) is ICAO compliant
- **Holding bays:** 75m from the RWY holding position to the RWY centerline is ICAO compliant

Existing infrastructure deficiencies and limitations

- **RWY strip:** The width of the declared strip (150 m) does not comply with the requirements for an instrument runway (only with those of a non-instrument runway, and PLS has existing published instrument approaches)
- **Min distances:** 140m between RWY & TWY centerlines are not compliant (min is 172.5m; but subject addressable with an aeronautical study)
- **Transitional surface:** The 14.3% slope from edge of RWY strip conflicts with parked aircraft on commercial apron; this does not negatively affect operations, but new infrastructure should adhere to ICAO standards
- **RWY surface:** Minor pavement/asphalt defects on the surface of the runway and the turnpads, in addition to significant rubber buildup along the RWY
- **TWY surface:** Minor asphalt defects on the surface, as well as an unevenness on TWY A that creates water buildup with precipitation

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

PLS has a large commercial apron and various GA; only minor concerns to be addressed, such as surface defects and a canopy in construction

Current infrastructure assessment: Apron & airside

International apron (9 code-C stands)

domestic/regional apron (3 code-A stands + 5 light aircraft stands)

Overview of terminal from INT apron

Atlantic Aviation FBO apron (G.A.)

Canopy under construction (halted and currently resumed)

TWR staircase

INT baggage area

Existing infrastructure characteristics and advantages

- **INT apron:** The apron has capacity for 9 code-C aircraft parked simultaneously, or 2 code-E + 5 code-C with a series of MARS stands. The pavement (concrete & asphalt) is in a good state with solid foundations
- **DOM apron:** The apron has capacity for 3 code-A stands + 5 light aircraft stands. The concrete portion of the apron is in good state
- **GA aprons:** Three GA aprons are in various spots of the airport (Atlantic Aviation, Provo Air Centre, Business Aviation), all of which have been recently paved and have good foundations for the type of traffic handled
- **ARFF:** The existing ARFF building has a 350 m^2 footprint, with three modern Oshkosh firetrucks (2020). A new ARFF building is under construction
- **Fuel supply:** Two fuel farms supply fuel for the airport without shortage issues

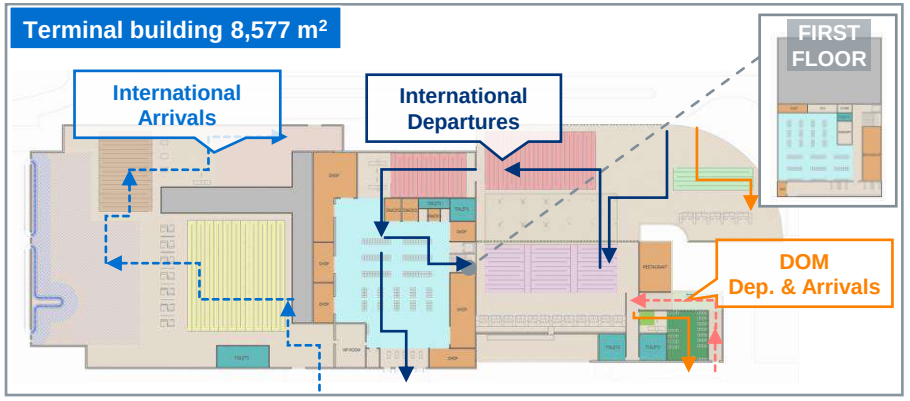
Existing infrastructure deficiencies and limitations

- **Passenger canopy:** A passenger canopy running along the INT apron is under construction, it was halted for >1 year due to issues with contractor, but is has been currently resumed
- **Commercial apron:** Minor surface cracks appear along the paved area of the apron, while the eastern-most area of DOM apron has an unmarked area that is not in good condition, with multiple layers of the pavement visible
- **GA aprons:** Although most GA aprons are in good state, the Provo Air Maintenance Centre shows clear signs of wear and requires repaving
- **Control tower:** The building is in a deteriorated state, and although a new tower is being built, the structure of the existing tower should be checked
- **ARFF:** The current building, its common areas, and equipment (excl. fire trucks) are overall outdated. A new ARFF building is under construction

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

The terminal building at PLS is highly prone to severe congestion in various subsystems, with outdated facilities and limited commercial offer

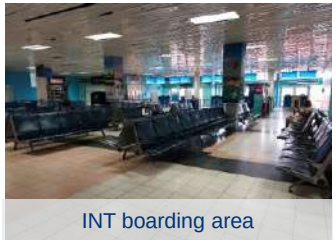
Current infrastructure assessment: Terminal building

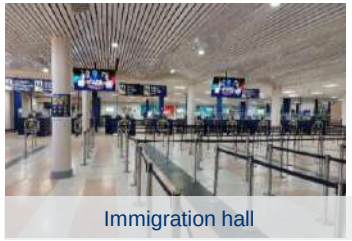


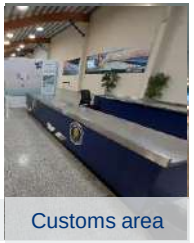

INT & DOM check-in areas


INT security filters (3 lanes)


DOM boarding area


INT boarding area


Immigration hall


Customs area

Existing infrastructure characteristics and advantages

- **Check-in areas:** The open-area check-in has 15 self-check-in kiosks and 32 desks for INT pax, while the DOM check-in area ha 12 desks for DOM pax
- **Security screening:** The INT security filters have 3 screening lanes, while the DOM filter has a single lane. The screening equipment was recently acquired
- **Boarding gates:** The INT boarding area has 2 levels for waiting pax and 5 boarding gates, while the DOM area has a single gate and seating space
- **Arrivals:** INT arrivals has an immigration hall with 18 desks, 2 baggage belts and 3 customs screening lanes. The DOM arrivals area is made up of a single hall
- **Access & parking:** The terminal building is accessed via the Airport Road, and the parking aeras sum up to over 440 total parking spaces
- **Congestion alleviation plan**: The airport is undergoing a reconfiguration that will add ~1,000 m² to the DEP INT area and increase its commercial offer

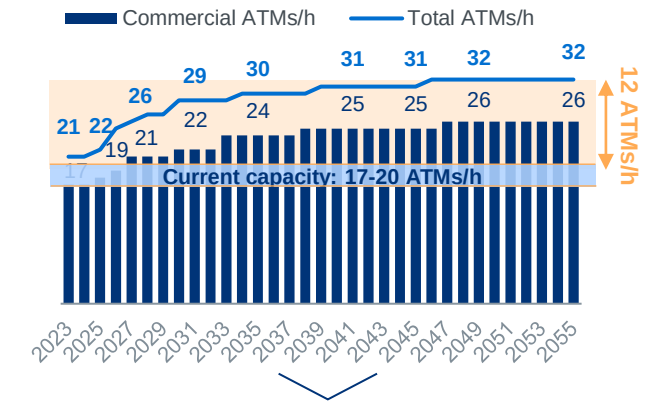
Existing infrastructure deficiencies and limitations

- **Check-in areas:** The check-in hall experiences high temperatures during peak hours due to the lack of airflow, affecting pax and worker's conditions; the area also becomes easily saturated during these times
- **Security screening:** Security screening areas have limited queuing space and are subject to heavy congestion during peak hours (INT particularly)
- **Boarding areas:** INT boarding areas are often congested without enough seating space; in addition, there is a very limited commercial offer
- **Arrivals:** Immigration areas are not often fully staffed, leading to severe congestion, while baggage belts are also prone to saturation during peak times
- **Access & parking:** The main access road gets saturated during peak times, as do the surrounding parking lots, delaying the pax departure process

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

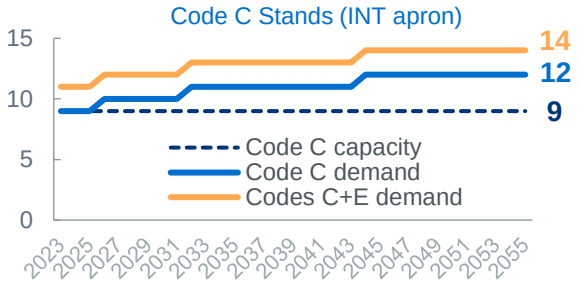
All subsystems at PLS are at or above their saturation points with the existing traffic; concrete solutions are proposed from the short-term

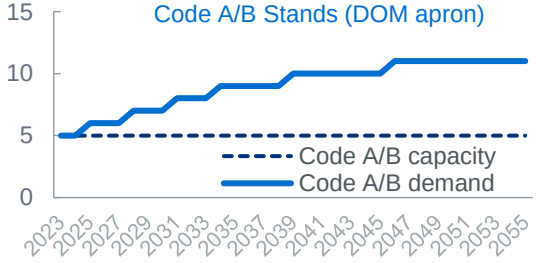
Airfield



- Even though the current airfield is already operating at its maximum capacity of 17-20 ATMs/h, **the demand is expected to grow to 29 ATMs/h in 2030 and 32 ATMs/h in 2055**
- There are several possible solutions to increase capacity, but given the expected demand, **a parallel TWY is required**, which would increase the capacity of the runway by 9 ATMs/h (reaching 29)

Apron





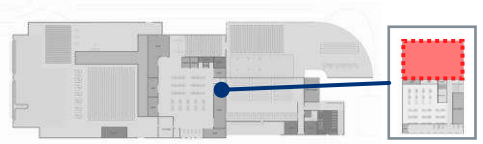
- The peak INT stand demand for the long-term considers 12 code-C and 1 code-E aircraft (the latter which occupies 2 code-C stands), **translating into a demand of 14 C-equivalent stands**
- Both aprons are close to saturation, with existing peaks already exceeding capacity; **an apron expansion is necessary to allow additional code A/B and code C/E** aircraft park simultaneously

Terminal

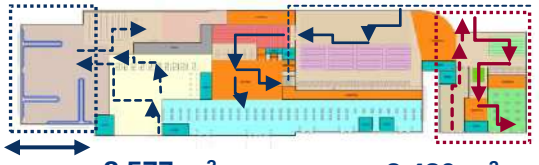
The most critical subsystems within the terminal are highly saturated, with Dep/Arr halls at **191%** of capacity, check-in area at **122%**, INT security at 119%, INT boarding areas at **176%**, INT immigration at **113%**, INT baggage claim at **156%**, among others.

Future development plans would require:

Congestion alleviation plan (on-going)



Reconfiguration & expansion of existing terminal (short-term; within PPP process)



Construction of a new terminal (4-5 yrs): 25,000 m² for 2.5 Mpax (within PPP)

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

Short-term plans for PLS include enlarging the existing terminal to 11,000 sqm and the commercial apron to meet increasing demand

Infrastructure development plan[1] - PLS short-term

! This is a proposal for PLS Airport development; final design will be developed by the winning concessionaire of the PPP tender

Main developments for 2024-2028 period

1. **Passenger terminal expansion:** +2,480 sqm and reconfiguration of internal layout to improve the level of service in most congested terminal subsystems
2. **INT commercial apron expansion:** +25,500 sqm to accommodate 3 additional remote code-C stands (advancing the construction of the mid-term apron), giving a total capacity of 12 code-C aircraft (or 8 code-C and 2 code-E)
3. **DOM commercial apron expansion:** +730 sqm and reconfiguration of this area to simultaneously accommodate 7 code A/B aircraft

Source: Google Earth, TCIAA, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

Mid/long-term development for PLS includes constructing a new terminal building, a parallel TWY and expanding the commercial apron

Infrastructure development plan[1] - PLS mid and long-term

! This is a proposal for PLS Airport development; final design will be developed by the winning concessionaire of the PPP tender

Main developments for 2024-2055 period

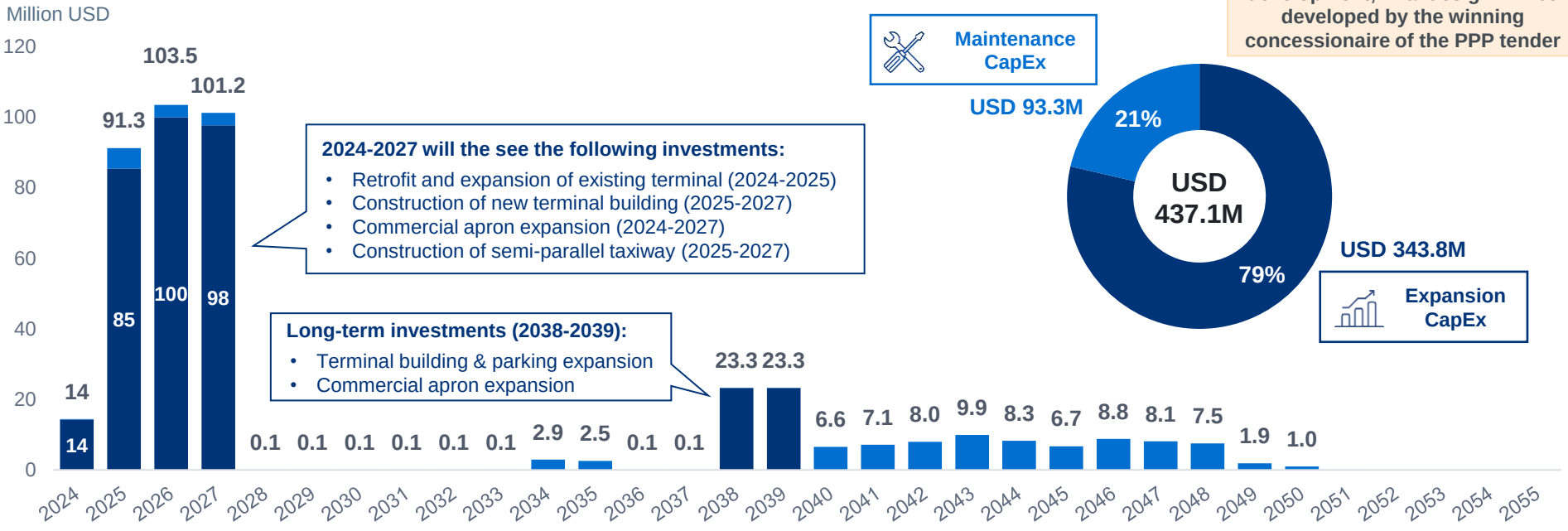
1. **Commercial apron expansion:** ~100,000 sqm apron to accommodate simultaneously 14 code-C and 11 code-A/B aircraft (autonomous stands)
2. **New passenger terminal:** Construction of a two-floor building of 30,000 sqm with DOM&INT facilities for an overall capacity of ~3 Mpax, including 4 boarding bridges (in two phases: 25,000 sqm + 5,000 sqm)
3. **Parking expansion:** +7,000 sqm to accommodate additional 450 additional vehicles
4. **Parallel Taxiway:** Construction of a parallel TWY to increase the capacity of runway to 29 ATMs/h
5. **Runway-mid turnpad:** Constructing a turnpad at the mid of the runway to enhance safety of aircraft that currently perform a 180-degree turn mid-runway
6. **Runway strip width:** Increase the runway strip width to 140m (on each side of the RWY) to comply with ICAO's required for an instrument runway
7. **Curbside access:** Construction of a new surface access to the terminal with three lanes for circulation and parking (taxi, VIP, and others)

Source: Google Earth, TCIAA, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

The total investment plan for PLS is estimated to add up to ~437 MUSD, of which 344M expansion CapEx and 93M maintenance CapEx

Investment plan - PLS (MUSD, 2024 real values, 2024-2055)



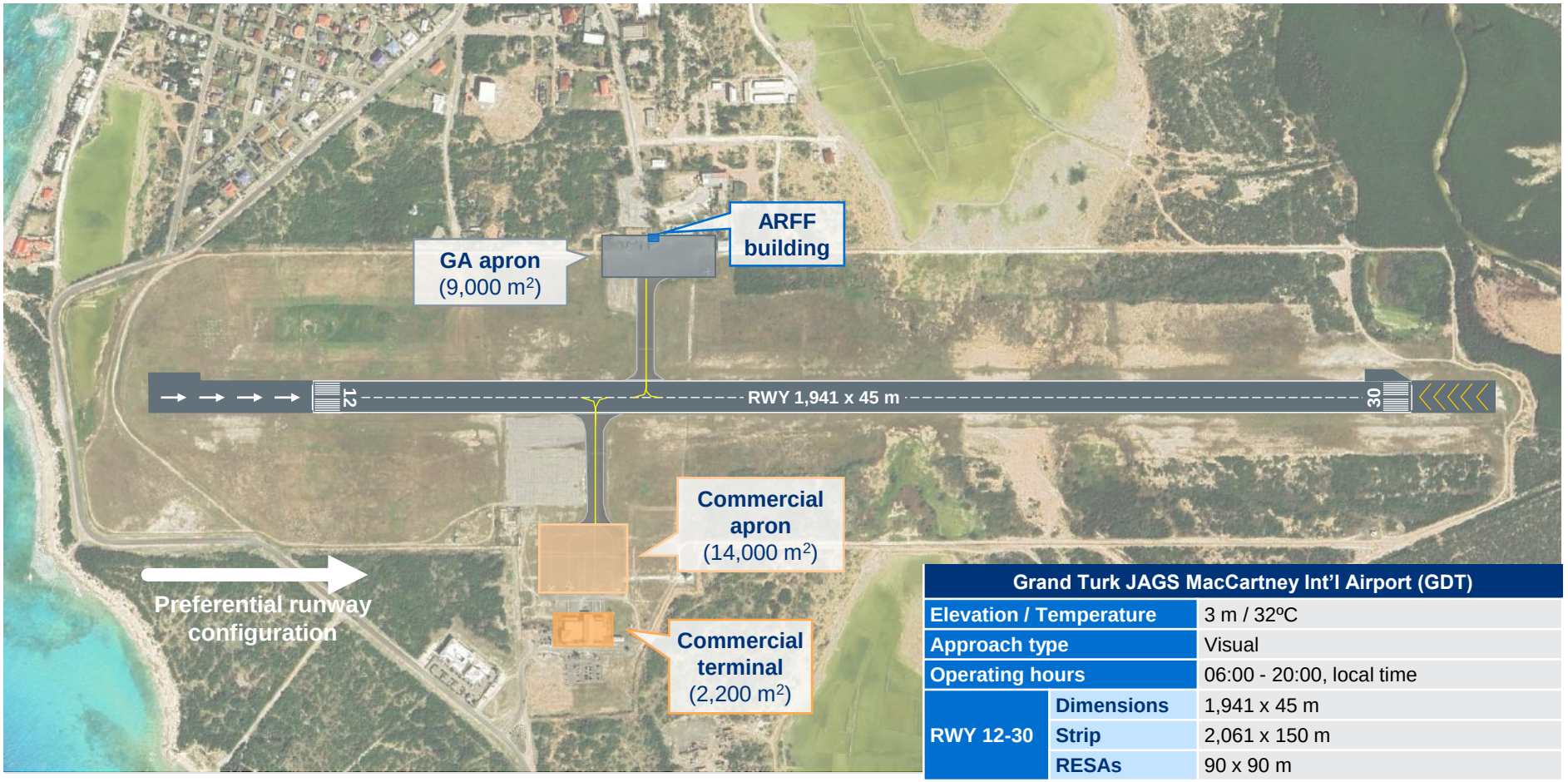
	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	99.7 MUSD	197.7 MUSD	46.4 MUSD	343.8 MUSD
Maintenance CapEx	6.0 MUSD	7.2 MUSD	80.1 MUSD	93.3 MUSD
Total	**105.7 MUSD**	**204.9 MUSD**	**126.5 MUSD**	**437.1 MUSD**

Source: ALG Analysis

Grand Turk
JAGS McCartney Int’l Airport (GDT)

Grand Turk Airport is the country's 2nd largest airport; with a 1,940 x 45m runway, it currently only serves regular turboprop aircraft

JAGS McCartney Int'l Airport (GDT) – Airport overview



Grand Turk JAGS MacCartney Int'l Airport (GDT)		
Elevation / Temperature		3 m / 32ºC
Approach type		Visual
Operating hours		06:00 - 20:00, local time
RWY 12-30	Dimensions	1,941 x 45 m
	Strip	2,061 x 150 m
	RESAs	90 x 90 m

Source: Google Earth, TCI AIP, ALG Analysis

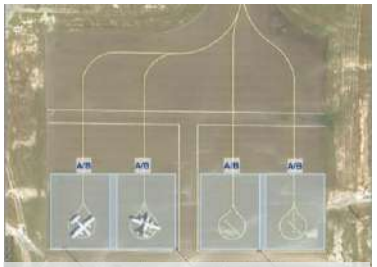
Airfield & aprons are in an overall good condition; however, there are minor ICAO non-compliances, particularly regarding one of its RESAs

Current infrastructure assessment: Airfield & Apron

Overview of runway 12 threshold and adjacent terrain

Terrain irregularities on RWY 30's RESA

Faded paint on RWY 30 threshold



Commercial apron configuration

Existing compliant infrastructure and advantages

- **RWY width:** 45m-wide RWY (w/o shoulders) is ICAO compliant for code 4C
- **RWY strip**: 150m-wide declared strip is ICAO compliant for non-instrument code 3 or 4; distance before THR is also compliant for codes 3 or 4
- **RESAs:** 90x90m declared on both thresholds; distances are ICAO compliant
- **RWY length:** 1,790m TORA of RWY 30 and 1,940m of RWY 12 would allow ATR72 & B737-type aircraft to reach most of the US east coast
- **RWY and TWY surface condition:** pavement (asphalt) in good condition overall, with no significant visible damage
- **Min distance**s: 93m between RWY & TWY centerlines is ICAO compliant
- **Holding bays:** 75m from the RWY holding position to the centerline complies
- **Commercial apron**: Located in the south, it has 4 loop stands code-A/B aircraft; pavement foundations and painting in good condition with no visible defects
- **GA apron**: The north apron is used for additional parking and access to the police hangar, but has no defined stands; in good state with no visible wear

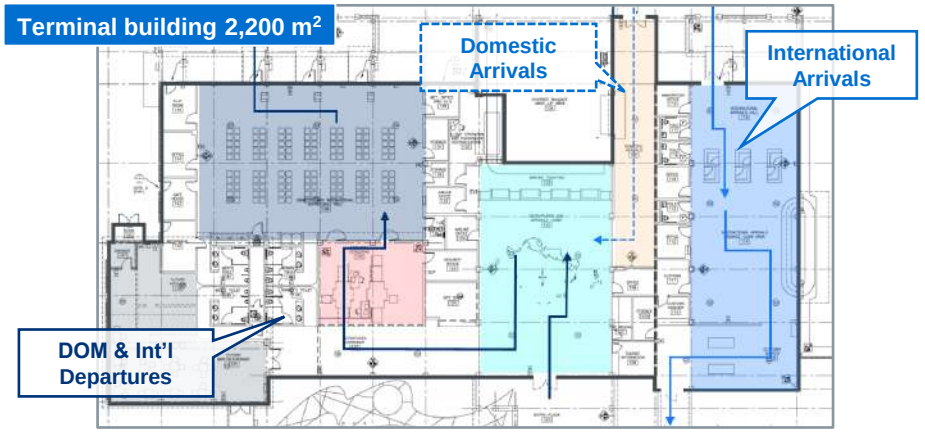
Existing infrastructure deficiencies and limitations

- **RESA's slope**: RESA adjacent to threshold of RWY 30 has a steep longitudinal slope with irregular terrain; does not comply with ICAO's <5% slope requirements (an orographic study should be performed to confirm this)
- **TWY width & shoulders:** 23m width TWY is not compliant; should have a total width of 25m, resulting in a 15m-wide taxiway with shoulders
- **RWY surface:** Paint is fading on several runway markings, creating a diffuse effect on the pavement
- **Old apron surface**: Clearly unusable, with evident signs of abandonment

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

GDT's terminal building, with a surface of 2,200 m², has separated areas for domestic and international arrivals, and a common departure area

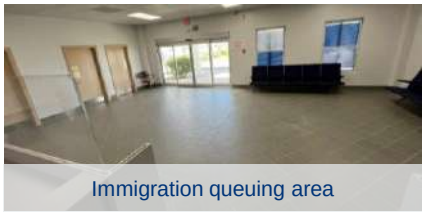
Current infrastructure assessment: Terminal building




Terminal building, access roads & parking


Boarding area


INT bag carrousel


Immigration queuing area


Check-in area


DOM bag carrousel

Existing infrastructure characteristics and advantages

- **Check-in areas:** The open-area check-in has 8 desks for both INT and DOM pax
- **Security screening:** INT and DOM security filters have a single screening lane, but the area is spacious
- **Other areas**: The airport also counts with a restaurant, offices and other general areas
- **Boarding area:** The boarding area has 4 boarding gates, and a waiting area with seating for over 130 pax
- **INT Arrivals:** INT arrivals area was recently refurbished and has an immigration area with 3 desks, a single baggage belt and a customs area without counters
- **DOM Arrivals**: DOM passengers arrivals area features a single baggage carrousel, and without undergoing immigration controls, passenger are led directly to the main airport hall (check-in area)
- **Parking and access**: parking lot with space for over 90 vehicles, with road access lanes that seldom get saturated

Existing infrastructure deficiencies and limitations

- **Security screening:** A single screening lane may result insufficient should more flights depart simultaneously
- **INT arrivals:** The immigration area could be better distributed, given that the pre-immigration queuing area is rather small (~50 m²) and the baggage pick-up area comparatively large

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

The control tower an ARFF facilities show significant wear, with generally outdated equipment; perimeter re-fencing works are underway

Current infrastructure conditions: Other systems


Outworn control tower


Outdated ATC equipment


New ATC office


ARFF building


Firefighters' facilities


Storage area


Brand-new Rosenbauer and older Oshkosh trucks


Fence under construction

Existing infrastructure characteristics and advantages

- **Control Tower and hangars:** An area inside the tower is being adapted to house an ATC office and although ATC equipment is outdated in general, radio equipment is recent and in good condition; GSE storage area sits adjacent to the terminal, used for general storage and cargo handling
- **ARFF:** The existing outworn ARFF building is composed of two containers joined together; it has an RFF category 4 according to the AIP and counts with a brand new Rosenbauer fire truck and an older Oshkosh
- **Fence**: in anticipation of new international services, the airport is being re-fenced in its entire perimeter (~5.5 km). The works began in 2023, with a cost above 2 MUSD. Temporary fences were erected while the new fences are finished, which are to be handed over by mid-2024, and an area for workers of the project was also set up next to the old apron

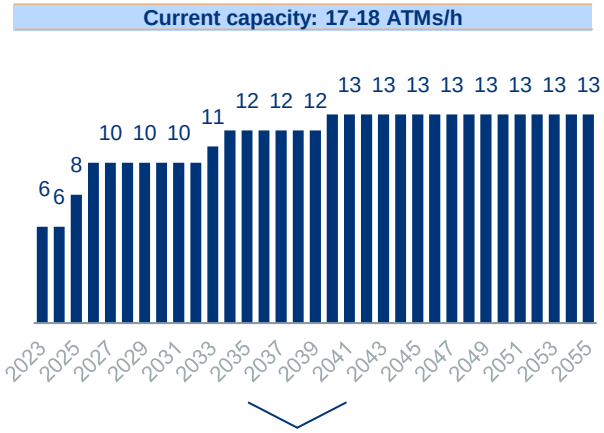
Existing infrastructure deficiencies and limitations

- **Control tower:** The building is in a deteriorated state, showing signs of wear both on the inside and on the outside, being more evident on the façade, where rust may be seen in significant quantities. The ATC equipment is outdated in general terms.
- **ARFF**: ARFF would require to upgrade to an RFF category 6 or 7 to handle larger code-C aircraft; the building is outworn with visible signs of wear and rust, including leaks, damaged locks and hygiene issues inside the firemen area. A new ARFF facility was being built but works have been halted for several years now, with no signal of being resumed. Moreover, The fire trucks do not have a roofed area for parking, and therefore are exposed to high levels of sun, salt and humidity

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

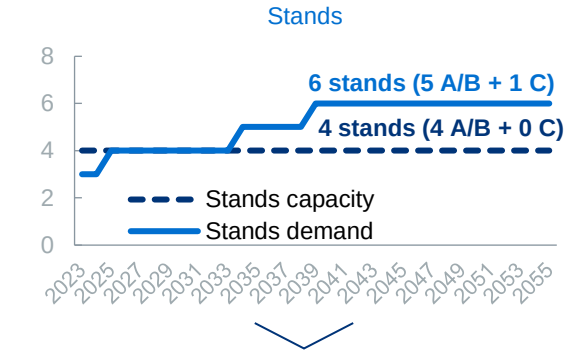
GDT subsystems meet current demand, but as traffic increases, apron and terminal expansions will be necessary to avoid saturation

Airfield

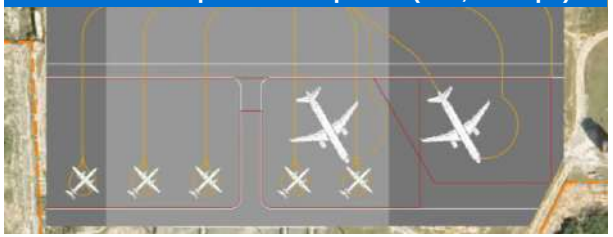


- The **estimated airfield capacity** at GDT is **17 ATMs/h for the preferred operational configuration**
- **Forecasts estimate that GDT will reach an airfield demand of 13 ATMs/h in 2055**, which is considerably below the 17 ATMs/h of estimated capacity; this indicates that **the airfield configuration as-is will be enough to satisfy demand in the long-term**
- Should additional capacity be necessary due to unforeseen growth, a **holding bay on either threshold, and/or the construction of rapid-exit-taxiways (RETs) could increase capacity by 3-5 ATMs/h**

Apron



Commercial apron development (~11,600 sqm)



- The demand-capacity analysis shows that the **existing apron space will become saturated in the short-term** with code-C aircraft arrival
- It will be necessary to **expand the commercial apron** and allow **5 code-B aircraft and 1 code-C to operate simultaneously**; 2 code-B stands could accommodate 1 code-C aircraft, providing **greater flexibility to the airport operation**

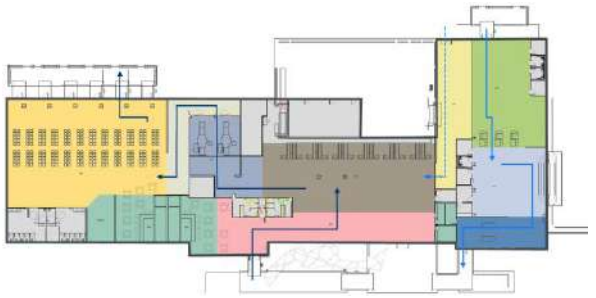
Terminal

- Current terminal capacity is sufficient to meet the level of traffic it handles, although the layout of the immigration area should be studied; **with future traffic** increases, it will be **necessary an expansion of the terminal areas**
- Analysis indicates bottlenecks in certain int'l subsystems if the terminal is not expanded**: dep. & Arr. Hall** will reach a **154% saturation, check-in area** at **202%, sec. control** at **145%, boarding areas** at **172%, and INT immigration at 154%**

Future development plans would require:

With a **700 sqm extension** (to reach 2,900 sqm), all terminal subsystems will be able to **attend the expected traffic demand with an adequate LoS**

Expansion of existing terminal



2,200 m² *Current terminal* + **700 m²** *Terminal Expansion*

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

Main works expected in GDT are the expansion of the commercial apron and the passenger terminal to attend the increasing traffic demand

Infrastructure development plan[1] - GDT

Main developments for 2024-2055 period

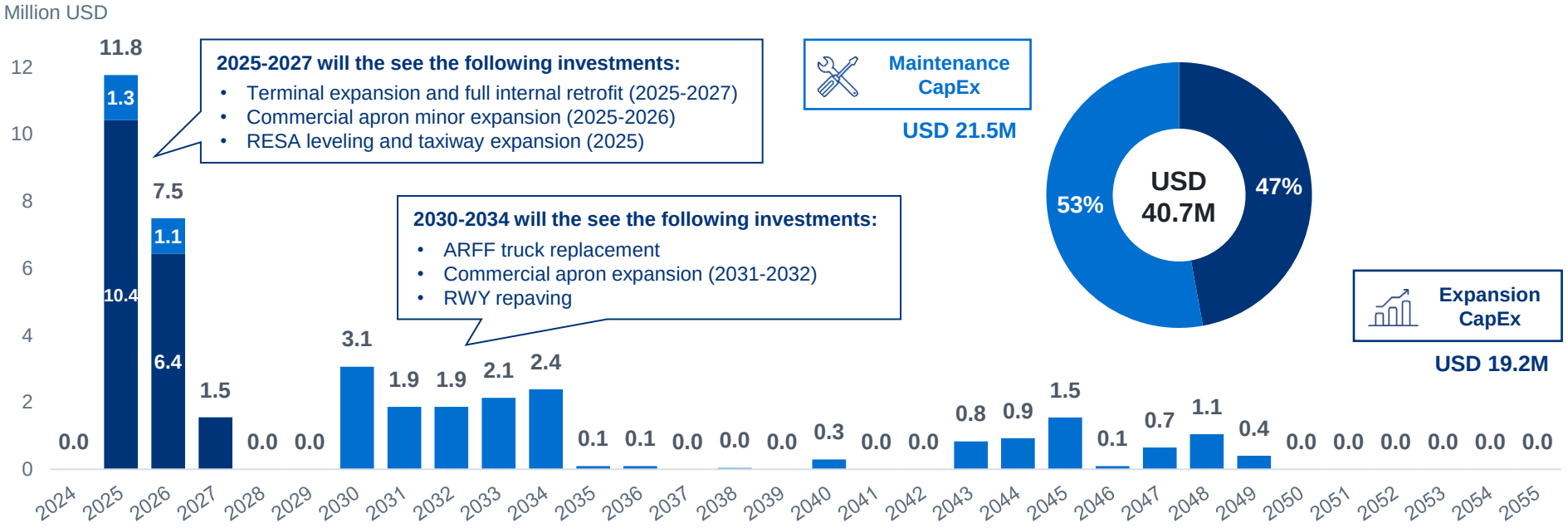
1. **Commercial apron expansion:** +11,600 sqm to accommodate simultaneously 5 code-B and 1 code-C aircraft (autonomous stands)
2. **Passenger terminal expansion:** +700 sqm (to 2,900 sqm) and reconfiguration of internal layout to guarantee an optimum LoS in all terminal subsystems
3. **Taxiway expansion:** Widen the taxiway to 25m (15m-wide taxiway with shoulders) to comply with ICAO regulations for code-C aircraft
4. **RESA leveling:** Level the RESA's terrain to comply with ICAO's required <5% slope *(if necessary after performing an orographic study)*
5. **ARFF station renewal:** Refurbishment of the existing ARFF station

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

Total investment plan for GTD is projected to reach ~41 MUSD, with expansion CapEx accounting for 47% and 53% to maintenance CapEx

Investment plan - GDT (MUSD, 2024 real values, 2024-2055)



	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	3.8 MUSD	8.5 MUSD	6.9 MUSD	19.2 MUSD
Maintenance CapEx	1.3 MUSD	1.3 MUSD	18.9 MUSD	21.5 MUSD
Total	**5.1 MUSD**	**9.8 MUSD**	**25.8 MUSD**	**40.7 MUSD**

Source: ALG Analysis

South Caicos
Norman B. Saunders Sr. International Airport (XSC)

South Caicos has a 1,931 x 30 m runway, and with a recently built 2,800 sqm-terminal, it accommodates regular turboprop flights

Norman B. Saunders Sr. Int'l Airport, South Caicos (XSC) – Airport overview

South Caicos (XSC)		
Elevation / Temperature		3 m / 32ºC
Approach type		Visual
Operating hours		06:00 - 18:00, local time
RWY 11-29	Dimensions	1,931 x 30 m
	Strip	2,051 x 150 m
	RESAs	240 x 90 m

Source: Google Earth, TCI AIP, ALG Analysis

With a recently renewed airfield & apron, XSC complies with most ICAO guidelines; only minor concerns to be addressed, such as TWY widths

Current infrastructure conditions: Airfield & Apron


Horizontally grooves for water draining


Runway edges w/o weed around


Taxiway A, connecting apron to RWY


Taxiway B, connecting apron to RWY


Apron pavement in good state


No defined passenger walkway

Existing compliant infrastructure and advantages

- **RWY width: 30**m-wide RWY (w/o shoulders) is ICAO compliant for code 3C
- **RWY strip**: 150m-wide declared strip is ICAO compliant for non-instrument code 3 or 4; distance before THR is also compliant for codes 3 or 4
- **RESAs:** 240 x 90m declared on both thresholds; ICAO compliant
- **RWY length:** 1,900m-long RWY is enough to satisfy the RWY range needs for regional aircraft types (ATR42/72) and reach most of the US east coast
- **RWY and TWY surface condition:** pavement in good condition overall, with no visible defects; water drainage system is proper
- **Min distance**s: 93m between RWY & TWY centerlines is ICAO compliant
- **Holding bays:** 75m from the RWY holding position to the centerline complies
- **Apron**: Single apron, with 4 loop stands available, two of which can accommodate code-C aircraft; pavement foundations and painting in good condition and no visible major defects

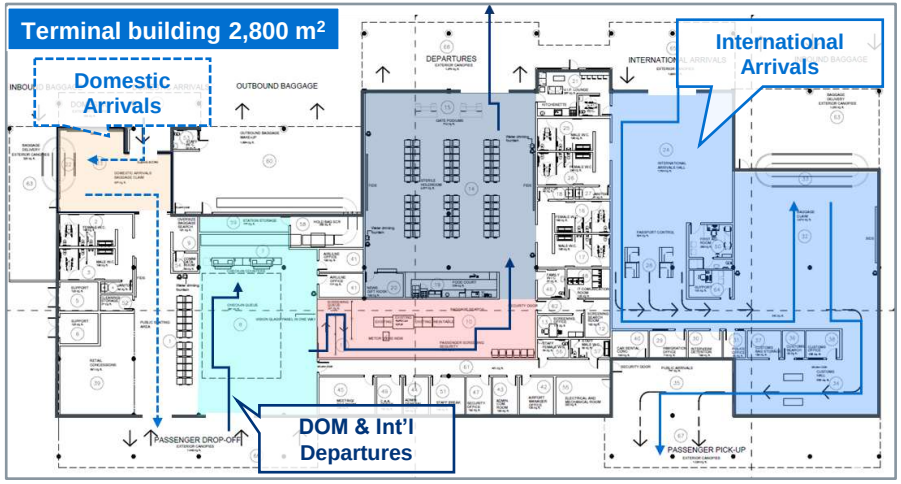
Existing infrastructure deficiencies and limitations

- **RWY width:** Widening runway to 45m (7.5m on both sides) would be necessary for a 4C certification, although it is not required for the expected operating aircraft
- **TWY width & shoulders:** TWY A width is ICAO compliant (15m) but TWY shoulders should be built (5m on both sides) for a total width of 25m in both TWYs; TWY B should be widened to the same standards
- **RWY and TWY surface:** pavement strength is insufficient for larger code-C aircraft, which limits lighter code-C operations
- **Apron surface**: pavement strength is insufficient for larger code-C aircraft, which limits lighter code-C operations; not clear walkway marking for the passengers to walk to/from the terminal building

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

XSC terminal building has a single floor with an area of roughly 2,800m², including a single area for DOM/INT departures and separate for arrivals

Current infrastructure conditions: Terminal building




DOM & INT check-in area


Temporary check-in desks


Security screening lane


Arriving DOM pax gate


INT immigration area


INT baggage carrousel

Existing infrastructure characteristics and advantages

- **Check-in areas:** The open-area check-in has 4 desks for both INT and DOM pax
- **Security screening:** INT and DOM security filters have a single screening lane, but the area is spacious
- **Retail areas**: There is an area for retail, adjacent to check-in, which currently serves as seating space
- **Boarding area:** The boarding area, which currently has enough space, has 2 double desks and 2 boarding gates
- **INT Arrivals:** INT arrivals area has an immigration area with 2 double desks, 1 brand-new baggage belt and a customs area w/o counters or screening lanes
- **DOM Arrivals**: DOM passengers enter the terminal building through a single gate from the apron. The arrivals area features a single baggage belt, and it leads directly to the main airport hall

Existing infrastructure deficiencies and limitations

- **Check-in areas:** DOM and INT departing flows are not separated, with all the check-in desks serving both flows; check-in desks have to be fully outfitted, since temporary furniture is installed
- **Security screening:** Security control may require additional lanes to meet the expected international operations and traffic flows in the short term
- **Retail areas:** retail and several other areas are yet to be adapted for commercial purposes, which may reduce the existing operational space
- **Interior fittings**: although the terminal building was recently built, many of its interior fittings are still missing and it lacks equipment such as security scanners, passenger seats, check-in computers, general furniture, etc.

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

The control tower and ARFF are also brand new, albeit missing some interior fittings; unfinished airport fencing poses serious operational risks

Current infrastructure conditions: Other systems


ARFF and control tower


ARFF facility's interior w/o fittings


ARFF facility's interior w/o fittings


Area where fence ends, halfway through the runway


Fence adjacent to terminal building


Wildlife nearby the RWY

Existing infrastructure characteristics and advantages

- **Control Tower:** Located opposite to the terminal building, it has an area of over 1,000 m^2, considering ARFF facilities. The building is brand new, and equipment is in good state, with no visible defects noted
- **ARFF:** The existing ARFF building was also recently completed, and an Oshkosh Striker fire truck has been acquired. ARFF facilities have a large door for the storage of the fire equipment and fire trucks, the interiors are spacious and counts with band-new areas for the firemen
- **Fence**: Airport fencing is currently unfinished (expected 2024-Q4), but the fence adjacent to the terminal building is in an acceptable state
- **Parking:** Parking facility has over 1,840 m^2 of total unpaved surface, with a single drop-off & pick-up curbside for taxis, an area of ~1,740 m^2 for private & rental cars and 8 parking lots reserved for employees. There is more than enough capacity to satisfy the present demand but and long-term demand

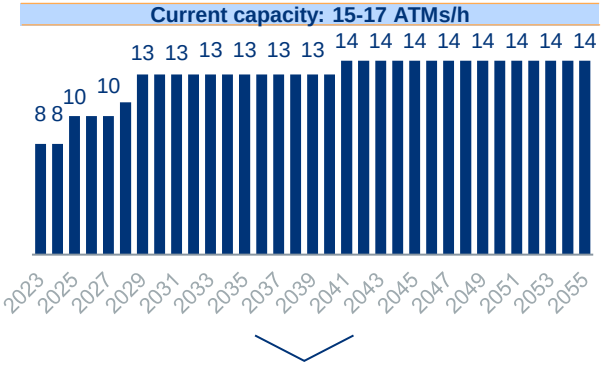
Existing infrastructure deficiencies and limitations

- **ARFF fittings:** Although the building was recently completed, some interior fittings and equipment are still missing
- **ARFF**: The airport is currently classified as category 3, which limits the size of aircraft that the airport may handle. An upgrade to category 6-7 would be able if an additional truck is acquired (required for international traffic)
- **Fence**: Over 700 m of the airport's perimeter exposed, presenting high operational due to wildlife that penetrates the airport and creating potential safety threats for aircraft and passengers; TCIAA is in process to complete the airport fencing (expected 2024-Q4)

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

XSC subsystems meet existing and short-term capacity requirements, but future traffic increases will require solutions to avoid saturation

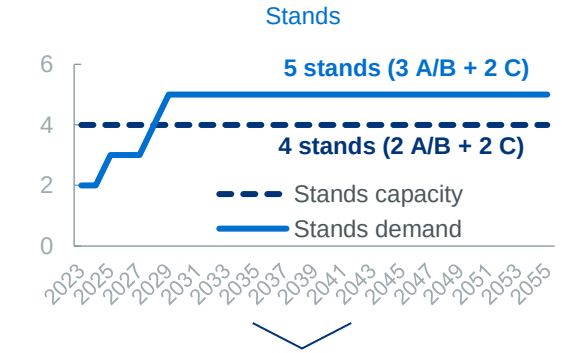
Airfield



Mid-runway turnpad would allow lighter aircraft to perform a 180 turn before the end of the RWY; enhancing safety and saving time for code A/B aircraft

- Apart from minor TWY works, **current** airfield set-up will be able to **satisfy airfield demand in the long-term**, which is expected to reach **14 ATMs/h in 2055** (vs .15-17 ATMs capacity)
- Measures to **add airfield capacity**, should it become necessary in the future, include the construction of a **holding bay on the RWY 29** threshold

Apron



Commercial apron development (~6,300 sqm)

- **The existing apron is enough to accommodate current demand**, but short-term expected traffic increase would take the apron to a saturation point
- **Expanding the commercial apron** to enable the **simultaneous operation of 3 code-B aircraft and 2 code-C aircraft** is necessary to handle the anticipated demand over the next 30 years

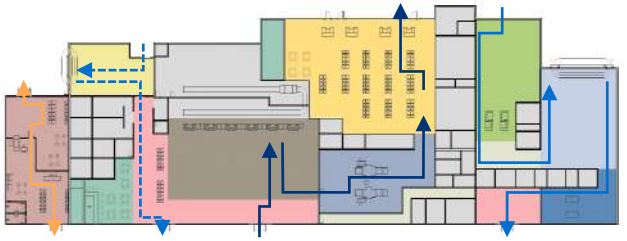
Terminal

- Current terminal capacity is sufficient to meet the level of traffic it handles, but **with future traffic** increases, it will be **necessary** to study a **redistribution of the terminal areas** to expand primarily the check-in area and gates
- **The most critical subsystem if the terminal is not expanded is forecasted** to be the **check-in area**, with an estimated capacity of **195%.** By **2055,** it will reach **223%,** with the **boarding areas** also becoming saturated at **150%**

Future development plans would require:

To **ensure** that all terminal subsystems provide an **optimum LoS**, a **700 sqm expansion and internal reconfiguration of the terminal is required, along with a 250 sqm FBO dedicated area**

Reconfiguration & expansion of existing terminal



1,800 m² *Current terminal* + **950 m²** *Terminal Expansion*

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

The primary projects proposed for XSC include expanding the apron and passenger terminal to meet the growing demand for air traffic

Infrastructure development plan[1] - XSC

Main developments for 2024-2055 period

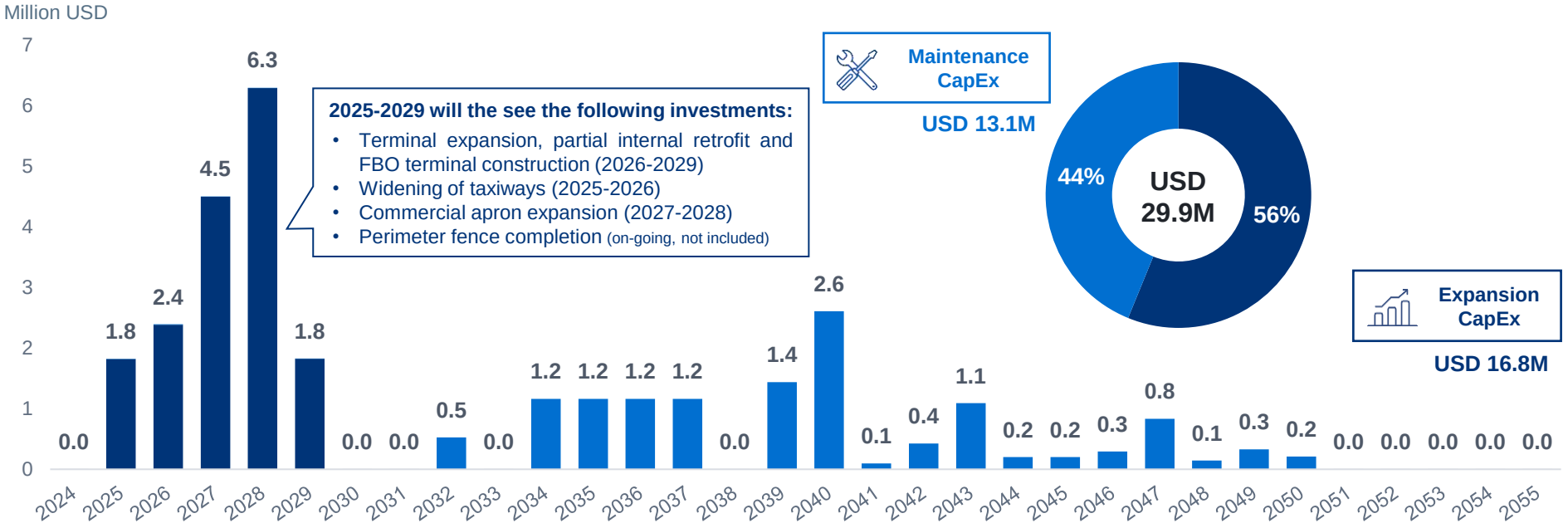
1. **Commercial apron expansion:** +6,300 sqm to accommodate simultaneously 3 code-B and 2 code-C aircraft (autonomous stands)
2. **Passenger terminal expansion:** +700 sqm (to 3,500 sqm) and reconfiguration of internal layout to guarantee an optimum LoS in all terminal subsystems
3. **FBO terminal construction:** Construction of a 250 sqm FBO terminal adjacent to the left side of the commercial terminal building
4. **Taxiway expansion:** Widen the taxiways to 25m (15m-wide taxiway with shoulders) to comply with ICAO regulations for code-C aircraft
5. **Runway turnpad:** Construction of a runway mid-turn pad to facilitate 180-degree turns for light aircraft

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

The projected investment plan for XSC considers nearly 30 MUSD, with 56% allocated to expansion CapEx and 44% to maintenance CapEx

Investment plan - XSC (MUSD, 2024 real values, 2024-2055)



	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	1.8 MUSD	15.0 MUSD	-	16.8 MUSD
Maintenance CapEx	<0.1 MUSD	<0.1 MUSD	13.1 MUSD	13.1 MUSD
Total	**1.8 MUSD**	**15.0 MUSD**	**13.1 MUSD**	**29.9 MUSD**

Source: ALG Analysis

Salt Cay
Leon Wilson Domestic Airport (SLX)

Salt Cay has a relatively new 80-sqm commercial terminal, although its 800m-long runway significantly limits the size of aircraft able to operate

Leon Wilson Airport, Salt Cay (SLX) – Airport overview

Salt Cay (SLX)		
Elevation / Temperature		4 m / 32ºC
Approach type		Visual
Operating hours		06:00 - 18:00, local time
RWY 08-26	Dimensions	799 x 18 m
	Strip	859 x 60 m
	RESAs	-

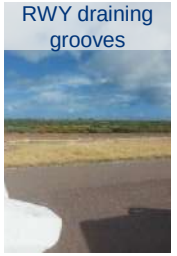
Source: Google Earth, TCI AIP, ALG Analysis

Although Salt Cay complies with ICAO category 1A/B, terminal building & ARFF lacks maintenance; turnpads are advised for safer operations

Current infrastructure conditions


RWY 08-24, TWY and apron


2 loop-stands apron


RWY draining grooves


Terminal building


Single boarding gate


Check-in counters


ARFF facility


Fire truck

RWY-end and start turnpads proposal

Existing compliant infrastructure and advantages

- **ICAO compliance:** Salt Cay complies with category 1A/B ICAO requirements; sufficient for the light aircraft that operate at the airport
- **RWY length:** 800m RWY satisfies the range needs for light aircraft types (Cessna 406 and similar) to reach all domestic and regional airports
- **RWY and TWY surface condition:** repaved few years ago, they are in good state with no visible defects and lighted; RWY has a good draining system
- **Apron**: With 2 loop stands, allows 2 light aircraft simultaneously; also recently repaved, it is in good condition
- **Terminal building**: 80 m^2 single space for check-in, security and boarding, and no flow separation between departures/arrivals; in case of punctual int'l traffic is expected, it should be prearranged with local security authorities

Existing infrastructure deficiencies and limitations

- **TWY and apron draining system:** poor draining grooves, heavy rain may flood it, given the proximity to the salt ponds
- **Terminal building**: refurbished in 2020, shows clear signs of rust and lack of maintenance (lock of the main door is currently not working); no scanners or security equipment are installed for security screening;
- **ARFF**: ARFF facility is located within a 70 m^2 container, clearly outworn and lacking proper maintenance; 2007-Rosenbauer fire truck often experiences mechanical problems and shows signs of rust
- **Airfield operations**: Salt Cay's preferential configuration (RWY 08) requires arriving aircraft to backtrack at the end of the RWY, but these operations could be enhanced by end and start turnpads; at departures, it would allow lighter aircraft to perform a 180 turn before the start of the runway while on arrivals, would enable arriving aircraft to perform a 180 turn before reaching this end; turnpads would improve safety and efficiency for code-A/B aircraft

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

Expansion works at SLX include constructing two turnpads, at the start and end of the runway, and a new building for ARFF services

Infrastructure development plan[1] - SLX

Main developments for 2024-2055 period

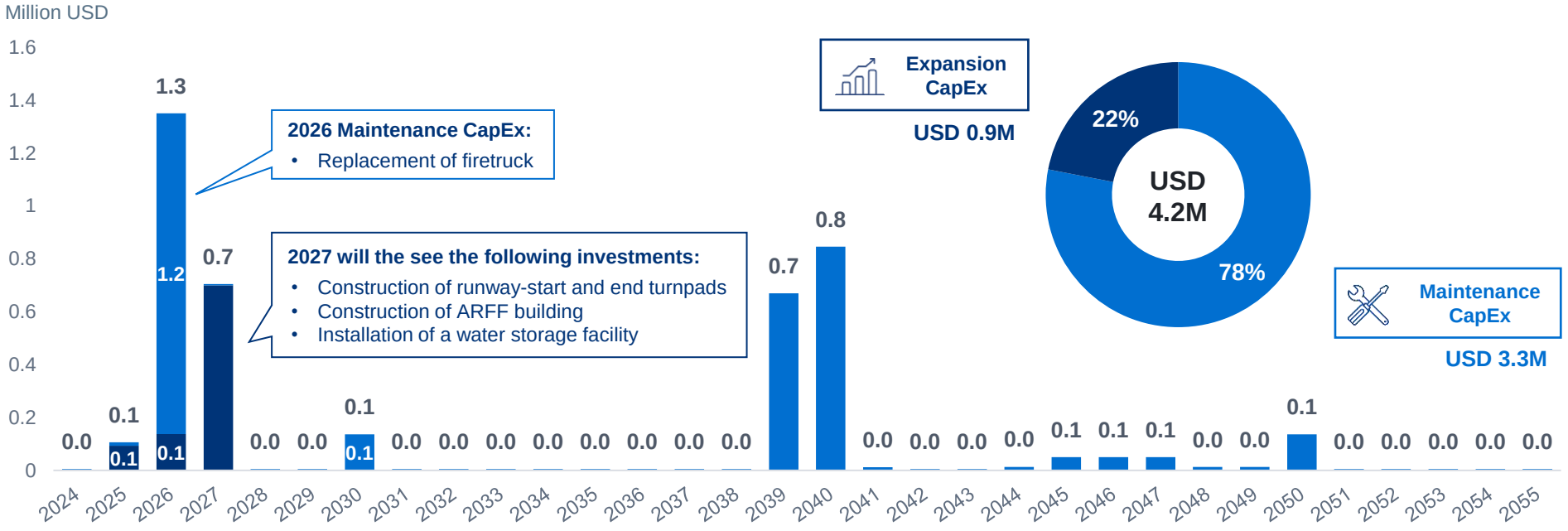
1. **Runway-start turnpad:** Constructing a turnpad at the beginning of the runway to facilitate 180-degree turns for light aircraft before runway entry, enhancing safety and optimizing initial departure positioning
2. **Runway-end turnpad:** Constructing a turnpad at the end of the runway to allow arriving aircraft to perform a 180-degree turn before reaching this end, improving safety and efficiency for code-A/B aircraft
3. **ARFF building:** Construction of an ARFF building of 50 sqm along with a sheltered area for the fire truck

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

The overall investment plan for SLX is estimated in ~4 MUSD for the next 30 years, of which 78% RepEx and 22% expansion CapEx

Investment plan - SLX (MUSD, 2024 real values, 2024-2055)



	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	0.1 MUSD	0.8 MUSD	-	0.9 MUSD
Maintenance CapEx	<0.1 MUSD	1.2 MUSD	2.1 MUSD	3.3 MUSD
Total	**0.1 MUSD**	**2.0 MUSD**	**2.1 MUSD**	**4.2 MUSD**

Source: ALG Analysis

North Caicos
Clifford Gardiner International Airport (NCA)

NCA has a 1,099 m-long RWY sitting within a 2,000x45 m paved strip, which, along a 40k m² apron, could eventually be adapted for code-C A/C

North Caicos Airport (NCA) – Airport overview

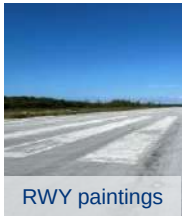
North Caicos (NCA)		
Elevation / Temperature		4 m / 32ºC
Approach type		Visual
Operating hours		06:00 - 18:00, local time
RWY 08-26	Dimensions	1,099 x 22 m
	Strip	-
	RESAs	-

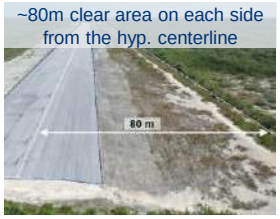
Source: Google Earth, TCI AIP, ALG Analysis

Overall systems are in good condition since most of them have been recently refurbished; RWY could be expanded to adjacent paved area

Current infrastructure conditions

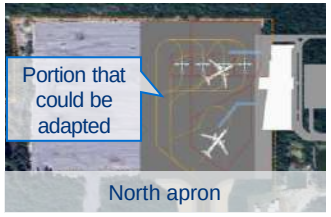

South apron, taxiway and runway


RWY paintings




Terminal building and surroundings


Interior of the terminal



North apron


Interior view of the control tower


New ARFF facilities and control tower

Existing compliant infrastructure and advantages

- **ICAO compliance:** North Caicos airfield handles light code-A aircraft; distances comply with ICAO guidelines, although no strip or RESAs are declared
- **RWY and TWY surface condition:** runway pavement is in good state with a strong foundation; taxiway has a lower pavement strength and no markings
- **South apron**: 3,700m^2 area with a low pavement strength and no markings
- **Terminal building**: 100m^2 recently refurbished with a single space with seating for around 30 pax and 2 desks, without security or other equipment; a small car parking area is adjacent
- **ARFF & Control Tower**: 200m^2 brand-new ARFF facility and control tower is fully equipped with ATC and ARFF equipment; airport is RFF category 2 and counts with Rosenbauer fire truck stored outside

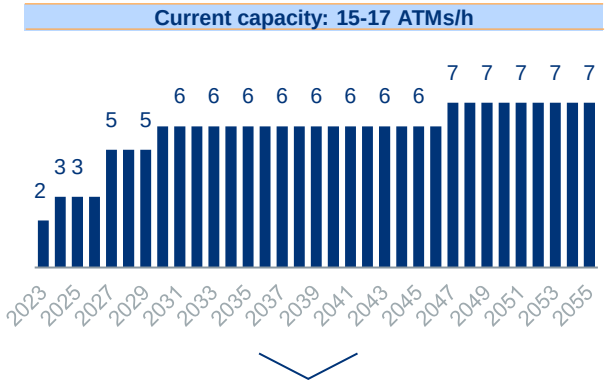
Existing infrastructure deficiencies and limitations

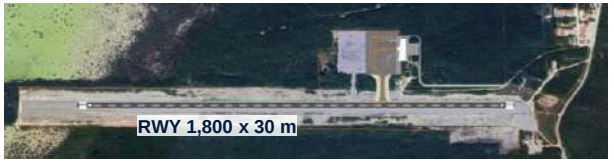
- **RWY length:** 1,100m RWY could deliver enough range for business jets to reach North America's east coast, but it must be widened to 30 m to allow their operation. Moreover, to handle code-C aircraft it must be expanded to 1,800 m taking advantage of the much wider paved area (~2,000 x 45m) on which the runway sits and its pavement strength
- **RWY surface condition:** Painting in poor condition, with some areas barely marked and visible minor cracks; vegetation grows around the edges
- **Other RWY areas**: ~75m cleared area on both sides of the paved area would require minimal investments to certify as a 4C ICAO runway
- **Terminal building**: No paved walkway at the entrance and facility's surroundings have growing vegetation attracting mosquitoes
- **North apron**: 40,000 m^2 paved area that is currently not used, has access to the runway via two 20m-wide and 120m-long taxiways; adapting and reinforcing a portion as a commercial apron could handle both light aircraft and larger (code-C) traffic

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

NCA subsystems meet current demand, but apron development and terminal expansion will be necessary in the future

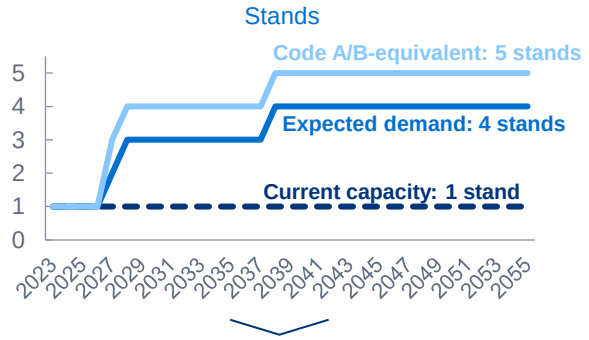
Airfield



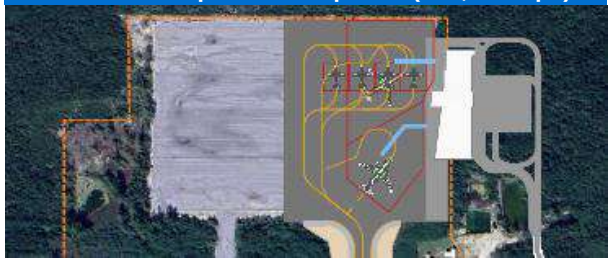


- The estimated current demand at NCA is 2 ATMs/h, and it is forecasted to reach 7 ATM/h demand in 2055, **not expecting capacity issues**
- The **emergence of new luxury resorts on nearby islands could increase business jet and international flights**
- With the aim of facing the traffic increase, it is recommended to **expand the runway using the paved area** in which it is located. **1,800 x 30 m** RWY will be enough, transforming the current one in a longer and wider one

Apron



Commercial apron development (~24,000 sqm)



- The demand-capacity analysis indicates that the **existing apron space will not be adequate in the short-term to accommodate code-Cs**
- The forecast estimates that **NCA will require 4 aircraft stands by 2055 (3 codes A/B + 1 for code C) to handle peak stand demand**
- The ideal apron expansion would allow **all aircraft to perform autonomous turnarounds**

Terminal

- Current terminal **houses a single space with seating for around 30 passengers** and **2 desks**; **no security or other equipment was observed** within the building
- The main entrance of the building does not have a paved walkway, and **the facility's surroundings have growing vegetation that attracts mosquitoes**

Future development plans would require:

The ample size of the north apron could be leveraged to **construct a new terminal building of approximately 1,700 m²** with FBO facilities, which would adequately **accommodate both current traffic and expected future demand**

Expansion of existing terminal

1730 m²

New Terminal construction

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

The main works suggested at NCA include the development of a new apron, terminal building, taxiway, and widening the existing runway

Infrastructure development plan[1] - NCA

Main developments for 2024-2055 period

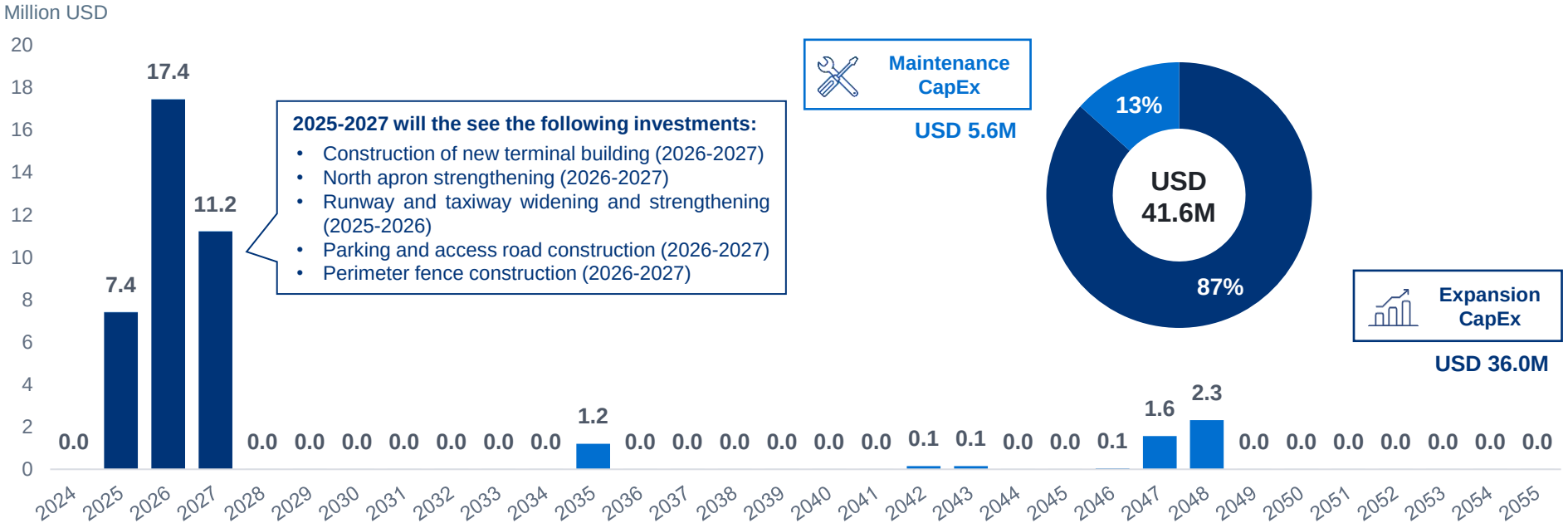
1. **Development of new commercial & GA apron:** Adapt and reinforce 24,200 sqm of the existing north apron area to simultaneously accommodate a single code-C (business jet) and 4 code-A/B aircraft (autonomous stands)
2. **New passenger terminal:** New 1,730 sqm passenger terminal with FBO facilities to replace the existing terminal
3. **New public car parking and access road:** New 1,820 sqm parking lot adjacent to the new terminal and access road
4. **Taxiway expansion:** Adapt one existing taxiway to connect the newly developed apron and the runway, with code-C standards (25m with incl. shoulders)
5. **Runway widening:** Widen the runway to 30m utilizing the existing paved area, expanding to 1,800m length, allowing it to accommodate code-C aircraft
6. **Fence construction:** Implementation of a perimeter fence throughout the airport's operational area (5,300m length)

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

With 87% designated to expansion CapEx and 13% to maintenance CapEx, the total investment plan for NCA amounts ~41.6 MUSD

Investment plan - NCA (MUSD, 2024 real values, 2024-2055)



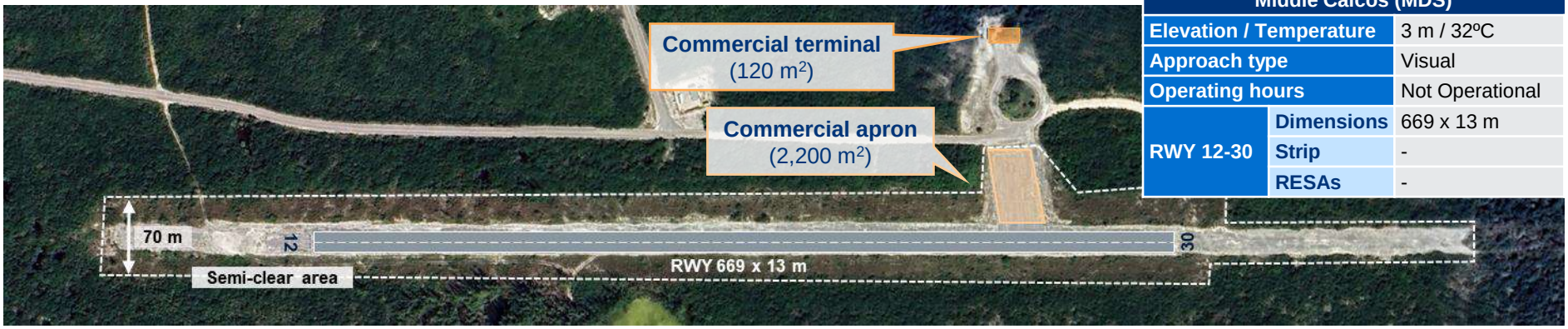
	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	7.4 MUSD	28.6 MUSD	-	36.0 MUSD
Maintenance CapEx	<0.1 MUSD	<0.1 MUSD	5.5 MUSD	5.6 MUSD
Total	**7.4 MUSD**	**28.7 MUSD**	**5.5 MUSD**	**41.6 MUSD**

Source: ALG Analysis

Middle Caicos
Eric Arthur Airport (MDS)

Middle Caicos has been non-operational for the past 15 years, requiring extensive refurbishment for the airport to become operational again

Eric Arthur Airport (MDS) – Airport overview and compliance



Middle Caicos (MDS)		
Elevation / Temperature		3 m / 32ºC
Approach type		Visual
Operating hours		Not Operational
RWY 12-30	Dimensions	669 x 13 m
	Strip	-
	RESAs	-

- **MDS airstrip has a paved area of around 669mx13m**, but real extent of the late-operational runway is unclear; **classified as a 1A facility, would only be able for light aircraft**; a**rea around the airstrip seems to be semi-clear**, indicating the former presence of a ~70m wide strip
- **Airport is currently closed, with no current flights or emergency services**. In the past, scheduled **domestic flights were offered** to NCA and MDA; however, the **introduction of a passenger ferry service** from Provo and the **construction of the causeway** (2007) reduced flight demand to the extent that **it was no longer feasible for airlines to operate** flight routes
- **The terminal building was refurbished in 2023**, after the old terminal, which housed a restaurant, was damaged by a storm. **Its location across a road from the airport may pose compliance issues** (passengers to cross a public road after passing security control)
- **The airport would have to undergo an extensive refurbishment to become operational again,** enabling it to provide **emergency and occasional air transport** for the community
- The refurbishment plan would include **repaving the entire runway and apron**, as long with the **construction of a perimeter fence** (~2,460 m)

Source: Google Earth, TCIAA, ALG Analysis

Refurbishment works at MDS include a full repavement of the runway and the apron, as well as fencing its perimeter

Infrastructure development plan[1] - MDS

Main developments for 2024-2055 period

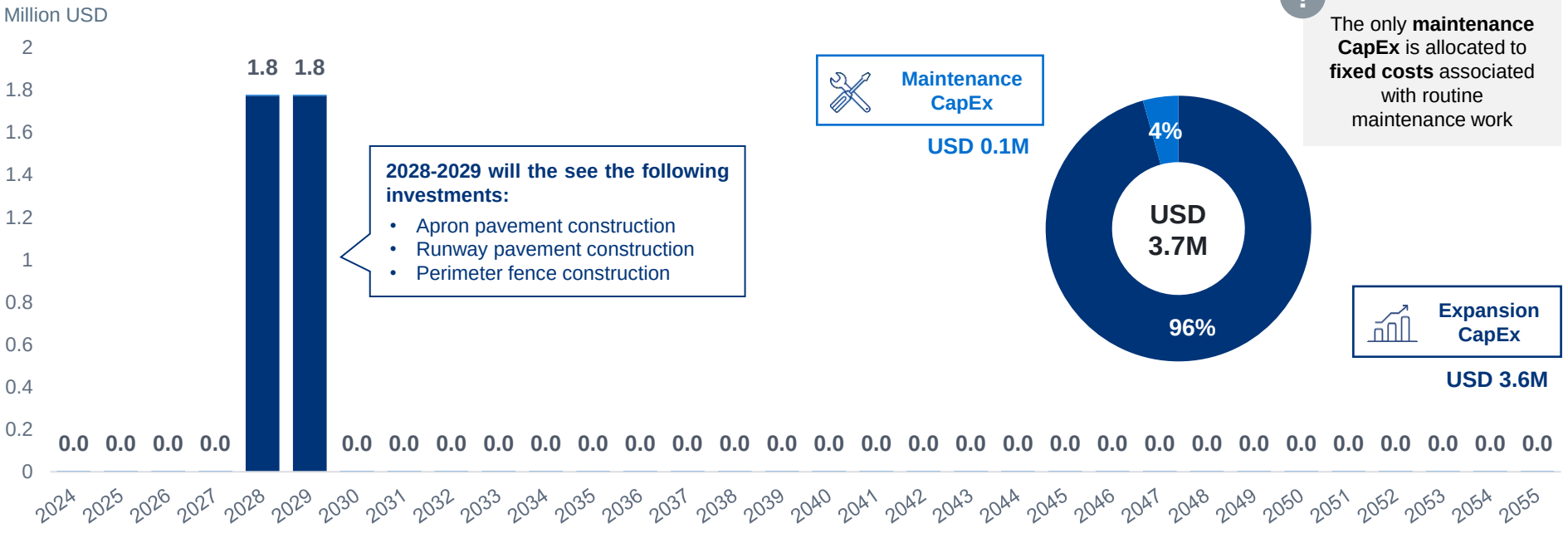
1. **Runway pavement:** Refurbishment of the entire area of the runway (670 m x 13 m)
2. **Apron pavement:** Refurbishment of the entire 2,200 sqm area of the apron
3. **Fence construction:** Implementation of a perimeter fence throughout the airport's operational area (2,460m length)

Source: Google Earth, TCIAA, TCI AIP, ALG Analysis

[1] It does not include replacement investment (RepEx), which is later included within the investment plan

The majority of the total investment plan for MDS, amounting to a ~3.7 MUSD, is allocated to expansion CapEx (96%)

Investment plan - MDS (MUSD, 2024 real values, 2024-2055)



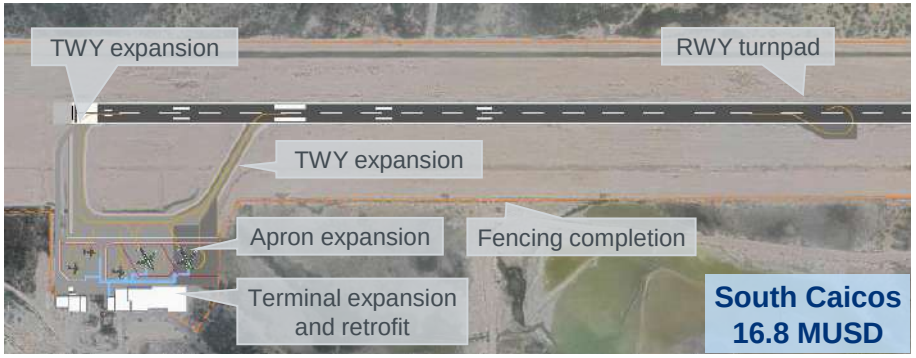
	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	-	3.6 MUSD	-	3.6 MUSD
Maintenance CapEx	<0.1 MUSD	<0.1 MUSD	<0.1 MUSD	0.1 MUSD
Total	**<0.1 MUSD**	**3.6 MUSD**	**<0.1 MUSD**	**3.7 MUSD**

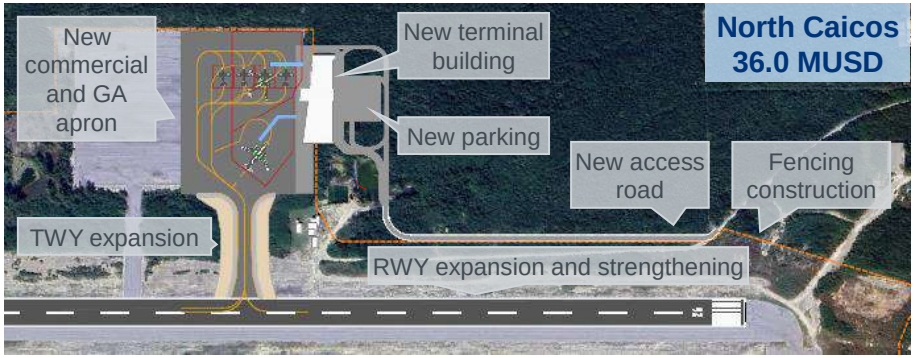
Source: ALG Analysis

TCIAA
Airport Network Development Plan

Expansion works for the TCIAA include investments at Grand Turk, South Caicos, Salt Cay, North Caicos and Middle Caicos airports

Summary of expansion CapEx works at the TCIAA network



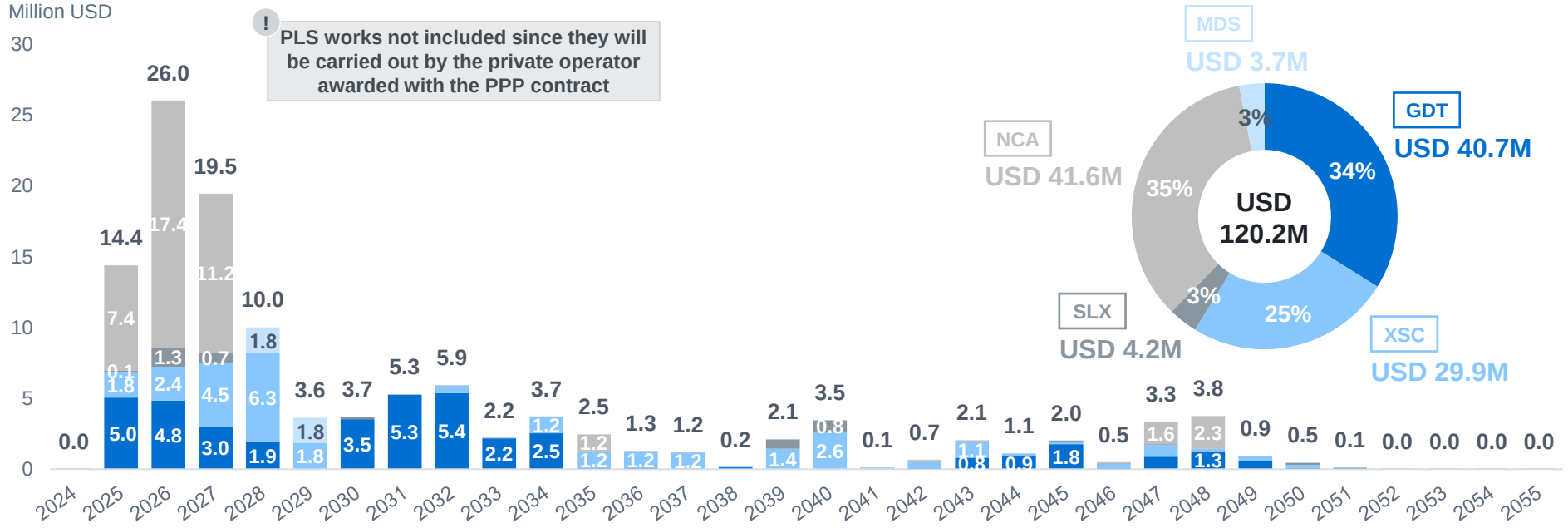


PLS works are not included within the comprehensive TCIAA investment plan since they will be carried out by the private operator awarded with the PPP contract

Source: ALG Analysis

NCA and GDT lead the expected investment within the TCIAA network for the next 30 years, accounting for almost 70% of the total 120 MUSD

TCIAA investment plan by airport (MUSD, 2024 real values, 2024-2055)



	2024-2025	2026-2029	2030-2055	Total 2024-2055
Expansion CapEx	13.1 MUSD	56.5 MUSD	6.9 MUSD	76.5 MUSD
Maintenance CapEx	1.3 MUSD	2.6 MUSD	39.7 MUSD	43.7 MUSD
Total	**14.4 MUSD**	**59.1 MUSD**	**46.6 MUSD**	**120.2 MUSD**

Source: ALG Analysis

Content

Market analysis and traffic forecast

Airport infrastructure assessment & development plan

TCIAA role, functions, and organizational structure

TCIAA financial plan

Airspace assessment and future requirements

Environmental strategy for the TCIAA

Technology master plan for the TCIAA

The TCIAA is the airport governing body and air navigation service provider of the TCI, owning and operating 6 airports across the Territory

History and overview

The **Turks and Caicos Islands Airport Authority (TCIAA)** is the main airport governing body and the air navigation service provider in the Turks & Caicos

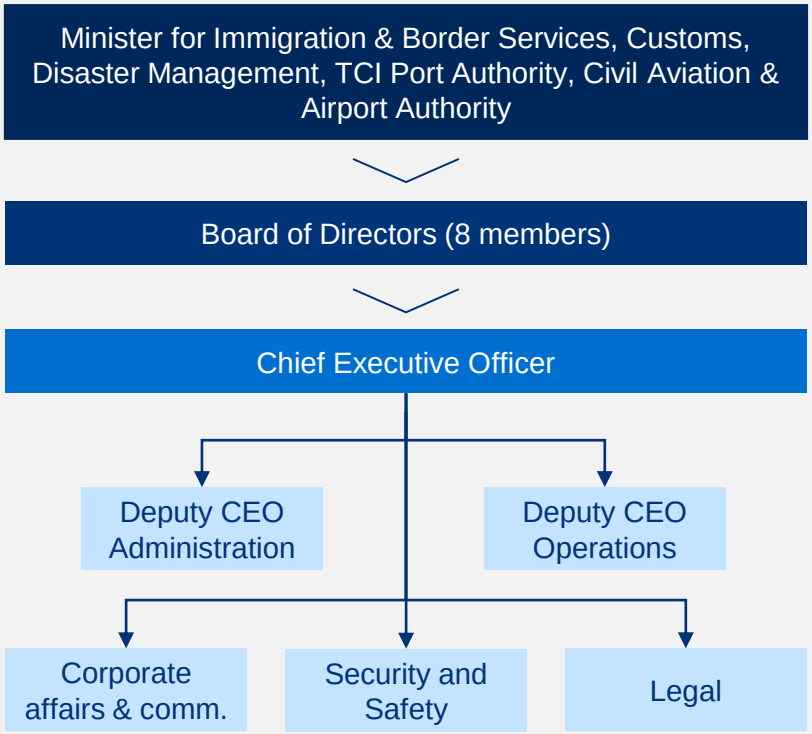
- In **2005**, the **TCIAA was established** after The Airports Authority Ordinance (Ord.11 of 2005) **to have a Government entity** for construction, control and management **of TCI airports**
- In **2010-2011 the TCIAA acquired full ownership of Providenciales Airport Company** (PAC)
- Afterwards, in **2022**, the **TCIAA launched** a redevelopment project initiative **for PLS** under **a Public-Private Partnership (PPP) scheme**; this will **transform the TCIAA**, which is **developing a Strategic Master Plan to define its long-term way forward**

Legislations relevant to the TCIAA's functions

- The **functions and capabilities of the TCIAA are defined by the Airports Authority Ordinance**; nevertheless, there are other relevant legislations
- **The Airports Authority Ordinance** outlines TCIAA's roles, authority, and fee regulations, while the **Airport Development Charge Ordinance** authorizes charges from international passengers for airport development
- **The Public Procurement Ordinance** requires TCIAA to follow set procedures for acquiring goods and services, and **the Public Finance Management Ordinance** mandates adherence to strict financial standards

TCIAA organizational chart

The Ministry in charge of the TCIAA is the **ultimate entity responsible for the correct operation and management** of the TCIAA; **it appoints the board of directors and provides its members the faculties** to carry out the entity's mandated functions



Source: TCIAA

The aviation institutional framework of the TCI is generally aligned with ICAO's recommendations for best-practices

Civil Aviation System in Turks and Caicos and Institutional framework gap analysis

	Aviation Policies	Investigation of air accidents	Regulation and Control	Service providers			Training
				ANSP	Airports	Airlines	
ICAO framework	Ministry of Transport	Independent board of enquiry	Civil Aviation Authority (CAA)	Air Navigation Service Provider	Airports operations	Private or state-owned airlines	Authorized training organization
TCI framework	**Minister responsible for the TCIAA and TCICAA**	**AAIB**	**TCICAA**	**TCIAA**	**TCIAA**	**InterCaribbean & Caicos Express**	**Various entities**

- ICAO recommends an institutional framework in which, ideally, **the functions of aviation policy definition, international affairs, accident investigation and CAA are exercised by independent state bodies** with financial provisions, since they do not generate any
- However, the self-financed operational activities such as the provision of **Air Navigation and Airport Services adopt a more "business approach"**, with the objective of **improving the quality-of-service** delivery

The CAA is independent of the ANSP and Airport Operators	**Regulatory and Control tasks** are carried out by the **TCICAA**, while the **TCIAA** is responsible for the **Air Navigation Services and runs as Airports Operator**, ensuring functional independence
The CAA should be a department of the Ministry of Transport	Generally, the CAA would be an office or agency under the authority of the Ministry of Transport, but with the current organization (TCIAA answers to the Minister for Immigration & Border Services), **there are clearly differentiating functions between the CAA and the Ministry** itself, avoiding any potential conflicts of interest
The investigation of air accidents is independent of CAA	The **AAIB** is the **accident investigation authority** for the Turks and Caicos Islands, which is completely **autonomous and independent of the TCICAA**
~ ANSP and Airport Operators should be autonomous entities	Ideally, Air Navigation Services and Airports operations should be carried out by independent authorities. However, due to the size of TCI and the type of air navigation services provided (lower airspace, as the upper airspace is controlled by the FAA), **it is acceptable that the TCIAA** provides both services under the current scheme

Source: ICAO, ALG Analysis

After the transfer of PLS to a private investor, the TCIAA will continue to manage secondary airports while supervising the PLS PPP contract

TCIAA main functions before and after Providenciales PPP contract

Current TCIAA

(before PLS PPP contract)

Control, manage, operate and develop

6 Airports

Providenciales + 5 Secondary Airports

(~1.5 Mpax)

- **TCIAA controls and manages six airports**, **providing** and **maintaining infrastructure** for safe operations and passenger facilitation
- Responsibilities include **day-to-day operations**, **maintenance**, and **expansion** to meet demand
- It is responsible for **managing the income** and **expenses** derived from operations and deciding on investments

TCIAA 2.0

(after PLS PPP contract)

Supervision/monitoring of PPP contract

Providenciales Airport

(~1.4 Mpax)

- A **private partner** will handle **construction, operating, and financing** costs of PLS airport **over 30 years**, with mandatory expansion works
- The **TCIAA will receive a concession fee** in exchange and will solely **oversee and monitor PPP compliance and provide ATC services**

Control, manage, operate and develop

Secondary airports network

(5 airports, ~110 kpax)

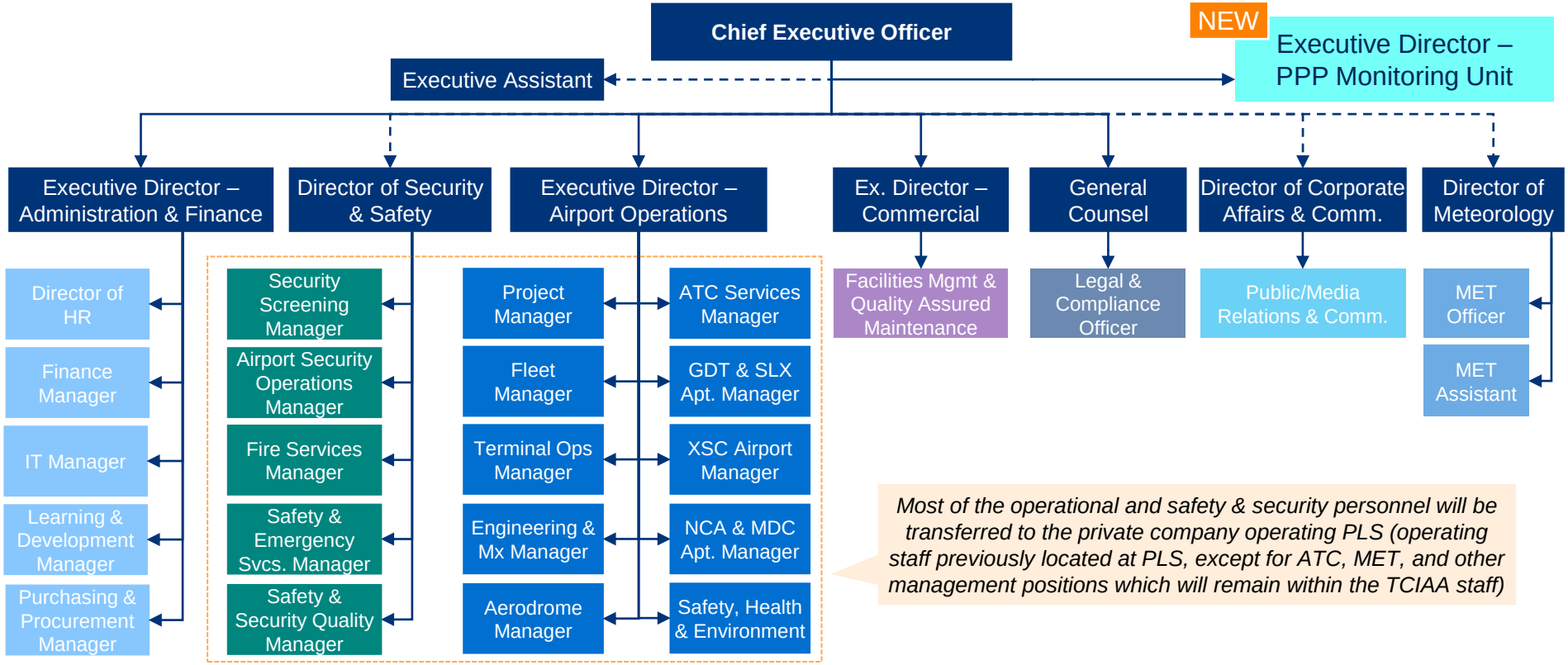
- **TCIAA will continue to oversee and manage secondary airports**, ensuring the maintenance of infrastructure for safe operations and passenger services
- It will need to continue **developing and maintaining the airports**

Most countries in Latin American & Caribbean region have undergone a PPP process like that ongoing in PLS, and therefore their respective authorities faced the need of restructuring after the entrance of private operators

Source: TCIAA, ALG Analysis

Based on ICAO's best practices, a new TCIAA organizational chart is proposed once PLS is transferred to a private operator

TCIAA Future Organizational Chart

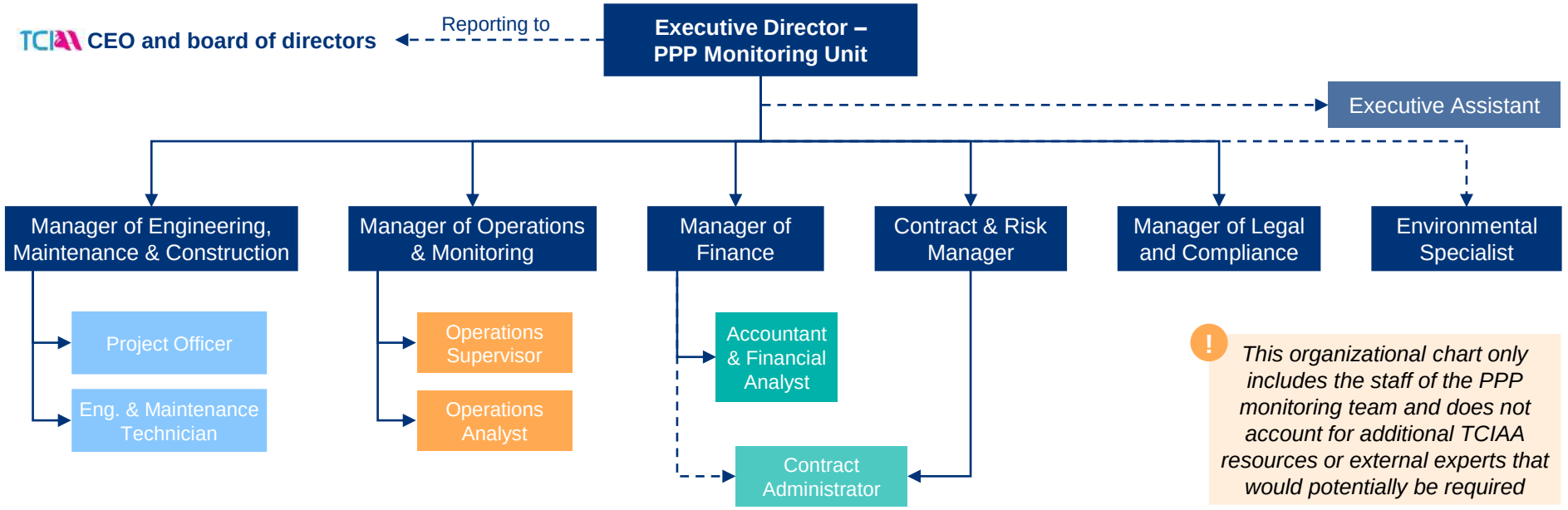


With the transfer of PLS to a private operator, part of TCIAA current staff, mainly operations, safety and security, will also be transferred; in addition, a new department for PPP monitoring should be created

Source: TCIAA, ALG Analysis

A PPP monitoring unit with 14 permanent members is proposed for the TCIAA, including a Director responsible for reporting to the CEO & Board

PPP Monitoring Team Organizational Chart



- The organizational chart for the **PPP Monitoring Team is initially expected to consist of 14 permanent staff** members. As the PPP progresses, the team **will gradually reduce in size and reorganize** some functions and areas
- The **monitoring team should be composed of its own dedicated staff**, which may vary depending on the phase of the PPP, and could receive support from other TCIAA departments and external experts for specific assignments

The monitoring team will require some specific profiles to be hired, but it is recommended to fill some positions with current TCIAA staff given their know-how of Providenciales and the organisation

Source: ICAO, ALG Analysis

The functions of the Monitoring Team will be divided across 3 phases: the Interim period, the Construction period, and the Long-term phase

PPP Monitoring Team timeline of functions

PPP Operation Period (30 years)

Interim Period (0-6 months) — *Period between the Signing Date and the Commencement Date*

Construction period (4-5 years)

Creation and Definition of the PPP Monitoring Unit

In this phase, the **PPP Monitoring Team begins to be formed**

- **Hire a qualified Executive Director** to lead the PPP Monitoring Unit
- **Definition of the Monitoring team structure**, roles and operational areas to be transferred
- **Organize the needs of the PPP unit** to coordinate the integration of various profiles
- **Begin recruiting process**, both externally and internally

Preparation phase (0-6 months)

At this stage, the creation of the **PPP Monitoring Unit** has already been done, and its **functions must now be defined.** This phase includes:

- **Definition of the new Monitoring team roles** and start of the **recruiting process**
- **Identification of all the contractual operational functions** to be transferred
- **Definition of the framework to assess** the private party's performance through agreed indicators and periodical audits

Initial phase (12-18 months)

It begins on the **execution date of the contract**, and includes (but not limited to):

- **Complete establishment of the Monitoring team** structure and staff
- **Setting up a framework** to evaluate the private operator performance
- **Supporting the initial operations**
- Setting up **monitoring KPIs**

An independent engineer, will oversee the PPP engineering aspects

Construction Monitoring (2-4 years)

It lasts the remaining 2-4 years of the construction period:

- **Continual monitoring of the construction works,** including approval of modifications from the private party
- **Work with independent engineer and legal team** to solve disputes

Mid-term phase (2-4 years)

It begins when initial transfer of operation is completed, including:

- **Continual monitoring of the private party's operation**
- Track the contractual KPIs
- Support on issues that the private party may encounter

Long-term phase (remaining duration)

It will begin once the construction period is finalized, focusing on the private operator's management of the concessioned area:

- **Receiving, monitoring and auditing periodical inputs** based on KPIs
- **Producing periodic reports** to track the performance and **ensuring compliance with contractual requirements**
- **Transparent bidding** and **efficient use** of **resources**

As the PPP progresses, **the monitoring unit may gradually decrease in size** and **restructure some functions and areas**

Requirements of external support to the unit permanent staff

\+ | High: Capacity Building and Training | Medium: Construction Monitoring | Low: Specific Assignments/Audits | -

Source: Public-Private Partnership (PPP) Handbook, ALG Analysis

Key points within the TCIAA restructuring strategy

1 Restructuring for the TCIAA

- The TCIAA is currently undergoing a PPP process in which its largest asset, PLS Airport, will be transferred to a private operator, following what >160 airports in the region have done; **this will substantially alleviate the TCIAA's operational functions**
- In light of this process, **the need to restructure TCIAA has arisen**, and a plan, in which the TCIAA is able to monitor the PPP once it is established will be sought, while maintaining the TCIAA's governance model as close to the existing one as possible

2 Alignment with ICAO best-practices and implementation plan

- While the TCIAA's current structure is aligned with ICAO best practices, it is imperative that the new structure continues on this path (from a functional point of view, as well as from an organizational point of view), **adapting the needs of an entity with less operational depth, but which will have the responsibility of ensuring the success of the PPP**
- An **implementation plan to guide the TCIAA through its restructuring process** shall include several steps, from a stakeholder engagement phase, through a model definition, prioritization, resource allocation, execution, and continuous monitoring

3 Creation of a PPP contract monitoring entity

- Given that the responsibility to ensure a smooth transition and future success of the PLS PPP will fall under the TCIAA's scope, **the Authority should set up a PPP monitoring entity**, that shall work alongside the private operator from day one
- **The PPP monitoring department shall be composed of a multidisciplinary team with 14 permanent members**, with some specific profiles that would need to be externally recruited, and some positions filled with current TCIAA staff
- The continuous **support of an external advisor during the initial implementation phase** is imperative to ensure an adequate execution and capacity building; as the process moves forward, external help may become a punctual requirement (periodical audits, Master Plans, strategic/technical advice, operations optimization, etc.)

4 Identification of Key Performance Areas

- **The draft PPP contract proposes thresholds to certain KPIs**, which, if reached, could mean penalties to the operator; it is highly recommended, however, to **keep present and follow all key performance indicators recommended by ICAO**
- These Key Performance Areas **apply both to the PPP monitoring team, as well as to the TCIAA entity as a whole**

Source: ALG Analysis

Content

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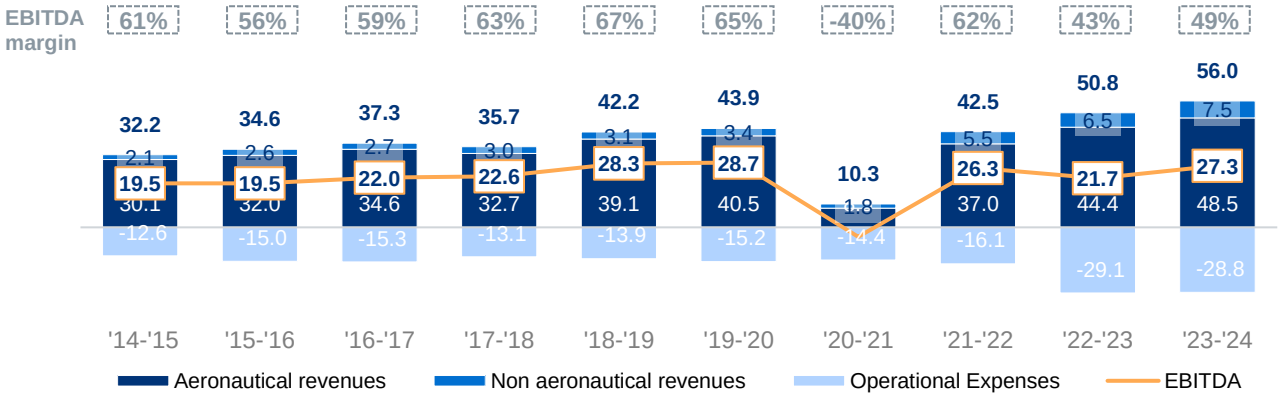
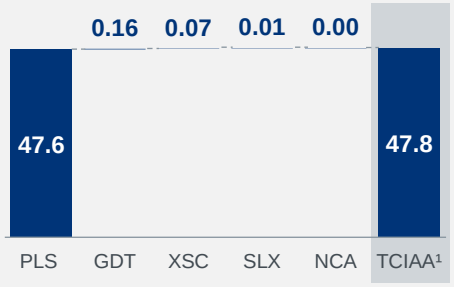
The TCIAA EBITDA has almost recovered pre-COVID levels, reaching 27.3 MUSD in 2024, with a 49% margin, slightly below historical figures

TCIAA historic analysis of P&L (MUSD nominal, 2015-2024)

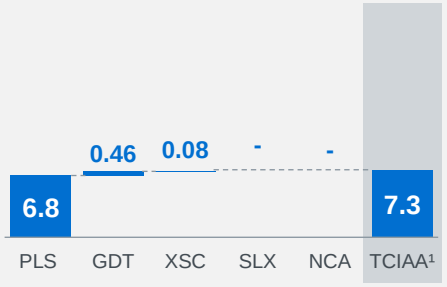


- Historically, **non-aero revenues** represented ~8% of the total revenues, but post-COVID, **they increased to ~13%** thanks to improvements in **advertising, car parking, and other operational income**
- The **decline in the EBITDA margin is mainly explained** by the **increase in OpEx**, which has grown at an **annual rate of 9.6%** over the last decade, compared to the **5.4% growth of aeronautical revenues**, which historically have accounted for 87-93% of the total revenues

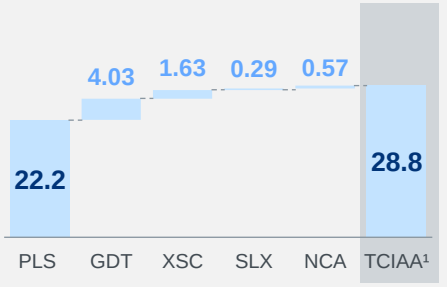
Aeronautical Revenues (MUSD, '23-'24)



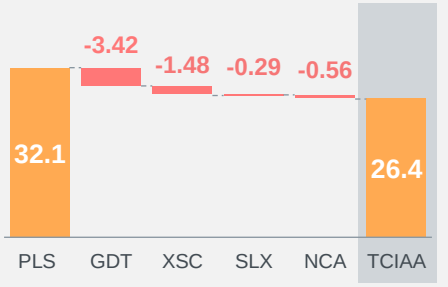
Non-Aero Revenues (MUSD, '23-'24)



Operational Expenses (MUSD, '23-'24)



EBITDA (MUSD, '23-'24)



Historical data for the TCIAA is provided in aggregate way rather than by individual airport; therefore, an initial assessment to obtain historical data by airport to accurately project their individual Business Plan has been carried out

Source: TCIAA Financial Statements, TCI Budget, Financial Highlights, TCI Ordinances, ALG Analysis
Note: EBITDA level analysis, excludes Depreciation & Amortization Costs
Note 2: The fiscal years refer to years ending March 31st

[1] TCIAA totals are updated based on PLS Income Statement for FY24

Aero revenues: It is proposed to maintain the same charges, except for introducing a PBB use charge in PLS, aligning with industry trends

Current & proposed aeronautical fees & charges structure

			Driver	Providenciales Current	Providenciales Proposed	Rest of the network Current	Rest of the network Proposed
Passenger related	Departure tax		INT departing passenger	29 USD	29 USD	29 USD	29 USD
			DOM departing passenger	–	5 USD (Upside)	–	5 USD (Upside)
	Security charge		INT departing passenger	8 USD	8 USD	8 USD	8 USD
			DOM departing passenger	–	–	–	–
	Airport Terminal User fee		INT departing passengers	3 USD	3 USD	3 USD (only GDT)	3 USD (Update)
	Environmental ease charge		INT departing passengers	5 USD	5 USD	–	5 USD (New)
	Security recovery		INT departing passengers	5 USD	5 USD	–	–
	Airport development charge		INT departing passengers	35 USD	35 USD	35 USD	35 USD (Update)
Aircraft related		Landing Fee	Landing Aircraft Movement (it depends on the aircraft MTOW)				
		Aircraft parking fee					
		PBB fee	Landing Aircraft Movement				
		Other Charges	Landing Aircraft Movement (only int'l)				
Other Fees		Air Navigation Facility Fee	Landing Aircraft Movement				
		Other Charges	All aircraft				

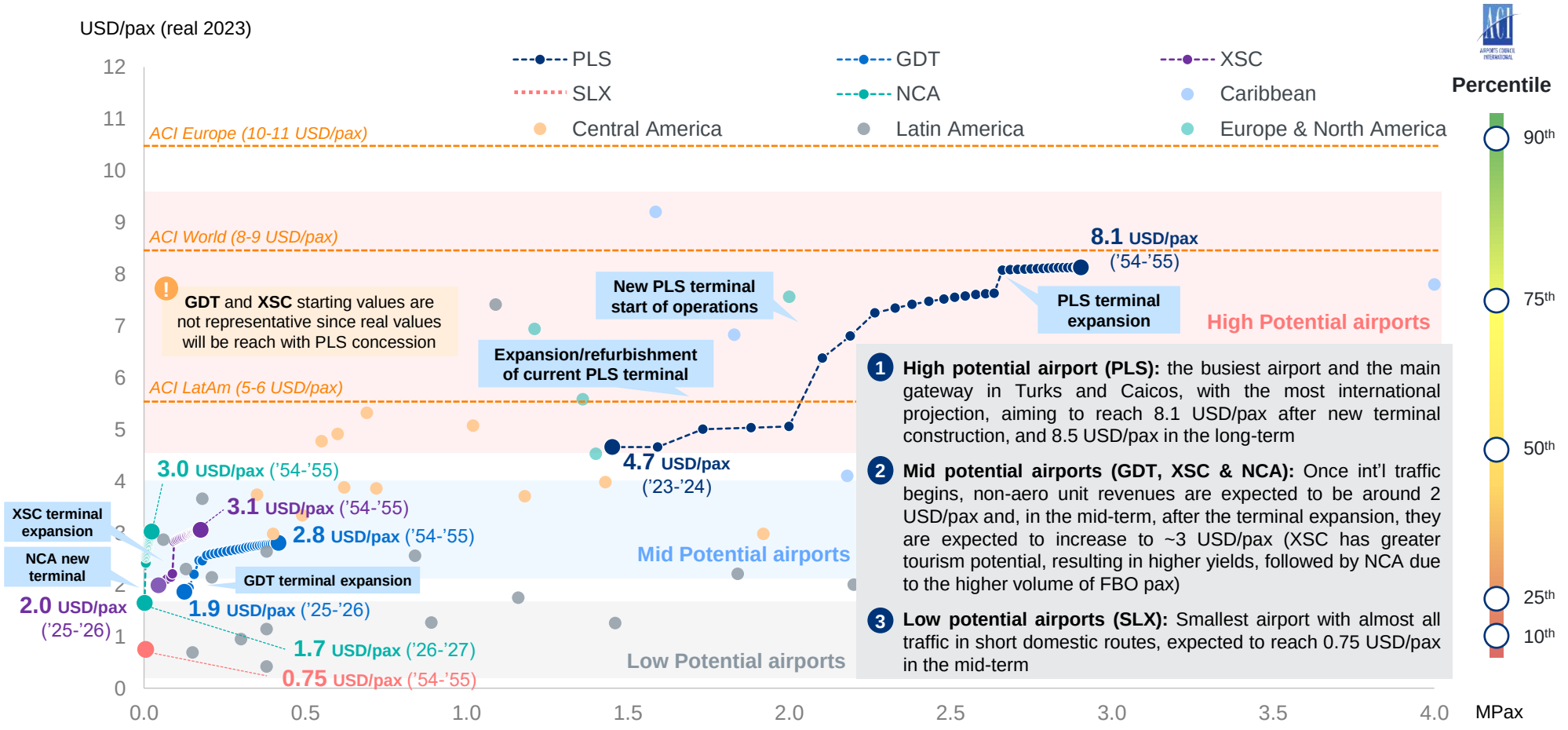
Driver	Current Structure	Proposed Structure
Landing Aircraft Movement (it depends on the aircraft MTOW)	344 USD/ATM (A320)	344 USD/ATM (A320)
	50 USD/ATM (A320)	50 USD/ATM (A320)
Landing Aircraft Movement	–	80 USD/ATM (New)
Landing Aircraft Movement (only int'l)	–	25 USD/ATM (Upside)
Landing Aircraft Movement	5 USD/ATM	5 USD/ATM
All aircraft	–	–

These charges are proposed to be updated every 3 years, based on the accumulated US CPI for these 3 years, except for the Airport Development Charge for international traffic, which is expected to remain constant

Source: TCIAA, ALG Analysis

Non-Aero revenues: unit revenues have been projected based on achieving benchmark values and enhancing commercial performance

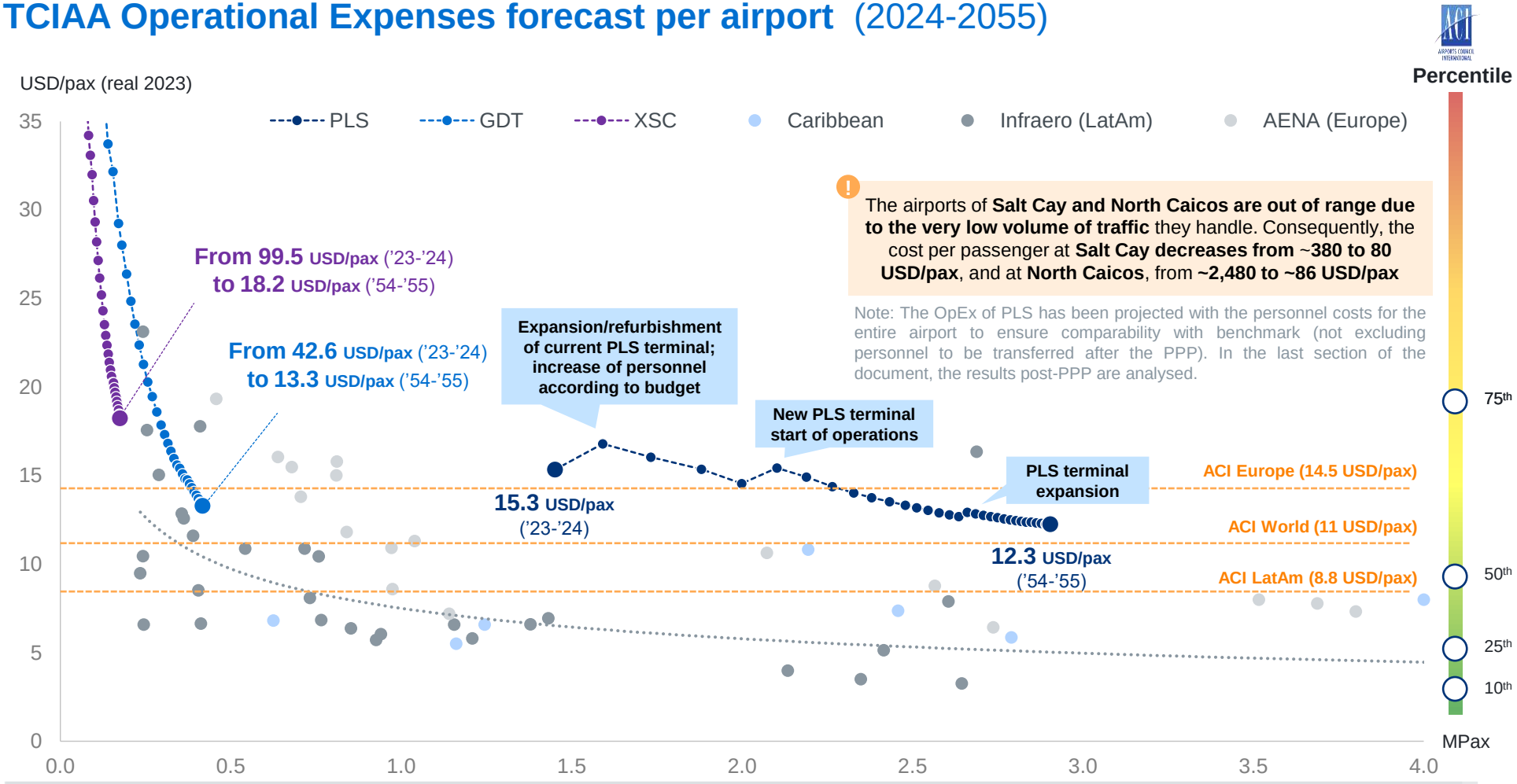
TCIAA Commercial Unit Non-Aeronautical revenue forecast per airport (2024-2055)



Source: TCIAA Financial Statements, TCI Budget, Financial Highlights, TCI Ordinances, ACI, ALG Analysis

OpEx: methodology focuses on projecting costs by applying elasticities to passenger volume and terminal area, based on benchmark trend

TCIAA Operational Expenses forecast per airport (2024-2055)



Source: TCIAA Financial Statements, TCI Budget, Financial Highlights, ACI, ALG Analysis

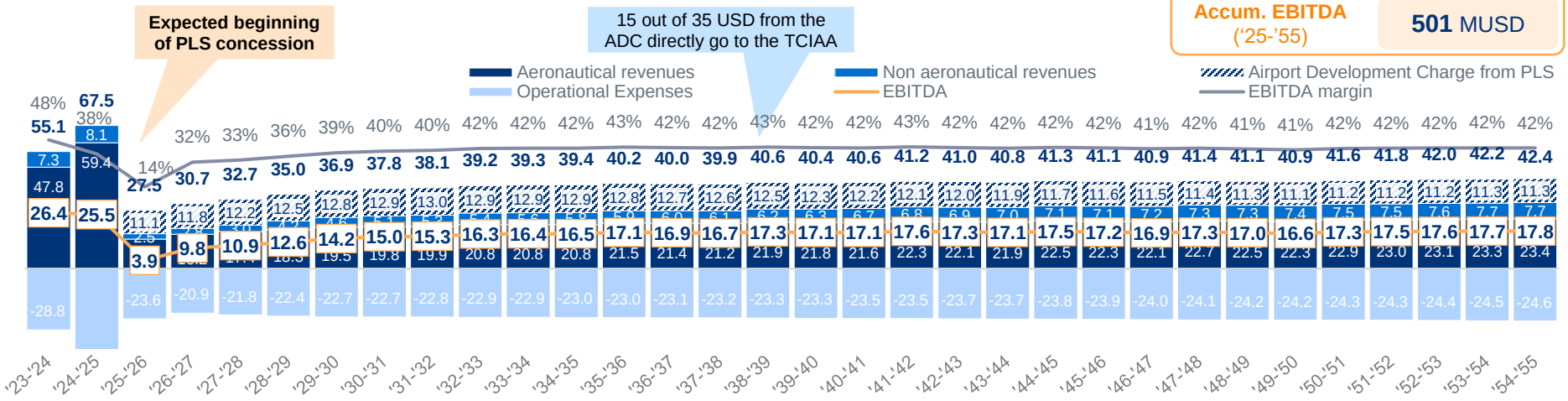
Note: The fiscal years refer to years ending March 31st

Thanks to the concession fee and ADF from PLS, the TCIAA is expected to become a profitable organization, with a 26% IRR for the next 30 years

TCIAA EBITDA Forecast - With PLS PPP (MUSD real 2023)

Concession fee: **25% of PLS gross revenues**

Accum. EBITDA (‘25-’55) **501** MUSD

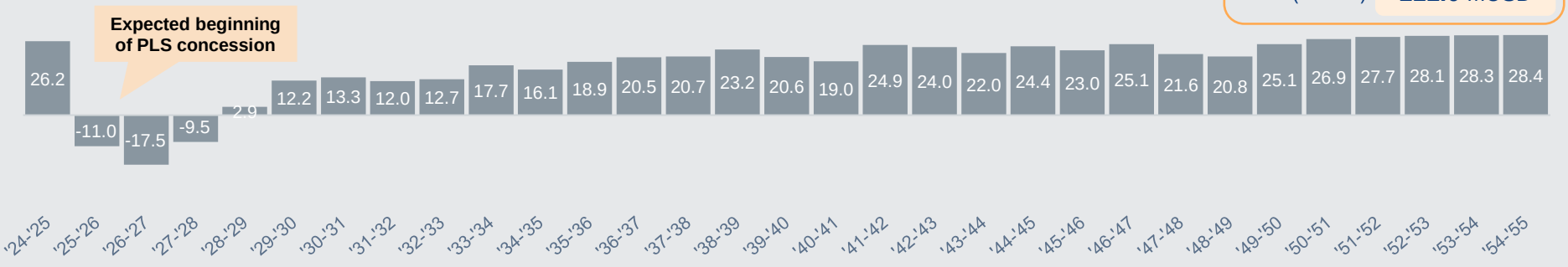


TCIAA Free Cashflow Forecast - With PLS PPP (MUSD Nominal)

Concession fee: **25% of PLS gross revenues**

IRR (‘25-’55) **26.0%**

NPV[1] (‘25-’55) **111.0** MUSD



Source: TCIAA, ALG Analysis

[1]NPV estimated with a discount rate of 10%

Sensitivity scenarios show the IRR for TCIAA mainly depends on the PLS concession fee and, to a lesser extent, on CapEx and aero fees

TCIAA sensitivities assumption matrix

	New DOM pax charge	New aircraft fees	CapEx & RepEx	PLS Concession fee
Base Case	Although it is possible to include a new domestic departure charge according to best practices, **the BC scenario does not consider this and remains at 0 USD/pax**	For **PLS new terminal**, it is proposed to charge **80 USD/ATM for PBB use**, according to best practices	**Capital expenditures are estimated based on PLS PPP unit costs**, adjusted for other airports, which may not need the same infrastructure as PLS	The **TCIAA** will oversee and monitor the airport's PPP contract and receive a **concession fee, estimated at 25% of gross revenues** (bidding variable)
Upside Case	**Introducing a new domestic fee** *(TCI nationals are excluded)*; sensitivity is analyzed for **5, 10 and 15 USD/pax**	Charge **25 USD/ATM** to **int'l flights as a noise and emissions fee**, and double this to **50 USD/ATM** plus **25 USD/ATM to DOM flights**	Sensitivity is analyzed for a **+10% and +20%** increase of unit costs **compared to the base case**	Sensitivity is analyzed for an increase of the concession fee **to 30% and 35% of PLS annual gross revenue**
Downside Case	**N/A**	**None** of the proposed **charges are introduced**	Sensitivity is analyzed for a **-10% and -20%** decrease of unit costs **compared to the base case**	Sensitivity is analyzed for a decrease of the concession fee to **15% and 20% of PLS annual gross revenue**

TCIAA IRR - Concession fee vs. New charges

New charges \ Concession fee	10%	12.5%	15%	17.5%	20%	22.5%	25%	26%	27%	28%	29%	30%	32.5%	35%
0%	-2.9%	3.2%	7.7%	11.9%	16.2%	20.8%	26.0%	28.3%	30.8%	33.5%	36.4%	39.5%	48.9%	61.6%
50%	-1.8%	3.9%	8.3%	12.5%	16.7%	21.4%	26.7%	29.0%	31.6%	34.3%	37.3%	40.5%	50.2%	63.4%
100%	-0.8%	4.5%	8.8%	13.0%	17.3%	22.0%	27.4%	29.8%	32.3%	35.1%	38.2%	41.5%	51.6%	65.3%
150%	0.6%	5.5%	9.7%	13.9%	18.2%	23.0%	28.6%	31.1%	33.8%	36.7%	39.9%	43.5%	54.2%	69.1%
200%	1.8%	6.5%	10.6%	14.8%	19.2%	24.1%	29.9%	32.5%	35.3%	38.4%	41.8%	45.5%	57.0%	73.3%

TCIAA IRR - Concession fee vs. CapEx & RepEx

CapEx & RepEx \ Concession fee	10%	12.5%	15%	17.5%	20%	22.5%	25%	26%	27%	28%	29%	30%	32.5%	35%
-20%	-0.9%	5.5%	10.7%	15.8%	21.3%	27.6%	35.4%	39.0%	43.1%	47.6%	52.8%	58.8%	79.3%	117.1%
-10%	-2.0%	4.3%	9.1%	13.7%	18.4%	23.8%	30.0%	32.8%	35.9%	39.3%	43.0%	47.2%	60.3%	79.7%
0%	-2.9%	3.2%	7.7%	11.9%	16.2%	20.8%	26.0%	28.3%	30.8%	33.5%	36.4%	39.5%	48.9%	61.6%
10%	-3.8%	2.2%	6.6%	10.5%	14.4%	18.5%	22.9%	24.9%	27.0%	29.2%	31.5%	34.0%	41.3%	50.5%
20%	-4.7%	1.4%	5.6%	9.3%	12.8%	16.5%	20.5%	22.2%	24.0%	25.8%	27.8%	29.9%	35.8%	43.0%

Although profitability is not the main concern but covering short-term investments, with a concession fee of 25%, the IRR is 26%; breakeven point is below, at a ~12% concession fee

Source: TCIAA, ALG Analysis

Content

Market analysis and traffic forecast

Airport infrastructure assessment & development plan

TCIAA role, functions, and organizational structure

TCIAA financial plan

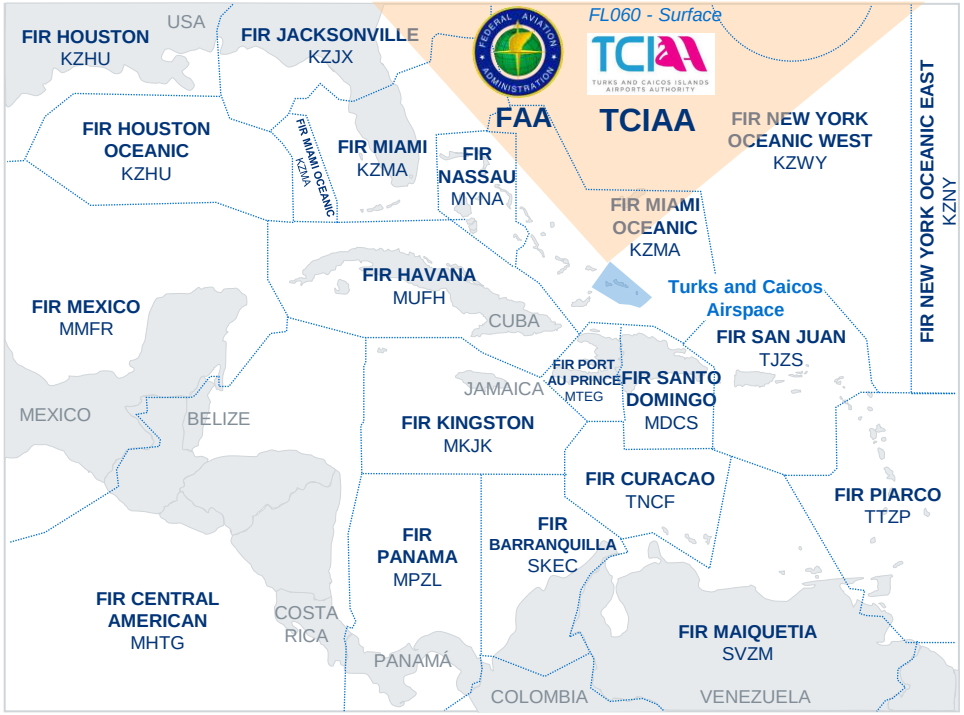
Airspace assessment and future requirements

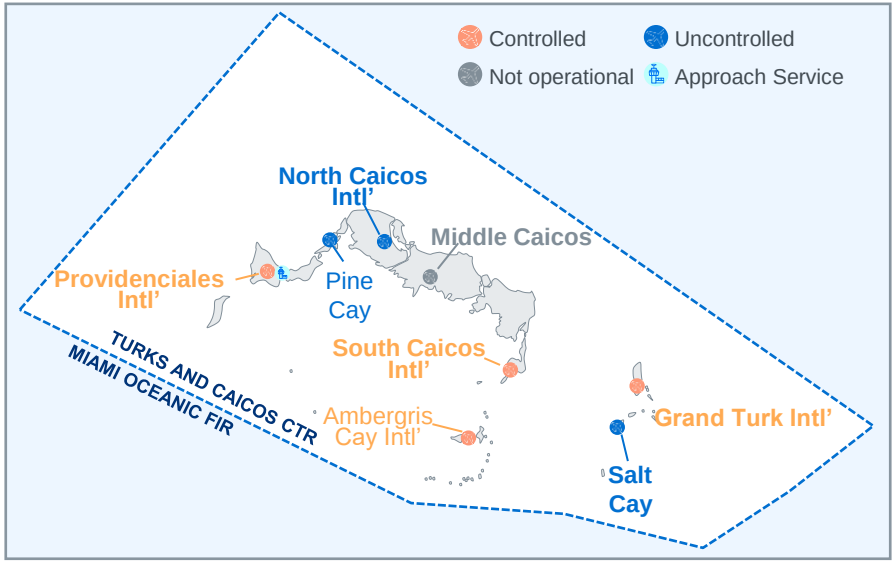
Environmental strategy for the TCIAA

Technology master plan for the TCIAA

The Turks and Caicos Islands' airspace is included within the Miami Oceanic FIR, with a maximum altitude of 6,000 feet

Airspace design overview





Providenciales, Grand Turk, and South Caicos, which account for over 99% of total traffic in the Territory, **accommodate both IFR and VFR flights**, while Salt Cay can only be reached by VFR operations

The TCIAA is responsible for the provision of ANS services up to FL060 in its sovereign airspace, above which the En-Route ATC service is provided by the FAA

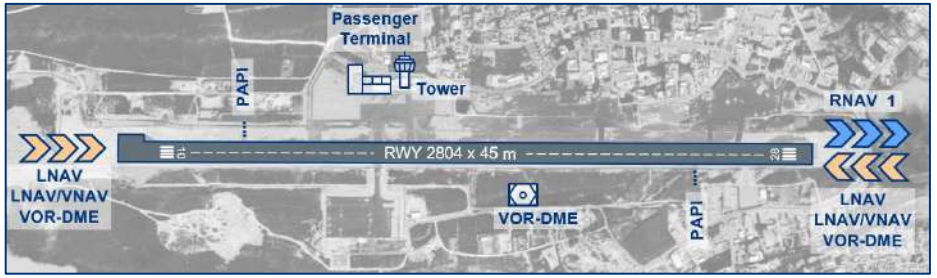
Source: Turks and Caicos AIP, ALG analysis

The implementation of SIDs and STARs for the main airports of the TCI CTR will reduce ATCO workload and improve the safety of the operations

Airspace configuration and operational capabilities

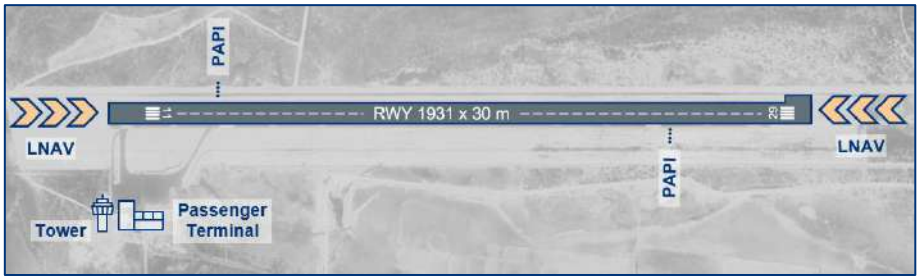
Departure Approach

Providenciales International – MBPV



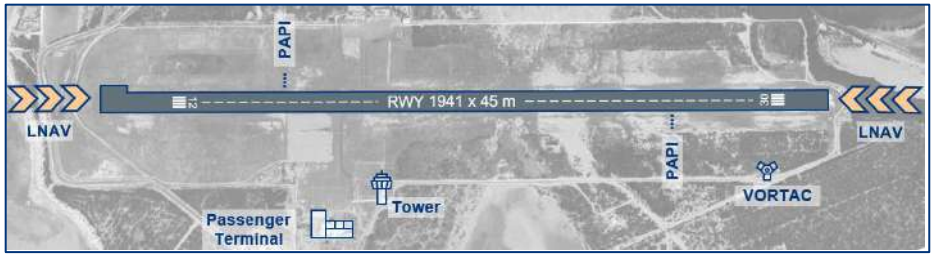
- It would be recommended to **implement SIDs and STARs** for both RWY10 & 28
- The current **RNP approaches published** already **contain LNAV and LNAV/VNAV operation**; in the future, the use of WAAS could be considered for the implementation of LPV approaches

South Caicos International - MBSC



- The **only IFR procedures published are non-precision approaches**
- The **upgrade of the RNP approach charts to LNAV/VNAV is also recommended**, as far as there is a reliable METEO service on ground providing accurate information on QNH setting

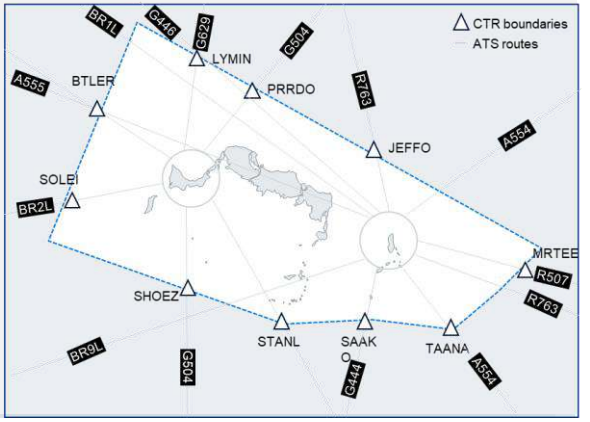
Jags McCartney International Airport Grand Turk – MBGT



- The **implementation of SIDs and STARs** will significantly **increase the predictability and safety** of the operations
- **RNP approaches down to LNAV/VNAV minima are currently not authorized** at this airport, although they could improve the performance of navigation; it might be worth to further analyze the reasons behind this situation

Turks and Caicos CTR boundaries & ATS routes

- **ATS routes connected to the CTR are bidirectional**, remarking the **need for SIDs and STARs** to ensure the vertical separation at transfer points
- **The traffic share of the entry and exit fixes of the CTR should be analyzed** to optimize the future design of terminal procedures



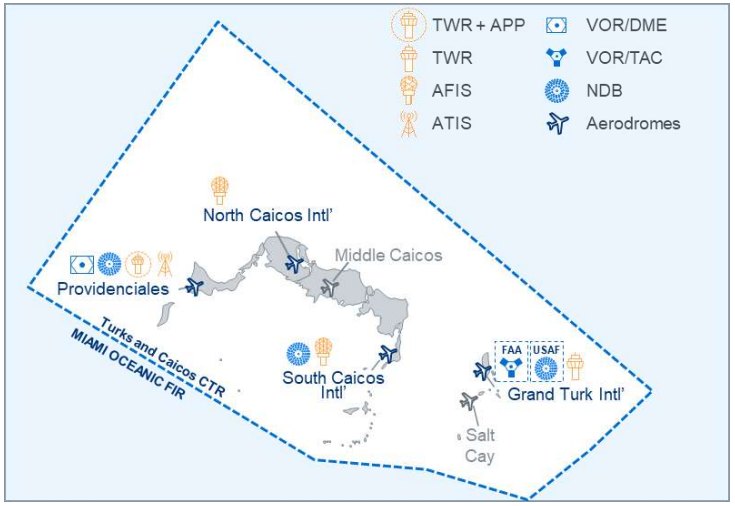
Source: Turks and Caicos AIP (AMDT 01/23), ALG analysis

Note: According to the AIP (AMDT 01/23), the current procedures of MBPV, MBGT, MBSC were published in MAR2019. It is therefore required to perform a periodic review according to the ICAO Quality Assurance Manual. The periodic review of IFP is outside of the scope of this project

Most of TCIAA assets are located at Providenciales, where DVOR/DME and Approach traffic control provide services to the whole airspace

ATM/CNS infrastructure and equipment

Current ATM/CNS infrastructure

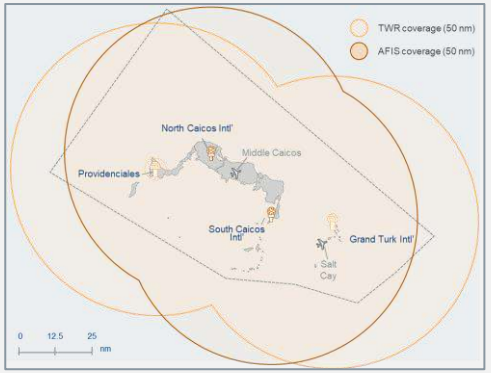


- **Providenciales** provides **APP**, **TWR** & **ATIS** services, where **APP** service is provided to any aircraft arriving at an airport in the Turks and Caicos Islands
- **Grand Turk** also provides **TWR** services to its airspace users, while North and South Caicos provide only **AFIS** service
- Different **NAV systems** are implemented in the Territory:
  - **Providenciales** has **DVOR/DME** and **NDB, Grand Turk** has a **VOR/TAC** owned by the FAA and an **NDB** owned by USAF and **South Caicos** has **NDB**
- **Salt Cay** and **Middle Caicos** have no reported ATM/CNS infrastructure

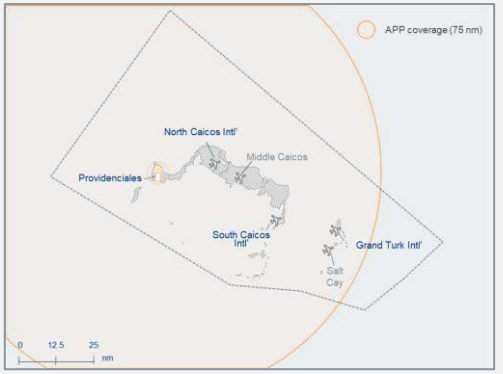
Coverage maps categories

- **No SUR and ATC** services are provided in TCI as of today, situation expected to change with the Surveillance project

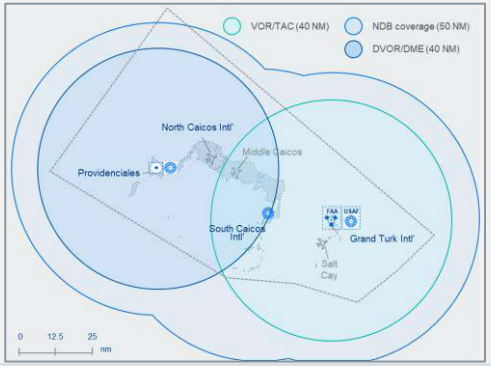
TWR & AFIS COM coverage *(est. at FL020)*



APP COM coverage *(estimated at FL060)*



NAV coverage *(estimated at FL060)*



- **TWR and AFIS COM** services seem to be **widely available across the whole airspace**
- **APP service is provided across the whole airspace**, with a potential lack of coverage in the south-eastern part of the airspace
- **TCIAA NAV systems** are **complemented by a VOR/TAC and NDB** provided by the FAA in Grand Turk

** The analysis considers that the antennas are installed at the TWR location*
*** NAV systems coverage is confirmed through the information provided (radius) in the FAA AIP*

Source: Turks and Caicos AIP (AMDT 01/23), ALG analysis
Note: According to the AIP (AMDT 01/23), the current procedures of MBPV, MBGT, MBSC were published in MAR2019. It is therefore required to perform a periodic review according to the ICAO Quality Assurance Manual. The periodic review of IFP is outside of the scope of this project

The Remote Tower concept is a mature alternative to the construction or refurbishment of physical control towers, improving ATC services

Remote Tower definition and operating modes

The **Remote Tower concept is a mature alternative to the construction or refurbishment of physical control towers**. Its installation to provide ATC services brings several advantages, with the **reduced initial CAPEX** being particularly noteworthy

Technical standards and regulatory support are in an advanced status thanks to the increasing interest of CAAs, ANSPs and AOs. Most important material are **ICAO Doc 4444 and Doc 9426**, **EASA Rule Making Task RMT.0624**, **WG-100 ED-240/A/B** and **Canso Guidance Material for Remote and Digital Towers**

Two types of RT concepts are identified depending on the location from where the services are provided:

- **Digital Tower** concept positions are **located at the airport**, and ATC services to additional remote airports can be provided
- **Remote Tower services are provided remotely, controlling all the remote airports by the remote center**

Single mode

A single Remote Tower Module controls the operations of a single airport from the control position. Remote control centres are composed of several positions, managing different airports with a 1 to 1 configuration. DTM can be located locally at the airport or remotely

Multiple mode

A single Remote Tower Module controls the operations of more than one airport from the control centre (1 to X configuration, only if compatibility with traffic peaks is assured). The control centre can be located at any airport or far away

Enhanced Conventional Tower

Remote tower technologies are installed at a conventional tower, enabling previously not available capabilities (e.g. hotspot monitoring, low visibility conditions and night vision)

Contingency mode

Control tower is installed at the airport as contingency measure in case of not operability of the conventional tower (e.g. security issues, unreachability by ATCO shifts)

The installation of RT in TCIAA's airports could be a positive solution for enhancing ATC services being provided on the whole network; this technology and its potential implementation will be further studied through the Surveillance project

Source: ALG Analysis

Current COM & NAV infrastructure is adequate, but gaps in airspace design and ATM/SUR capabilities will be improved via the Surveillance project

Conclusions

1. **The TCIAA provides ANS services from surface up to FL060 in its sovereign airspace**, managing 6 of the 8 airports of the Turks and Caicos
2. **Providenciales** is the busiest airport in the Turks and Caicos CTR, although the **development of SIDs and STARs is limited**; a similar situation is found at **Grand Turk, where only LNAV approaches are available**
3. **COM services** are provided from the main airports of Providenciales and Grand Turk, providing **coverage to the whole airspace**
4. **NAV equipment seems to be sufficient to provide service in the country**, especially thanks to the presence of the VOR/TAC from FAA at Grand Turk
5. **ATM and SUR systems will be further studied and implemented through the Surveillance project**
6. **Multi-Operating of Remote Towers offers notable** benefits, such us reducing the number of controllers to cover shifts, lower utility costs and unexpected costs derived from unforeseen incidents (e.g. hurricanes)

Recommendations

1. The **implementation of additional SIDs and STARs for the airports of Providenciales and Grand Turk** is highly recommended to improve operational efficiency and safety
2. The **implementation of SIDs and STARs at South Caicos** will significantly increase the predictability and safety of the operations
3. The traffic share of the entry and exit points of the CTR should be evaluated to **optimize the design of terminal procedures and ensure the vertical separation** of the traffic at the transfer points
4. **NAV service provision** seems to be dependent on the presence of the **VOR/TAC at Grand Turk**; TCIAA should **ensure that a proper replacement is considered** in case this system is discontinued
5. **APP COM capabilities in the south-eastern part of the airspace might be further expanded**
6. **ATM and SUR systems implementation** are recommended to improve operations in the airspace
7. The **implementation of Remote Tower technology** could be an interesting opportunity to explore for the TCIAA since it offers **valuable benefits** *(to be further studied through the Surveillance project)*

Source: ALG Analysis

Content

The E&S Management System is based on the management of the organization and the risks and impacts linked to the airport network

E&S Management System concept

E&S Management System

SCOPE

Organization	**Environmental, Social,** Quality, and Safety & Health
Sustainable Airport	PLS – Monitoring and control of the PPP Contract
Green Airports	GDT, XSC, SLX and NCA Airports Management

Note: The advice for Middle Caicos is to do some refurbishment works so the airport becomes operational for emergency services and occasional air transport for the community, thus not having major environmental impact

PILARS

These 5 pillars constitute the environmental and social commitment both from the point of view of the organization's commitment and the airport infrastructure management. These pillars will allow to move towards the implementation of environmental and social management in accordance with the strategic mission and vision, as well as in relation to the principles of the organization E&S policy

- **Resource Efficiency and Pollution Prevention**
- **Aeronautical Impacts**
- **Vulnerability and Resilience to CC**
- **Management of Land Use Around the Airport**
- **Natural Resources and Biodiversity**

General Considerations

- **The TCI participates**, both as a Government and through the UK's representation, **in various international environmental agreements**
- **The TCI is also a signatory to the Chicago Convention**, so air transport facilities and procedures must be compliant with ICAO general rules
- **ICAO cooperates with its members States and other organizations** of the United Nations in pursuit of common goals
- **A major challenge** for the aviation sector in the TCI, particularly in the short term, **is the transformation towards a sustainable airport system**
- **The TCIAA E&S strategy shall be based on a continuous improvement** framework that allows for better results, productivity and efficiency

Source: ALG Analysis

The E&S action plan has been prepared considering strategic pillars, transversal operational objectives, and action blocks in a 2030-horizon

Rationale of the E&S action plan

5 Holistic Pillars

- Resource Efficiency and Pollution Prevention
- Aeronautical Impacts
- Vulnerability and Resilience to CC
- Management of Land Use Around the Airport
- Natural Resources and Biodiversity

8 Transversal Operational Objectives

- Energy Efficiency
- Waste & Hazardous materials Management
- Water Conservation
- Noise & Land use Management
- Biodiversity and Ecosystem Conservation
- Stakeholder Engagement
- Labor and working conditions
- Community Health & Safety

4 Action Blocks

- Capacity Building
- Technical Assessments
- Risk Assessment
- Promotion E&S Strategy

Timeline

YEAR 2025 | YEAR 2026 | YEAR 2027 | YEAR 2028 | YEAR 2029 | YEAR 2030

Source: ALG Analysis

E&S Action Plan roadmap: 2025

Pillars

Objectives

Average compliance

10%

YEAR 2025	YEAR 2026	YEAR 2027	YEAR 2028	YEAR 2029	YEAR 2030

Capacity Building

- **Recruiting a technical team** capable of initiating the change management towards a sustainable airport system
- **Defining an organizational structure** to implement the E&S Strategy and QSHE Management
- Ensuring **adequate training courses for the technical team** to implement E&S Strategy and QSHE Management
- Promoting the development of **operational procedures** for the documentary system to the E&S Strategy

Technical Assessments

- Developing a **detailed baseline assessment for each airport** to identify their current environmental and social situation (quantification of all environmental aspects and identification of gaps)
- Paving the way to advance in the **Airport Carbon Accreditation Program** (ACI)
  - Replacing **LED lighting** where necessary and introducing **photovoltaic cells** where it is possible

Risk Assessment

- Identifying and prioritizing actions to **minimize the impacts of climate change**
- Initiating **flagship actions** in relation to minimizing the impacts of climate change (with focus on 2030; multiannual actions linked to obtaining green founds)

Promotion E&S Strategy

- **Identifying stakeholders** at a national and an airport level and develop a stakeholder map
- **Spreading the E&S Strategy** and its policy throughout all the airport community
- Elaborating an **annual E&S report with a specific chapter** on biodiversity & ecosystems protection
- **Promoting carpooling** for employees and customers

airport carbon accreditation

airport carbon accredited MAPPING

PLS GDT XSC SLX NCA

Source: ALG Analysis

E&S Action Plan roadmap: 2026

Pillars

Objectives

Average compliance

20%

YEAR 2025	**YEAR 2026**	YEAR 2027	YEAR 2028	YEAR 2029	YEAR 2030

Capacity Building	• Ensuring **adequate training courses for the technical team** to implement E&S Strategy and QSHE Management • Ensuring **adequate specific training courses at each airport** based on environmental and climate change risks • Completing the **general and specific documentation** required to implement the E&S Strategy • Developing an **emergency drill with all the airport community** and all the stakeholders involved

Technical Assessments	• Carrying out **detailed technical studies** in relation to the relevant aspects of each airport
	  • **Energy system**: inventory of sources, consumption, etc.
	  • **Waste management analysis** and identification of improvements
	  • **Water cycle**: location of wells, capacity of aquifers, condition of septic tanks or water treatment plants, etc.
	  • Signing of **green electricity purchase contracts** with a guarantee of origin
	  • Controls on conditions attracting animals to the airports
	• Ensuring the **incorporation of clauses in contracts with third parties** (e.g., substitution of pesticides)

Risk Assessment	• Continuing with the development of **flagship actions** in relation to minimizing the impacts of climate change (with focus on 2030; multiannual actions linked to obtaining green founds)
Promotion E&S Strategy	• **Spreading the E&S Strategy** and its policy throughout all the at TCI and some Caribbean territories, in relation to the stakeholders engagement plan • Elaborating an **annual E&S Strategy report with a specific chapter** on coral protection

airport carbon accreditation

airport carbon accredited MAPPING PLS GDT XSC SLX NCA

airport carbon accredited REDUCTION PLS GDT XSC SLX NCA

Source: ALG Analysis

E&S Action Plan roadmap: 2027

Pillars

Objectives

Average compliance

40%

YEAR 2025	YEAR 2026	YEAR 2027	YEAR 2028	YEAR 2029	YEAR 2030

Capacity Building

- Conducting a **workshop explaining the main takeaways** related to the environmental and social strategy acquired during the 3 years at all the airports of the network
- **Identifying new training needs** (e.g., green founds)

Technical Assessments

- Carrying out **detailed technical studies** in relation to the relevant aspects of each airport
  - Continuous **optimization of sanitary facilities** with water saving devices
  - Replacement of existing HVAC by **more energy-efficient HVAC systems**
  - Replacement of ground handling equipment with **greener equipment**
  - Improvement of waste management linked to **zero waste land field**
  - Elaborate the **noise footprint** in all airports
  - **Reduce de use of pesticides** to zero

Risk Assessment

- Continuing with the development of **flagship actions** in relation to minimizing the impacts of climate change (with focus on 2030; multiannual actions linked to obtaining green founds)

Promotion E&S Strategy

- **Spreading the E&S Strategy** throughout all the TCIAA network, both within the organization and to users and customers, in relation to the stakeholders engagement plan
- Elaborating an **annual E&S Strategy report with a specific chapter** on fauna protection (e.g., iguanas, flamingos, etc.)

GREEN AIRPORT RECOGNITION

airport carbon accreditation

airport carbon accredited OPTIMISATION

PLS GDT XSC SLX NCA

Source: ALG Analysis

E&S Action Plan roadmap: 2028

Pillars

Objectives

Average compliance

60%

YEAR 2025	YEAR 2026	YEAR 2027	YEAR 2028	YEAR 2029	YEAR 2030

Capacity Building

- **Identifying new training needs** (e.g., biodiversity and business)
- Developing an **emergency drill with all the airport community** and all the stakeholders involved

Technical Assessments

- Carrying out **detailed technical studies** in relation to the relevant aspects of each airport
  - **Land uses study** for all airports surroundings
  - **Biodiversity studies** (e.g., mapping habitats around the airports)
  - Installation of **water recovery systems**: rainwater, treated water, water of washing areas
  - Installation of **water recovery systems on training areas of ARFF trucks**
  - Installation of **solar panels** for self-consumption purpose
  - Pushing for a **fleet renewal with the aim of having less emissive technologies**

Risk Assessment

- Continuing with the development of **flagship actions** in relation to minimizing the impacts of climate change (with focus on 2030; multiannual actions linked to obtaining green founds)

Promotion E&S Strategy

- **Spreading the E&S Strategy** throughout all the TCIAA network, both within the organization and to users and customers (stakeholder engagement plan)
- Elaborating an **annual E&S Strategy report with a specific chapter** on flora protection (e.g., cacti, etc.)

airport carbon accreditation

airport carbon accredited REDUCTION PLS GDT XSC SLX NCA

airport carbon accredited NEUTRALITY PLS GDT XSC SLX NCA

Source: ALG Analysis

E&S Action Plan roadmap: 2029

Pillars

Objectives

Average compliance

80%

YEAR 2025	YEAR 2026	YEAR 2027	YEAR 2028	YEAR 2029	YEAR 2030

Capacity Building

- **Identifying new training needs** (e.g., climate change resilience)

Technical Assessments

- **Updating the baseline assessment of each airport** to identify the environmental and social situation after 5 years of implementation of the E&S Strategy and the technical studies carried out
- **Alignment with the International Bird Strike Committee** by developing best-practices such as permanent surveillance, modern and specialized monitoring equipment, or active dispersal and retention
- **Analysis of historical contamination / pollution / fuel spills episodes** and prioritization of decontamination actions

Risk Assessment

- Continuing with the development of **flagship actions** in relation to minimizing the impacts of climate change (with focus on 2030; multiannual actions linked to obtaining green founds)

Promotion E&S Strategy

- **Spreading the E&S Strategy** throughout all the TCIAA network, both within the organization and to users and customers, in relation to the stakeholders engagement plan
- Elaborating an **annual E&S Strategy report with a specific chapter** on the 5 years of integration of the environmental and social dimension into the TCIAA airport network

GREEN AIRPORT RECOGNITION

airport carbon accreditation

airport carbon accredited TRANSFORMATION

PLS GDT XSC SLX NCA

Source: ALG Analysis

E&S Action Plan roadmap: 2030

Pillars

Objectives

Average compliance

100%

YEAR 2025	YEAR 2026	YEAR 2027	YEAR 2028	YEAR 2029	YEAR 2030
Capacity Building	• **Identifying new training needs** (e.g., Net Zero Carbon) • Developing an **emergency drill with all the airport community** and all the stakeholders involved				
Technical Assessments	• Establishing a **new technical environmental and social baseline** for the new **E&S Strategy 2050**				
Risk Assessment	• Analysis of the **flagship actions** in relation to minimizing the impacts of climate change (with focus on 2030; multiannual actions linked to obtaining green founds) • Defining a **challenge for 2050** – long-term E&S strategy				
Promotion E&S Strategy	• **Presenting the progress of the E&S Strategy** with KPIs and a detailed assessment of the actions carried out since 2025				

Full execution of the TCIAA 2030 E&S strategy

Development of the TCIAA 2050 E&S strategy

airport carbon accreditation

airport carbon accredited OPTIMISATION — PLS GDT XSC SLX NCA

airport carbon accredited TRANSITION — PLS GDT XSC SLX NCA

airport carbon accredited LEVEL 5

Source: ALG Analysis

Content

The Technological Development Plan is based on the management of the organization and the risks and impacts linked to the airport network

Technological Development Plan concept

Technological Development Plan (TDP)

ACTIONS

- Technology Needs Assessment and Systems Building
- Digitalization of Passenger Experience
- Digitalization of Airport Internal Management
- Implementation of Collaborative Tools for Airport Operations (A-CDM)

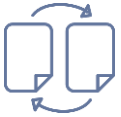
OBJECTIVES

These 6 pillars constitute the foundation of the technological development plan, ensuring that airport operations are efficient, safe, secure, and user-friendly. By focusing on these key areas, the plan aims to enhance overall airport performance, streamline processes, and improve passenger satisfaction

Accessibility

Predictability

Security



Non-duplicity

Operational Efficiency

Passenger satisfaction

Source: ALG Analysis

The first step within the digitalization process should be adopting new systems aligned with the network's goals

Technology needs assessment and Systems building

1 Analysis of current technology

- Gather **qualitative and quantitative data** about current technologies and systems, including **conducting surveys or interviews with relevant stakeholders** to understand their expectations
- **Review existing documentation and performance metrics** to evaluate the effectiveness and efficiency of current technologies
- **Identify strengths, weaknesses, and limitations of existing systems**, evaluating how well current ones meet the network goals and user needs

2 Identification of future needs

- **Analyze market trends, emerging technologies, and best practices relevant to the network**, ensuring alignment with network's strategic goals and future requirements
- Assess the **technical, financial, and operational feasibility** of adopting new technologies, ensuring that any future technology complies with industry regulations, safety, and security standards
- Gather input from stakeholders on **desired features and functionalities** for anticipated future systems

3 Gap analysis

- **Compare current technology within the TCIAA with the identified future needs**
- **Identify gaps between current technology capabilities and future requirements** evaluating its functionality, performance, security and scalability

4 Implementation planning – Systems building

- **Prioritize** which technologies or system functionalities are most critical for the network
- Assess the **potential risks** involved in bridging the gap, including costs, integration complexity and disruptions, while stablishing mitigation strategies
- Evaluate the **financial implications of adopting future technologies**, considering upfront costs, maintenance, and the potential return on investment
- **Implementation plan – Systems building for the TCIAA network**, including the digitalization of data gathering

Source: ALG Analysis

These are the latest tools introduced in international airports to disrupt traditional operating models and transform the customer experience

The Digitalization of Passenger Experience

- **Airports struggle with the fluctuating passenger demand** associated with peak and off-peak holiday seasons
- The **technology deployment** will entail **rethinking airport layouts and integrating "On-the-Move" pax processing**, with little stoppings points. This will **enhance the passenger experience**, essential for airports serving luxury tourist destinations, in addition to providing greater efficiency and **reducing/delaying the need for extensive infrastructure**
- **All these tools embrace digital innovation to take a step forward to a enhance passenger experience, which follows that passengers spent time in airports by choice, not because of queues, check-in and controls**

Tools for the Digitalization of Passenger Experience

	Accessibility	Predictability	Security	Non-duplicity	Operational Efficiency	Passenger satisfaction
Self-Bag Drop system: A self-service system that allows passengers to check their baggage directly	✓	N/A	N/A	N/A	✓	✓
Digital Travel Credential (DTC): A virtual credential derived from a state-issued passport or national ID	✓	N/A	N/A	N/A	✓	✓
Virtual queues: It allows booking a time to pass through security checks or virtual queuing for boarding	✓	~	N/A	N/A	✓	✓
Autonomous shopping: A shopping experience more autonomous for passengers, reducing waiting time and queues for travelers	✓	N/A	N/A	N/A	~	✓
Airport App: Integrated travel apps to manage every aspect of the journey at airport terminals	✓	~	N/A	N/A	~	✓
Remote check-in: Luggage is sent to the airport from home or hotel before departure through luggage pickup and checking services	✓	✓	N/A	N/A	✓	✓
E-luggage tags: Electronic baggage tags allows to track the passenger luggage via smartphone	✓	N/A	~	N/A	✓	✓

Source: ALG Analysis

To transform airport operations, it is essential to adapt and integrate new systems that support a collaborative and predictive environment

Digitalization of Airport Internal Management

- **Digitalization** is crucial for Airport Management as it **enhances operational efficiency by automating daily tasks** and eliminating information and process silos
- **Technological enablers** can be implemented to **support critical capabilities**, including the development, updating, and monitoring of the Airport Operating Plan, balancing demand and capacity, performance-based operations, and incident and emergency management
- **These systems are thought to complement the existing airport systems in order to increase the operational efficiency and predictability and evolve towards the Total Airport Management**

Potential benefits of Airport Management tools

	Accessibility	Predictability	Security	Non-duplicity	Operational Efficiency	Passenger satisfaction
AOP tool *(Airport Operation Planning)** — The **AOP Management tool should be the main system used to develop, update and monitor the Airport Operations Plan (AOP)** through mechanisms that reduce delays, knock-on effects and adverse situations	✓	~	✓	✓	✓	N/A
DCB tool *(Demand Capacity Balance)* — **The DCB Management tool facilitates the balance of demand versus capacity using pre-arrival and pre-departure sequences**, as well as the available information of operational constraints to detect possible imbalance problems and propose solutions	✓	✓	✓	~	✓	N/A
PMP tool *(Performance Monitoring Platform)* — **Performance Monitoring must be supported by a platform that gathers, processes and manages all the available information**, providing dashboards for real-time and pre-tactical stages to inform about expected operational throughput.	✓	~	✓	~	✓	N/A
IEM tool *(Incidents & Emergencies)* — **The Incidents and Emergency Management (IEM) tool simplifies the handling of adverse events by centralizing their management**, enabling collaborative real-time resolution, and automating the response and monitoring processes	✓	N/A	✓	✓	~	N/A

Source: ALG Analysis

**The Airport Operations Plan (AOP) ensures a unified airport operation plan among local stakeholders, providing real-time knowledge of the current situation and detecting deviations to facilitate early decision-making and corrections. Unlike AOP, Airport Collaborative Decision Making (A-CDM) focuses on achieving common situational awareness among stakeholders to create a pre-departure sequence that aligns with the AOP (A-CDM will be discussed in the next subchapter)*

A-CDM is an initiative developed to improve efficiency and punctuality of airport operations through collaboration between all stakeholders

A-CDM description and value proposition

- **The methodology of A-CDM fosters cooperation and information exchange** among key airport stakeholders to improve decision-making and optimize airport operations
- **A-CDM aims to enhance airport operations by promoting collaboration and sharing accurate, timely information**. This real-time data sharing enables stakeholders to make informed decisions, optimize resource use, reduce delays, and improve the passenger experience

Potential benefits of A-CDM

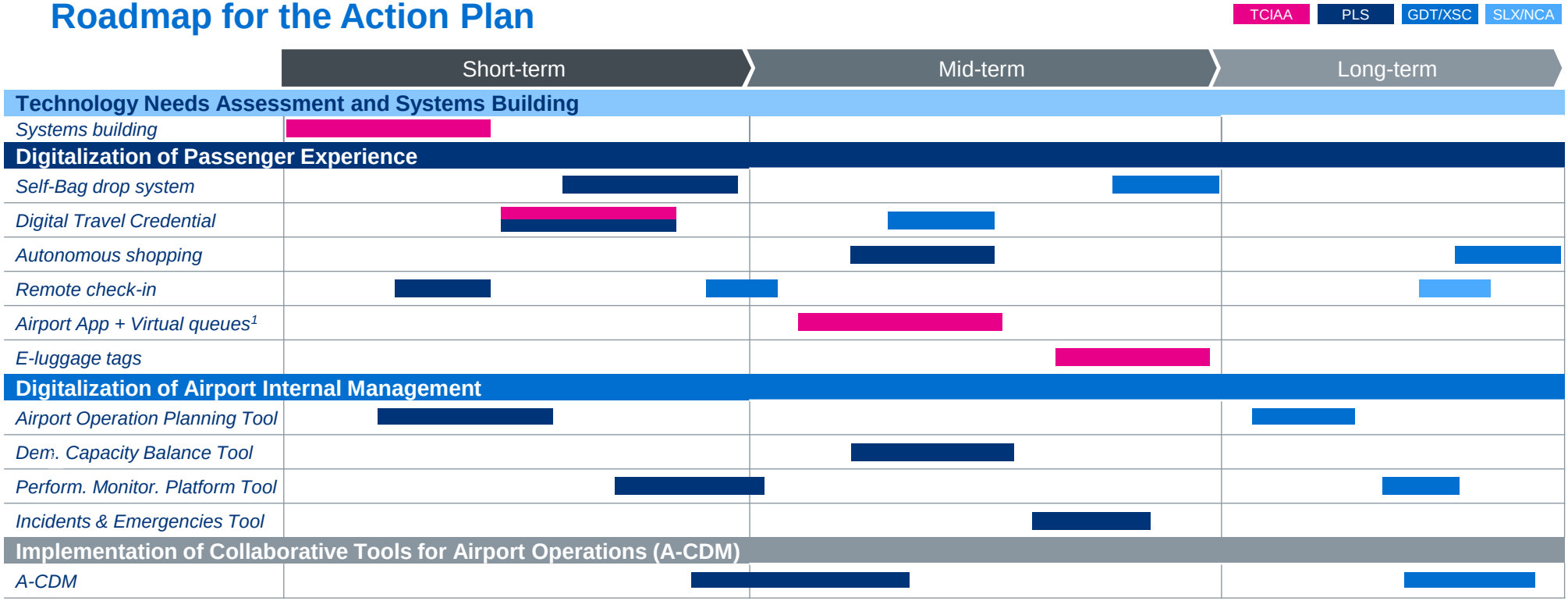
	Accessibility	Predictability	Security	Non-duplicity	Operational Efficiency	Passenger satisfaction
Optimisation of response times: compliance with procedures within tolerances	N/A	✓	✓	✓	✓	~
Automation: eliminating human error	✓	N/A	✓	✓	✓	N/A
Standardisation of information: same format and characteristics for all data collected	✓	~	✓	✓	✓	N/A
Transparency of the operation: full knowledge for all stakeholders	~	✓	✓	✓	✓	N/A
Instant access to information: available to ramp staff, airline CCOs and airport staff	✓	✓	✓	~	✓	~
Improved communication between actors: use of automated channels for easy and timely communication	✓	N/A	✓	✓	✓	N/A
Information security: each company will manage who will see operational information and how they will see it	N/A	✓	✓	✓	✓	N/A

A-CDM involves integration of information systems and adoption of standardised procedures for data exchange, in addition to close collaboration between all actors involved, staff training and adaptation of technological systems

Source: ALG Analysis

A roadmap to guide the execution of the Technology Action Plan in the TCI has been developed by airport, spanning from short to long-term

Roadmap for the Action Plan



- **4 Action Blocks have been defined to successfully carry out each of the elements of Action Plan:** 1. Planning and Assessment; 2. Tendering and Procurement; 3. System Development and Integration; and 4. Implementation and Monitoring
- **The TCIAA,** in collaboration with the private operator of PLS**, should lead the digitalization of passenger experience tools across the network**, including developing a digital travel credential with the government for security reasons
- **Airport Management tools primarily apply to PLS**, with **long-term (partial) plans for GDT and XSC**; no further actions are planned for other locations
- Although the **A-CDM** is complex, it will **significantly enhance operational efficiency** at PLS (and GDT & XSC in the long term), especially during peak hours

Source: ALG Analysis

[1]It is considered that "Virtual queues" will be a service offered within the Airport App

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