TURKS AND CAICOS ISLANDS AIRPORTS AUTHORITY

STRATEGIC MASTER PLAN FOR THE TCIAA

Conceptual Master Plan – South Caicos (XSC)

October 2024

ALG

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Glossary of terms and abbreviations

ADRM	Airport Development Reference Manual
ARFF	Aircraft Rescue and Fire Fighting
ASK	Available Seat per Kilometers
ATC	Air Traffic Control
ATM	Air Traffic Movement
ATR	Avions de Transport Régional
Avg	Average
B737	Boeing 737
CAGR	Compound Annual Growth Rate
CapEx	Capital Expenditure
DOM	Domestic
EMB	Embraer
FBO	Fixed Base Operator
FOD	Foreign Object Debris
GA	General Aviation
GDP	Gross Domestic Product
GSE	Ground Support Equipment
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IFP	Instrument Flight Procedure
ILS	Instrument Landing System
INT	International
LF	Load Factor
MUSD	Million United States dollars
NB	Narrow Body Aircraft
NEO	New Engine Option
NM	Nautical Miles
PAX	Passengers
PHP	Peak Hour Passengers
POS	Point of Sale
PPP	Public-Private Partnership
RepEx	Replacement Expenditure
RESA	Runway End Safety Area
RET	Rapid-Exit-Taxiway
RPK	Revenue Passenger per kilometers
RWY	Runway
SQM	Square Meter
TCI	Turks and Caicos Islands
TCIAA	Turks and Caicos Islands Airports Authority
TORA	Take-off Runway Available
TWY	Taxiway
USA	United States of America
USD	United States Dollar
VFR	Visiting Friends and Relatives
WB	Wide Body Aircraft

List of airport codes

Turks and Caicos Islands airports

GDT	JAGS McCartney International Airport
MDS	Middle Caicos Airport
NCA	North Caicos Airport
PLS	Providenciales International Airport
SLX	Salt Cay Airport
XSC	South Caicos International Airport

International airports

ATL	Hartsfield-Jackson Atlanta International Airport
AZS	El Catey International Airport
BIM	South Bimini Airport
BOS	Logan International Airport
BQN	Rafael Hernández International Airport
CAP	Cap Haitien International Airport
CCC	Jardines del Rey Airport
CCZ	Chub Cay Airport
CFG	Jaime González International Airport
CLT	Charlotte Douglas International Airport
CMW	Ignacio Agramonte International Airport
CXY	Cat Cay Airport
CYB	Sir Captain Charles Kirkconnell International Airport
CYO	Vilo Acuña Airport
DEN	Denver International Airport
ELH	North Eleuthera Airport
EWR	Newark Liberty International Airport
FLL	Fort Lauderdale–Hollywood International Airport
FPO	Grand Bahama International Airport
FXE	Fort Lauderdale Executive Airport
GGT	Exuma International Airport
GHB	Governor's Harbour Airport
GHC	Great Harbour Cay Airport
HOG	Frank País Airport
IAH	George Bush Intercontinental Airport
JFK	John F. Kennedy International Airport
KIN	Norman Manley International Airport
LAX	Los Angeles International Airport
LRM	La Romana Casa De Campo International Airport
MCO	Orlando International Airport
MHH	Marsh Harbour International Airport
MIA	Miami International Airport
MZO	Sierra Maestra Airport
NBW	Guantanamo Bay Naval Base Airport
NSB	North Bimini Airport

ORD	Chicago O'Hare International Airport
PBI	Palm Beach International Airport
PHL	Philadelphia International Airport
POP	Gregorio Luperón International Airport
PSE	Mercedita International Airport
RDU	Raleigh–Durham International Airport
RIH	Scarlett Martínez International Airport
RSD	Rock Sound International Airport
RTB	Juan Manuel Gálvez International Airport
SAQ	San Andros Airport
SCU	Antonio Maceo Airport
SEA	Seattle-Tacoma International Airport
SNU	Abel Santamaría Airport
STX	Henry E. Rohlsen Airport
TAB	Crown Point International Airport
TCB	Treasure Cay Airport
TPA	Tampa International Airport
VIJ	Virgin Gorda Airport
VRA	Juan Gualberto Gómez Airport
YHM	Munro Hamilton International Airport
YHZ	Halifax Stanfield International Airport
YOW	Ottawa Macdonald-cartier International Airport
YQB	Québec City Jean Lesage International Airport
YQG	Quaqtaq Airport
YQM	Greater Moncton International Airport
YUL	Montréal–Trudeau International Airport
YWG	Winnipeg James Armstrong Richardson International Airport
YYC	Calgary International Airport
YYZ	Toronto Pearson International Airport
ZSA	San Salvador Airport

1 Introduction

The airport network of the Turks and Caicos Islands is composed of 8 different airports, 6 of them public and 2 private airports. The public airports are under the scope of the Turks and Caicos Islands Airports Authority (TCIAA), which is a corporate body created under the Turks and Caicos Islands Airports Authority Ordinance and is responsible for the control, management, operation and development of all Turks and Caicos Islands' public airports.

Out of these 6 airports, Providenciales Howard Hamilton International Airport (PLS) is the country's gateway and concentrates more than 90% of country's total traffic, while the other 5 airports only operate domestic scheduled flights and general aviation operations. These 5 airports are Grand Turk JAGS McCartney International Airport (GDT), South Caicos Norman B. Saunders Sr. International Airport (XSC), Salt Cay Henry Leon Wilson Airport (SLX), North Caicos Clifford Gardiner International Airport (NCA) and Middle Caicos Eric Arthur Airport (MDS). The two airports under private management within the Turks and Caicos Islands are Pine Cay and Ambergris Cay.

Providenciales Airport is currently undergoing a restructuring process with the intention of being granted to a private operator through a PPP (Public-Private Partnership) contract. Once this process is completed, the TCIAA will concentrate its efforts in developing the secondary airports of its network, allowing for significant developing opportunities.

Particularly at South Caicos Airport, there are currently no scheduled international flights. The international passengers who arrive to the island do it via domestic flights from Providenciales. There exists potential to receive this tourism directly through the airport, adapting its infrastructure for international flights. Achieving this positioning of the airport and the development of its air traffic is in line with the objectives of the Government of the Turks and Caicos Islands for the modernization of its airports. This would have an impact on the improvement of the country's connectivity and, in turn, on boosting its tourism, economic and social growth. And this traffic development is only possible if it is accompanied by a process of renovation and expansion of the current infrastructure.

In this context of airport development and changing environment, the TCIAA has decided to carry out a Strategic Master Plan for the entire organization, which includes de development of an individual Master Plan for each airport within its network.

Creating a Master Plan becomes an essential process to ensure coherent planning. The Master Plan is the main strategic tool to ensure the expansion of highly complex and constantly evolving infrastructures such as airports. The International Civil Aviation Organization (ICAO, Doc. 9184) agrees on the need for a Master Plan as guide for short-, medium- and long-term planning of airports that identifies expansion and investment needs.

Therefore, the main objective of the present document is to become the reference for the planning of South Caicos Airport for a 30-year time horizon. To this end, the Master Plan includes the following sections:

- **Current situation of the airport**: this section contains a detailed description and characterization of the current infrastructure, including the evaluation of the airport's main assets, the analysis of their compliance with the aeronautical regulations, as well as the determination of the maximum capacity of the existing infrastructure.
- **Market analysis and traffic projections**: this chapter includes a detailed market study reviewing the evolution of air traffic at the airport, its positioning within the country, and identification of the levers for growth in the coming years. Based on this market study, traffic projections are developed for the airport for the next 30 years, evaluating both the annual traffic growth potential and peak hour design parameters, which are key to the subsequent definition of investment needs.
- **Infrastructure requirements and investment plan**: this section comprises a detailed capacity-demand analysis to identify the expansion needs in the different airport subsystems to be able to meet the expected traffic demand. It also includes the associated investment plan, not only the expansion projects identified, but also the replacement investments or major maintenance of the infrastructure.
- **Long-term development and land reservation**: this section shows the very long-term development potential of the airport, identifying the main areas that may be subject to expansion in the future and therefore should be reserved to ensure the airport's growth.
- **Collection of Drawings**: the last section includes the main drawings of the airport, both for its current situation as well as for the airport's future development.

2 Current situation of the airport

The objective of this section is to perform a detailed characterization of the current infrastructure existing at the airport, to know the starting point for the subsequent definition of the airport's infrastructure development plan. To this end, it includes:

- General description of the airport and its main subsystems, including airfield, aircraft parking apron, passenger terminal and other facilities.
- Evaluation of the current conditions of these facilities and their compliance with the regulatory reference framework, as well as the general environmental conditions at the airport.
- Definition of the estimated capacity of the main airport subsystems.

To facilitate its understanding, the chapter is structured by airport subsystem, so that all the analyses referring to the same subsystem are included in the same subchapter.

2.1 General considerations

2.1.1 Airport location

The South Caicos Norman B. Saunders Sr. International Airport (IATA code: XSC; ICAO code: MBSC) is located in the center of the island, and less than a five-minute drive from the main settlement of Cockburn Harbour. South Caicos Island is known for its salt industry ruins, as well as for offering a range of water sports, and secluded beautiful beaches. As there is no public transportation and no taxi stand at the airport, the primary form of transport for visitors is by rental car or complimentary resort transportation.

Figure 1. South Caicos Airport location

Source: Google Earth, ALG Analysis

2.1.2 Airport general design

The South Caicos Airport is a one-runway (RWY 11 and RWY 29) airport with a declared ICAO aerodrome category 3C. Although due to its RWY length it could be classified as a code 4C airport, the 3C declared runway in the AIP is enough for narrow-body aircraft operations. The preferential configuration is runway 11 (from west to east). All buildings and facilities are located in the southwest part of the airport, such as the ARFF building and control tower, the commercial apron, the commercial terminal, the vehicle parking and road access.

The commercial apron, with 11,000 $m^{2,}$ counts with 4 autonomous stands available, 2 for code-A/B aircraft and for 2 code-C. The commercial terminal counts with 2,800 m^2 and separated departure and arrival flows. With

respect to parking lots, there is a public car parking with 50 lots, an employees' parking with 8, and 6 spaces for taxis.

The airport almost borders in the north with the Caribbean Sea, whereas in the south it borders with a salina.

The aerodrome reference temperature is 32 Celsius degrees, with an elevation of 8.39 feet (2.6 meters) above mean sea level. The airport operates between 10:00 UTC (6:00 local time) and 22:00 UTC (18:00 local time). Regarding flight operations, flights are operated with non-precision visual flight rules (VFR).

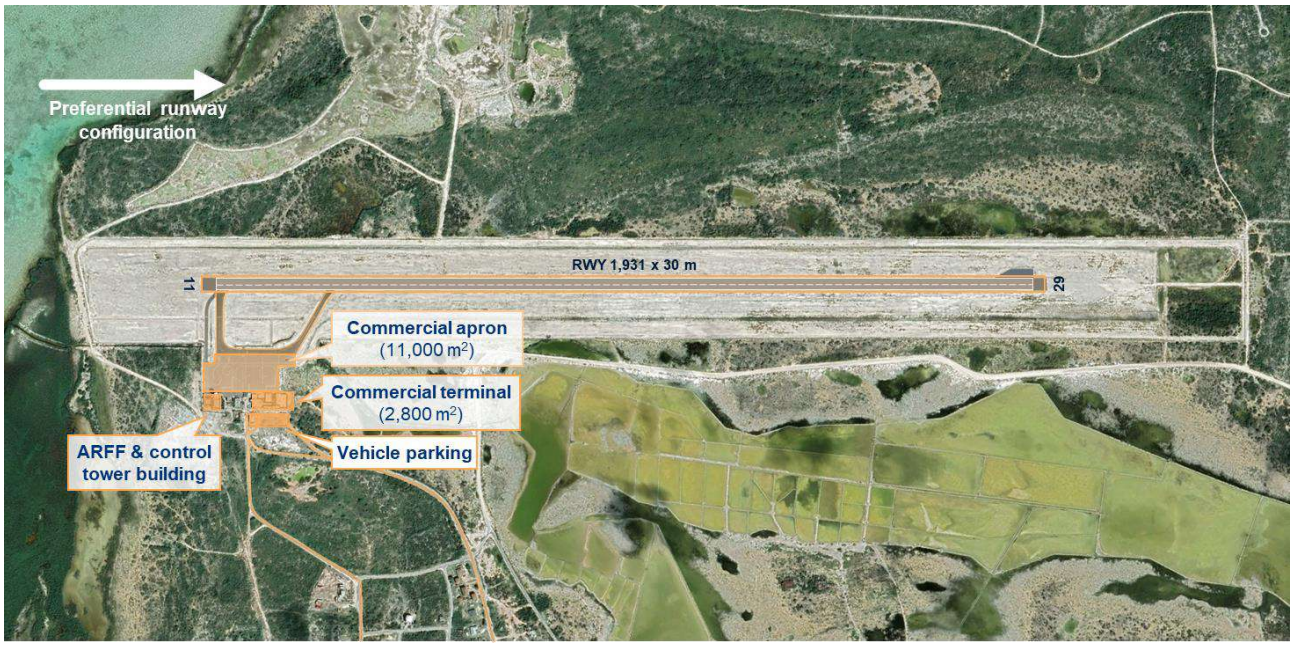


Figure 2. General view of South Caicos Airport

Source: Google Earth, TCI AIP, ALG Analysis

2.2 Airfield

2.2.1 General description

The airfield is composed by a unique asphalt runway (11/29) with the following dimensions:

- Runway 11: 1,931m x 30m (TORA, TODA, ASDA, LDA). Preferential runway configuration.
- Runway 30: 1,931m x 30m (TORA, TODA, ASDA, LDA).

Besides, the airport has a strip of 2,051m x 150m (AIP data), and a declared RESA of 240x90m at each threshold. The airfield has two taxiways that connect the runway and the apron.

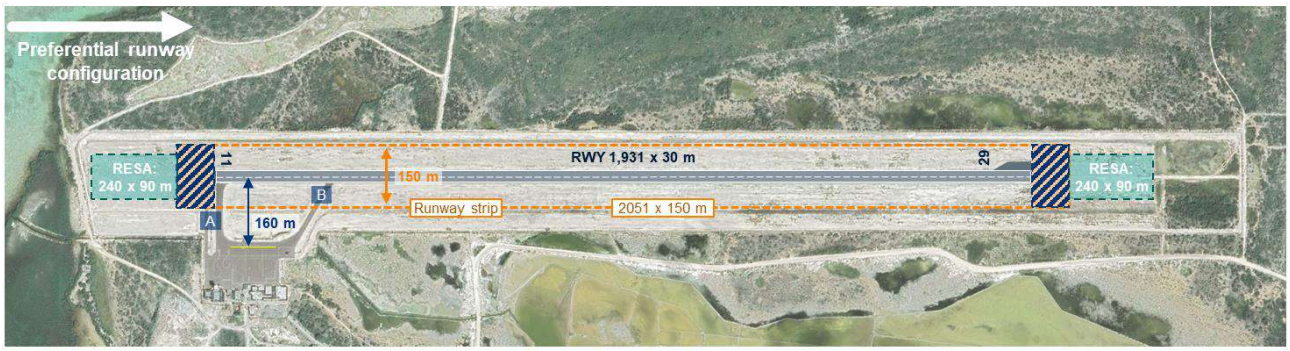


Figure 3. Airfield dimensions

Source: Google Earth, ICAO Annex 14, TCI AIP, ALG Analysis

2.2.2 Current runway and taxiway conditions

Runway and taxiway conditions were analyzed considering AIP data and the observations made by the project team during the site visit in March 2024. The conclusions about the runway are mostly positive: pavement condition is good throughout the entire runway, which was recently repaved and counts with a proper draining system. However, the runway does not have shoulders, but it has a white runway edge marking and edge lights for nighttime operation.

For the taxiways, it is worth mentioning the lack of shoulders in both, resulting in a potential non-compliance.

Figure 4. Runway images obtained during the site visit

Source: TCIAA, TCI AIP, ALG Analysis

The taxiway's condition is good, albeit its non-compliance with ICAO requirements, topic that will be addressed in the following subchapter.

2.2.3 Compliance with ICAO regulations

The airfield infrastructure compliance with ICAO requirements is key to guarantee operational safety within the airport. For this analysis, both the observations obtained during the site visit and the ICAO Annex 14 rule were considered.

3C	4C		Annex 14 ICAO
✓	~	RWY width & shoulders	Width 30m without shoulders for code 3C, and 45m without shoulders for code 4C
✓	✓	RWY strip length RWY strip width	60m before THR and beyond the end of RWY for codes 3 and 4; 75m on each side of RWY centerline for non-instrument code 3 or 4
✓	✓	RESAs length RESAs width	90m from the end of the strip for code 3 or 4; (240m recommended) at least twice of the RWY width
~	~	TWY width & shoulders	Width 15m and 25m with shoulders for codes 3C and 4C
✓	✓	Min distances	93 m between RWY & TWY centerlines for Non-instrument codes 3C and 4C
✓	✓	Holding bays	75m from the RWY holding position to the RWY centerline for Non-instrument codes 3 and 4

Figure 5. Analysis of airfield compliance

Source: ICAO Annex 14, ALG Analysis

As the analysis shows, the main issues of non-compliance regarding the runway and the taxiway are the lack of shoulders in the runway to comply with a code 4C aerodrome (although current dimensions are enough for a 3C airport, which is enough for the operation of narrow-body aircraft), and the taxiways width and shoulders. To give response to these two infrastructure needs, it is recommended to widen the taxiway A and taxiway B up to 25m (including shoulders) so they can be used by code C aircraft.

2.2.4 Airfield operations

South Caicos Airport has a single runway, so both take-offs and landings are carried out on the same one. Since it has two taxiways, aircraft can limit the waiting time to enter/exit the runway. The different runway configurations and their respective operations are detailed below.

In the runway 11 landing and take-off configuration (preferential runway configuration), aircraft landing must taxi the entire runway to the apron, while the take offs are only required to taxi to the runway 11 headland, which is directly connected to the commercial apron.

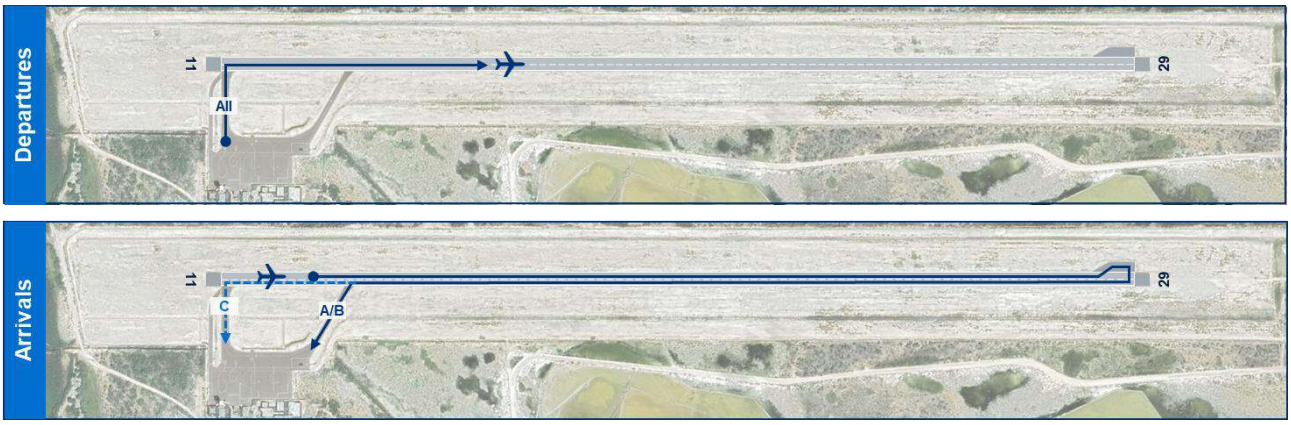


Figure 6. Take-off and landing routes in RWY 11 configuration

Source: Google Earth, ALG Analysis

On the other hand, in runway 29 configuration, for departures the aircraft must travel the entire runway and turn at the respective turning platform. Nevertheless, for arrivals, most arriving aircraft (based on the current fleet mix) can exit the runway via the most-centered taxiway without the need of backtracking at the end of it. Nevertheless, if the arrival flight is a code-C aircraft, it must take the RWY 11 head taxiway.

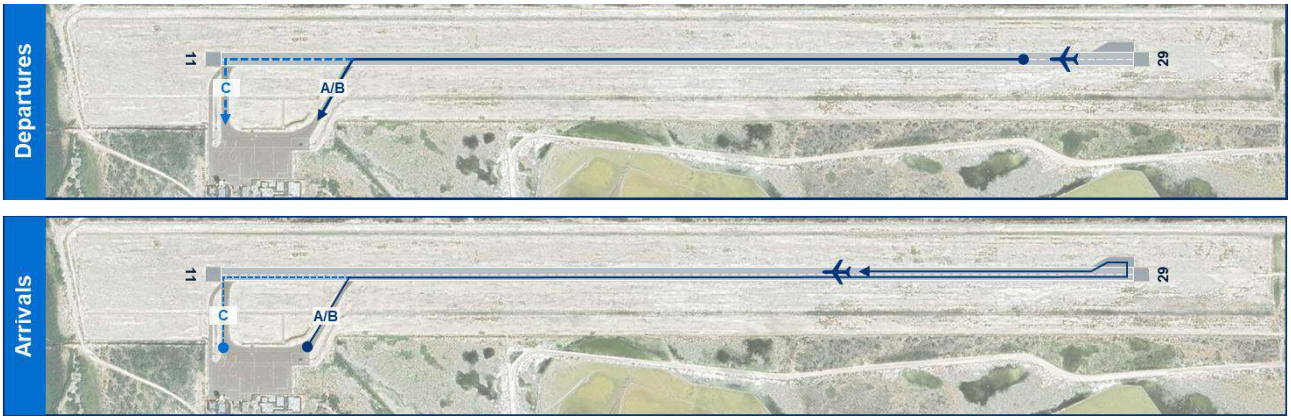


Figure 7. Take-off and landing routes in RWY 29 configuration

Source: Google Earth, ALG Analysis

2.2.5 Estimated airfield capacity

The runway capacity is directly related to the aerodrome configuration, the fleet mix, and the surveillance capacity of the air traffic controllers. To define the most restrictive minimum separation distance between operations of arrivals and departures, the airfield configuration has been analyzed, along with the classification of the wake turbulences and the capacity of the air traffic controllers, as previously mentioned. It was assumed a distance between arriving aircraft of 8 NM. Hereafter, separation times (in seconds) are shown for each configuration:

Arrival → Arrival

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~460	~410	-
Type C	~460	~410	-
Type D/E	-	-	-

Arrival → Departure

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~240	~240	-
Type C	~225	~225	-
Type D/E	-	-	-

Departure → Arrival

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~230	~190	-
Type C	~230	~190	-
Type D/E	-	-	-

Departure → Departure

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~60	~60	-
Type C	~90	~90	-
Type D/E	-	-	-

Figure 8. Separation times in RWY 11 configuration (seconds)

Source: ALG Analysis

Arrival → Arrival

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~265	~220	-
Type C	~265	~220	-
Type D/E	-	-	-

Arrival → Departure

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~235	~235	-
Type C	~230	~230	-
Type D/E	-	-	-

Departure → Arrival

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~230	~230	-
Type C	~230	~230	-
Type D/E	-	-	-

Departure → Departure

1st aircraft	2nd aircraft		
	A/B	C	D/E
Type A/B	~230	~230	-
Type C	~230	~230	-
Type D/E	-	-	-

Figure 9. Separation times in RWY 29 configuration (seconds)

Source: ALG Analysis

The results are based on a sample of 4,000 operating sequences assuming a 2023 design day fleet mix based on the airport's tower flight plan (35% code-A, 55% code-B, 10% code-C). The current runway capacity (sustainable) is around 15 ATM/h, for both configurations, reaching up to 17 ATM/h and 16 ATM/h for runway 11 and runway 29, respectively.

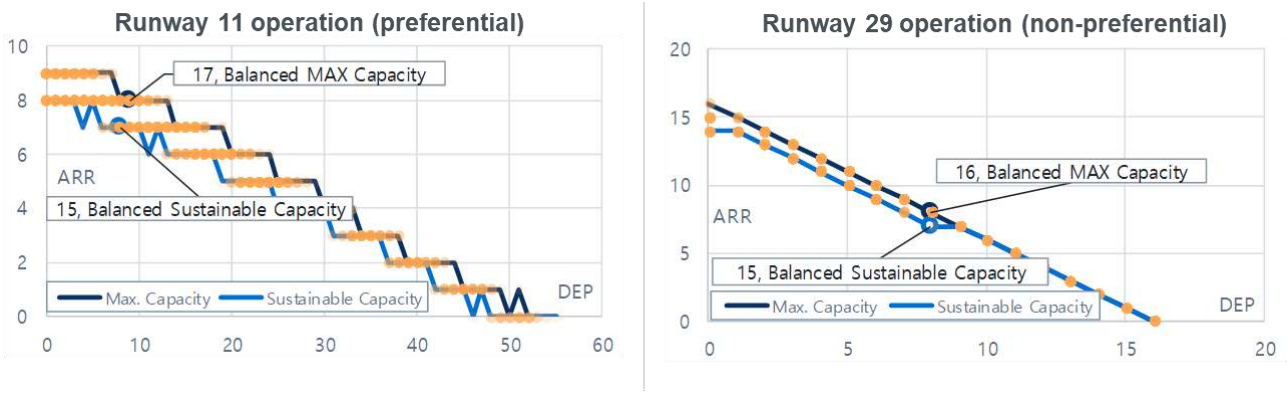


Figure 10. Runway capacity simulation results (ATM/h)

Source: ALG Analysis

Capacity in runway 11 requires arrivals to taxi back the entire runway length prior to exiting, translating into high arrival separation times. However, given that departing aircraft have relatively low separation times, the runway capacity lies between 15 and 17 ATMs/h.

For runway 29, operation requires departures to taxi ~1,940m for codes C and 1,650m for codes A/B prior to taking-off, extending departure times. Arrivals have lower separation times, but this does not fully offset departure times, yielding a runway capacity of 15-16 ATMs/h.

2.3 Apron

2.3.1 General description and capacity

The South Caicos Airport owns a sole commercial aviation apron in use within its perimeter, with direct connection to the runway through both taxiways. There are 2 type A/B stands, and 2 type C stands.

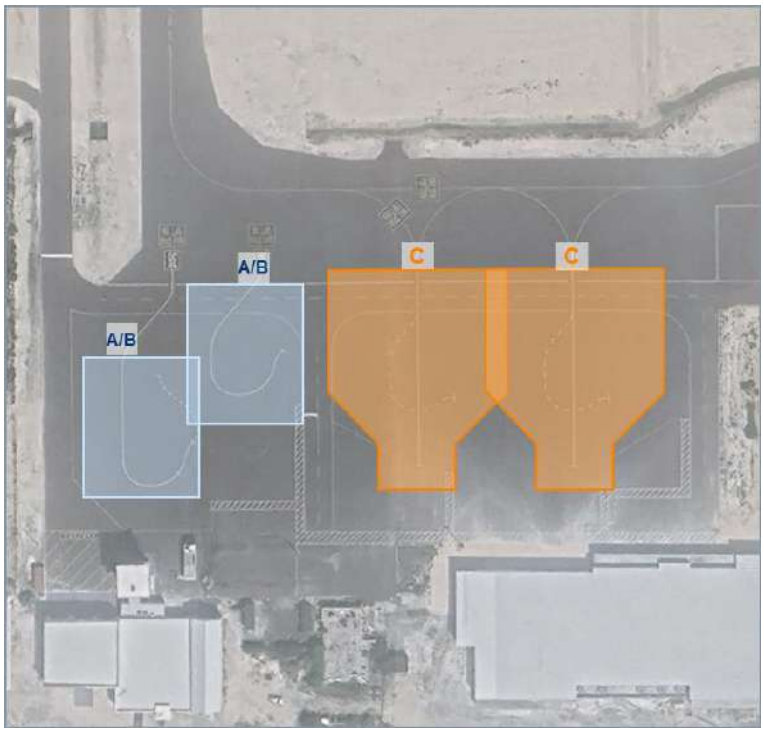


Figure 11. Commercial apron and stands

Source: Google Earth, ALG Analysis

2.3.2 Current apron conditions

The current stand configuration allows 2 code-A/B and 2 code-C aircraft parked simultaneously. The apron was recently repaved, with its surface in a good condition. Nevertheless, the apron does not have the adequate pavement strength to accommodate larger code-C aircraft (only ATRs and E-jets would be able to operate regularly as of today).

The stands in the commercial apron are in a loop configuration (autonomous stands), avoiding the need for light aircraft to use pushback tugs. The painting on the apron is in a good state; however, there is not clear walkway for the passengers to walk to/from the terminal building when boarding/disembarking the aircraft.

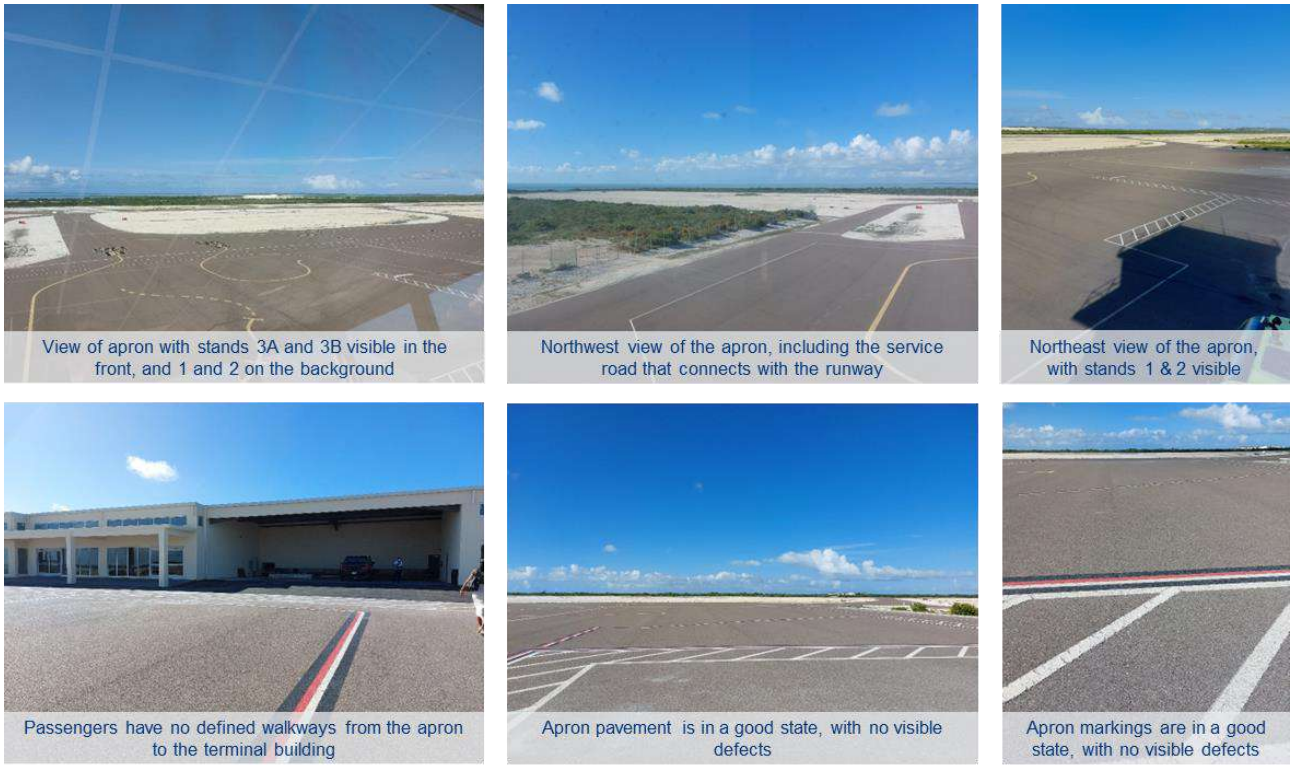


Figure 12. Apron images obtained during the site visit

Source: ALG Analysis

2.3.3 Compliance with ICAO regulations

The apron complies with all required parameters and estate.

2.4 Terminal building and other areas

2.4.1 General description of the terminal building

The current terminal has 2,800 m^2 with separated fluxes for arrivals (international and domestic). For departures the flux is the same for both type of passengers. The terminal is divided into a check-in area, international and domestic departures, domestic arrivals and international arrivals. Retail and several other areas are yet to be adapted, with their respective spaces unused.

The terminal has 2 boarding gates and there is a single security screening lane and a general boarding area, which do not get saturated presently given the existing low traffic levels.

Although the layout of the immigration area should be studied, it is ready to handle arriving international passengers.

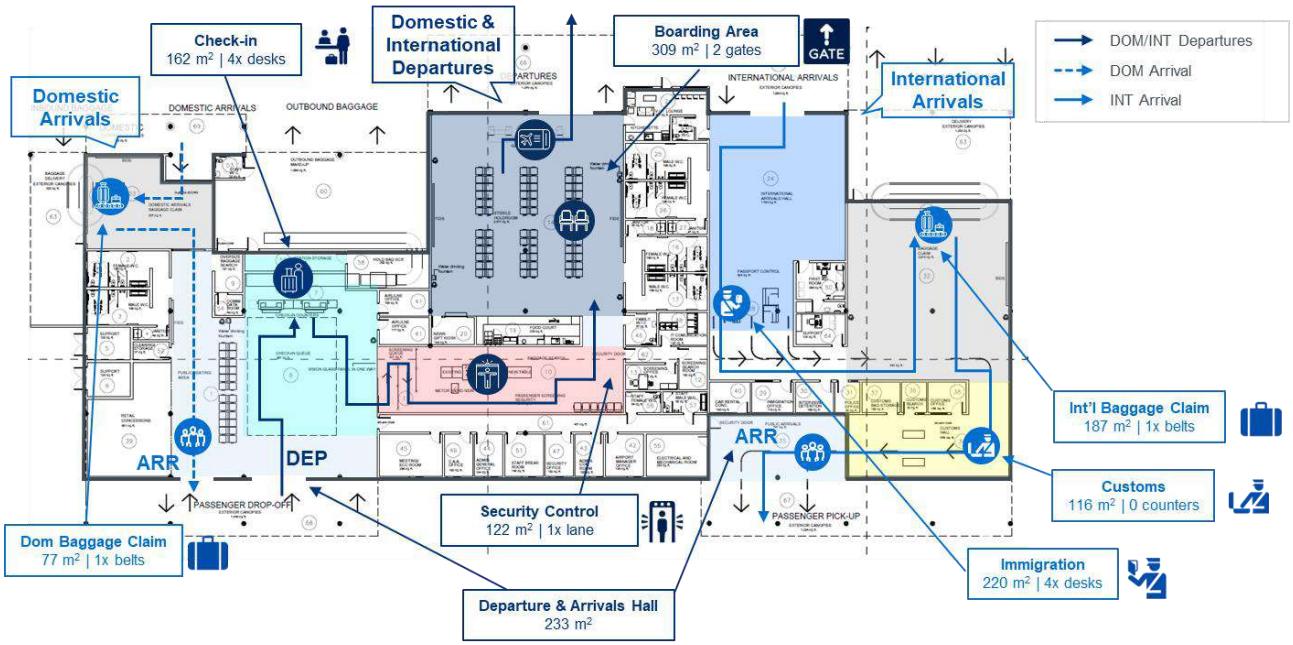


Figure 13. Terminal building drawing with the different equipment

Source: TCIAA AIP, ALG Analysis

2.4.2 Current conditions and operations of the terminal building

The analysis of current conditions and terminal operations has been carried out based on the information obtained during the visit to the airport.

The following was observed in the departures block (domestic and international):

- The terminal building was recently built, with many of its interior fitting still missing (equipment such as security scanners, some passenger seats, check-in computers or general furniture, among others).
- It counts with 4 check-in desks with an adequate queuing area.
- There is currently a single security screening lane. However, there is enough space for more than one lane.

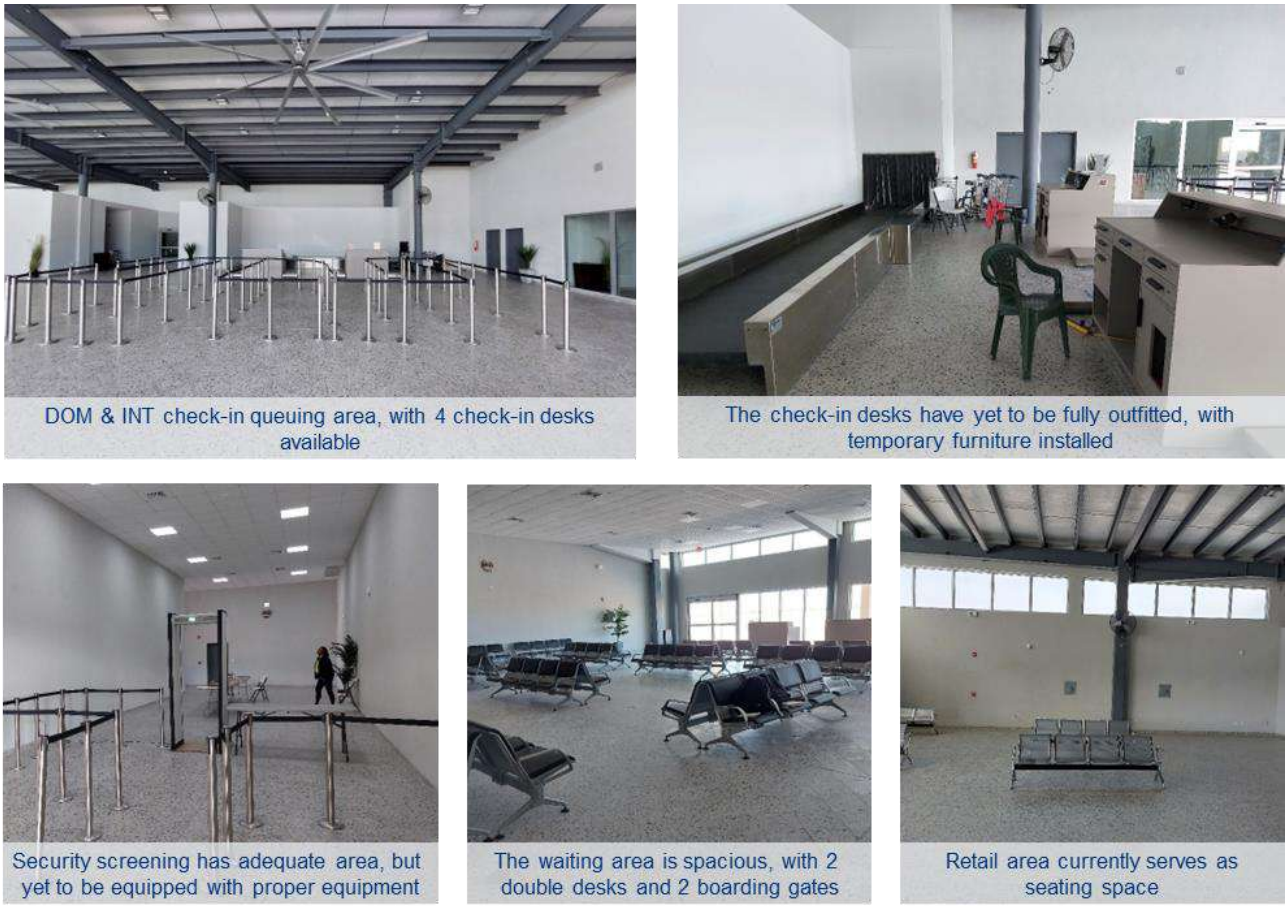


Figure 14. Departures flow images

Source: ALG Analysis

For the arrivals, there are two separated flows:

- Arriving passengers are separated into domestic and international flows, given that international arriving passengers must undergo immigration control.
- Domestic passengers enter the terminal building from the apron through a designated gate, and arrive in the baggage pick-up area, which then leads them to the main airport hall.
- International passengers reach the immigration control area prior to going through the baggage pick-up area. Then, the international flow also has to undergo customs control prior to exiting the terminal building.

Figure 15. Arrivals flow images

Source: ALG Analysis

2.4.3 Access and vehicle parking areas

The access to the terminal building is performed from the south, coming from Cockburn Harbour. Regarding vehicle parking, the airport counts with 50 lots in the public car parking, apart from 8 lots for employees and 6 spaces for taxis. The current parking lot capacity is enough to cover the airport need.

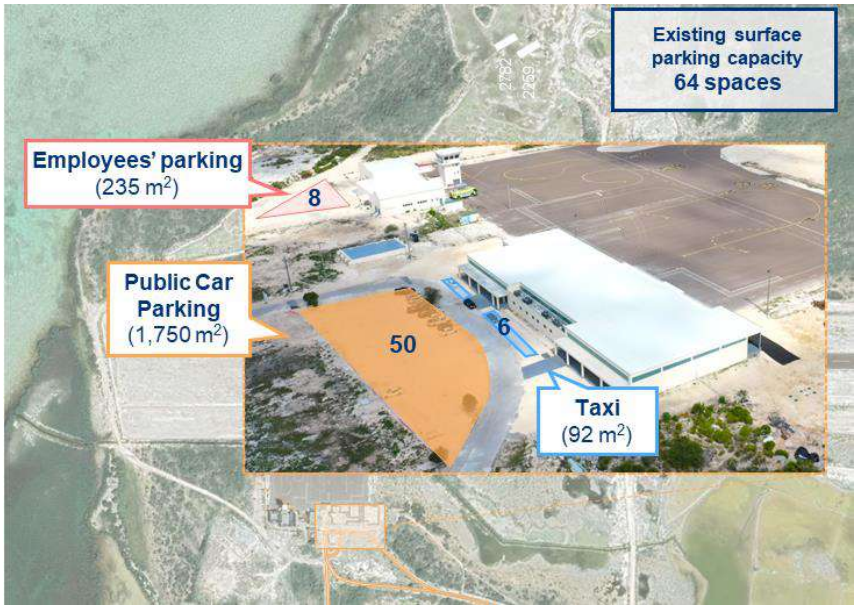


Figure 16. Parking lots images

Source: Google Earth, ALG Analysis

2.4.4 Other areas

Other areas include the Aircraft Rescue and Fire Fighting facilities, the airport perimeter, ATC tower and hangars. During the visit to the airport, the state of each facility, building and equipment was assessed.

The control tower and ARFF facilities are located opposite to the terminal building and have an area of over 1,000 m^2. Both buildings were recently completed and are in a good state, although some interior fittings and equipment are still missing.

The ARFF has recently acquired an Oshkosh Striker fire truck with capacity of 5,689 liters of water, 757 liters of foam, and 227 kg of dry chemical. The airport is classified as category 3 for ARFF, able to upgrade to category 4; this limits the size of aircraft that the airport may handle. In case of category upgrading (required for the regular operation of code-C aircraft), an additional truck will be required for this.

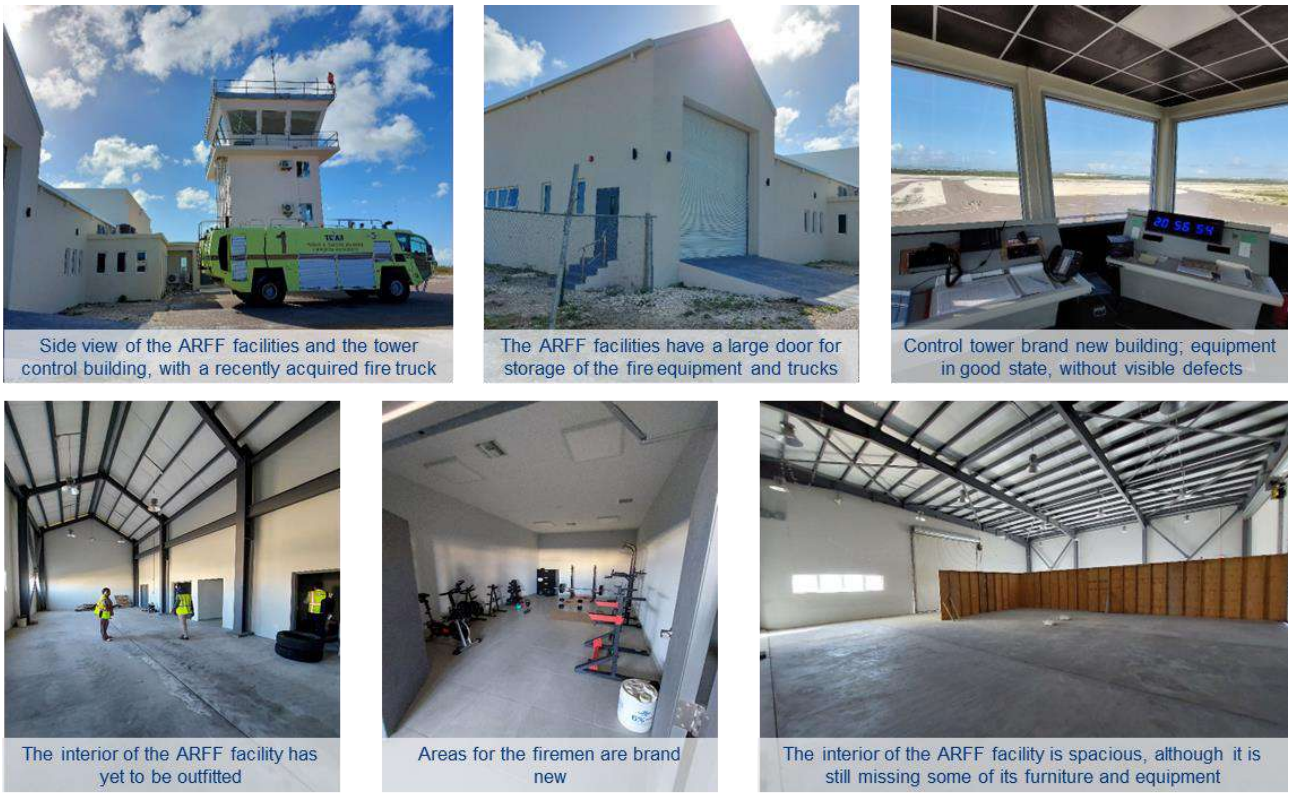


Figure 17. Current state of ARFF and control tower facilities and equipment

Source: ALG Analysis

Regarding the airport perimeter, most of it is fenced. However, the fencing is currently unfinished, leaving over 700 m of the perimeter exposed; this causes serious operational threats, which are currently affecting operations given the high amount of wildlife that penetrates the airport.

In addition, this also allows any person into the airport, creating potential safety and security threats for aircraft and passengers. The TCIAA is aware of the potential risks, and they are in process to complete the airport fencing, which is expected by 2024-Q4.

Figure 18. Missing fenced perimeter (expected to be completed by 2024-Q4)

Source: Google Earth, ALG Analysis

Figure 19. Current state of fenced area

Source: ALG Analysis

2.5 Current environmental situation

During the site visit, the project team observed multiple areas with abandoned machinery and equipment around the airport. All this due to poor waste disposal practices following the construction, in addition to dangerous materials not properly stored:

- Poor waste disposal practices are observed at the airport following the construction of the new terminal building, with construction material remaining in several areas.
- Multiple cases of dangerous material not properly stored are observes, posing risk for the airport workers and passengers.

- Non-standard cleaning practices are also observed, such as exposed cleaning material, which could present hygiene risks.

Figure 20. Current situation of machinery and equipment

Source: ALG Analysis

3 Market analysis and traffic projections

The objective of this chapter is to analyze the current situation of the air transport market and the tourism sector in Turks and Caicos and the region influenced by South Caicos Airport (XSC), in order to establish the necessary basis for determining the expected air traffic (demand) at the airport over the next 30 years. Thus, it includes:

- The current context of the air transport market in Turks and Caicos in general and South Caicos Airport in particular.
- The characterization of tourism in the country and its impact on the airport to define its strategy and development potential.
- Passenger traffic forecasts and annual aircraft movements for the next 30 years.
- Projections of peak hour design parameters, key for the subsequent definition of the infrastructure development plan.

3.1 Air transport market and tourism

3.1.1 Air transport market in Turks and Caicos

Turks and Caicos is located in the Caribbean region, specifically in the Lucayan Archipelago. Within the Caribbean, it ranks in the mid-low range of the top 20 destinations with 1.8 million seats, with an increase of +11% compared to 2019. The majority of its traffic is international, primarily from North America and the Caribbean, with relatively low domestic traffic.

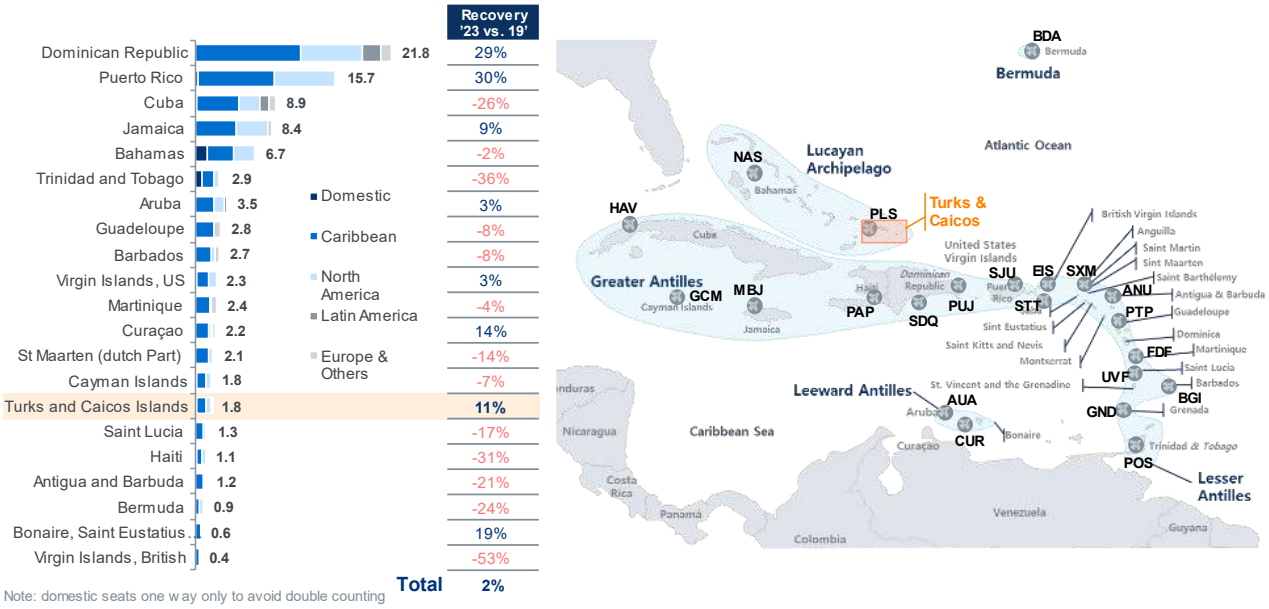


Figure 21. Air traffic of the Caribbean region by country (Mseats, 2023)

Source: OAG, ALG Analysis

The Caribbean region surpassed pre-COVID capacity levels in 2023, with an increase of +3.9%, led by the Dominican Republic and Puerto Rico. Turks and Caicos was among the top five countries with the most significant growth compared to 2019. This capacity recovery in the Caribbean was driven by traffic from North America and Latin America, where the market is predominantly controlled by foreign carriers, especially full-service carriers.

In contrast, the intra-Caribbean and domestic markets remain below 2019 levels, following a consistent trend over the past decade, with a -0.8% CAGR from 2013-2019. Factors contributing to this trend include the economic weakness of certain countries in the region, the absence of low-cost carriers, lack of competition, high fees and charges, and the use of turboprops with higher unit costs than larger aircraft.

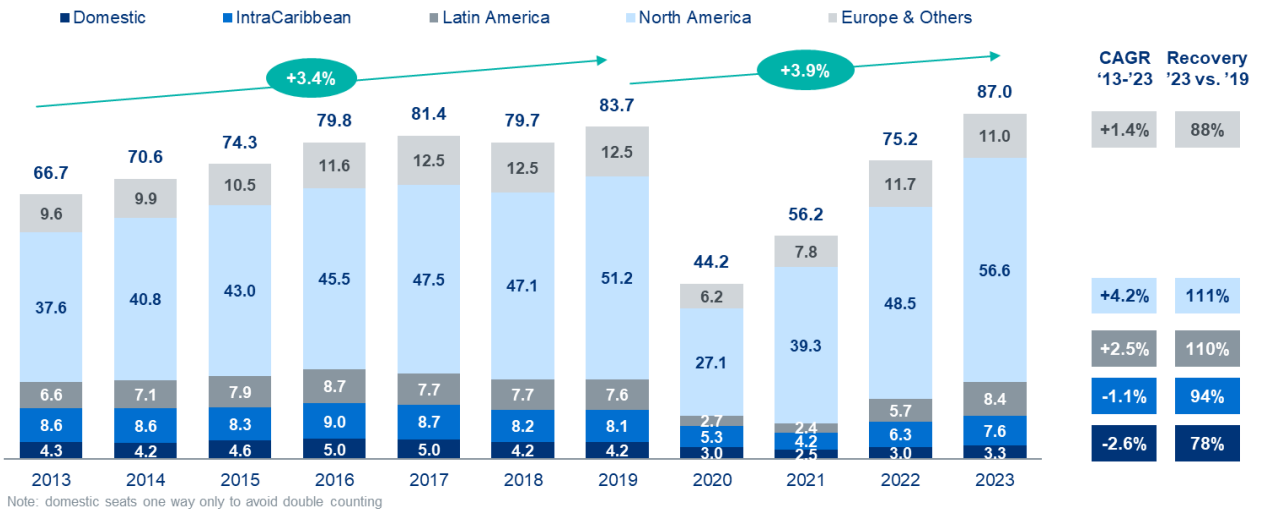


Figure 22. Historical Caribbean seat capacity evolution (Mseats, 2013-2023)

Source: OAG, ALG Analysis

The Turks and Caicos Islands Airports Authority (TCIAA) manages 6 of the country's 8 airports, including five secondary airports and Providenciales International Airport (PLS). Providenciales serves as the primary gateway and is the only airport with scheduled international commercial services, currently undergoing a PPP process.

- **Providenciales (PLS):** Located on Providenciales Island, it is the primary international gateway and the busiest airport in Turks and Caicos, accommodating a wide range of direct flights from various cities across North America and connection with Europe. Providenciales airport handled over 90% of the total passenger traffic in Turks and Caicos in 2023.
- **Grand Turk (GDT):** As the second largest airport in the territory, it is located 1.6 km south of Cockburn Town and handled over 90k scheduled passengers in 2023.
- **South Caicos (XSC)**: This airport, featuring a 1,829-meter asphalt runway, handled over 23k passengers in 2023, with scheduled flights from Providenciales and Grand Turk. Its terminal was inaugurated in Aug-23.
- **Salt Cay (SLX):** Serving Salt Cay Island, this airport is the 4th busiest in the country, handling approximately 900 passengers in 2023. It primarily connects to Grand Turk.
- **North Caicos (NCA):** Located adjacent to Major Hill Settlement and Bottle Creek Village, North Caicos airport caters to domestic charters and private flights, with plans for a boutique terminal but no commercial scheduled traffic as of today.
- **Middle Caicos (MDC):** This airport has been inactive since the construction of the North Caicos – Middle Caicos causeway, which began in 2007. It features a small terminal building and a 750-meter paved runway.

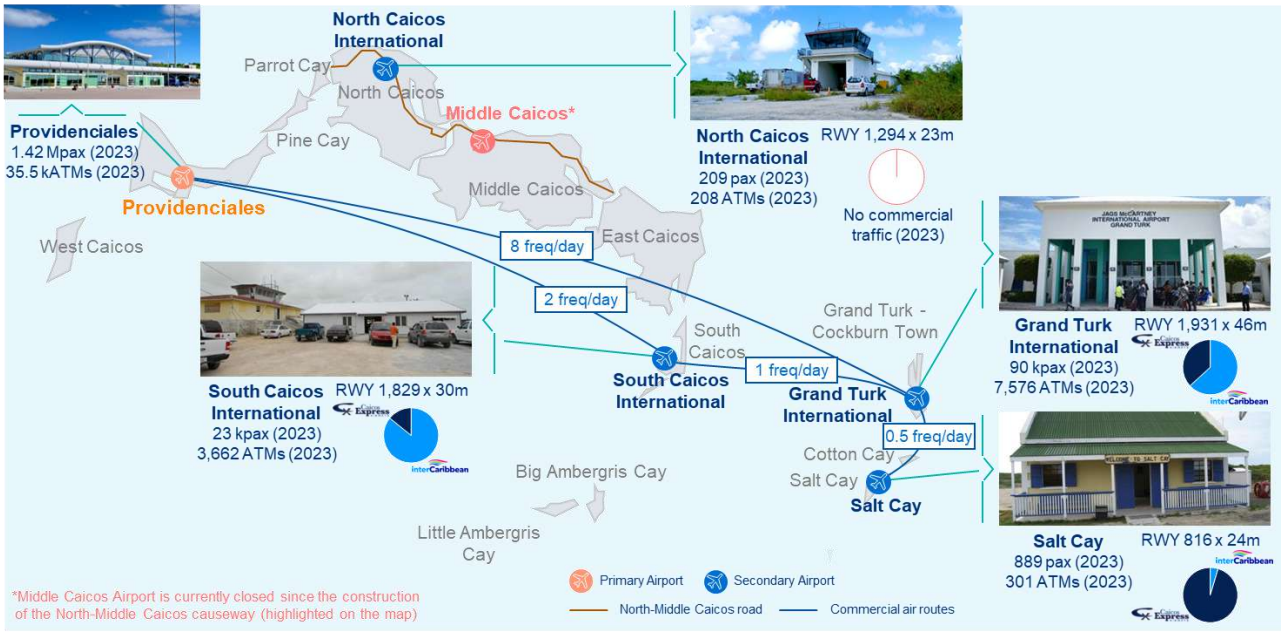


Figure 23. Turks and Caicos airport network characterization

Source: TCIAA, CAPA, OAG, ALG Analysis

In 2023, Providenciales International Airport flew to up to 45 destinations, making it the only airport in Turks and Caicos with international connections, as mentioned earlier. This includes 16 routes to North America and 23 routes to the Caribbean, giving the country the best intra-Caribbean connectivity in the region. The airport also operates three domestic routes to Grand Turk, South Caicos, and occasionally to Salt Cay. While international connectivity relies on foreign airlines, particularly USA carriers and InterCaribbean Airways, domestic connectivity is maintained by InterCaribbean Airways and Caicos Express.

Of the other TCIAA 5 airports, only South Caicos, Grand Turk, and Salt Cay operate scheduled domestic flights, while Middle Caicos remains closed. These domestic flights connect with Providenciales and include a few cross-island routes, such as Grand Turk to South Caicos and Grand Turk to Salt Cay.

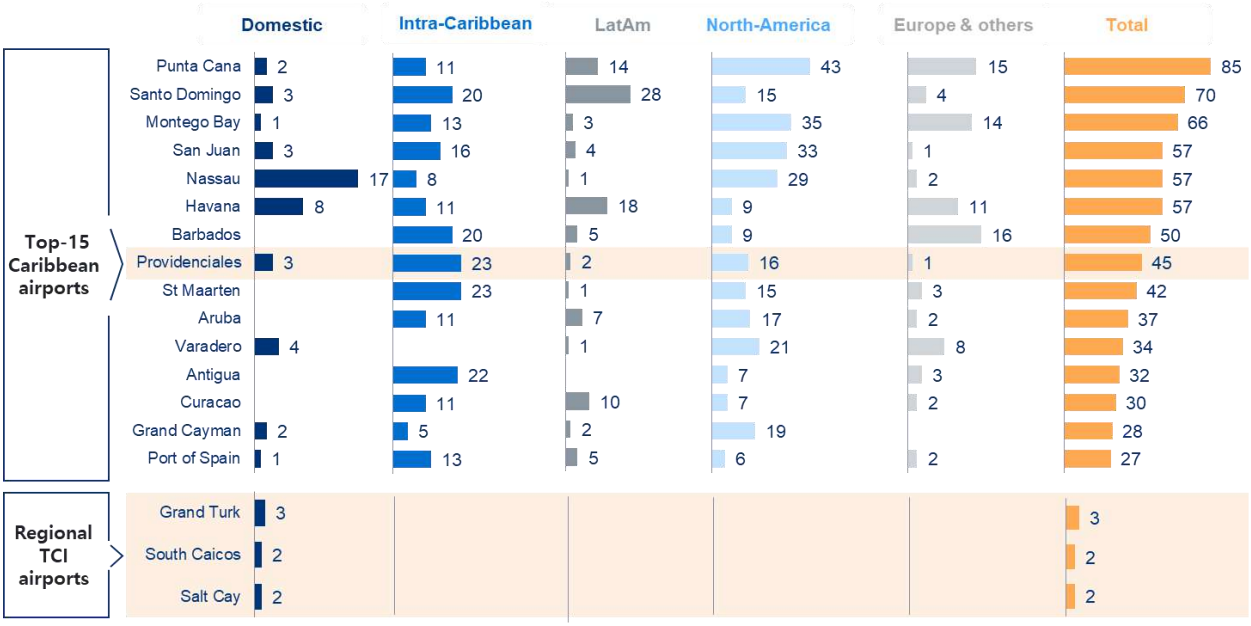


Figure 24. Connectivity at the Caribbean airports (# destinations, 2023)

Source: OAG, ALG Analysis

Turks and Caicos has demonstrated a strong post-pandemic recovery in seat capacity, surpassing 2019 traffic levels and reaching 1.93 million seats. From 2013 to 2023, the compound annual growth rate (CAGR) was 5.5%, driven mainly by international traffic, which has nearly doubled, and Caribbean traffic, which has almost tripled.

Figure 25. Evolution of seat capacity in Turks and Caicos (Mseats, 2013-2023)

Source: OAG, ALG Analysis

In terms of passenger traffic, it has grown at a slightly higher rate than seat capacity, with a CAGR of 6.0% from 2013 to 2023, reaching a peak of 1.54 million passengers in 2023. More than 90% of these passengers are handled at Providenciales, which saw almost 1.42 million passengers, followed by Grand Turk (90k pax) and South Caicos (23k pax). The other two airports with passenger traffic, Salt Cay and North Caicos, handled fewer than a thousand passengers each one.

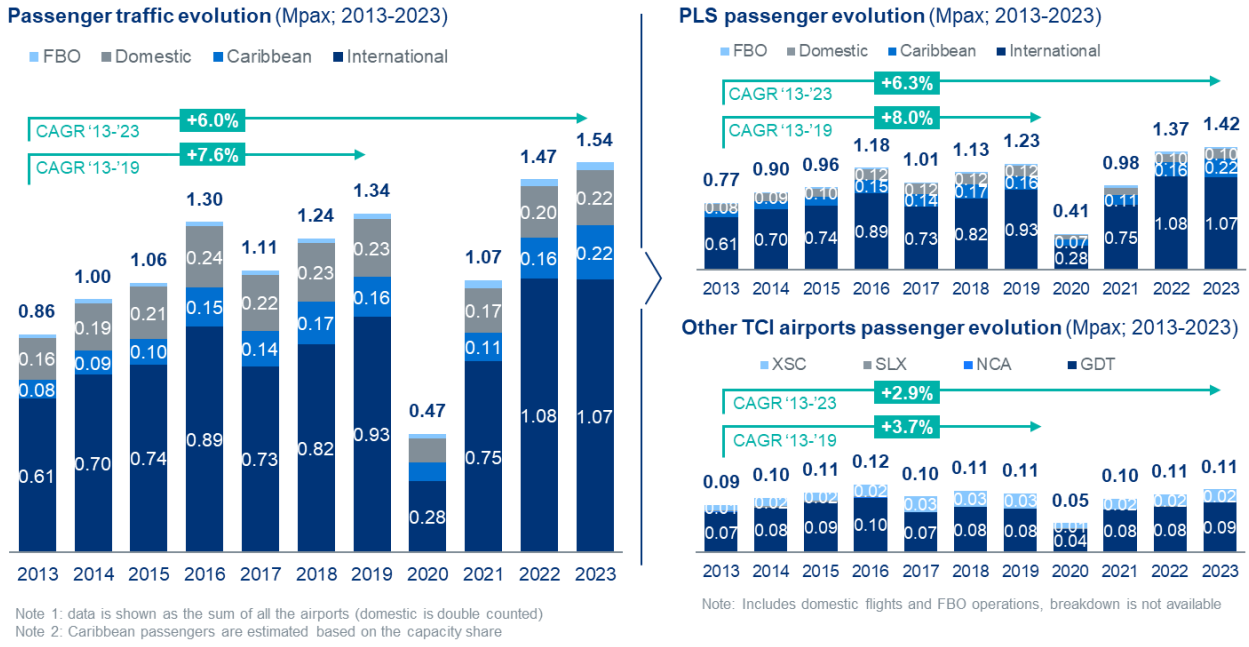


Figure 26. Evolution of passenger traffic in Turks and Caicos (Mpax, 2013-2023)

Source: TCIAA, OAG, ALG Analysis

This slightly higher growth rate in passenger traffic compared to seat capacity in recent years has enabled Turks and Caicos to recover and even surpass pre-pandemic load factors. In 2023, the overall load factor

reached 78%, higher than the 76% in 2019. This improvement was driven primarily by international routes, which achieved an 80% load factor, while domestic routes had a load factor of 69%.

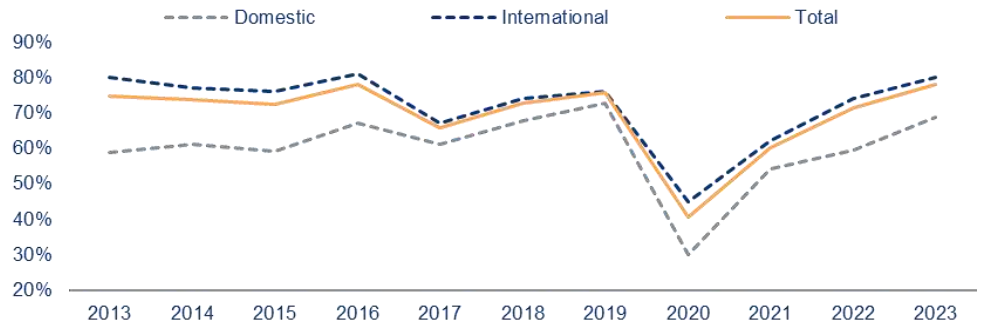


Figure 27. Evolution of load factor in Turks and Caicos (percentage, 2013-2023)

Source: TCIAA, OAG, ALG Analysis

3.1.2 Tourism in Turks and Caicos

International traffic is mainly driven by tourism, with approximately 49 million international tourists visiting the Caribbean region in 2019, of which Turks and Caicos accounted for around 3.3%.

Regarding tourism, the Caribbean has become a top destination, benefiting from its favorable climate and beaches. Turks and Caicos received 1.60 million visitors in 2019, reflecting an increase in its market share over the past few years. This growth underscores the rising popularity of Turks and Caicos as a preferred travel destination.

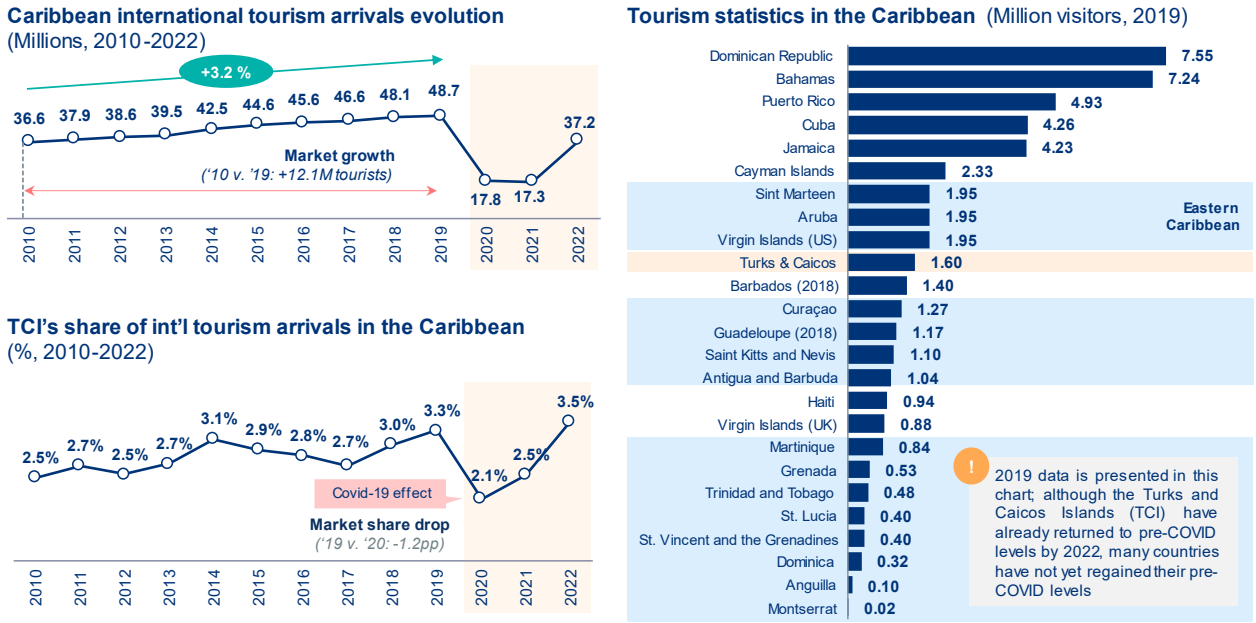


Figure 28. Caribbean Tourism sector

Source: World Tourism Organization (2023), World Bank, ALG Analysis

Turks & Caicos, with an area of 430 km² and a population of 49,300, is a constituent country of the British Overseas Territory located in the Caribbean Sea. The economy is primarily based on tourism, positioning Turks & Caicos as a high-yield tourist market among Caribbean destinations. In 2023, the GDP per capita was 23.9 kUSD, with over 90% of the GDP generated by the services sector. The islands attract almost 550,000 overnight visitors annually, highlighting their growing popularity as a premier travel destination.

Country	Surface (km²)	Population ('000)	GDP/ capita	Overnight visitors	Rooms	Tourism Expenditure (MUSD)	Diaspora ('000)	Top 3 Airlines	Positioning
Dominican Rep.	48,670	11,333	8,884	7,163,400	83,557	8,406	604	jetBlue, Delta, American Airlines	Mass tourism, VFR
Puerto Rico	8,870	3,260	28,976	3,273,100	14,488(*)	3,330	247	jetBlue, spirit, Frontier	Mass tourism, VFR
Jamaica	10,990	2,826	5,359	2,478,400	28,955	3,621	24	jetBlue, Delta, American Airlines	Mass tourism, VFR
Cuba	109,880	11,194	7,544	1,613,400	75,044	1,037	3	sunwing, Air transat, American Airlines	Mass tourism, VFR
Bahamas	13,880	413	31,002	1,452,400	15,724	3,515	64	jetBlue, bahamasair, American Airlines	Mid-range tourism, Niche, high-yield
Aruba	180	106	33,103	1,101,000	11,929(*)	2,303	54	jetBlue, United, American Airlines	Mid-range tourism
Virgin Isl. (U.S.)	346	106	38,454	684,800(*)	2,994(*)	-	-	spirit, Delta, American Airlines	Niche, high-yield
Guadeloupe	1,628	396	27,115	650,000(*)	5,443(*)	-	90	Air France, Corsair, Air Caraïbes	Mid-range tourism
Martinique	1,128	367	25,279	556,000	4,200	-	68	Air France, Corsair, Air Caraïbes	Mid-range tourism
Barbados	430	282	17,004	539,700	6,564(*)	929	35	Virgin Atlantic, Caribbean Airlines, InterCaribbean	Mid-range tourism
Curacao	444	192	13,771	489,600	11,000	988	57	KLM, TUI fly, American Airlines	Mid-range tourism
Turks & Caicos	**430**	**49**	**23,935**	**549,161(*)**	**4,647**	**877**	**26**	United, InterCaribbean, American Airlines	Niche, high-yield
Sint Marteen	34	44	35,873	373,000	3,368	957	29	Delta, Winair, American Airlines	Niche, high-yield
St. Lucia	620	180.25	10,734	356,000	4,767	1,080	8	British Airways, jetBlue, American Airlines	Mid-range tourism
Cayman	260	69	77,974	284,300	7,263(*)	39(*)	29	United, Cayman Airways, American Airlines	Niche, high-yield
Antigua Barbuda	440	94	15,702	265,100	3,816(*)	773	29	British Airways, InterCaribbean, American Airlines	Mid-range tourism
Trinidad Tobago	5,130	1,535	14,742	226,500	7,731	324	78	Caribbean Airlines, British Airways, jetBlue	Mid-range tourism, VFR
Virgin Isl. (UK)	153	31	31,738(*)	173,000	2,240(*)	-	-	Silver Airways, Cape Air, InterCaribbean	Niche, high-yield
Haiti	27,750	11,725	1,152	148,000(*)	1,814(*)	73	19	jetBlue, spirit	VFR
Bermuda	53	64	111,865	145,900	1,720	143(*)	-	jetBlue, British Airways, American Airlines	Niche, high-yield

(*) Last available year

Visitors Profile: Mass tourism; Mid-range tourism; Niche, high-yield; VFR

Figure 29. Caribbean Countries Positioning Analysis (2023)

Source: UNWTO, Oxford Economics, World Bank, ALG Analysis

Turks and Caicos Islands saw an estimated 1.46 million arrivals in 2023, with 520,000 of these being stayover visitors traveling by air. Air visitor arrivals have experienced moderate growth in recent years, with a compound annual growth rate (CAGR) of 4.1% from 2011 to 2019. Although the COVID-19 pandemic caused a significant drop of 77% in arrivals, the subsequent years saw a remarkable recovery of 82% in 2022. Most air travelers, over 90%, originate from the USA and Canada, while Europe accounts for less than 5% of visitors.

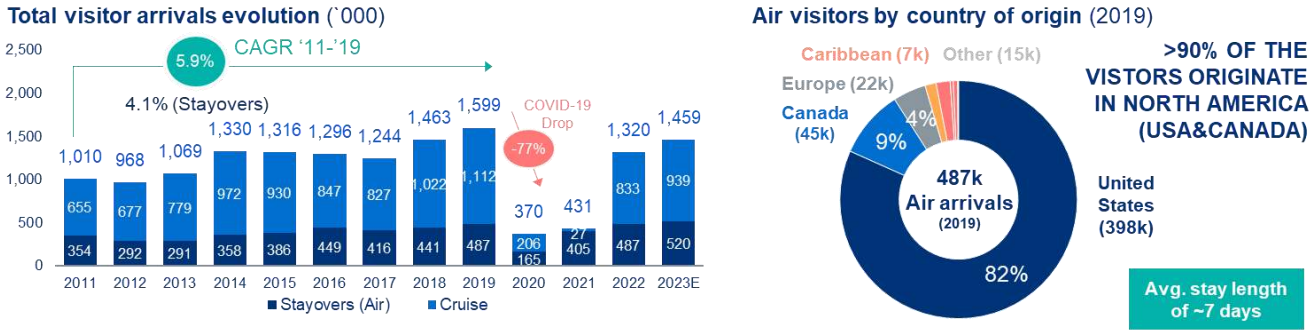


Figure 30. Visitor arrivals to Turks and Caicos

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

Regarding the seasonality of visitors, September and October are the low season due to hurricanes. Air visitor numbers peak in December and from March to July, while cruise visitors see their highest numbers in December. Cruise arrivals, concentrated in Grand Turk, exhibited a stable monthly pattern before COVID-19, and it is expected to reach 1.1 million cruise passengers in 2024.

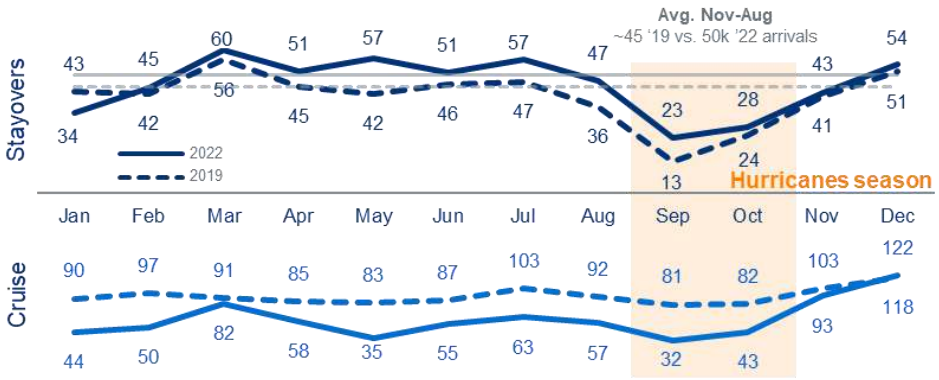


Figure 31. Monthly visitor arrivals evolution (thousands)

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

The destination appeals to high-yield, high-end luxury markets, as well as significant mid-range and niche markets, attracting a diverse range of travelers. Business class travelers also contribute to the high yield. Visitors from the USA and Canada typically stay for an average of 7 days, those from Latin and South America for 6 days, and tourists from the UK and Europe for around 10 days. The main reasons for travel include business investment, beach experiences, diving, water sports, honeymoons or romantic getaways, attending festivals, golfing, and ecotourism. Visitor arrivals have been relatively consistent since 2018, with the exception of a decline in September and October due to the peak hurricane season. The destination is gaining significant popularity, establishing itself as a top destination in the Caribbean, with 98% of visitors likely to recommend it.

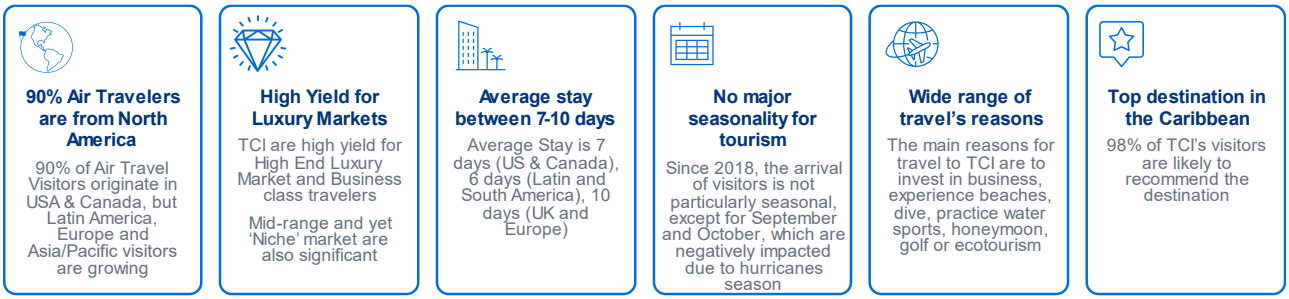


Figure 32. Turks and Caicos passenger profile

Source: National tourism strategy and implementation plan for Turks & Caicos, ALG Analysis

Each island in Turks and Caicos boasts a unique tourist profile, offering a variety of experiences that cater to diverse preferences:

- Providenciales serves as the gateway, renowned for its premium Grace Bay Beach and luxury accommodations, capturing the majority of international arrivals by air. This island is the hub of tourist activity, offering high-end resorts, fine dining, and various water sports.
- Grand Turk captivates visitors with its rich history and top-tier scuba diving opportunities. As the sole cruise port in the archipelago, it attracts significant cruise traffic, showcasing colonial architecture, historical landmarks, and vibrant marine life.
- South Caicos is known for its vibrant marine ecosystem and traditional fishing communities. This island presents a strategic opportunity for sustainable tourism, emphasizing eco-friendly practices and preserving local traditions, making it an ideal destination for environmentally conscious travelers.
- The quieter islands like North and Middle Caicos offer unique attractions for those seeking serene beauty, rich marine life, and authentic local experiences. These islands provide a tranquil escape with stunning landscapes, hidden beaches, and opportunities to explore the local culture and nature.

This diverse destination caters to luxury seekers, adventure enthusiasts, and cultural explorers alike, making Turks and Caicos a unique jewel in the Caribbean.

Compared to more developed tourist regions like Cancun or Montego Bay, Turks and Caicos has a lower overall hotel density. The country has a hotel density of 19 rooms per km², with nearly 87% of the hotel capacity concentrated in Providenciales. This brings Providenciales closer to typical values seen in other established regions, which range between 60-80 rooms/km².

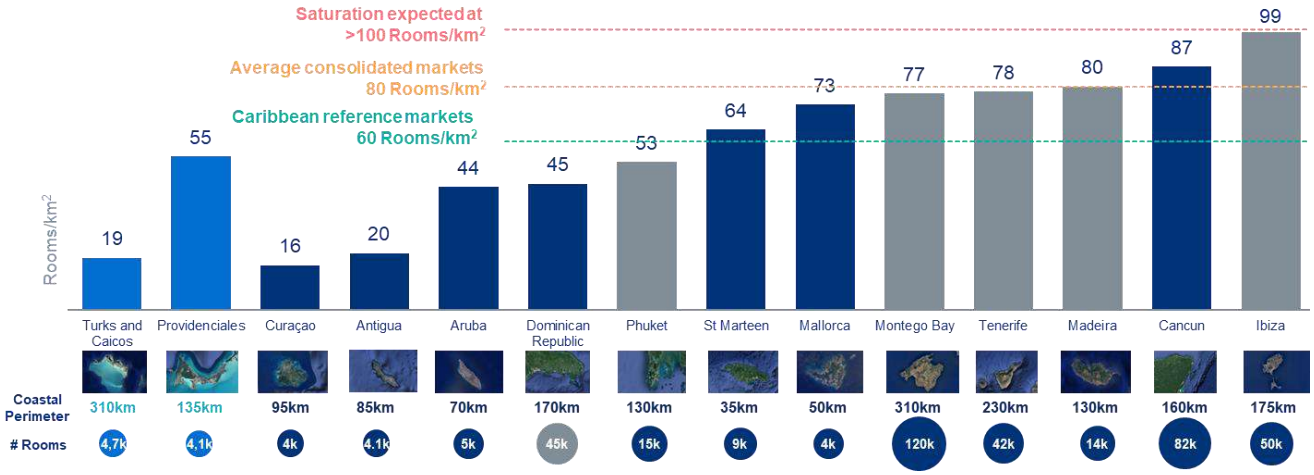


Figure 33. Hotel rooms per square kilometer at touristic destinations

Source: National tourism strategy and implementation plan for Turks & Caicos, ALG Analysis

This disparity highlights the potential for further tourism infrastructure development in Turks and Caicos. To foster balanced growth, it is essential to focus on developing infrastructure in islands other than Providenciales. This strategy will not only support the expansion of hotel capacity but also drive the development of airports and other essential facilities across the archipelago.

Given the current state of the tourism ecosystem in Turks and Caicos Islands (TCI), the National Tourism Development Strategy seeks to establish quantitative objectives for up to 2032, focusing on four key aspects: increasing the number of visitors and tourism revenue, enhancing the visitor experience, and expanding hotel capacity. The anticipated increase in hotel capacity is based on information gathered from on-site visits in the country.

Figure 34. Objectives of the National Tourism Development Strategy (2032)

Source: Turks & Caicos Islands Tourist Board, National tourism strategy and implementation plan for Turks & Caicos, ALG Analysis

Additionally, the tourism development strategy also aims to achieve the following objectives:

- Enhance connectivity from Providenciales to all other tourism destinations in the country, with a particular focus on improving air connectivity.
- Diversify the current range of tourism products and strengthen existing offerings to attract a broader range of tourism segments and markets.
- Consolidate the primary source markets for tourism demand, namely the USA, Canada, and the UK, while expanding market share in new potential markets across Europe (Germany, Italy, France, Spain, Benelux, etc.), Latin America (Brazil, Colombia, Chile, Argentina, etc.), and the Caribbean region.
- Improve the quality of working conditions and increase job opportunities for the TCI population.

3.1.3 South Caicos Airport - air transport market and tourism

South Caicos, or “the Big South”, is the southernmost island within the country, and the smallest main island, characterized by its Salinas, near the airport. It is in the center of the island, and less than a five-minute drive from the main settlement of Cockburn Harbour. There is not public transportation nor taxi stand at the airport. The primary form of transport for visitors to South Caicos is by rental car or complimentary resort transportation.

The airport is connected with 2 daily frequencies to Providenciales and 1 frequency to Grand Turk, all of them operated with small turboprops. In 2023, South Caicos reached 23,000 domestic passengers, not surpassing pre-pandemic levels yet but achieving a compound annual growth rate (CAGR) of 9.3% from 2013 to 2023, and still below the peak of 2018.

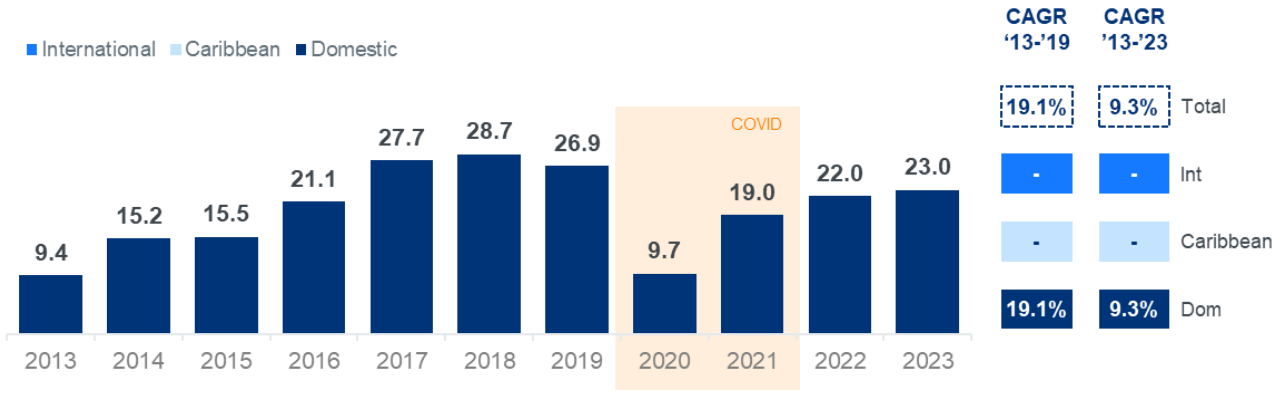


Figure 35. Evolution of passenger traffic in South Caicos (kpax, 2013-2023)

Source: TCIAA, OAG, ALG Analysis

The airport's scheduled commercial flights are primarily operated by InterCaribbean Airways, which accounts for approximately 85% of the seat capacity, with the remaining capacity provided by Caicos Express. InterCaribbean primarily operates with a fleet consisting of Havilland Canada - Bombardier DHC6 Twin Otters (19 seats). Meanwhile, Caicos Express uses Cessna Light Aircraft Twin Turboprops (8 seats).

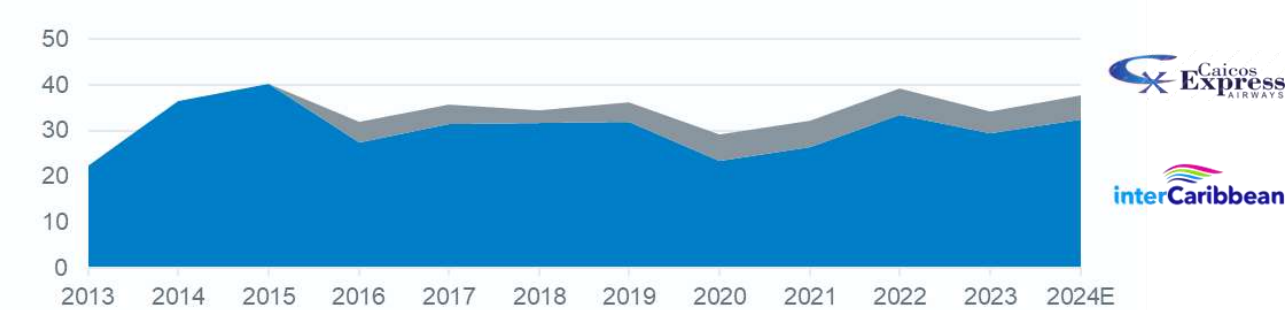


Figure 36. Evolution of seat capacity by airline in South Caicos (kSeats; 2013-2024E)

Source: OAG, ALG Analysis

Figure 37. Commercial scheduled routes in South Caicos (2024E)

Source: OAG, ALG Analysis

Furthermore, South Caicos offers a variety of tourist attractions:

- Secluded Beaches: Cove Beach, East Bay, and Long Beach are the finest but not easily accessible coasts, for general swimming on South Caicos, and all of them offer crystal-clear turquoise water and white sand.
- Water Sports: South Caicos has long held the reputation as a scuba diving destination, but bonefishing, kayaking, paddleboarding and kiteboarding are also beginning to attract global attention.
- Attractions: South Caicos exported more salt than any other island in the territory. Ruins from this salt industry still remain to be explored: colonial warehouses in Cockburn Harbour or the Boiling Hole, a feed water cave.

Quick Facts	
Population	~2k (2023 estimated)
Hotel rooms	87 (2 hotels)
Best Beach	East Bay
Highest Point	Valley Bay Hill (46 m)
Most popular attraction	Cockburn Harbour
Natural Hotspot	The Adm Cockburn Land and Sea NP

Figure 38. Main tourist facts in South Caicos (2024)

Source: Visit Turks & Caicos Islands, TCIAA, ALG Analysis

One of the key issues facing the island is the lack of hotel capacity and major hotels (currently there are 87 rooms split into two hotels), which constrains the development of activities such as diving. In the short to mid-term, there is anticipation for a hotel development with more than 100 rooms, thanks to the development of the luxury hotel Salterra Resort and Spa, among others. During the site-visit, ALG team had the opportunity to access the site of works and verify that they are well advanced.

Figure 39. Salterra Resort & Spa brochure

Source: Salterra resort & spa, Marriot, ALG Analysis

Figure 40. Salterra Resort & Spa ongoing construction works

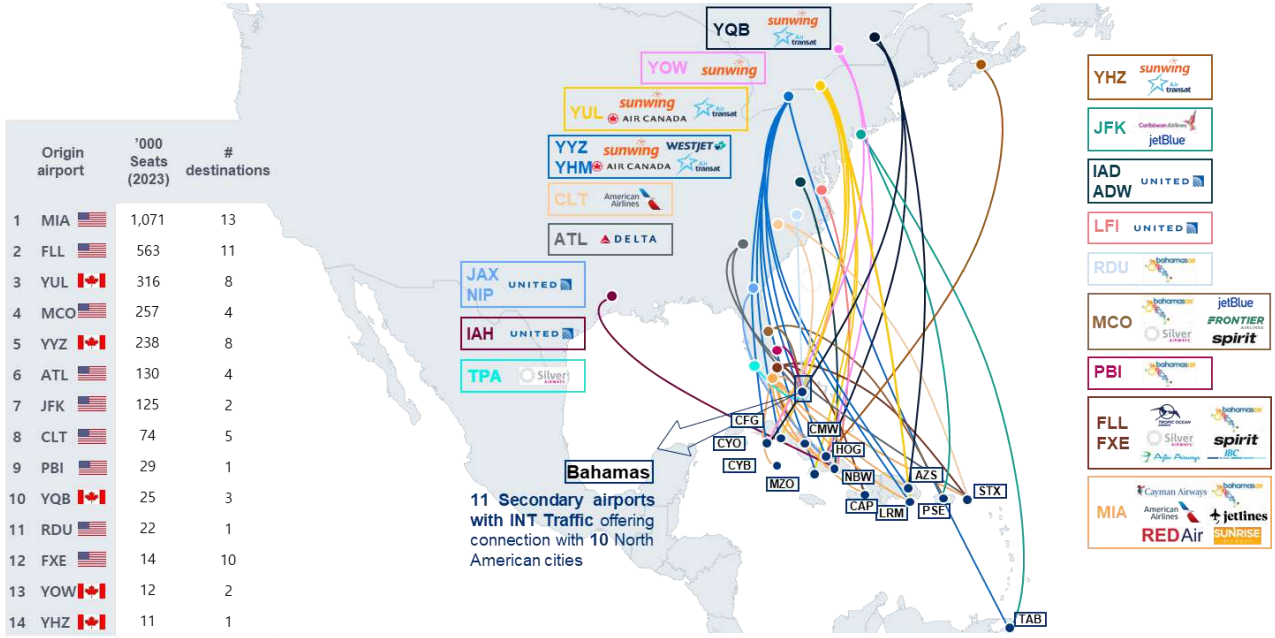
Source: ALG analysis

Currently, the main obstacle for an international traveler, primarily from North America, is the connection through Providenciales, as South Caicos does not have any international scheduled commercial routes. This can lengthen the journey and add the inconvenience of a layover in PLS, which can be particularly troublesome during peak times and certain days of the week. As a result, North American passengers often need to spend nearly an entire day to travel to South Caicos and another day for the return trip.

As previously mentioned, the American market is of critical importance for the development of South Caicos. This market already enjoys solid connectivity with many airports handling fewer than 2 million passengers in the Central America and Caribbean regions, which are not the primary gateways of their respective countries,

a position South Caicos aims to achieve. North America has robust connectivity with the main airports of the Caribbean, concentrating most of the activity on the East Coast (~87%, ~50M seats), primarily from Florida and New York. These locations represent potential new destinations for secondary airports in Turks and Caicos.

North American hubs have solid connectivity with several secondary airports in the Caribbean, offering routes to over 25 destinations. In addition to these major hubs, there are more than 30 airports in North America that connect to secondary airports within the Caribbean. When focusing on the smallest Caribbean international airports with less than 0.5 million passengers, and their connections to North America, it is evident that Florida handles the majority of the traffic. This is particularly relevant for South Caicos' short-term targets, with significant connections from Miami (MIA), Fort Lauderdale (FLL), and Orlando (MCO) airports.



Note: Caribbean secondary airports (excluding country main gateways) with INT traffic and <2MPax have been selected for the present analysis

Figure 41. Caribbean airports with <0.5 Mpax – Connectivity from North America

Source: OAG, CAPA, ALG Analysis

Based on the performance of other tourism-focused secondary airports, South Caicos shows significant potential to develop connectivity to the US, where it currently does not have scheduled regular flights, and to strengthen its domestic capacity. Establishing connections to the US would open up a major market for South Caicos, with Florida being the top priority due to its proximity and high demand for Caribbean travel.

Country	Airport	Seat Capacity (Mseats, 2023)	Destinations (# destinations, 2023)						Other		
			Domestic	Intra - Caribbean	Latin America	North America	Europe & Others	Total	Island Population (k, 2023)	#rooms	Main Airlines
Honduras	RTB	0.37 0.33 0.71	5	-	3	9		17	110.0	3,402	
Bahamas	FPO	0.32 0.23 0.55	1	-	1	7		10	47.5	1,694	
Bahamas	MHH	0.18 0.20 0.38	2	-	-	8		10	16.6	1,818	
Bahamas	GGT	0.15 0.22 0.37	3	-	-	5		8	7.3	826	
Bahamas	ELH	0.1 0.2 0.30	3	-	-	6		9	9.2	645	
Cayman Islands	CYB	0.14	2	-	-	1		3	2.0	268	
Turks & Caicos	GDT	0.13	3	-	-	-		3	7.2	155	
Panama	RIH	0.07	-	-	-	3		3	267.0	2,200	
Turks & Caicos	XSC	0.03 Room for growth	2	-	-	-		2	2.0	87	
British Virgin Islands	VIJ	0.02 DOM INT	1	2	-	-		3	4.5	732	

Figure 42. Benchmark of South Caicos vs. tourism-focused secondary airports

Source: OAG, Oxford Economics, UNWTO, ALG Analysis

Turks and Caicos aspires to develop its tourism industry to position itself alongside countries that already attract American tourists to their secondary airports, such as the Bahamas, Cuba, the Cayman Islands, and the US Virgin Islands. In this context, Turks and Caicos should differentiate itself from countries like Antigua and Barbuda, the UK Virgin Islands, or Curaçao, which primarily attract tourists through their main gateways.

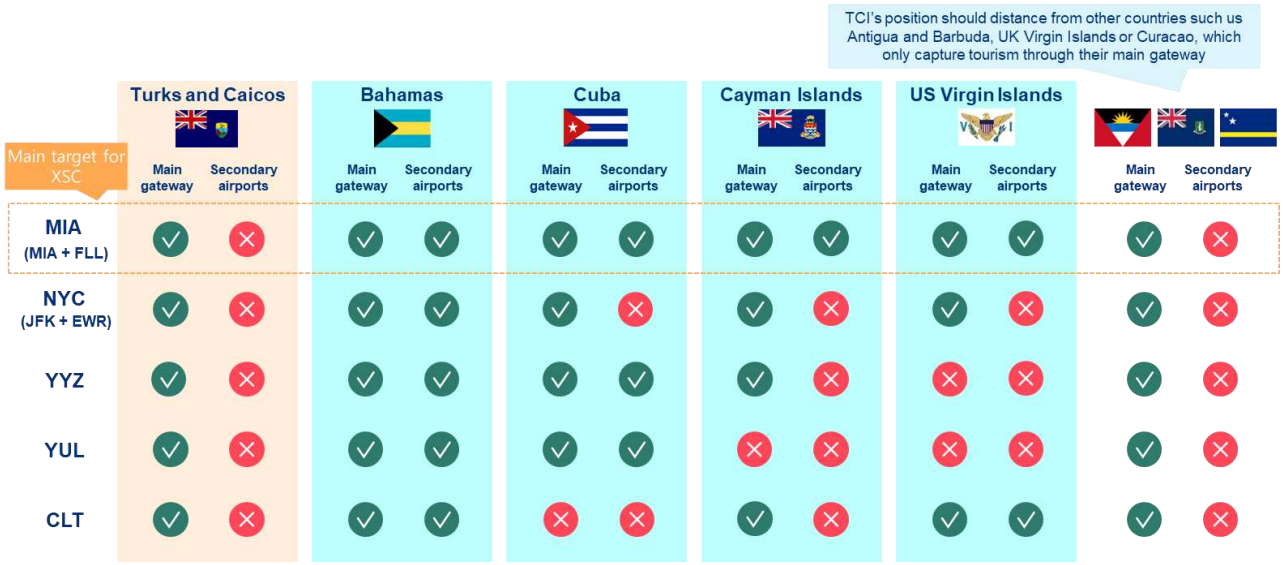


Figure 43. Main gateways and secondary airports connectivity

Source: OAG, CAPA, ALG Analysis

In conclusion, South Caicos is the TCI destination with highest tourism development potential as of today. Despite being historically hindered by a lack of hotel infrastructure, significant upcoming developments are expected to boost tourism industry at the island, with Salterra resort & spa poised to be a game changer. These tourists are high-yield travelers seeking luxury resorts and villa stays, who prefer not to spend time in transit or connecting through Providenciales, thus positioning the airport the next in line for regular international traffic development.

With certain infrastructure improvements (some of which are already underway, such as the new passenger terminal), South Caicos Airport is well-positioned to grow and welcome regular international commercial flights, primarily from the Southeastern US (Miami, Atlanta, Charlotte), initially using regional aircraft (ATR/EMB) with

70-140 seats, like other Caribbean tourist spots. In parallel, there is an opportunity to increase the volume of executive flights at FBO facilities, given the high-end passenger profile.

Additionally, to ensure a sustainable growth, it is crucial to enhance domestic connectivity with PLS, enabling visitors to arrive from other parts of the US without the critical mass required for a direct route at South Caicos. Strengthening connectivity with Grand Turk is also key to create synergies between the TCIAA secondary airports network.

3.2 Traffic forecast for South Caicos Airport

3.2.1 Traffic forecast methodology

The methodology for passenger traffic projection is based on a combination of a long-term macroeconomic top-down projection and short to mid-term adjustments made at an airline-route level (bottom-up projection). This approach considers the development of new routes at the airport in accordance with the previously defined strategy.

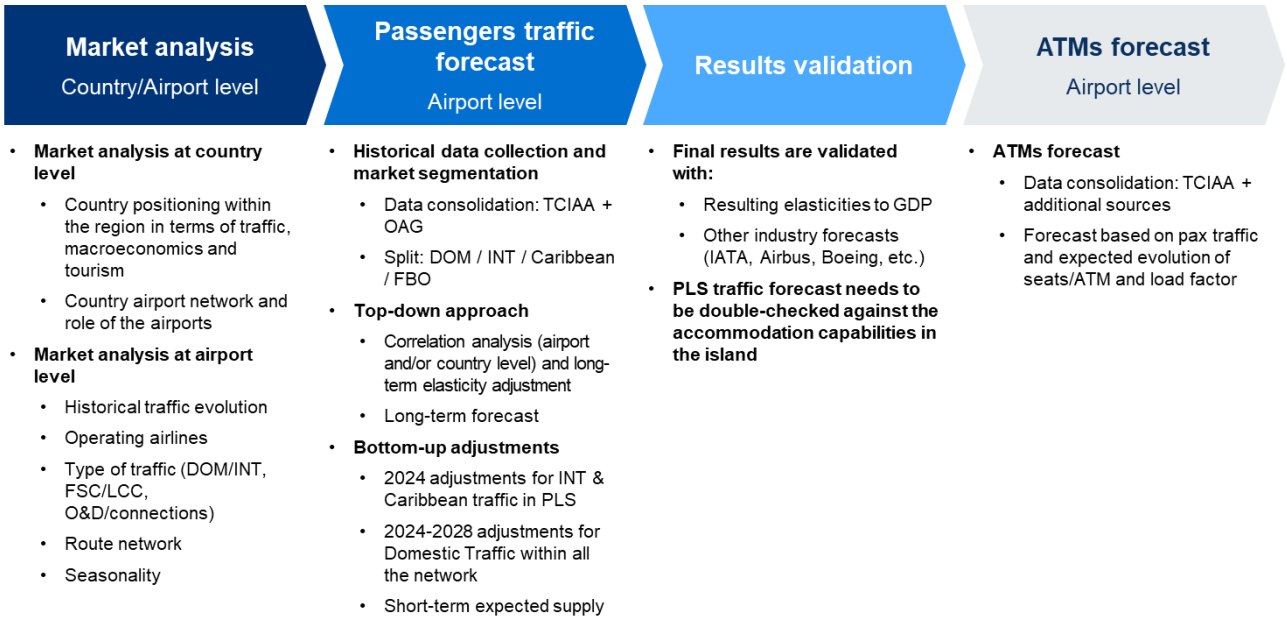


Figure 44. Traffic forecast methodology

Source: ALG Analysis

3.2.2 Macroeconomic projection (top-down approach)

The conclusions drawn from the market analysis serve as the foundational framework for the traffic projections. These insights guide the methodology application based on relevant market segmentation and the historical period for regression analysis. In this context, it is identified that the optimal approach for forecasting medium and long-term traffic at Turks and Caicos airports entails establishing growth rates through an econometric model.

Considering the econometric trend of the model, the Top-down approach emerges as the most suitable methodology consisting of:

- A multivariable linear regression based on macroeconomic variables is used to generate air traffic projections. The robustness and significance of these projections are determined by evaluating the correlation factor (R^2) and employing various statistical tools.
- When statistical significance is not achieved with the aforementioned methodology, an elasticity-based model is used. This econometric approach is based on assessing the impact of economic growth on air traffic growth. A coefficient of elasticity is derived and applied to the macroeconomic growth to calculate the air traffic growth.

Both methodologies are widely used in the market, preferring multiple linear regression whenever R^2>85%. While achieving higher correlation factors (R^2) is desirable, it does not always equate to the most accurate traffic projections. Conclusions identified on the market analysis are key, being used to select the adequate methodology and to address results validation. Also, by employing a range of additional statistical tools, the model aims to approach a more robust and reliable result.

Multivariable linear regression model

$$Pax = m_1 \cdot V_1 + m_2 \cdot V_2 + \ldots + m_n \cdot V_n + b$$

- V: Descriptive variables
- m: Coefficients of the regression
- b: Intercept

Key issues — Preferred model

- Regression is validated with statistical parameters:

Parameter	Validity	Meaning
R^2	> 85%	Quality of the model to replicate the results
Adjusted R^2	> 75%	Measures the same as R^2, taking into account the number of variables included in the model
P-value	< 0.05	Checks the contribution of each variable to the model

- Coefficients are estimated and variables are projected to obtain the passenger forecast. If no combination of variables is identified as significant, an elasticity-based model is then applied

Empirical elasticity model

$$\Delta Pax = \varepsilon_1 \cdot \Delta V_1 + \varepsilon_2 \cdot \Delta V_2 + \ldots + \varepsilon_n \cdot \Delta V_n$$

- V: Descriptive variables
- ε: Empirical elasticities

Key issues — Elasticities used for validation

- Growth in passenger traffic is explained by the variation of selected variables and empirical elasticities
- Normally applied to GDP for the specific market, elasticity relates GDP growth with traffic growth
- Historical values are used to validate future projections, as well as empirical values based on different sources (market, ICAO, etc.)

Figure 45. Top-down forecasting model selection

Source: ALG Analysis

Given the model's considerable sensitivity to macroeconomic assumptions over extended periods, the reliability of econometric variables becomes crucial to ensure a stable and robust traffic forecast. This involves a range of factors, highlighting the necessity for thorough accuracy and precision in the projection, such as national and regional GDP projections, GDP/capita, inflation and exchange rates, international trade (imports / exports), foreign direct investment, middle class size, average household income and other macro variables.

	TCI & Inbound countries GDP	GDP TCI	Population of TCI	ForEx (non-USD markets)	Oil price	Yields	Tourism
Relation with air traffic	GDP evolution reflects the economic development of the country and the wealth level of its citizens and economic sectors	Regional GDP reflects the particular economic development of the state and the wealth level of the citizens	Population reflects the development of the country and represents the volume of people which have access to air transport	As local currency devaluates, foreign currencies become stronger and inbound traffic is stimulated because travel becomes cheaper	Fuel usually represents the largest OpEx for airlines. Air fares are directly correlated with Brent price (lower yields, higher traffic)	The offer of airlines affects yields and stimulates short-term demand. Yields represent the accessibility to air transport	Tourism is one of the main sources of air traffic, and therefore airport traffic is directly correlated
Pros & Cons for air traffic forecast	**Pros** • Robust projections are available • Normally correlates extremely well **Cons** • May have limitations for very small markets	**Pros** • Normally correlates extremely well **Cons** • Does not take into account inbound traffic (the most important one within TCI)	**Pros** • Projections available **Cons** • Does not take into account inbound traffic (the most important one within TCI) • Might show dependence with GPD per capita	**Pros** • Projections available • Tends to correlate well with int'l traffic **Cons** • Volatile projections • Different impact for outbound and inbound • Non representative for TCI (USD-based)	**Pros** • Tends to correlate well with traffic **Cons** • Volatile projections, only for short-term • Difficult to find a good correlation	**Pros** • Good correlation with short-haul and long-haul markets **Cons** • No robust projections available	**Pros** • Exceptional correlation factors with traffic **Cons** • No robust projections available; usually projections are too optimistic (targets) • May inter-correlate with GDPs
Elasticity	+	+	+	+ −	−	−	+

Main descriptive variable

Figure 46. Top-down variable selection

Source: ALG Analysis

It is important to emphasize that GDP tends to be the most relevant and reliable macroeconomic variable to describe the evolution of air traffic demand, since it is the variable with more available projections from reliable sources. Besides, if the real origin of the passengers of a particular market is known, a blended GDP compounded by each GDP of each origin country tends to provide with greater correlation factors and better results.

Due to the low volumes of traffic within the secondary airports network, aggregate traffic for the country has been used in order to find suitable correlations for the macroeconomic forecast. By using a top-down approach, the traffic forecast for the medium to long-term is developed based on the relationship between GDP per point-of-sale and airport traffic for each market segment, using point-of-sale data from airline tickets.

While Caribbean and International traffic at Providenciales, show a strong correlation with the blended GDPs of each market (R^2 87-92%), the Domestic market does not correlate with GDP. Therefore, the projection methodology involves forecasting Caribbean and International traffic for PLS and projecting domestic and FBO traffic at PLS as a percentage of international traffic, based on the insights from the market analysis. This domestic traffic mainly consists of inbound international tourists who travel to other areas of TCI, such as Grand Turk, while FBO traffic corresponds to inbound international tourists arriving in TCI on private flights.

Domestic traffic for South Caicos and the rest of the network heavily depends on projections for PLS, with only minor transversal routes between secondary airports. Providenciales' domestic traffic has been forecasted using a bottom-up approach for 2024-2028 by analyzing each route individually *(see details below)*, while for 2029-2055, it is projected as a percentage of the airport's international traffic.

3.2.3 Bottom-up adjustments

Top-down traffic projections are complemented by a micro bottom-up analysis at the route level, where the vast majority operate to/from PLS, except for cross-island routes such as Grand Turk to Salt Cay and South Caicos to Grand Turk.

For the 2024-2028 period, bottom-up adjustments were applied to project a more reliable traffic, based on OAG published schedules, airline interviews and empirical insights from air traffic trends, enabling the prediction of traffic volume based on operational variables like routes, frequency, and seats offered. The methodology encompasses an analysis of passenger, airline companies, existing frequencies, and routes, projecting the future evolution of traffic and capacity, considering factors like potential new routes at the airports, tourism strategy and infrastructure projects.

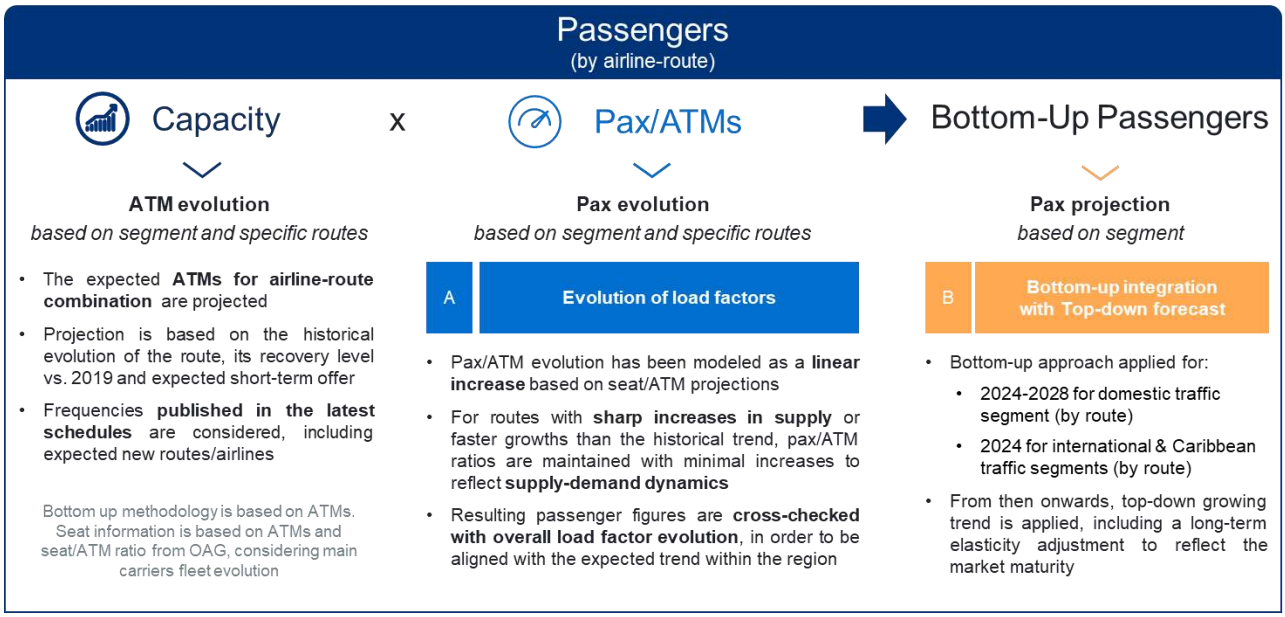


Figure 47. Bottom-up approach

Source: ALG Analysis

The objective is to provide a more empirical perspective on demand within the 2024-2028 timeframe that can be integrated into the top-down model from 2029 onwards, enhancing the accuracy of the model for the

short/mid-term period. This approach involves a thorough analysis of airline activity and specific routes, considering new routes, tourism product, infrastructure changes, global economic drivers or any other phenomenon that might halt, accelerate, or disrupt traffic recovery or growth. The ultimate objective of this approach is to introduce essential refinements to the forecast, enabling it to account for nonlinear elements in the short-term that cannot be adequately addressed by the top-down analysis.

Domestic traffic is expected to continue growing at a stable pace due to additional frequencies scheduled on some existing routes, reflecting the expansion plans of InterCaribbean and Caicos Express. Based on Providenciales' domestic projections, traffic for South Caicos is calculated almost automatically, as only the cross-island routes that do not pass through PLS need to be forecasted. Currently, South Caicos, apart from Providenciales, is only connected with Grand Turk by air. This route is expected to reach two daily frequencies in the short-term.

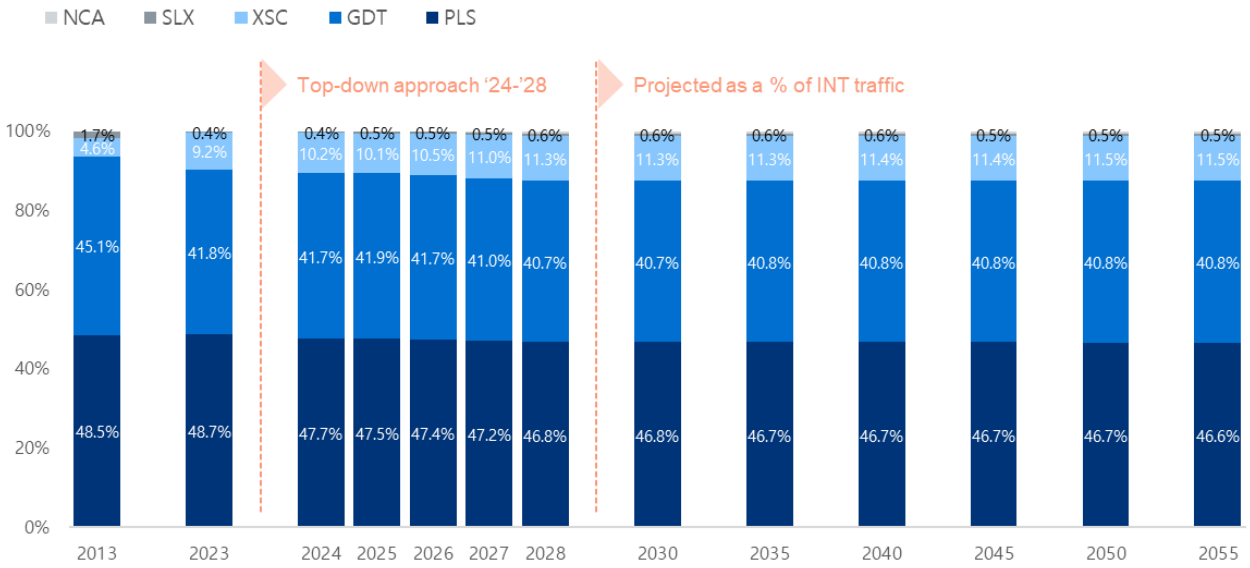


Figure 48. Domestic traffic projection: Distribution by airport (Mpax)

Source: ALG Analysis

Regarding international traffic, due to the ongoing tourism development in South Caicos aimed at increasing tourism capacity, it is expected that international routes will be scheduled to/from their airports by 2025, offering a 2-3 weekly connection with some of the usual airports on the East Coast, likely MIA. In the mid/long-term, an increase in the weekly frequencies is anticipated, targeting 10-12 weekly frequencies at XSC, all of which will mainly be operated using regional aircraft with 75-90 seats. Thus, South Caicos will position as the second main entry of Int'l traffic (behind PLS) reaching over 60k Pax by 2055.

Passenger numbers and aircraft movements (Pax/ATMs) in both segments are expected to grow based on the projected fleet in each market. Domestic Pax/ATMs are expected to increase from approximately 9 pax/ATM to 13 pax/ATM by 2055, equivalent to an aircraft with 17 seats at a 75% load factor. For international traffic, Pax/ATMs are expected to reach 65 pax/ATM by 2055, equivalent to an aircraft with 81 seats at an 80% load factor.

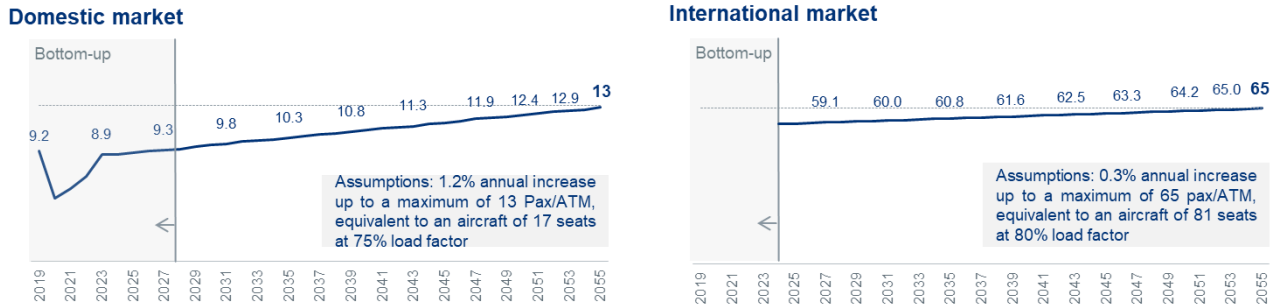


Figure 49. Pax/ATM forecast

Source: OAG, TCIAA, CAPA, ALG Analysis

3.2.4 Consolidated traffic forecast results

By integrating the top-down and bottom-up results, the forecast predicts that South Caicos Airport will reach a volume of 180,000 passengers in 2055, with a CAGR of 6.6% for the period 2023-2055. Domestic traffic is expected to grow at 5.5%, and FBO traffic at 3.6%. International traffic up to 2028 is forecasted using the bottom-up approach as explained above, followed by annual growth rates similar to those of Providenciales' international traffic.

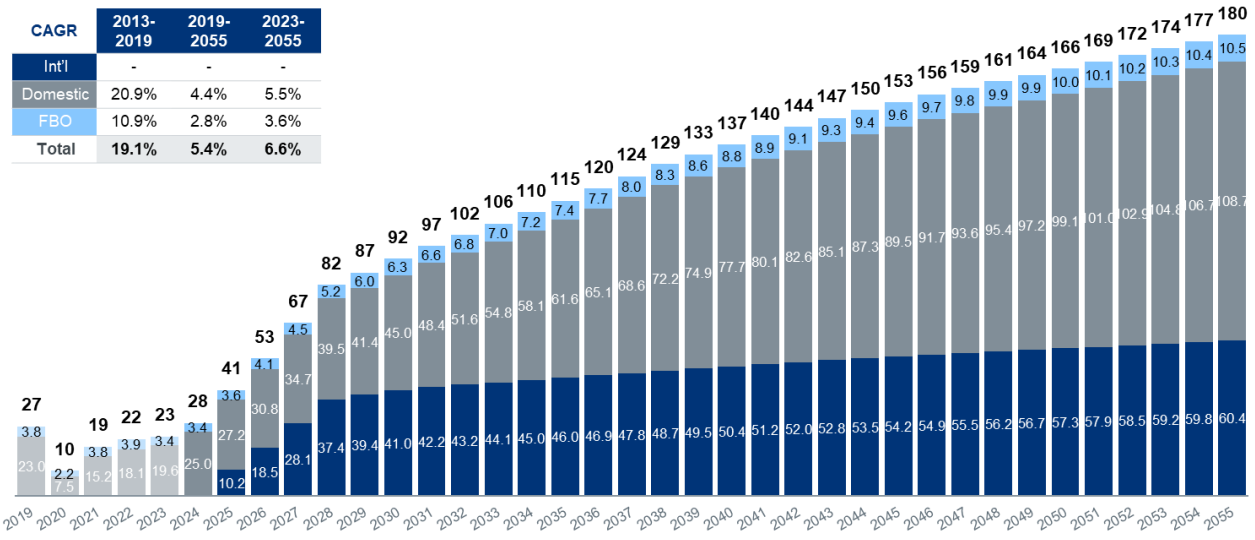


Figure 50. South Caicos passenger traffic forecast (kpax)

Source: OAG, TCIAA, CAPA, ALG Analysis

Regarding the projection of aircraft movements, South Caicos is expected to reach almost 14,000 operations in total by 2055, with a CAGR of 4.3% for the period 2023-2055. Of all of them, approximately 8,400 operations are expected to be domestic commercial flights, 4,500 from international operations and around 900 FBO operations.

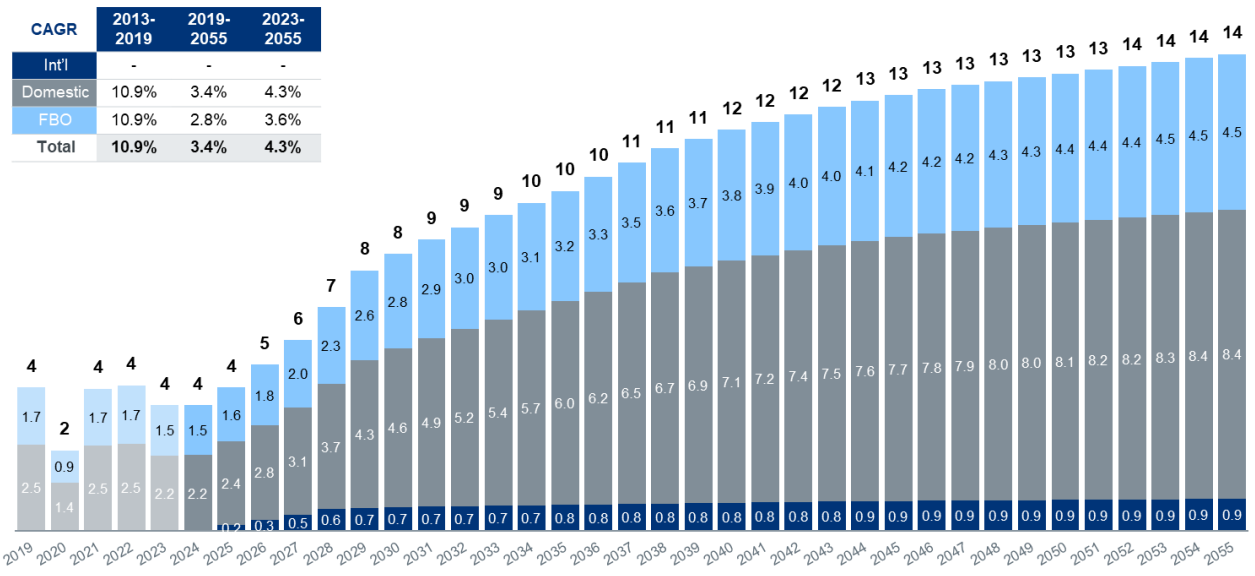


Figure 51. South Caicos operations forecast (kATM)

Source: OAG, TCIAA, CAPA, ALG Analysis

3.2.5 Design parameters forecast

For the subsequent sizing of the infrastructure, it is not enough to simply have annual forecasts of passenger traffic and operations. It is also important to have certain parameters that indicate the infrastructure requirements during peak operation periods. In this regard, it is crucial to know the expected volume of passengers and operations that the airport will need to process in an hour (passengers at peak hour or PHPs, and operations at peak hour or ATM/h, respectively), as well as the maximum expected demand for aircraft parking positions or stands.

The ATM/h and PHPs are projected using benchmarks from similar airports, which relate annual figures (ATMs and Mpax) to these peak hour parameters. These benchmarks consider the progressive reduction in the ratio between peak values and annual values as airport traffic grows due to the gradual flattening of the profile.

To select the design day for starting the projection, following the methodology recommended by IATA, the 30th hour criterion is used for PHPs (the day that contains the thirtieth busiest hour of the year). For selecting the design day for ATM/h, the peak hour criterion is used (the day that contains the busiest hour of the year), a more restrictive criterion to ensure capacity for the planned flight operations within the airfield.

The stands projection is based on the forecast of ATM/h, considering a progressive reduction due to the optimization of ground operations and turnaround times (taking into account the specific performance of the airport).

At South Caicos Airport, the peak of operations in 2023 occurred between 7:45 and 8:45 on the design day, totaling 8 ATM/h, with 4 arrivals and 4 departures, meaning 2 code A/B stands used simultaneously.

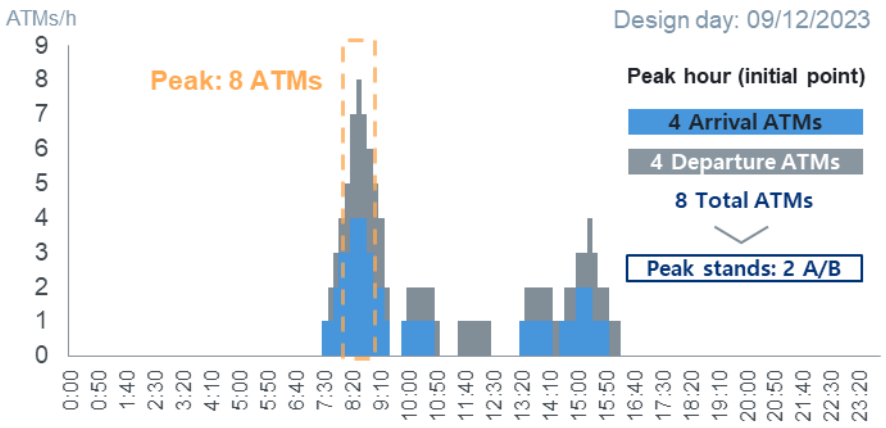


Figure 52. Daily profile of hourly operations at South Caicos on the design day (2023)

Source: TCIAA, ALG Analysis

Projecting ATM/h using the benchmark, it is anticipated that the peak of commercial operations will reach 14 ATM/h in 2055, with the same peak for total operations (commercial + general aviation) that year. This projection assumes that the rest of the hours on the design day will grow in proportion to the annual operations.

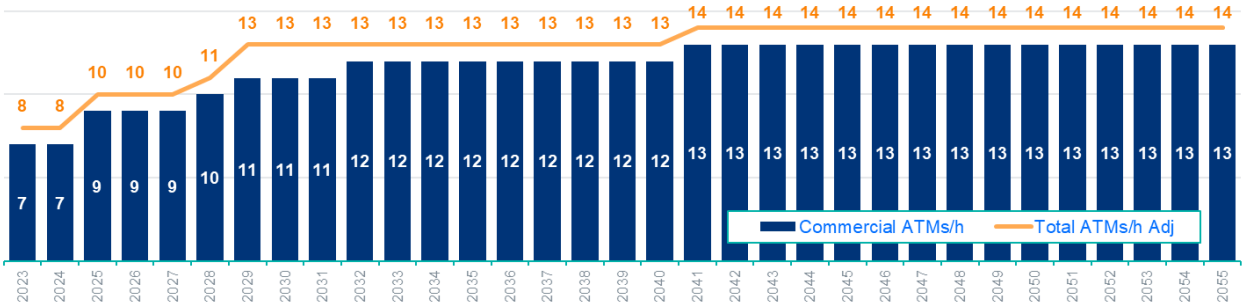


Figure 53. Projection of peak ATM/h at South Caicos (2023-2055)

Source: TCIAA, ALG Analysis

Based on this projection and the maximum stand demand in 2023 (2 code A/B aircraft), it is estimated that the peak number of stands in 2055 will reach 5 positions, including two code C stands.

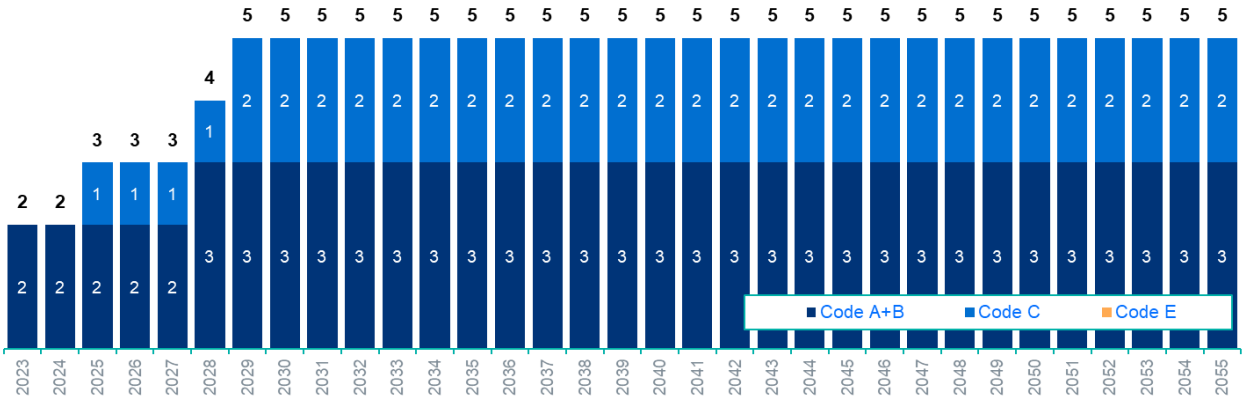


Figure 54. Projection of stand demand at South Caicos (2023-2055)

Source: TCIAA, ALG Analysis

The design day for PHPs at XSC is the same as the one used for ATMs/h, which shows same peaks throughout the day. Regarding passengers, the design day in 2023 had its PHP peak between 7:45 and 8:45, as for ATMs, with a total value of 122 (56 arrivals and 66 departures).

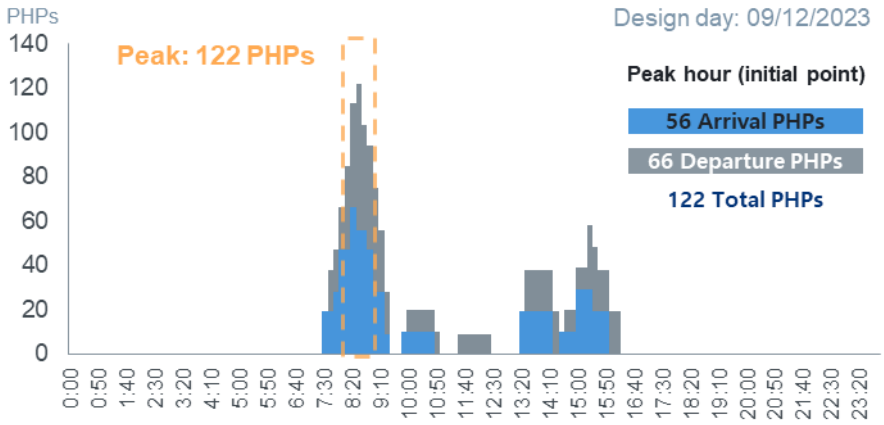


Figure 55. Daily profile of hourly passengers at South Caicos on the design day (2023)

Source: TCIAA, ALG Analysis

For the projection of PHPs, a benchmark that relates annual traffic to peak hour traffic is also used. It is estimated that by 2055, the total volume will reach 369 PHPs (190 for arrivals and 214 for departures).

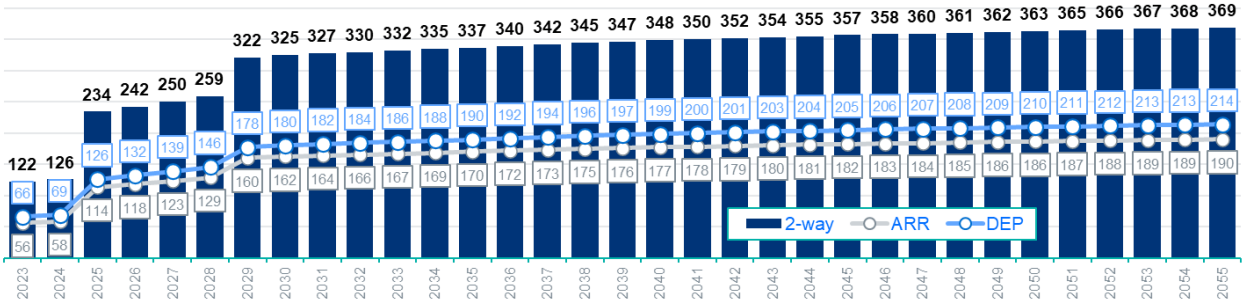


Figure 56. Projection of PHPs during peak hour at South Caicos (2023-2055)

Source: TCIAA, ALG Analysis

4 Infrastructure requirements and investment plan

The objective of this section is to provide a detailed assessment of the airport's development requirements for each subsystem, in order to obtain the proposed airport development plan for the coming 30 years and its associated investment plan. To this end, this section includes:

- Capacity-demand analysis for each of the main subsystems (airfield, apron, passenger terminal and vehicle parking) to determine the infrastructure needs.
- General review of development alternatives for each of the subsystems requiring them.
- Recommended development plan for each subsystem, as a final alternative, and its investment plan.

4.1 Capacity-demand analysis

The different subsystems to be evaluated for South Caicos International Airport are presented below. For each subsystem, a different design parameter is selected to perform the corresponding analysis. This approach helps to obtain information on the possible saturation of the subsystem under study and the time horizon to reach saturation.

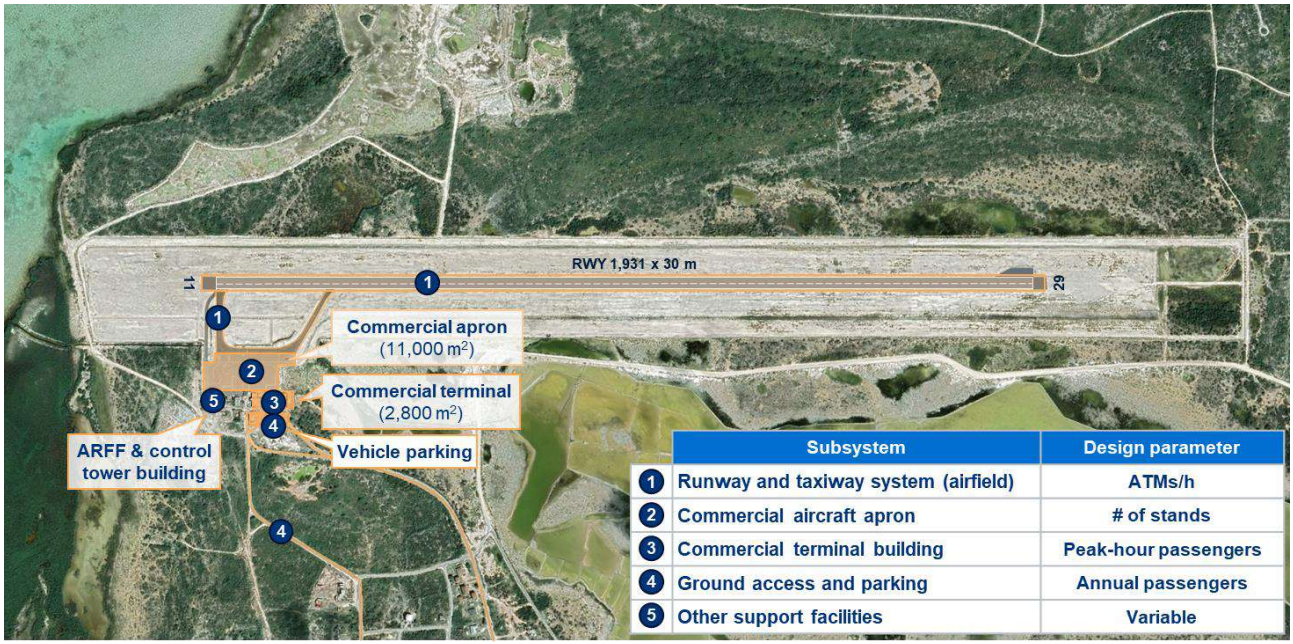


Figure 57. Subsystems to be assessed & design parameters

Source: Google Earth, TCI AIP, ALG Analysis

4.1.1 Airfield

The airfield study is split into two sections: one about the range analysis, and another one about the runway capacity in terms of ATMs per hour.

Regarding the runway range analysis, although the current aircraft type operating at the airport is mainly A/B, the aerodrome declared category is 3C, and is prepared for the operation of narrowbody aircraft (code C). In addition, as shown in the previous section, the airport is expected to operate international scheduled flights with code C aircraft in the short-term, so it must be double checked that the current runway length provides enough range to flight to/from the expected new destinations, mainly in the US eastern coast. As it can be seen in the map below, all conventional code C aircraft can reach the potential destinations for South Caicos, showing that there is no need for further expansion.

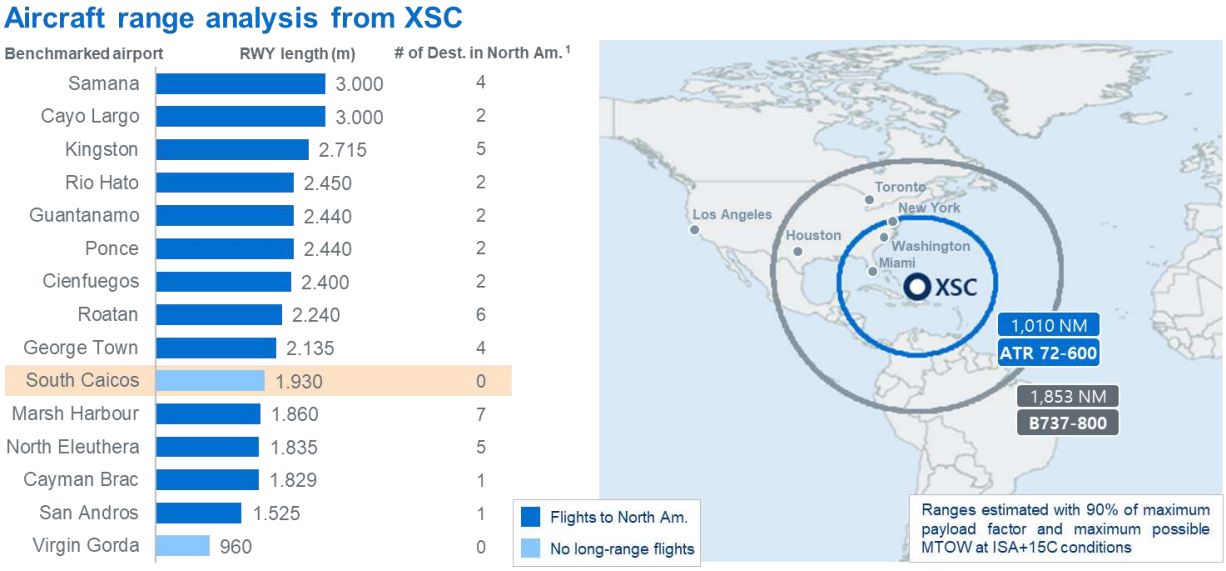


Figure 58. Aircraft range analysis from XSC

Source: Aircraft ACAPs, OAG, ALG Analysis

As it can be seen in the chart above, a 1,930m runway such as the one in GDT is very aligned with other airports in the Caribbean with scheduled flights to the US.

Once it has been checked than a runway expansion is not necessary, it is important to assess if the current airfield capacity is enough to attend the expected traffic demand. In subchapter 2.2.5, an airfield capacity of 15-17 ATMs/h was estimated for South Caicos Airport. By cross-checking the expected ATMs/h demand forecasted for the next 30 years in previous chapter with the current airfield capacity, it is concluded that there is no need for further expansions, as the existing infrastructure can absorb the expected 14 ATMs/h for 2055.

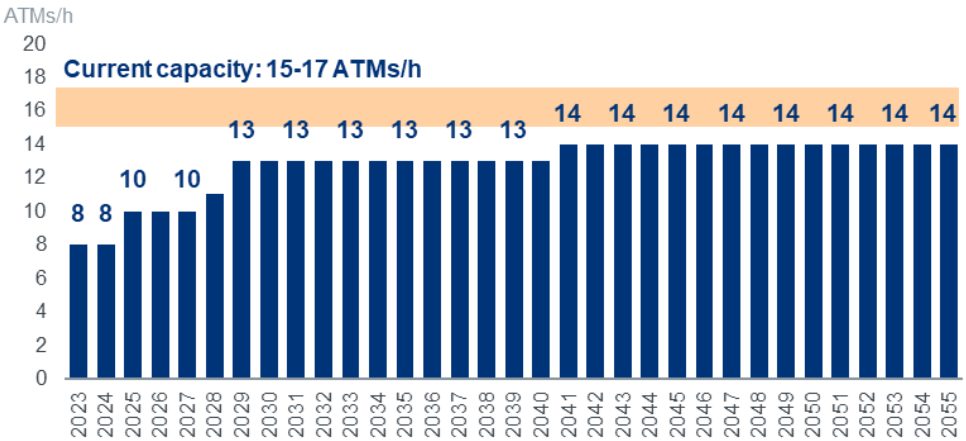


Figure 59. South Caicos airfield capacity-demand analysis (2023-2055)

Source: ALG Analysis

4.1.2 Apron

The apron capacity-demand analysis is based on the peak demand for aircraft parking positions (stands), in other words, the total number of aircraft on the ground at the airport at any given time. As evaluated in subchapter 2.3, the current stand configuration allows 2 code-A/B and 2 code-C aircraft parked simultaneously; nevertheless, the apron does not have the adequate pavement strength to accommodate larger code-C aircraft (only ATRs and E-jets would be able to operate regularly).

Figure 60. Current apron capacity

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

However, the capacity-demand analysis shows that while the current apron has enough stands to accommodate existing demand, the short-term arrival of a regular code-C aircraft, and an additional code-A/B aircraft would take the apron to a saturation point. The forecast predicts that XSC will reach an apron demand of 5 stands by 2055 (3 code A/B + 2 code C), and therefore an apron expansion would be required. The ideal apron expansion would allow all aircraft to perform autonomous turnarounds (no need for pushback tugs), as it currently is the case at South Caicos Airport.

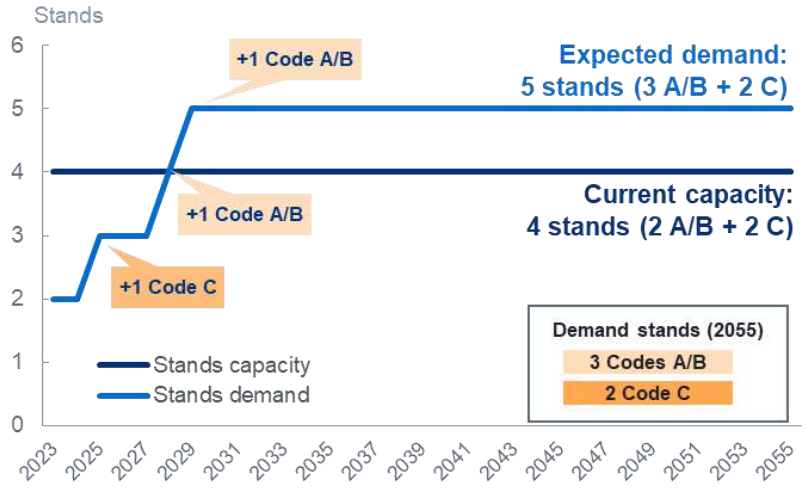


Figure 61. Apron capacity-demand gap analysis (2023-2055)

Source: TCIAA, TCI AIP, ALG Analysis

4.1.3 Terminal building

The capacity-demand analysis of terminal building has been developed following IATA ADRM (Airport Development Reference Manual) 12th edition. This methodology is widely recognised by top stakeholders in the industry and sets requirements in terms of area/pax and queuing times to ensure an Optimum Level of Service for passengers.

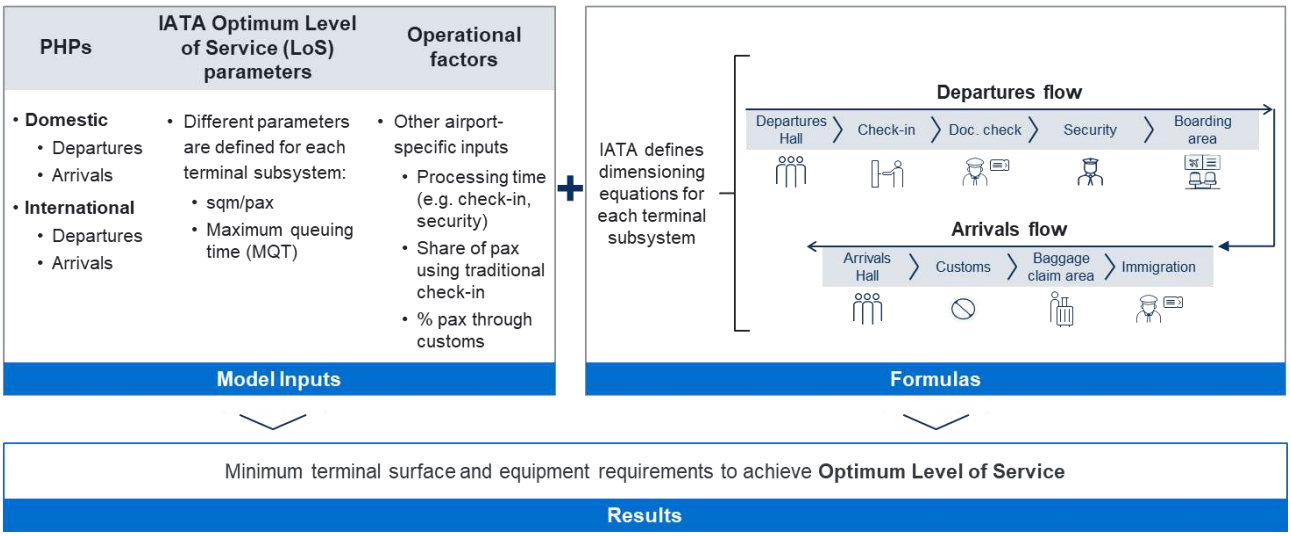


Figure 62. Conceptual scheme for terminal dimensioning IATA ADRM methodology

Source: IATA ADRM 12th Edition, ALG Analysis

Before starting to analyse the design parameters and its adherence to an optimum level of service, it is necessary to input the current features of the passenger terminal building for both arrivals and departures. It is worth mentioning that there are no emigration desks since Turks and Caicos Islands authorities do not check passports for exiting the country, similar to other countries such as the US.

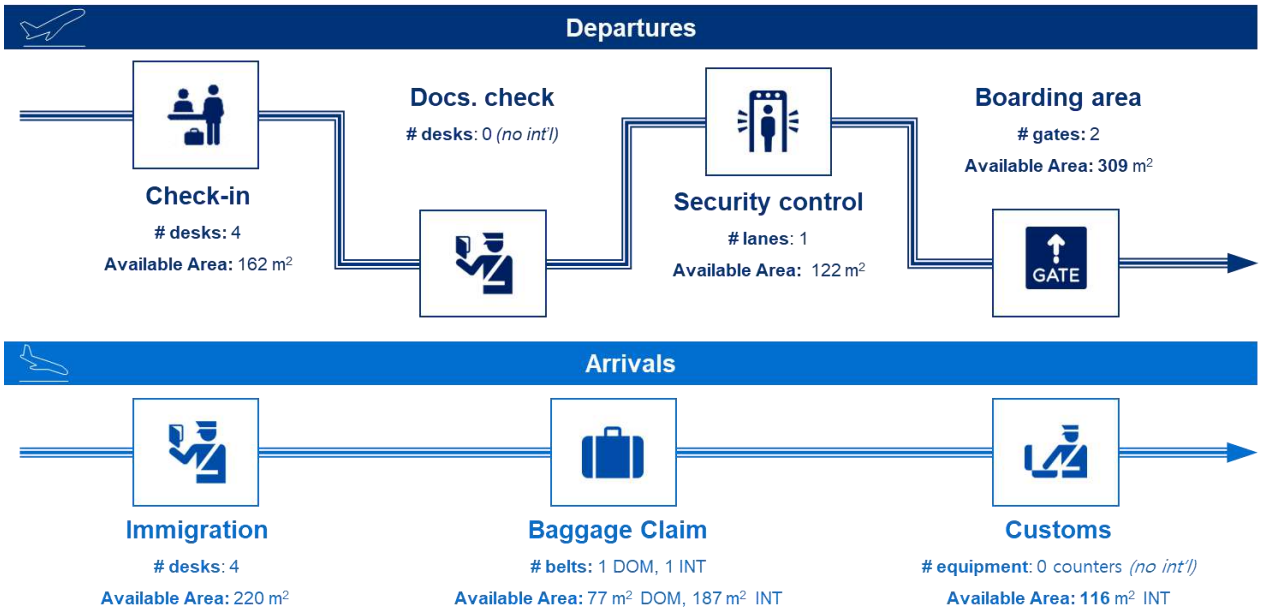


Figure 63. Current passenger flows in the terminal building

Source: TCIAA, IATA ADRM 12th Edition, ALG Analysis

As commented, the main assumption for the model was to ensure compliance with the optimum level of service defined by IATA in its aerodrome design manual, and taking into account the start of operations of international flights in the coming years. Apart from the traffic forecast and available areas and equipment, other design parameters used for this analysis are shown below, aligned with the IATA requirements for having an optimum level of service.

Process	Parameter	Value	Source
Check-in	Required surface/person	1.8 m²	IATA ADRM 12th
	Pax arrival distribution during peak hour (% of PHPs in 30 mins)	50%	OAG / ALG
	Process Time *(Economy pax)*	180 s	ALG
	Process Time *(Business pax)*	180 s	ALG
	Maximum Queuing Time – *(Economy)*	20 min	IATA ADRM 12th
	Maximum Queuing Time – *(Business)*	5 min	IATA ADRM 12th
	Ratio of Passengers using Baggage Drop Facilities	15%	ALG *(only N.A. airlines)*
Security	Required queueing surface/person	1.0m²	IATA ADRM 12th
	Processing time	30 s	ALG
	Maximum Queuing Time	10 min	IATA ADRM 12th
Documents check*	Required surface/person	1.0 m²	IATA ADRM 12th
	Maximum Queuing Time	10 min	IATA ADRM 12th
	Processing time	30 s	ALG
Boarding Areas	Surface per Seated Person	1.8 m²	IATA ADRM 12th
	Surface per Standing Person	1.2 m²	IATA ADRM 12th
	Seat ratio (for area calculation)	70%	IATA ADRM 12th

Process	Parameter	Value	Source
Immigration	Pax arrival distribution during peak hour *(% of PHPs in 30 mins)*	50%	OAG / ALG
	Processing time *(s)*	90 s	ALG
	Required surface/person *(sqm)*	1.0 m²	IATA ADRM 12th
	Maximum Queuing Time (min)	10 min	IATA ADRM 12th
Baggage claim area	Required surface/person *(sqm)*	1.5 m²	IATA ADRM 12th
	Ratio of pax collecting bags	95%	ALG *(conservative hypothesis)*
	Avg pax waiting time	25 min	IATA ADRM 12th
	Peak proportion of pax collecting bags simultaneously	65%	ALG
	Claim belt frontage per pax	0.4 m	IATA ADRM 12th
Customs	Required surface/person	1.3 m²	IATA ADRM 12th
	Maximum Queuing Time (min)	10 min	IATA ADRM 12th
	Ratio of pax being inspected	10%	ALG
	Process Time per passenger	30 s	ALG
Arrivals hall	Required surface/person *(sqm)*	2.0 m²	IATA ADRM 12th
	Occupation time *(min)*	15 min	ALG

(*) TCI does not require emigration control, but IATA emigration standards have been used for the documents check stage

Figure 64. Design parameters for the IATA analysis of Terminal capacity

Source: IATA ADRM 12th Edition, ALG Analysis

The capacity analysis according to IATA ADRM parameters shows that the main problem of the building is in the check-in and boarding areas, as well as check-in, security control and gates equipment.

		Available	2023	2030	2035	2045	2055
	Annual Passengers (Mpax)		**0.02**	**0.09**	**0.12**	**0.15**	**0.18**
Equipment	**Check-in - Common**	**4**	50%	225%	225%	275%	275%
	Required equipment		2	9	9	11	11
	Security Control - Common	**1**	100%	200%	200%	200%	200%
	Required equipment		1	2	2	2	2
	Gates - Common	**2**	100%	100%	150%	200%	250%
	Required equipment		2	2	3	4	5
	Immigration - International	**4**	75%	75%	75%	75%	100%
	Required equipment		3	3	3	3	4
	Baggage Belts - International	**1**	100%	100%	100%	100%	100%
	Required equipment		1	1	1	1	1
	Baggage Belts - Domestic	**1**	100%	100%	100%	100%	100%
	Required equipment		1	1	1	1	1
Areas	**Departures & Arrivals Hall**	**233**	33%	88%	92%	97%	100%
	Required Area (m²)		77	206	213	226	234
	Check-in Area - Common	**162**	48%	195%	223%	223%	223%
	Required Area (m²)		78	316	361	361	361
	Security Control - Common	**122**	23%	67%	76%	92%	111%
	Required Area (m²)		28	82	93	112	135
	Boarding Areas - Common	**309**	19%	96%	111%	127%	150%
	Required Area (m²)		60	298	342	392	464
	Immigration - International	**220**	**N/A**	45%	52%	58%	63%
	Required Area (m²)		N/A	100	114	128	139
	Baggage Claim - International	**187**	**N/A**	48%	49%	51%	52%
	Required Area (m²)		N/A	89	92	95	98
	Baggage Claim - Domestic	**77**	38%	45%	50%	59%	64%
	Required Area (m²)		29	35	38	46	49

Figure 65. Terminal areas & equipment capacity-demand analysis

Source: Google Earth, TCIAA, ALG Analysis

As shown before, the existing areas and equipment are sufficient to attend the current demand, but will not be enough to provide an adequate level of service to passengers in the short-term, once the operation of international flights starts.

4.1.4 Vehicle parking

The parking facility has approximately 1,840 m^2 of total surface, for approximately 64 vehicles, with plenty of parking space to meet current and future demand.

A ratio of 100-150 spaces per Mpax has been selected based on benchmark ratio for <1 Mpax airports. As projected, current capacity satisfies the present demand and is also sufficient for the long-term requirements, since almost a 400 spaces/Mpax ratio is expected by 2055 with the current car parking capacity.

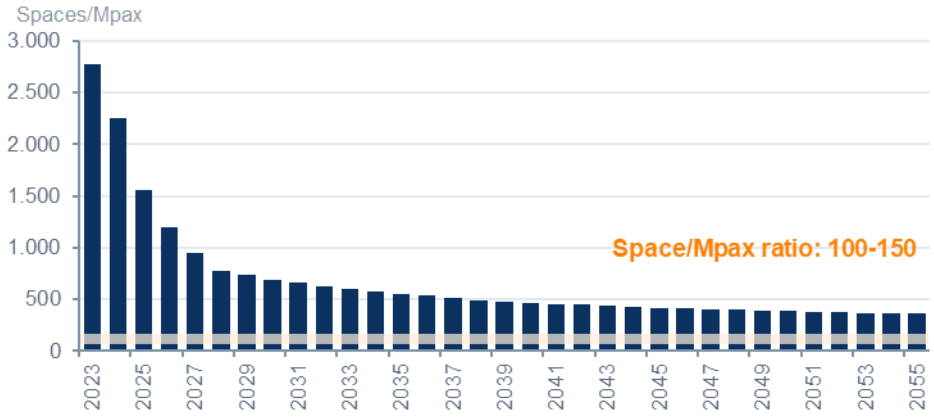


Figure 66. Spaces/Mpax ratio evolution

Source: Google Earth, TCI AIP, ALG Analysis

4.2 Development plan

For carrying out the development for the airport, two analyses were considered: the capacity-demand analysis shown in the previous section (see 4.1), and the current situation of the infrastructure (see chapter 2), along with the strategic and market vision of the airport.

By taking this into consideration, it can be concluded that:

- The airfield does not require any further expansion since the current infrastructure can accommodate the future demand. However, some works in the taxiways should be performed to comply with ICAO requirements for a 3C category aerodrome, and a turnpad for code A/B is proposed to ensure that aircraft can turn in the middle of the runway in a safe manner. Should the operator intend to convert the aerodrome in a 4C category, some additional works need to be performed on the runway.
- The current commercial apron will be insufficient in the short/mid-term with the regular operation of code C aircraft. The airport needs 1 more code A/B stand to meet the future demand.
- The terminal will require expansions due to some equipment and areas congestion and saturation. According to the analyses, ~700 m^2 will be needed, together with an additional 250 m^2 FBO terminal, reaching a total area of 3,750 m^2.
- The parking area and accesses will not require future expansions.
- It is a must to finish in the short-term the perimeter fencing to allow the operation of international flights (expected to be finished by 2024-Q4).

4.2.1 Airfield development

While the capacity-demand analysis concluded that the airfield will not require expansions to serve future demand, it does require some work to ensure compliance with ICAO regulations (see section 2.2.3 for details of airfield compliance).

To solve the existing irregularities, the taxiway's width should be widened to 25 meters, resulting in a 15 meters-wide taxiway with shoulders.

Although it is not required, if the operator pursues to upgrade the aerodrome to 4C category, additional works must be performed to comply with the norm. To accomplish this, the runway would need to be widen to 45 meters (7.5 meters on each side).

3C	4C		Annex 14 ICAO	Works to be performed
✓	~	**RWY width & shoulders**	Width 30m without shoulders for code 3C, and 45m without shoulders for code 4C	Widen runway to 45m (7.5m on both sides) would be necessary for a 4C certification, but **it is not required for the expected operating aircraft**
✓	✓	**RWY strip length** **RWY strip width**	60m before THR and beyond the end of RWY for codes 3 and 4; 75m on each side of RWY centerline for non-instrument code 3 or 4	-
✓	✓	**RESAs length** **RESAs width**	90m from the end of the strip for code 3 or 4; (240m recommended) at least twice of the RWY width	-
~	~	**TWY width & shoulders**	Width 15m and 25m with shoulders for codes 3C and 4C	**Build taxiway shoulders (5m on both sides) for a total width of 25m**
✓	✓	**Min distances**	93 m between RWY & TWY centerlines for Non-instrument codes 3C and 4C	-
✓	✓	**Holding bays**	75m from the RWY holding position to the RWY centerline for Non-instrument codes 3 and 4	-

Figure 67. ICAO compliance effects on airport capacity

Source: IATA ADRM 12th Edition, ALG Analysis

Furthermore, it is recommended to build a turn pad approximately at the middle of the runway for the A/B aircrafts landing on RWY 11 avoiding having to make the turn at the other runway end, thus reducing the runway occupation time.

4.2.2 Apron development

The capacity-demand analysis showed one more stand will be required to serve future demand. There are 2 code A/B and 2 code C stands, and there will be needed another one code A/B stand.

To meet expected peak hour demand over the next 30 years, it will be necessary to expand the existing commercial apron to the east by a total of 6,300 m^2.

The code-C stands have been designed for a B737/A320 aircraft, although it is expected that the international operation at the airport will be mainly with smaller code Cs, such as an ATR or Embraer. Moreover, all stands have been designed so that aircraft can operate autonomously, without the need for pushback.

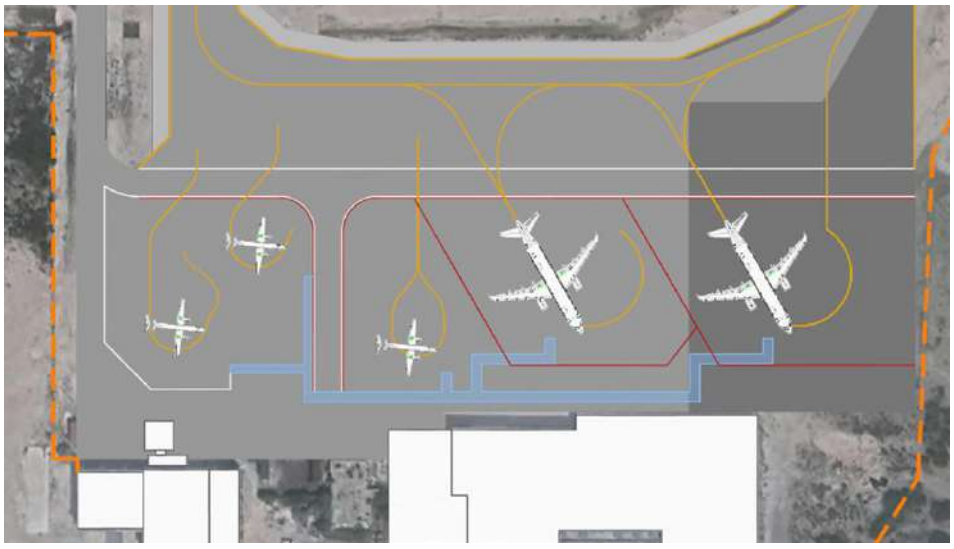


Figure 68. Future commercial apron development

Source: Google Earth, TCIAA, ALG Analysis

4.2.3 Terminal building development

The terminal building is the subsystem that requires more expansion works to serve the expected future demand. According to the capacity-demand analysis, an expansion of about ~700 m² is required, with a particular need to expand the check-in and boarding areas. As well, it will be needed additional security control, check-in and gates equipment given their future saturation.

The expansion should be performed to the west side, maintaining the international arrivals flow as it is today. The domestic arrivals area would remain practically unchanged too, while all the areas and equipment of the previous paragraph will be enhanced, attending the expected traffic demand with and adequate level of service.

In addition to the 700 m² expansion, a 250 m² FBO terminal will also be developed on the west side of the commercial terminal, facilitating separate arrival and departure flows for FBO passengers.

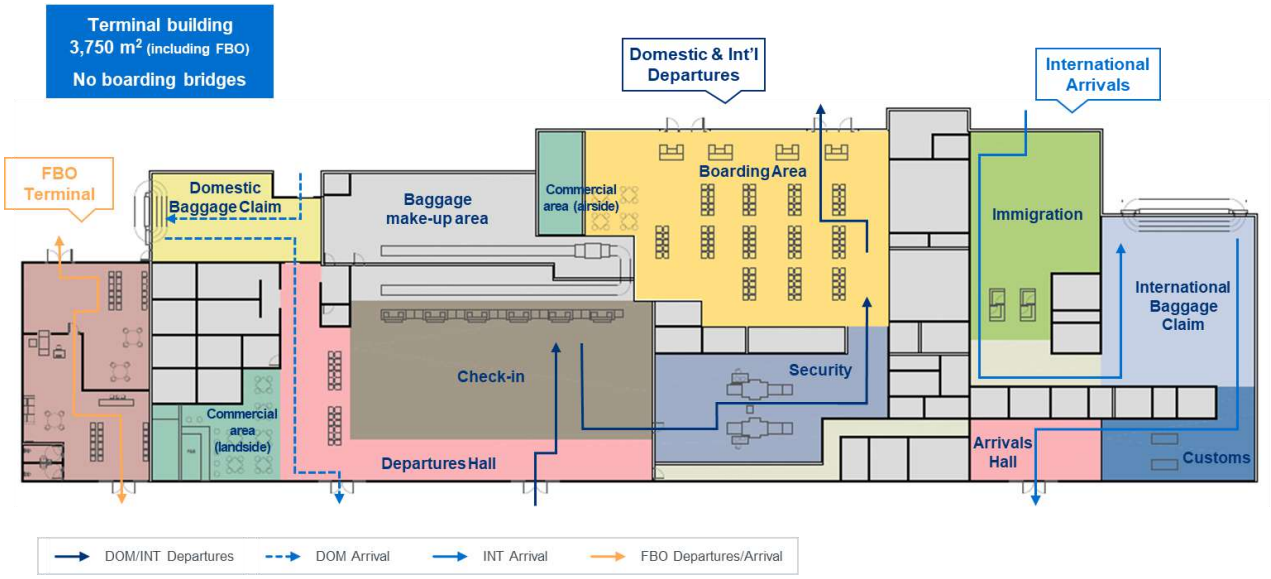


Figure 69. Passenger terminal development

Source: TCIAA, ALG Analysis

As it can be seen below, this expansion of the commercial terminal to 3,500 m² will place the m²/Mpax ratio by 2055 above the optimal design ratio, confirming no congestion issues are expected.

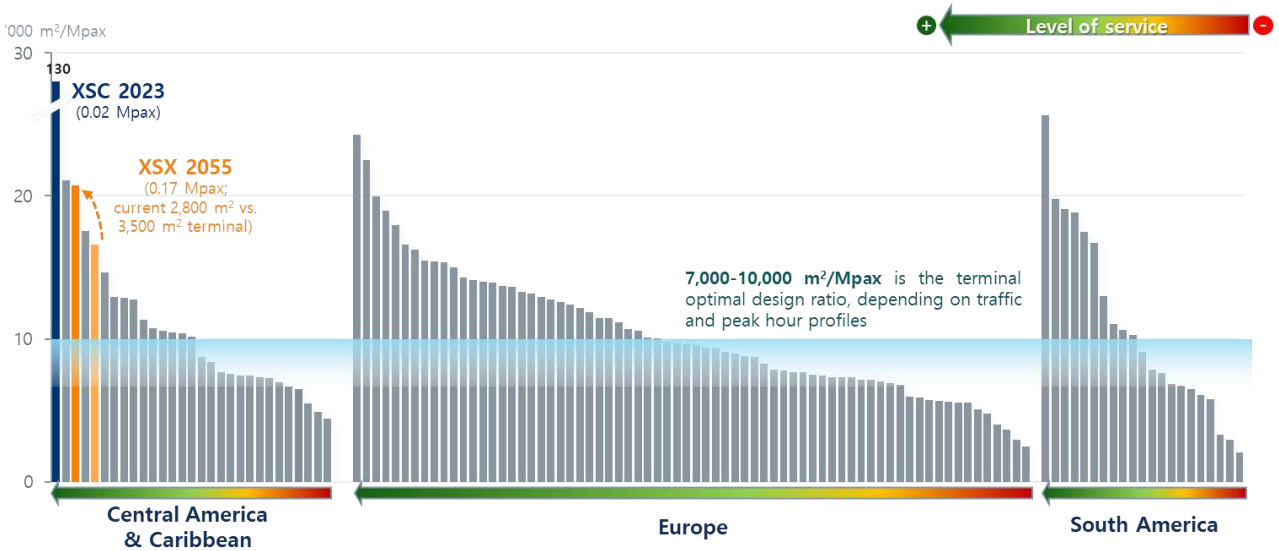


Figure 70. Terminal Building Area vs. Passenger Traffic Benchmark

Source: TCIAA, Satellite images, airport websites, CAPA, FlightGlobal, ALG Analysis

4.2.4 Development of vehicle parking areas

As it was explained in the previous section, current car parking capacity satisfies the present demand and is also sufficient for the long-term requirements, since almost a 400 spaces/Mpax ratio is expected by 2055

However, if the traffic experiences an unexpected growth and/or increase in capacity is needed, there is enough space towards south of the current public car parking to expand it. This expansion could be relevant if additional developments such as hotels or a shopping mall are performed nearby.

4.2.5 Development of other airport facilities

Regarding the other airport facilities, there are no deficiencies that pose operational risks, except for the perimeter fence, which lacks almost 700 non-fenced meters. However, its completion is already underway and is expected to be finished by the end of the year.

4.2.6 Environmental development plan

The key for a successful environmental development of South Caicos is considering external factors beyond the airport perimeter. E&S management programs should begin immediately, particularly considering coastal management outside the perimeter fence. Implementing sustainable construction criteria for new developments would also improve efficiency in operational management.

Here below, the main environmental-related proposed developments are presented:

1. Improvement of the water cycle from supply to water recirculation.
2. Implementation of renewable energy infrastructure (ex. Photovoltaic plant for self-consumption in the terminal roof/car park).
3. Designation of a waste and hazardous materials management center.
4. Incorporate materials resistant to salt erosion in existing infrastructure refurbishments and new developments to improve the sustainability of buildings.

Figure 71. Main environmental-related proposed developments

Source: Google Earth, TCIAA, ALG Analysis

4.3 Investment plan

The purpose of the investment plan is to set out the costs associated with each stage of recommended development above by subsystem, in a chronological context. To do this, each proposed development is integrated into an overall development plan, the cost of each proposed action is calculated, and finally ordered chronologically from today to 2055. In addition, a projection of major maintenance costs (RepEx, replacement costs) is made for each subsystem, both for the existing infrastructure and for the proposed new one, to obtain the total of annual long-term investments.

4.3.1 General development plan

Each subsystem development plan has been detailed in the last subchapter. In summary, the main works to be performed are the commercial apron expansion, the passenger terminal expansion, the taxiway widening, and the runway turn pad construction:

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

Figure 72. Infrastructure development plan

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

4.3.2 Costs of planned actions

The approximate cost of each action to be carried out has been calculated, based on estimated dimensions (as detailed above in the development proposal) and unit costs from similar projects or, if applicable, benchmarks with historical data from various projects in the region adjusted for inflation and geographical area.

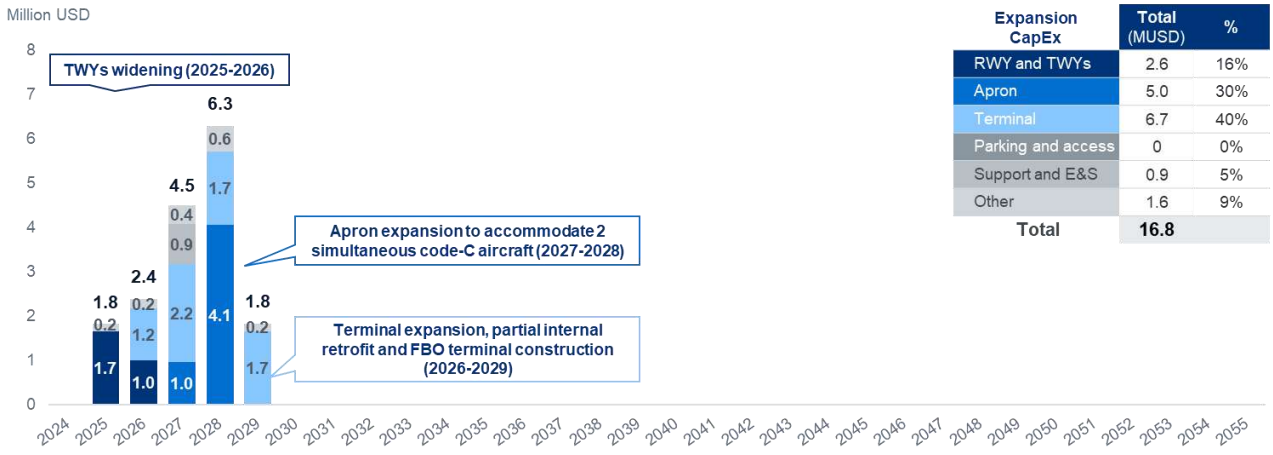
System		Item	USD 2022	Unit	Total surface	Total Cost[1] (MUSD)
	Airfield	RWY turnpad construction	550	USD/sqm	1,500	0.7
		TWY expansion	550	USD/sqm	4,500	2.0
	Apron	Commercial Apron expansion	760	USD/sqm	6,300	4.8
		Commercial Apron - lightning	110,600	USD/unit	2	0.2
	Terminal	Terminal expansion	5,000	USD/sqm	700	3.5
		Terminal reconfiguration	1,500	USD/sqm	1,400	2.1
		FBO Terminal construction	4,000	USD/sqm	250	1.0
		Terminal equipment - Security RX	125,000	USD/unit	1	0.1
		Waste water treatment plant	250,000	USD/unit	1	0.3
		Waste storage facility	55,000	USD/unit	1	<0.1
		Hydrocarbon separation plant	182,000	USD/unit	1	0.2
		Power generator	430,000	USD/unit	1	0.4
		Other additional costs[2]	-	-	-	1.6
					Total Expansion CapEx	16.8

Figure 73. Estimated CapEx for South Caicos development actions

Source: ALG Analysis

As presented above, a 10% additional cost for contingency and preliminary costs (5% each) has been considered. The total estimated expansion CapEx reaches 16.8 MUSD (real values 2024). This amount does not include maintenance CapEx costs, which are detailed in the next subchapter.

As it can be seen in the figure below, all expansion works are scheduled to be completed entirely in the short/mid-term, between 2025 and 2029, to allow the operation of international flights at the airport. These works include the TWY widening, completion of the perimeter fence and the subsequent growth. The largest investments are allocated to the apron, with ~5 MUSD designated for expanding the commercial apron to accommodate 2 code-C and 3 code-B aircraft simultaneously, and to the terminal, where almost 3 MUSD are destined for the expansion, 2 MUSD are projected for an internal partial retrofit to be able to accommodate the expected traffic demand, and additional 2 MUSD for the FBO terminal construction, planned to be completed by 2029.



Expansion CapEx	Total (MUSD)	%
RWY and TWYs	2.6	16%
Apron	5.0	30%
Terminal	6.7	40%
Parking and access	0	0%
Support and E&S	0.9	5%
Other	1.6	9%
Total	16.8	

Figure 74. Required investment projection for new infrastructure development (CapEx)

Source: ALG Analysis

4.3.3 Maintenance CapEx forecast

On the other hand, the major maintenance investment plan is based on the life cycle of each existing and future infrastructure, and depends on the type of facilities, materials used to be built, year of construction or historical repair data, among others. It is important to emphasize that major maintenance does not include day-to-day repair costs, as these are operational costs; major maintenance only includes periodic and major maintenance costs. Unit costs are also calculated using data from similar projects and neighbouring countries adjusted for inflation and geographic area. Maintenance CapEx considers a percentage of reinvestment by the end of the lifecycle of each asset.

Item	USD 2022	Unit	Life cycle (year)	% Reinvest. /cycle
RWY and TWYs				
RWY repavement	66	USD/sqm	20	60%
TWY repavement	80	USD/sqm	20	80%
TWY expansion repavement	100	USD/sqm	50	100%
RWY turnpad repavement	100	USD/sqm	50	100%
Apron				
Commercial Apron repavement[1]	114	USD/sqm	22	60%
Commercial Apron expansion repavement	60	USD/sqm	20	60%
Commercial Apron - Lighting	54	USD/unit	20	60%
Terminal				
Terminal reconfiguration	1,500	USD/sqm	100	100%
FBO Terminal	1,500	USD/sqm	20	100%
Terminal equipment	245	USD/sqm	20	100%
Terminal equipment - Security RX	125,000	USD/unit	15	100%

Item	USD 2022	Unit	Life cycle (year)	% Reinvest. /cycle
Parking and access				
Parking repavement	80	USD/sqm	25	100%
Curbside road & ARFF access repavement	80	USD/sqm	25	100%
Support and E&S facilities				
Perimeter road repavement	16	USD/sqm	15	20%
Perimeter fence	400	USD/m	15	100%
ATC Tower	1,450	USD/sqm	23	50%
RFSS Facility	185	USD/sqm	23	50%
ARFF Trucks	1,090,000	USD/unit	20	100%
New ARFF Trucks	109,000	USD/unit	20	10%
Waste water treatment plant	1,000,000	USD/unit	30	100%
Waste storage	55,000	USD/unit	30	100%
Hydrocarbon separation plant	182,000	USD/unit	30	100%
Power station	1,720,000	USD/unit	30	100%

[1] Commercial apron repavement includes the repavement cost of the service road to RWY

Figure 75. Unit costs for Maintenance CapEx estimation

Source: ALG Analysis

As the previous CapEx investment projections, the following figure is the major maintenance investment plan for the period 2024 to 2055:

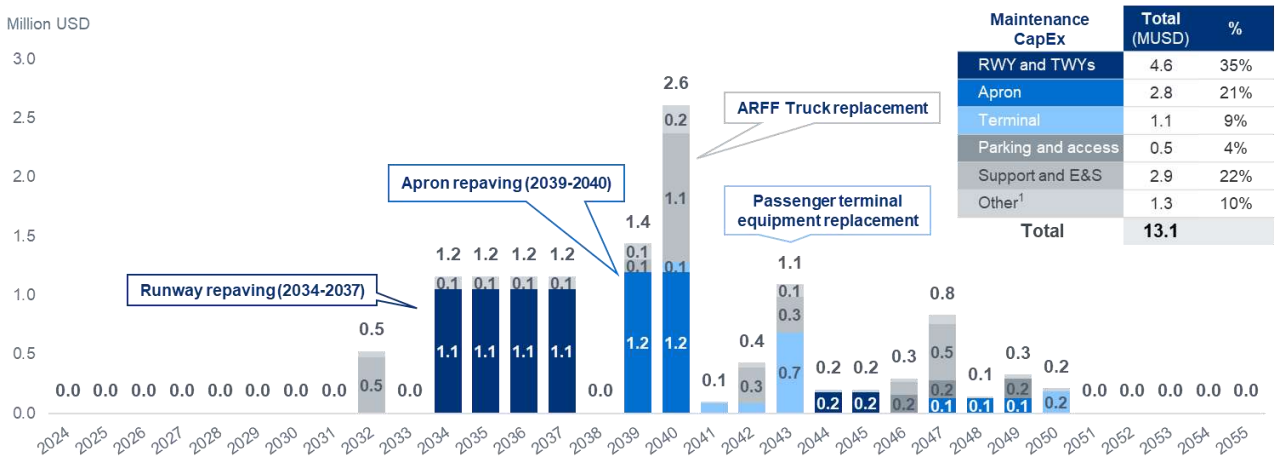


Figure 76. Maintenance CapEx plan (2024-2055)

Source: ALG Analysis

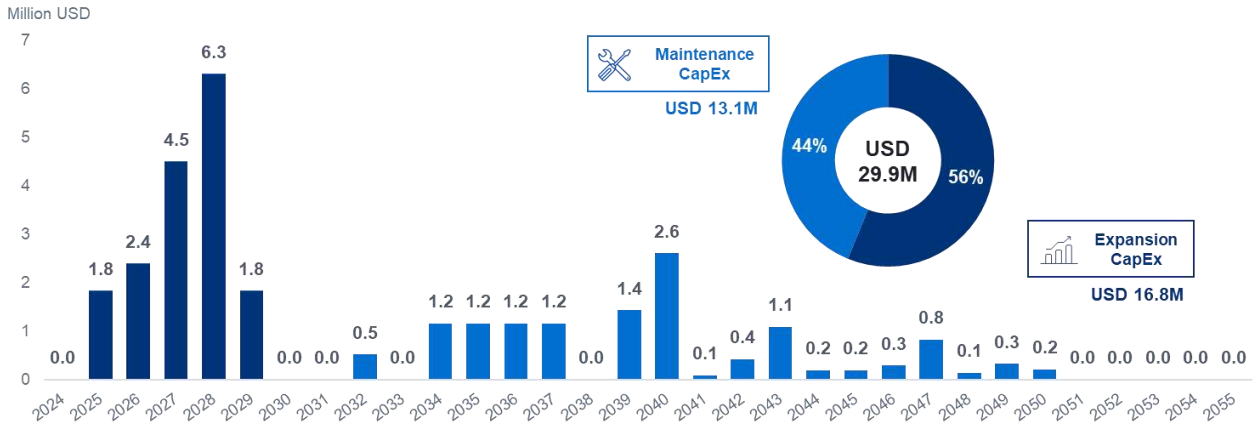
Maintenance works at XSC are foreseen to be developed in the mid/long-term due to the recent works at the airport, requiring ~13 MUSD investment. The largest expenditure of the RepEx is demanded by the airfield, with the RWY expected to undergo repavement works between 2034-2037 (~4 MUSD) and the TWYs in 2044-2045 (<1 MUSD). Current apron is expected to require repaving works in 2039-2040 (~2 MUSD) and the expanded apron in 2047-2049 (<1 MUSD). Regarding support facilities, they make a significant contribution to the maintenance CapEx, requiring an inversion of ~1 MUSD for the replacement of the current RFFS truck, planned by 2040.

4.3.4 Airport investment plan

In conclusion, as shown in figure below, it is anticipated that a total of 27.9 MUSD will be required between 2024 and 2055 at South Caicos International Airport to:

I. adapt the infrastructure to the expected growth in demand to provide an adequate level of service for airport users (16.8 MUSD for expansion CapEx), and

II. maintain the infrastructure in optimal condition to ensure adequate levels of safety and passenger satisfaction (13.1 MUSD for maintenance CapEx).



	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**

Figure 77. South Caicos Integrated Investment Plan (2024-2055)

Source: ALG Analysis

5 Long-term development plan and land reservation

This Master Plan is focused on the development of South Caicos Airport for the next 30 years. Thus, this document contains all needed development proposals to process, with an adequate level of service, the forecasted air traffic at the end of this period, which amounts up to 178,000 passengers in 2055.

However, a key issue when developing a Master Plan is to assess the potential development of the airport beyond the studied period. This is important with the objective to ensure land reservation within the airport perimeter in case that it is required in the future for further areas or facilities developments, avoiding less relevant constructions be undertaken on those terrains.

In this sense, as shown in earlier chapters, the investment plan for the next 30 years mainly contemplates the expansion of the commercial apron, the terminal building, the taxiway, as well as the runway turn pad construction and perimeter fencing works.

In the very long-term, if it is required due to higher traffic growth, the expansion of the airfield, the commercial apron, and the terminal building could be performed with no major issues, since the current airport layout allows for further developments.

For instance, current airfield capacity is estimated at 15-17 ATMs/h and may be not enough in the future. If there is a need to increase capacity, given the airport conditions, a new partial parallel taxiway from the commercial apron to the runway center turn pad would substantially reduce runway occupancy times for code A/B arrivals, letting the ATC tower coordinate simultaneous aircraft taxi movements, thus increasing airport capacity. Additionally, the construction of a holding bay on either threshold would also help to optimize the aircraft sequencing and increase airfield capacity. Finally, although it would not be necessary until reaching very high volumes of traffic (at least x10 the expected demand for 2055), the completion of the parallel taxiway to RWY 29 threshold would substantially increase capacity by helping landing aircraft.

Apart from this potential maximum development of the airfield, as the traffic increases, it will be necessary to expand the commercial apron and the terminal building. In the case of the apron, no major problems would arise to increase the capacity to the east or the west, with the possibility of more than doubling current capacity. Regarding the terminal, there are not currently any obstacles or ongoing works that may undermine the expansion to the west or the east, depending on the saturation of each terminal subsystem. Finally, in the case of the parking lots, the passengers' parking could be expanded to the south.

The following figure shows a high-level proposal for this potential very long-term airport development, also showing the land that should be set aside for future developments, ensuring that it has no impact on the natural growth of South Caicos Airport.

Figure 78. Future potential developments and land reservation

Source: ALG Analysis

6 Drawings

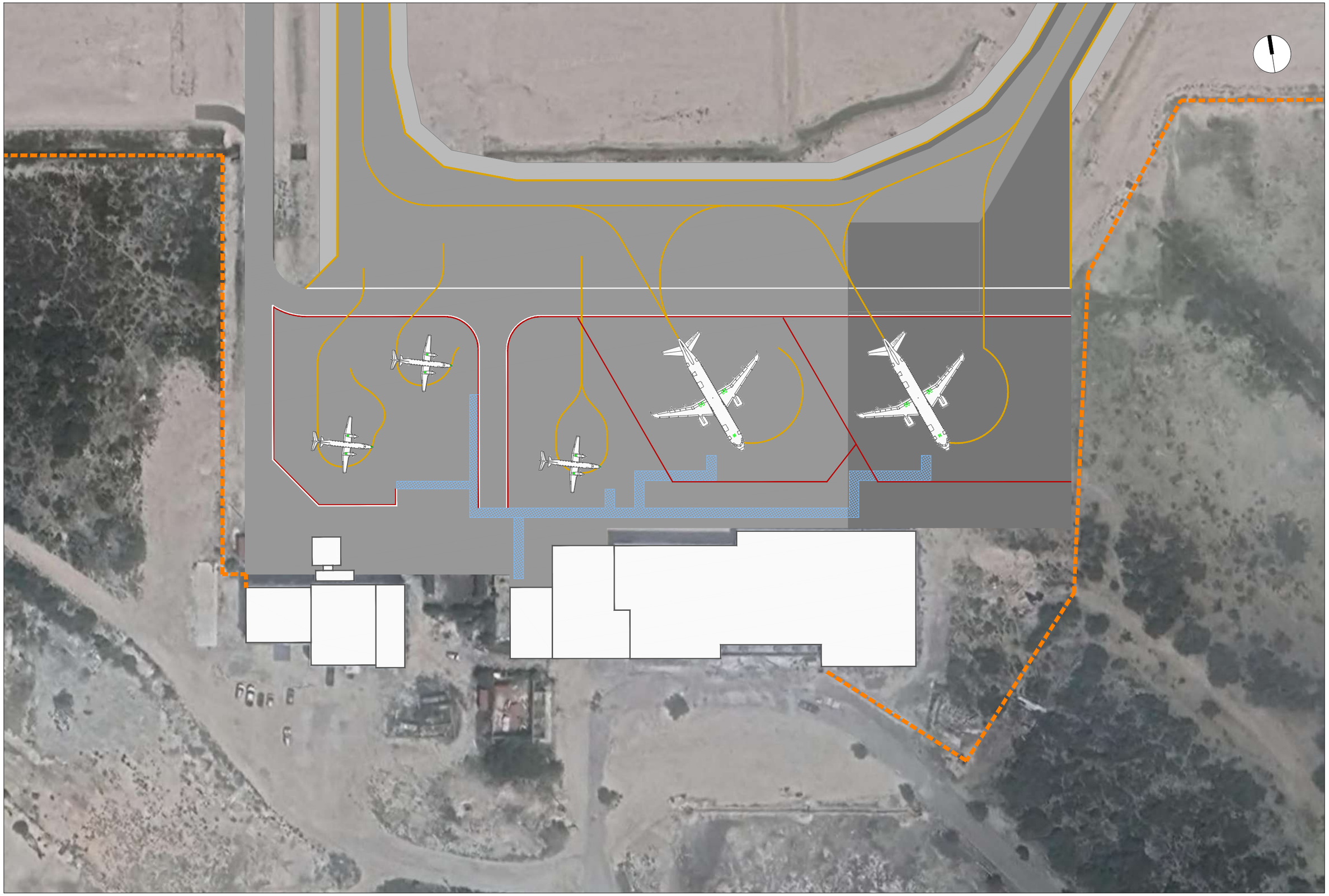
This chapter contains the main drawings carried out during the development of this Conceptual Master Plan. The following drawings are included:

- Airport general layout – Current situation
- Terminal area detail – Current situation
- Airport general layout – Development proposal
- Terminal area detail – Development proposal
- Terminal building layout – Development proposal

CLIENT:	CONSULTANT:	PROJECT:	SCALE:	DATE:	DRAWING NAME:	DRAWING NUMBER:
TCIAA TURKS AND CAICOS ISLANDS AIRPORTS AUTHORITY	ALG	STRATEGIC MASTER PLAN FOR THE TCIAA	1: 7.500 ORIGINAL A3 0 50 100m GRAPH	AUGUST 2024	SOUTH CAICOS AIRPORT CURRENT SITUATION GENERAL LAYOUT	3.1.1 PAGE 1 OF 1

CLIENT:	CONSULTANT:	PROJECT:	SCALE:	DATE:	DRAWING NAME:	DRAWING NUMBER:
TCIAA TURKS AND CAICOS ISLANDS AIRPORTS AUTHORITY	ALG	STRATEGIC MASTER PLAN FOR THE TCIAA	1: 1.000 ORIGINAL A3 0 25 50m GRAPH	AUGUST 2024	SOUTH CAICOS AIRPORT CURRENT SITUATION TERMINAL AREA	3.1.2 PAGE 1 OF 1

CLIENT:	CONSULTANT:	PROJECT:	SCALE:	DATE:	DRAWING NAME:	DRAWING NUMBER:
TCIAA TURKS AND CAICOS ISLANDS AIRPORTS AUTHORITY	ALG	STRATEGIC MASTER PLAN FOR THE TCIAA	1: 7.500 ORIGINAL A3 0 50 100m GRAPH	AUGUST 2024	SOUTH CAICOS AIRPORT DEVELOPMENT PROPOSAL GENERAL LAYOUT	3.2.1 PAGE 1 OF 1



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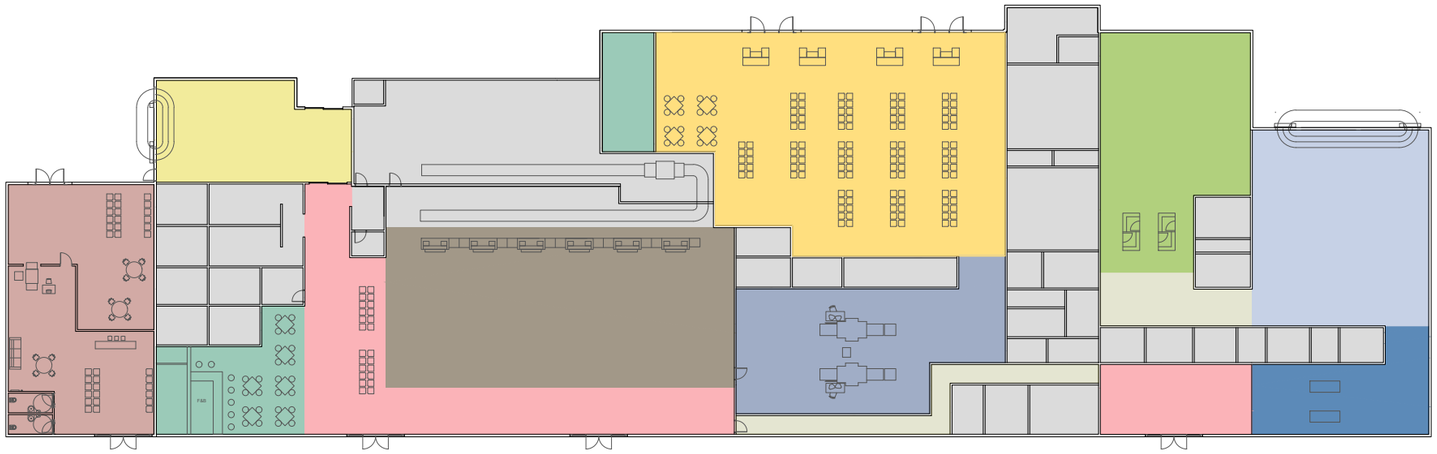

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